Department of Planning, Housing and Infrastructure

Our ref: SSD-61618229-PA-15

Kevin McCarthy
Director, Infrastructure Facility Services
The University of Newcastle
20 Civic Lane
Newcastle, NSW 2300

Attn: Baily Trigg (bailey.trigg@app.com.au)

29/01/2026

UON City Campus Student Accommodation (SSD-61618229)

Revised Construction Environmental Management Plan, Conditions A10 & B37

Dear Mr McCarthy

I refer to the revised Construction Environmental Management Plan (CEMP) submitted to the Planning Secretary under condition A10 of SSD-61618229.

I note the CEMP:

- was reviewed by the Applicant, and no issues were raised to the Department;
- was originally submitted to the Department because of a direction issued by the Planning Secretary's delegate under PA-7 and subsequently acknowledged the CEMP under PA-8 by the Department;
- was then revised and submitted to the Department under PA-10 for review where specific recommendations were made by the Department in its letter dated 8 September 2025;
- has again been updated to address the recommendations made by the Department for improved environmental performance under PA-10; and
- has been submitted to the Certifier as per condition B37 of the consent.

Accordingly, I acknowledge receipt of the revised CEMP, Review A-3 dated 5 November 2025, for our record, under condition A10 of SSD-61618229.

Please note that if there are any inconsistencies between the revised CEMP and the conditions of consent, the conditions will prevail.

Also, please make the revised CEMP available for public access on the project website as per condition B8 if not done already.

If you have any questions, please contact Matt Wood at matthew.wood@dpie.nsw.gov.au.

Yours sincerely

Shiraz Ahmed
Team Leader - Social Infrastructure Projects Unit
Infrastructure Management

As nominee of the Planning Secretary

HANSENYUNCKEN

Environmental Management Plan

Project: University of Newcastle Student Accommodation

Job No: SN114 November 2025

Rev: A-3

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Uncontrolled Document in Hard Copy

Copies shall not be made without the written permission of Hansen Yuncken Project Manager

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1 Document Information

1.1 Review & Approval

Review			
Position	**Name**	**Sign**	**Date**
Project Manager	Matt Tuttle		
Contracts Administrator	Divan Lubbe		
Site Manager	Tim Johnston		
HSE Business Partner	Chris Layzell		
Project Engineer	Ben Styles		
Site Engineer	Reuben Tappouras		
Cadet			
Foreman	Luke Hughes		
Approval			
Construction Manager	Josh Crilley		

1.2 Contact Details

Project Contact details including 24 hour contacts.			
Position	**Name**	**Phone**	**Email**
Project Manager	Matt Tuttle	0439 212 560	mtuttle@hansenyuncken.com.au
Site Manager	Tim Johnston	0407 485 992	tjohnston@hansenyuncken.com.au

1.3 Change Information

Change Information			
Review	**Description**	**Issued by**	**Issue date**
A-A	Project Update – Draft SSDA Conditions(27/03) Unexpected Finds (MUFP) added.	Matt Tuttle	28 March 2025.
A-B	Project Update – For use	Matt Tuttle	10 July 2025
A-1	Project Update – SSDA Subplan references updated with additional Appendices	Matt Tuttle	14 August 2025
A-2	Minor updates for DPHI Comments & updated site spoil management	B Styles	29 October 2025

Change Information			
A-3	Clarity around ASS Contaminated Soil Management	Ben Styles	5 November 2025

2 Definitions

The following definitions and abbreviations have been used in this Environmental Management Plan. Further definitions and abbreviations are provided in referenced procedures and plans.

Hammertech	Cloud based QHSE field management software application designed specifically for the construction industry.
EMP	Environmental Management Plan (this document)
EPA	State Environment Protection Authority
ESD	Ecologically Sustainable Development
HSE	Health, Safety & Environment
HY	Hansen Yuncken Pty Ltd
HYWAY	An information management platform developed by HY utilising Microsoft SharePoint
NC	Non-Conformance
NGER	National Greenhouse and Energy Reporting
NVMP	Noise and Vibration Management Plan
OEH	Office of Environment and Heritage
PLN	HY Plan
PMP	Project Management Plan
POEO	The Protection of the Environment Operations Act
PROJ	Project Management
REO	Regional Environmental Officer
RMS	Roads and Maritime Servies
RTA	Roads and Traffic Authority
S/C	Subcontract(s) or Subcontractor(s) as the context requires
Site Safety Supervisor	Site Manager
SSO	Site Safety Officer
SWMS	Safe Work Method Statement
TMP	Traffic Management Plan

3 Commitment & Policy

3.1 Scope of Works

The University of Newcastle is developing the next stage of its city presence comprising of a student accommodation building along Honeysuckle Drive as a part of the University Concept Plan. The development presents an opportunity to expand the University's student accommodation offering within the City Campus and provide the amenity and experience that students are seeking from a university.

The key objective of the proposed development is to establish a contemporary and sustainable building to provide student accommodation that offers a high-level of residential amenity and cultural safety within the University's City Campus.

This project represents the next step in delivering the vision for the University's City Campus established under Concept Plan (SSD-9262), which was approved by the Minister for Planning and Public Spaces on 21 May 2020. The Concept Plan establishes:

i. seven (7) building envelopes across the University's City Campus, to be used for academic and ancillary uses, and student accommodation;
ii. ii. the maximum building envelope, gross floor area and preferred land use to facilitate the redevelopment of the Site; and
iii. iii. a design excellence framework to guide future development within the building envelopes and achieve design excellence.

A request for Industry Secretary's Environmental Assessment Requirements (SEARs) was sought on 18 August 2023 and SEARs were issued on 31 August 2023 in respect of SSD-61618229.

The State Significant Development Application SSD-61618229 was submitted to the Department Planning, Housing and Infrastructure in respect of the Works on 9 August 2024 and an approval is expected in early 2025.

The works subject of this RFT include a 9-story building, including ground floor, offering of 445 beds, 150 sqm retail space and 82 bike storage facilities to establish a significant student accommodation offering in the Newcastle City.

3.2 Policy & Objectives

The HY Environmental Policy Statement provides the framework for the development of this Environmental Management Plan (EMP).

The objective of the Environmental Management Plan is to:

- Encourage best practice environmental management through planning, commitment and continuous improvement;
- Prevent and minimize adverse impacts on the environment;
- Identify the potential for, and respond to, environmental incidents and emergency situations and take corrective actions;

- Identify and control possible environmental hazards with the works and HY activities;
- Identify and protect any special environmental characteristics of the site including cultural heritage significance;
- Define roles and responsibilities and allocate the necessary resources
- Ensure environmental training and awareness programmes are provided to employees and subcontractors;
- Establish mechanisms to monitor, evaluate and report progress.

The HY Environment Policy commits the company to achieve the following goals:

- Develop and promote a culture of environmental leadership, responsibility and continual improvement across the HY business;
- Audit, monitor and ensure compliance with environmental legislative and regulatory obligations and other environmental commitments;
- Utilise the resources of HY to lead the way in defining and achieving best environmental practice; and
- Advance and disseminate environmental knowledge and applied environmental management through training, research and engagement with the wider community

A copy of the Environment Policy is contained within the PMP and displayed at the project / site office and induction sheds. HY recognises this implementation will involve effective training of personnel to ensure they fully understand their responsibilities to comply with and monitor the management system. In addition, all site workers are consulted on HY environmental policies & procedures through the following mechanisms: site induction, notice board, site inspections, prestart meetings, subcontractor meetings, team meetings, toolbox talks.

3.3 Targets

Objective: Reduce waste

KPI: Waste minimisation and recycling

Target: Recycle > 80% of construction waste diversion from landfill

Objective: Comply with all environmental legislation

KPI: Number of identified breaches of State or Commonwealth Environmental legislation

Target: Nil for duration of project.

Objective: Minimise impacts on the environment

KPI: Number of significant environmental incidents causing serious harm to the environment

Target: Nil for duration of project.

Objective: Conduct environmental site inspections to validate environmental conformance

KPI: Schedule and undertake regular site inspections

Target: > 90% of scheduled HSE inspections

Objective: Minimise and manage environmental complaints

KPI: Consult with impacted neighbours and promptly address all complaints

Target: ≤ 1 complaint per significant construction milestone

3.4 ESD Vision & Principles

The project provides an opportunity for HY to expand its practical and theoretical knowledge of ESD to a level that is considered 'best practice' status.

As such, the ESD vision and principles for HY involves:

- Identification and prioritisation of environmental risk based on AS/NZS ISO 31000:2009 and Guidelines HB158:2010, using qualitative likelihood vs. consequence methods.
- Development of management systems which build knowledge and capacity on environmental issues, principles and sustainable behaviours including training and communication.
- Reduced energy and water consumption as well as waste minimisation during the construction process.
- Environmental training and management of trade contractor's activities to ensure that the project ESD objectives are obtained.
- Efficient and effective use of natural resources in a way that maintains the ecological processes on which life depends
- Sustainable use of renewable energy resources.

3.5 PMP Summary

The following plans referenced within this EMP form part of the overall PMP for the project and contribute to the environmental management procedures.

Site Induction PPT and Guide – Ensures all workers onsite are aware of the Environmental Management Plan & also trains all workers onsite on the requirements for controlling: dust & windblown debris, dirt & debris on public roads, protection of stormwater drains, tool & equipment washout, chemical spills, noise disturbance, waste collection & disposal, rubbish & food scraps & excess concrete.

Project HSE Risk Assessment – Identifies what subcontractor onsite are impacted by or the risk of; air quality/dust, archaeology & cultural heritage, chemical spill, flora & fauna, littering, noise disturbance, stormwater contamination & watercourse pollution each month. This will be monitored through task observations scheduled for each month.

Construction Noise & Vibration Management Plan (Appendix 7.8 of this plan) – Identifies mitigation methods to minimise the risk of noise & vibration to the workers onsite and the surrounding properties.

Construction Pedestrian and Traffic Management Plan (appendix 7.7 of this plan) – Summarises how construction and pedestrian traffic will be managed on the project to minimise the impact on the existing facility and the neighbours surrounding to the project.

Site Layout Plan (within WHSMP) – Identifies the location of sediment controls, access routes, truck washout, location of site bins, spill kits, concrete washout.

Emergency Response Plan – Outlines the process to manage the following environmental emergencies; asbestos exposure, water pollution, fire, major fuel spill & chemical spill

Workplace Health & Safety Management Plan - The Workplace Health and Safety (WHS) Management plan aims to identify the systems and processes to manage health and safety risks on the project.

The objective is to proactively manage the delivery of works to ensure the implementation of effective actions to:

- Promote the safety of people,
- Reduce risk as low as reasonably practicable
- Ensure the quality of work,
- Foster environmental responsibility,
- Mitigate risks to the organisation, and
- Protect property and equipment.

Contained within this plan is the site establishment plan which details site fencing and site security hoarding.

Communications & Engagement Plan – Describes the communication and engagement processes to promote positive two way communication with all major stakeholders and ensure it is successfully maintained through design, construction and transition periods of the project. This document includes further details on the community consultation and complaint handling procedures.

4 Implementation

4.1 Environmental Awareness

All HY and S/C employees shall receive an induction into the project in accordance with the Site Induction procedure including completing the Site Induction Record Form (FM-CORP-HSE-001).

The induction shall include the requirements for the conduct of activities which have the potential for significant environmental impacts on the project which shall be outlined in the project specific Site Induction Handbook.

This document applies to all HY and S/C employees, environmental awareness is the responsibility of every person working on and associated with the project.

4.2 Environmental Impacts of Subcontractor Activities

The environmental impacts of subcontractor activities shall be assessed during the S/C pre-award meeting in accordance with pre-award meeting procedure and the project HSE risk assessment.

4.3 Roles & responsibilities

Project Manager

- Overall management and compliance to the Environmental Management Plan (PMP) and Hansen Yuncken HSE policies and procedures.
- Attain continuous improvement on project safety statistics as measured by Company HSE KPI's.
- Compliance with legal obligations under relevant Acts, Regulations and Codes of Practises.
- Acquire and keep up to date on HSE knowledge.
- Ensure any incident/accident investigations are managed and closed out in a timely manner.
- All incidents immediately reported to the Construction & HSE Manager.
- Satisfactory attendance and involvement in branch and project safety meetings.
- Ensure subcontractors comply to their Safety Plans and HY policies and procedures.
- Provide leadership of Safety behaviours.

Site Manager

- Ensure compliance to the HSE section of the Project Management Plan and HSE policies, procedures, rules and regulations.
- Ensure compliance with legal obligations under relevant Acts, Regulations and Codes of Practises.
- All incidents to be reported to Project Manager within 2 hours.

- Satisfactory attendance and involvement in project safety meetings and activities (e.g. Project Risk Assessments).
- Ensure subcontractors comply with their Safety Plans and HY policies and procedures.

Supervisor

- Ensure full compliance to the HSE section of the Project Management Plan and HSE policies,
- procedures, rules and regulations.
- Ensure strict compliance with legal obligations under relevant Acts, Regulations and Codes of Practises.
- All incidents to be reported to Project Manager within 2 hours.
- Satisfactory attendance and involvement in project safety meetings and activities (e.g. Project Risk Analysis)
- Ensure subcontractors comply with their Safety Plans and HY policies and procedures.

Employees and Contractors

- Liaise with the Site Superintendent / Principal Contractor, other contractors and parties, and relevant authorities.
- Ensure overall compliance with the EMP, applicable legislation and regulations for their contribution to site works.

Environmental Consultant

- Provide advice to the Site Superintendent / Principal Contractor and relevant parties regarding management requirements as detailed in this EMP
- Address the management of unexpected contamination and unexpected finds, as required.
- Required to validate areas remediated as a result of identified unexpected contamination and make a conclusion on the suitability of the Site for the proposed end use (s).

4.4 Environmental Risk Register

Environmental Risk Register Summary & Responsibilities		
Environmental Issue	Risk to Project	Responsible Personnel
Location & Land use Residential properties may be impacted with construction works due to construction noise and dust	**Low** – works to be undertaken within approved hours unless otherwise approved.	Project Manager
Noise & Vibration Construction of the development may result in short term impacts during the project due to the	**Low –** works to be inside approved hours unless otherwise approved.	Site Manager/ Site Supervisor

Environmental Risk Register Summary & Responsibilities		
use of heavy machinery and plant as well as construction personnel and vehicle movements.	Vehicle movements in accordance with Traffic Management Plan. SSDA noise/vibration conditions observed	
Traffic & Access During the 88 weeks of construction there will be impacts on the existing facility and the public roads surrounding the project from construction vehicles and deliveries for site.	**Medium –** increase in local traffic due to construction. To be managed in accordance with Construction & Pedestrian Traffic Management Plan (contained in Appendix 7.7)	Site Manager/ Site Supervisor
Air Quality During construction, there is a risk of poor air quality generated by the Construction works.	**Low** – Dust will be managed in accordance with EMP and SWMS to ensure dust suppressed as much as practicable	Site Manager Supervisor Subcontractor
Soil, Erosion & Water Quality Construction activities introduce potential risk of water pollution caused by uncontrolled wind or water movement causing sediment and other materials leaving site.	**Medium** – sediment controls installed to prevent pollution including regular inspections and maintenance in accordance with Construction Soil & Water Management plan (contained within Appendix 7.10)	Site Manager Supervisor Subcontractor
Cultural Heritage A risk of encountering undisturbed aboriginal artefacts during construction	**High** – Archaeological investigations prior to Construction undertaken to identify and remove finds. Unexpected finds procedure communicated in induction for future potential finds.	Site Manager Supervisor Client Subcontractor
Site Contamination Risk of uncontrolled management, handling and potential disposal of site contamination	**Low –** Site material classifications to be undertaken prior to Bulk works to enable proper assessment, controls, handling and disposal of site material.	Site Manager Supervisor Subcontractor

Environmental Risk Register Summary & Responsibilities		
Waste Management Uncontrolled disposal and management of construction waste resulting in significant portions dumped as landfull	**Low –** suitably experienced and qualified waste contractor engaged to collect, segregate and manage waste to increase diversion from landfill including reporting.	Site Manager Supervisor Subcontractor
Acid Sulphate Soils (ASS) Impacts to local environment and disposal location if acip sulphate soils not managed	**Low –** Spoil generated with ASS to be treated onsite prior to disposal to negate impacts.	Site Manager Supervisor Subcontractor
Historical Archaeological Finds A risk of encountering unexpected relics or finds of historical archaeological significance.	**Medium** – Archaeological investigations prior to Construction undertaken to identify and remove finds. Unexpected finds procedure communicated in induction for future potential finds.	Site Manager Supervisor Client Subcontractor
External lighting. External lighting impacts neighbouring properties with light spill	**Low –** Permanent lighting to comply with applicable Australian Standards and SSDA approval obligations for light spill	Site Manager Subcontractor Electrical Designer

4.5 Location and Land Use

4.5.1 Site Location

The site is located in the Honeysuckle precinct as a part of the University of Newcastle's City Campus. This site borders Worth Place, civic lane and wright lane. The site is bordered by a combination of the following types of buildings

- residential,
- short term residential/serviced apartments
- Education learning space (UoN Q Building)
- carparking
- commercial space

- Nearby entertainment venues (dining, bars and cafes)

Include description as to the location of the site, including any significant boundaries, footprint size and key structures/features nearby

4.5.2 Likely Impacts

The construction works are generally short term in nature and will not interfere or impact the use of the current surrounding properties. All construction activities would be carried out with due diligence, duty of care and best management practices. Given the mixed use and close proximity of the surrounding users, likely impacts associated with the works include

- Construction noise
- Workforce parking reducing typical available carparking
- Temporary works impacts to footpath (access/egress) and staging/changes to existing surfaces
- Increase road activity during high volume delivery activities (concrete pours)

4.5.3 Mitigation Strategies

Mitigation strategies to be implemented on the project to reduce the effects of the construction phase include

- The neighbouring landowners are to be consulted in regards to the construction works, predicted program and any access requirements.
- Land disturbance during construction is to be limited to that required to undertake the construction works
- Areas disturbed during construction to be returned to the pre-construction condition.
- Utilisation of traffic controllers for management of interface where required.
- Provision of off street parking for the project.

4.6 Noise and Vibration

4.6.1 Likely Impacts

Construction of the proposed development will result in short term noise impacts during the construction period. All works undertaken will be delivered in accordance with the requirements of SSDA, WHSMP and EMP to minimise and control noise and vibration impacts as far as reasonably practicable.

4.6.2 Mitigation Strategies

- Site construction noise will be managed in accordance Construction Noise and Vibration Management Plan (CNVMP) developed for this project and contained within Appendix 7.8. The NVMP is based on the proposed construction methodology, activities, durations and equipment type and numbers.
- Keep the community informed in relation to noise intensive activities in the immediate area.
- Provide consultation where prolonged or consecutive periods of construction works are planned.
- Construction activities shall be restricted to the normal EPA specified daytime construction hours (i.e. 7am to 6pm Monday to Friday, 8am to 1pm Saturday, no work on Sunday or public holidays). If

it were deemed necessary to undertake work outside these hours, prior approval would be sought from the Council.

- Any noise complaint received will be investigated as soon as practicable. Any practicable and feasible measures to minimise noise will be identified and implemented if required.
- All possible steps to be taken to silence construction equipment where possible.
- Optimum siting of work areas, vehicle and plant parking areas, materials stockpiles and equipment storage areas in locations where potential acoustical impacts will be minimised.
- All plant and machinery used for the project shall be well maintained.

4.7 Traffic & Access

4.7.1 Likely Impacts

Construction of new site facilities will result in an increase in traffic in the local area including an increase in delivery vehicles supporting the construction of the project. The site location introduces limitations on access routes and vehicle sizes on certain roads which require consideration in project planning/delivery.

Intended construction traffic paths have been considered in project planning for use in Traffic Management plans and site delivery.

4.7.2 Mitigation Strategies

Include a list of mitigation strategies, amend list below as relevant

- Prepare a Traffic Management Plan (TMP) based on the detailed construction methodology and use of specific heavy vehicles and construction plant. The Traffic Management Plan is to include measures to minimise traffic impacts ensure public safety and is to be prepared in accordance with:
  - Traffic Control at Work Sites Manual (RTA, 2010)
  - Australian Standard 1742.3 - 2002 Traffic Control Devices for Works on Roads.
- The TMP will be developed in consultation with NSW Roads & Maritime Services (RMS) and Newcastle City Council.The TMP will detail hours of operation, heavy vehicle volumes (numbers) and routes, construction staff parking, loading / unloading areas and site access arrangements, all temporary warning, guidance and information signage, and appropriate traffic control devices
- Contractor parking provided in adjacent block to relieve the demand on limited nearby parking for existing facilities
- Traffic routes/paths for the works have considered existing nearby road limitations and provided a drive in/drive out solution to mitigate congestion/interface on the existing network.
- Deliveries to be staged to ensure street backlogs are avoided
- All vehicles accessing the sites will use the designated access roads
- All roads will be kept clean and free of dust and mud. Where material is tracked onto sealed road, it will be removed so that road pavements are kept safe and trafficable
- All vehicles transporting spoil onsite will be covered and filled to maximum capacity to minimise vehicle movements as required
- All roads, kerbs, gutters and footpaths damaged as a result of construction are to be restored to their pre-construction condition. A dilapidation report will be carried prior to construction

- A dedicated vehicle wash-down area will be established on site
- All traffic shall comply with all applicable traffic laws and regulations including speed limits. All construction vehicles shall comply with the speed limits set for the roads accessing the site

4.8 Air Quality & Dust Control

4.8.1 Likely Impacts

The main impact to air quality during construction is expected to arise from the generation of airborne localised dust associated with demolition, earthworks and general construction activity. Given the close proximity to of neighbouring properties, there is the potential for impact by dust, particularly during windy conditions

4.8.2 Mitigation Strategies

- Construction vehicles and equipment to be suitably serviced prior to commencement of construction activities and all necessary maintenance to be undertaken during the construction period to meet EPA air quality requirements.
- Excessive use of vehicles and powered construction equipment will be minimised where possible
- All construction machinery will be turned off when not in use to minimise emissions where possible.
- Construction contractors to monitor dust generation progressively.
- Dust suppression methods including the use of water carts will be adopted where required (i.e. on windy days when earthworks and vehicle movements are generating dust).
- Any stockpiled spoil/fill will be protected to minimise dust generation to avoid sediment moving offsite.
- Vehicles transporting spoil from the site to be covered where required.
- The burning of waste materials will not be permitted on site

4.9 Soil, Erosion & Water Quality

4.9.1 Likely Impacts

Earthworks and general ground disturbances associated with the site works may result in sediment and other materials leaving the site via wind or water movement. This may have the potential to result in the water pollution such as turbidity and nutrient inputs, should sediment wash into stormwater or natural drainage lines.

Aspects of the site identified as potentially impacting on water quality includes:

- Excavation for foundations and site levelling;
- Stockpiling and transportation of excess spoil; and
- General construction waste entering drainage lines

4.9.2 Mitigation Strategies

- Construction is to be undertaken in accordance with the Construction Soil & Water Management Plan contained within Appendix 7.10.

- All erosion and sediment control devices shall be properly maintained for the duration of the work. All structures are to be inspected after rain events and sediment to be removed
- Any temporary stockpiles should be stabilised using sediment fencing or similar.
- Stockpiles will be managed in accordance with the 'Blue Book (Managing Urban Stormwater Soils and Construction) (Landcom, 2004)
- All fuels and other hazardous liquids shall be stored at designated construction compounds
- All chemicals used for construction shall be stored and used in accordance with the relevant Safety Data Sheets.
- An emergency spill kit shall be kept at the construction compound.
- Workers are to be made aware of the provisions of Section 120 of the POEO Act with regards to water pollution
- Notification to the EPA in accordance with Part 5.7 of the POEO Act is to be undertaken where a pollution incident occurs
- All construction vehicles and equipment are to be maintained in designated areas away from watercourses
- Construction vehicles shall be appropriately cleaned of any soil or mud prior to leaving each works site at dedicated wash down bays
- “Clean” stormwater shall be diverted around the site where possible
- All existing stormwater pits and drains subject to HY construction works will be silt protected with geo-fabric and/or granular socks. Drains will be monitored and maintained by HY
- Stockpiles to be established at HY approved locations
- Sediment fences shall be installed at required locations at the perimeter of the site
- Stormwater shall be diverted to retention basins
- The location and details of permanent controls shall be included on the Site Layout Plan
- Erosion and sediment controls shall be inspected as part of the Site HSE Inspection

4.10 Terrestrial Flora and Fauna

4.10.1 Likely Impacts

The development is contained within an existing cleared site with minimal site vegetation. Minimal to nil impacts are expected with terrestrial flora & fauna with no trees or vegetation of historical value planned for removal.

4.10.2 Mitigation Strategies

- No vegetation removal or modification is to occur beyond the proposed works areas shown on the plans.
- Carry out landscaping in accordance with the landscape design
- If any unexpected finds are encountered the Site Manager shall arrange for works to be ceased in the area and contact the Principal for further directions.

4.11 Archaeology & Cultural Heritage

4.11.1 Likely Impacts

The Aboriginal Cultural Heritage Assessment Report (ACHAR) has identified that the south-eastern portion of the Project Area is predicated to be within the original Hunter River foreshore and likely to have archaeological deposit beneath the existing capped surface and associated historical fill. The western and north-western portions of the Project Area are predicted to be within an area of reclamation fill and therefore is not predicted to have archaeological potential beyond the possibility of stone artefacts being present in disturbed historical fill layers.

The Project Area has been determined to have moderate to high archaeological potential for intact Aboriginal archaeological deposits to be present where natural soil profiles exist.

Historical use of and changes to the site represents known and unknown elements on cultural, historical or heritage significance. These items being

- The existing known historical rail turntable located in the north east corner of the site
- Potential for unknown artefacts or structures.

Construction activities without undertaking the appropriate investigations and consultation may result in a failure to comply with the cultural heritage requirements, prevent the required assessment and cataloguing of potential archaeological finds and expose the project to fines and delays required to resolve any failure. To mitigate the potential for excavations by workers unfamiliar with the EMP and Maritime, Historical and Cultural heritage requirements Hansen Yuncken will ensure that all Excavation Permits (permits to dig) contain an acknowledgement the workers involved in the task have been briefed on the produces contained with this plan and its appendices.

4.11.2 Mitigation Strategies

- All works onsite are to review, understand and implement the required controls included in the Temporary protection plan contained in Appendix 7.3 and the Aboriginal & Cultural Heritage Management Plan (ACHMP) within Appendix 7.5
- The predicted impact to the site can be mitigated by the completion of a staged archaeological excavation within the subsurface disturbance footprint of the Project Area. This will be provided in further detail within the Aboriginal Cultural Heritage Management Plan to be developed however generally as follows.
  - Archaeological excavations will consist of Phase 1 (test excavation) and Phase 2 (salvage excavation) if suitable triggers are met.
  - The proposed ACHMP will also address a range of anticipated requirements including new cultural finds protocols, Aboriginal party and regulatory consultation requirements, reporting and compliance requirements, induction and education requirements, and a process for long term management of any recovered cultural materials.
- All workers (including contractors) will be made aware that it is illegal to harm an Aboriginal object or historic relics, and a process if additional unexpected finds are encountered following the Archaeological investigation phase.
- Works planned to be undertaken in the vicinity of the existing turntable, works shall be undertaken in accordance with the Archaeological Method Statement (AMS) as attached in Appendix 7.3

- The development and compliance to the AMS is to ensure that the works comply with SSDA Condition as inserted below:

HISTORICAL ARCHAEOLOGY – HERITAGE NSW C44. Where works to identify and protect the location of the locomotive turntable require subsurface investigation, these are to be monitored by a suitably qualified historical archaeologist to ensure that the locomotive turntable is not impacted. An Archaeological Method Statement to guide archaeological monitoring and specify measures which will be implemented to protect the turntable is to be included as a part of a Construction Environmental Management Plan (CEMP) for the site. The CEMP is to be provided to the Department for approval prior to the commencement of works within the area of influence of the locomotive turntable.

- The area for the turntable shall be appropriately barricaded with an exclusion zone in accordance with the AMS and Condition C41 of the SSDA approval. Post identification of turntable, survey will be undertaken to ensure location is recorded for potential future works. Once recorded turntable is to be backfilled for protection.
- Unexpected heritage finds are to be managed in accordance with the approved management plan appropriate to the find. These are summarised below;
  - Unexpected Finds process as detailed in Appendix 7.1
  - Non-Aboriginal Unexpected Finds Process in Appendix 7.2
  - Aboriginal Cultural Heritage Management Plan contained in Appendix 7.5
  - Maritime specific Unexpected Finds Protocol contained in Appendix 7.6
  - Should unexpected finds be significant the potential for redesign may be considered following consultation with all Stakeholders.
- All workers (including contractors) should be inducted concerning Aboriginal cultural heritage values
- In the event that known or suspected skeletal remains are encountered during the activity, the following procedure will be followed:
  a. All work in the immediate vicinity will cease and HY Management to be notified, from there, a “no-go” zone will be established around the area, and notification to NSW Police (by HY Site/Project Manager) will occur.
  b. Project Stakeholders will be notified (Project RAPS & Archaeologist, Project Superintended and Client)
  c. The environment manager or other nominated senior staff member will liaise with police and the state coroner (as required for all human remains discoveries);
  d. The environment manager or other nominated senior staff member will contact the OEH for advice on identification of the skeletal material as aboriginal and management of the material; and
  e. If the skeletal material is of aboriginal ancestral remains, the local aboriginal land council will be contacted and consultative arrangements will be made to discuss ongoing care of the remains. Refer Table 5.2 within Project ACHMP for detailed procedure.
  f. The project team will take all necessary measures to protect the artefacts from being damaged or destroyed.
  g. Works will not re-commence in the area until a written instruction from the superintendent is received.

4.12 Site Contamination

4.12.1 Contaminated Soil Risk Assessment

A risk assessment of contaminated soil shall be conducted at the start of the project in accordance with the following procedure for Contaminated Soil Assessment.

The site where the works are to be conducted are associated with historical filling, including potential for elevated concentration levels of metals, PAH and asbestos. A remediation action plan (RAP) has been developed for the site and is contained within the project Document Management System (Aconex). Works undertaken on the site shall be undertaken in conjunction with the RAP as detailed or updated as required in accordance with that plan.

Site establishment utilises land owned by the University at 16 Honeysuckle Drive (Lot 3 and partial of lot 2 in DP 1163346). This is covered under the Concept Plan consent SSD-9262. In consultation with the Environmental Consultant and Site Auditor, controls will be implemented to allow material to be stockpiled, treated and managed appropriately.

As soon as possible after possession of the site by HY, an assessment of actual or potential soil contamination and its impacts shall be undertaken and recorded in the Project Teams Files and on Aconex.

The purpose of the assessment is to provoke whether HY should have an independent third party to provide recommendations or seek wider advice within the company so that the additional knowledge can reduce the risk profile of contaminated soil.

Projects which have the following criteria should fill in this form:

- Projects with a geotechnical report that nominates fill on bore logs
- Projects which do not have a geotechnical report but have a requirement for material to be exported off the site.

4.12.2 Identification of Contaminated Soil

During construction, it shall be necessary to monitor soil contamination levels (if any), dust levels and water runoff quality, to ensure that health and environmental standards are not compromised. This is especially important as contaminated soil may be excavated and transported around the site.

Upon discovery of contaminated soil, the HY Site Manager shall arrange for works to be ceased immediately in the area and contact the Superintendent for further directions.

Contaminated waste shall be collected, contained, stored, handled and disposed of in accordance with relevant legislation and codes of practice.

Once identified, contaminated soil shall be stored appropriately to mitigate risks to works, public & environment. Where treatment and/or reuse of material as backfill is preferred, additional testing may be undertaken to ensure no unacceptable risk to workers is present.

4.12.3 Risk of Exposure

It is important to minimise the risk of exposure of construction personnel to soil contaminants by adopting appropriate site controls and industrial hygiene practices. Site controls may include:

- Defining certain areas as contaminated and restricting access to them;
- Appropriate signage;
- Training construction employees in industrial hygiene procedures;
- Keeping non-essential motor vehicles such as personal cars out of contaminated areas;
- Regular medical checks of construction personnel who are exposed to contaminated soils;
- Keeping stockpiles of contaminated material watered down to minimise dust generation in accordance with any water restriction requirements and ensure that runoff is not generated from excessive watering;
- Covering truck loads with tarpaulins and watering material when loading and unloading;
- Wheel washes for trucks and vehicle leaving the contaminated areas;
- Regular road sweeping and cleaning;
- Dust monitoring and adjustment of construction programs to accommodate high risk periods when conditions are windy or very dry; and
- Monitoring of concentrations of volatiles.

Industrial hygiene practices may include:

- Wearing long sleeved shirts and trousers or overalls to minimise dermal exposure;
- Wearing gloves when handling soils;
- Washing hands and faces before eating, drinking or smoking;
- Leaving overalls at site for laundering;
- Showering and washing facilities; and
- Wearing respiratory equipment during times of high dust or volatile emissions.

4.12.4 Release of Contaminants to Soil and Groundwater

Water spraying of stockpiles and of soils being loaded and unloaded from trucks, covering of truck loads with tarpaulins and other measures described in the previous section would minimise the potential for dust to be generated.

If heavily contaminated soil is placed in contact with clean soils, contaminants could be mobilized by rainwater or chemical / physical reactions and affect the clean soils to a limited extent.

Similarly, there is a risk that contaminated soil is not clearly differentiated from clean soil and that mistakes could occur which cause the materials to be mixed or wrongly handled or disposed of.

This shall be overcome by implementing a material tracking system for all contaminated soils and ensuring that construction staff are trained how to use the system.

This shall involve documenting areas containing contaminated soil, and putting signage near stockpiles that indicated the type of material present and its contamination status.

It shall also require supervision and documentation of all movements of contaminated materials around the site.

Avoiding contact between stormwater and contaminated soils is difficult to achieve if larger areas of a site are being exposed within a short period, because it does not allow for minimizing the amount of soil that is uncovered or placed in temporary stockpiles.

Therefore, it is necessary to manage stormwater in such a way that it does not mobilize contaminants and transfer them to clean areas.

This may be achieved by:

- Covering stockpiles of contaminated soil;
- Placing stockpiles of contaminated soil on bitumen or other sealed areas;
- Installation of adequate bunding or other approved method to contain runoff;
- Collecting stormwater run-off from stockpile areas; and
- Analytical testing of collected stormwater prior to its release.

Erosion and sediment control procedures in accordance with the relevant Code of Practice may also be applied, but with the additional objective of keeping water that is exposed to contaminated soils separate from water that has only come into contact with clean soils.

Groundwater could potentially be impacted by contaminants mobilized from stockpiled contaminated soil or by buried material.

Minimising runoff from stockpiles, as outlined above would reduce the risk to groundwater.

Land filling of contaminated material which is below the relevant criteria for soil contamination above the water table, and capping the landfill area with low permeability material would minimise the risk of groundwater contamination from infiltration of stormwater into buried soils.

4.12.5 Heavy Metal Contamination

Any suspicious industrial wastes encountered will be immediately isolated to enable these assumptions to be confirmed by analytical testing.

4.12.6 Mitigation Strategies

- In the event that unexpected conditions are encountered during development work or between sampling locations which may pose a contamination risk, all works should stop and an environmental consultant shall be engaged to inspect the site and address the issue.

4.12.7 Unexpected Finds

Unexpected Finds Process

The Unexpected Finds Process is included as an appendix.

Unexpected Finds Protocols

General

1. Immediately cease work and contact Site Manager
2. Site Manager to construct temporary barricading to prevent worker access to the unexpected substance(s) and install appropriate stormwater/sediment controls

3. Site Manager to contact Client and arrange inspection by environmental consultant
4. Environmental consultant to undertake detailed inspection and sampling & analysis as per the documented sampling procedures outlined in the RAP analytical results against documented site assessment criteria in the RAP
5. If substance assessed as presenting an unacceptable risk to human health
6. If substance assessed as not presenting an unacceptable risk to human health Site foreman to remove safety barricades and environmental controls and continue work
7. Environmental consultant to supervise remediation and undertake validation/clearance as per the remediation/validation/clearance plan
8. Site Manager to remove barricades and environmental controls and continue work.
9. Environmental consultant to submit assessment/validation/clearance to site foreman for distribution to Client and appropriate regulatory authorities.

Asbestos

If asbestos is detected in unexpected areas prior to, or during, site development works the following 'Unexpected Finds Protocol' will apply:

1. Upon discovery of suspected asbestos containing material, the site manager is to be notified and the affected area closed off by the use of barrier tape and warning signs. Warning signs shall be specific to Asbestos Hazards and shall comply with the AS1319-1994 – Safety Signs for the Occupational Environment.
2. An Occupational Hygienist is to be notified to inspect the area and confirm the presence of asbestos and to determine the extent of remediation works to be undertaken. A report detailing this information would be compiled by the Occupational Hygienist and provided to the Principal (or their representative) and the site manager.
3. The location of the identified asbestos material would be surveyed using sub-meter Differential Global Positioning System (DGPS).
4. If the impacted soil is to be disposed off site, it should be classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and disposed of, as a minimum, as asbestos contaminated waste to a suitably licensed landfill. In dry and windy conditions the stockpile would be lightly wetted and covered with plastic sheet whilst awaiting disposal.
5. All work associated with asbestos in soil would be undertaken by a contractor holding a class ASA Licence. WorkCover must be notified 7 days in advance of any asbestos works.
6. Monitoring for airborne asbestos fibres is to be carried out during the soil excavation in asbestos contaminated materials.
7. Documentary evidence (weighbridge dockets) of correct disposal is to be provided to the Principal (or their representative).
8. At the completion of the excavation, a clearance inspection is to be carried out and written certification is to be provided by an Occupational Hygienist that the area is safe to be accessed and worked. If required, the filling material remaining in the inspected area can be covered/sealed by an appropriate physical barrier layer of non-asbestos containing material prior to sign–off.
9. Validation samples would be collected from the remedial excavation to confirm the complete removal of the asbestos containing materials. If the asbestos pipes/conduits are uncovered, then sampling density would typically comprise one sample per 10-20 linear meter (depending

on the length of the pipe). If asbestos debris are found, then the sampling density would typically comprise 1 sample per 5 metre x 5 metre grid.

10. The sampling locations should be surveyed using a sub-meter DGPS.
11. Details are to be recorded in the site record system.
12. Following clearance by an Occupational Hygienist, the area may be reopened for further excavation or construction work.

Buried Structures

In the unlikely event that buried structures such as Underground Storage Tanks (USTs) are encountered during site works, the structure(s) and any associated pipe-work should be managed /removed as follows:

1. Upon discovery of structure, the site foreman is to be notified and the area barricaded;
2. Visual identification of the tank and associated pipe-work;
3. Verification measures to be undertaken to verify where practicable the find structure, contents for development of an appropriate remediation and reinstatement process in consultation with an appropriately qualified consultant.

Volatile Contaminants

1. Based on the findings of the previous assessments, and noting the nature of the filling and soil encountered at the site the potential for the site being impacted by volatile contaminants would be extremely low.
2. In the highly unlikely event that significant quantities of volatile compounds are detected, then appropriate gas mitigation strategies may be required as per ANZECC (1999) Guidelines for the Assessment of On-site Containment of Contaminated Soil.
3. If impacts due to volatile contaminants are detected in the area to be capped, the nature and extent of the impacts of the volatile contaminants should be established as a first step before an appropriate remedial strategy.

Temporary sewer line
Site accommodation area no disturbance to capping layer
Stage 1 Strip back vegetation & prepare base for carpark. Approximately 2500sqm
Stock pile & cover materials here
Stage 1
STAGE 2
SPOIL HANDLING ZONE
Honeysuckle Dr
Worth Pl
Wright Ln
Settlement

4.13 Waste Management

See Construction Waste Management Plan for Skips and Scraps (attached within Appendix 7.9) for further details relating to the management and disposal of waste.

4.13.1 Waste Reduction

The main source of waste associated with the construction works would be waste materials during construction (bricks, concrete, steel, formwork offcuts, cardboard etc.) resulting from the execution of the construction activities. It is likely that some excess building materials will be produced due to the construction work such as miscellaneous waste associated with packaging and transport of plant and equipment and various other manufactured items forming part of the augmentation works. Waste generated as a result of construction will be minimised, recycled, reused or recovered, where practical.

HY has accepted the challenge to reduce waste on construction projects, particularly in materials transferred to landfill.

The strategy for reducing the waste on the project will be made up of three strategies as detailed below in order of priority. The prime objective is to keep the amount of materials transferred to landfill from this project to the minimum possible amount.

1. Reduce the amount of waste material produced on the project by ensuring that only enough materials required to perform the works are ordered.
2. Any excess materials from particular work areas are to be retained and incorporated into other work areas where practical.
3. Encourage “just in time” delivery of construction materials (minimum storage on site) to reduce the potential of loss / waste due to damage prior to usage.

Waste separation practices undertaken onsite shall be in accordance with the EPA Waste Classification Guidelines (2014) to reduce waste cross-contamination.

4.13.2 Waste Generation – Fill Material

Surplus spoil generated onsite from construction activities, unable to be reused will be removed from site in accordance with the appropriate legislative requirements.

4.13.3 Non-Recyclable Waste

Non-recyclable waste will be disposed of at an EPA approved landfill or transfer station.

4.13.4 Waste Collection & Disposal

Appropriate waste bins are to be provided by HY and made available to all S/C.

All S/C shall be directed to place waste in the bins provided. This shall be included in the Site Induction.

Waste collection points are nominated on the Site Layout Plan.

Waste materials collected and taken offsite will be undertaken by an appropriately licenced Contractor.

4.13.5 Waste Reporting

Waste generation is monitored by HY on monthly basis to ensure that the company’s waste reduction objectives are achieved. Waste disposal quantities are monitored monthly by HY to ensure compliance.

The Project Administrator shall record waste disposal data in a suitable tracking spreadsheet and retain those records within the project Teams folder.

Waste quantities from the PMR shall be entered into the State HSE Database for analysis and reporting against HY Waste reduction targets.

4.13.6 Concrete Waste & Washout

Concrete trucks and pumps shall be washed out at designated locations as shown on the site layout plan. Washout of concrete pumps and agi's in other areas will not be permitted.

Concrete tower booms including pumps will utilise washout trays and other systems as approved to ensure adherence to the required waste and washout requirements where this equipment is unable to relocate to the nominated washout points.

Washout shall be captured using membranes or other suitable means and allowed to set.

Waste shall be placed in bins for disposal with site waste.

Excess concrete shall be returned to the concrete plant for disposal or re-use.

4.13.7 Mitigation Strategies

- Accurate written records are to be kept such as:
  - Who transported the waste (company name, ABN, vehicle registration and driver details, date and time of transport, description of waste)
  - Copies of waste dockets/receipts for the waste facility (date and time of delivery, name and address of the facility, it's ABN, contact person).
- The construction contractor to ensure that waste generated by the works is transported to a place that can lawfully accept it as per Section 143 of the *Protection of the Environment Operations Act* 1997.
- The removal of any asbestos containing material if found is only to undertaken by an appropriately licenced contractor as per WorkCover NSW requirements and current guidelines.
- All waste, including excess spoil be recycled where practicable
- Trucks transporting spoil off site to be covered.
- The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the POEO Act).
- Material orders to be verified to ensure quantities delivered to site are suitable for the task required to minimise waste. Concrete orders use a plus(+) load on final trucks to verify the estimated vs actual orders required.

4.14 Visual

4.14.1 Likely Impacts

The project has a visual impact to surrounding properties but is consistent with planning laws and will be constructed in accordance with the approved SSDA.

4.14.2 Mitigation Strategies

- Construct landscaping in accordance with the design documentation to reduce visual impacts of the new development.

4.15 Environmental Complaints

Complaints received regarding HY's Environmental Impacts or performance shall be recorded as Complaint in accordance with the HSE Incident Procedure. Actions to be taken to address the complaint.

4.16 Fuel & Chemical Spills

Response to major fuel spills shall be implemented in accordance with the fuel spill procedure in the Emergency Response Plan. The requirements for storage of large fuel and chemical quantities are not expected for this project.

A spill kit shall be located adjacent to fuel and chemical storage and dispensing areas.

Where necessary, chemicals and any hydrocarbons will be stored in appropriately bunded areas in accordance with the NSW EPA requirements, to minimise the risk of spills contaminating the surrounding environment.

4.17 Hazardous Materials

Hazardous materials not defined within this environmental management plan shall be risk assessed and managed in accordance with HY Hyer Standard as summarised below.

Risks associated with hazardous chemicas must be included in the project risk register. This includes risks associated with storage, handling and use of hazardous chemicals. Both health hazards and physical hazards must be considered:

- Health hazards – typical acute health effects include headaches, nausea or vomiting and skin corrosion, while chronic health effects include asthma, dermatitis, nerve damage or cancer
- Physical hazards – immediate injury to people or damage to property (e.g. fire, explosion, corrosion)

When conducting the project risk assessment consideration should be given to the following:

- Processes that produce hazardous chemicals as by-products or waste (e.g. welding)
- Potential failures of plant and equipment that contains or transfers hazardous chemicals
- Hazardous chemicals already present at the site or adjacent to site (e.g. existing pipelines)
- Potential ignition sources including static electricity
- Potential hazards due to storage (e.g. close to excavations/trenches, in poorly ventilated areas such as basements)
- Buildings and structures that are to be demolished that contain or may have contained hazardous chemicals

- Emergencies involving hazardous chemicals e.g. cleaning up spills

Where health surveillance or exposure monitoring is required as part of conducting the risk assessment, it must be undertaken as per the Health Surveillance and Workplace Monitoring procedure.

Hazardous Chemicals that have the potential to create a flammable or contaminated atmosphere is considered high risk work and requires a HRCW SWMS.

5 Measurement & Evaluation

5.1 Environmental Incidents & Emergencies

5.1.1 Environmental Incidents

Incidents resulting in potential or actual environmental damage shall be reported and investigated in accordance with the HSE Incident Procedure and recorded on Hammertech using the HSE incident report

5.1.2 Environmental Emergencies

Preparation for and response to the environmental impacts of emergency events shall be conducted in accordance with the project Emergency Response Plan. The environmental impacts controlled in ERP are;

Asbestos Exposure

In the event that during works, personnel become accidentally exposed to asbestos, the following procedures shall be followed:

4. Personnel in the immediate affected area shall cease work and immediately go to the emergency showers on site.

1. All contaminated clothing is to be removed and placed into a thick plastic bag. The plastic bag must then be tightly sealed and labelled as "Asbestos Contaminated Clothing".

2. Personnel are to immediately decontaminate themselves in a shower and a clean set of clothes to be re-issued.

3. Asbestos contaminated clothing is to be industrially cleaned or disposed of appropriately

General

An incident involving actual or potential harm to human or environmental health must be reported immediately to the EPA.

Firstly, call 000 if the incident presents an immediate threat to human health or property. Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service are the first responders, as they are responsible for controlling and containing incidents.

If the incident does not require an initial combat agency, or once the 000 call has been made, notify the HY Site Manager who will notify the relevant authorities in the following order. The 24-hour hotline for each authority is given when available:

Environmental Events
Environmental events are to be notified to the following regulatory bodies:

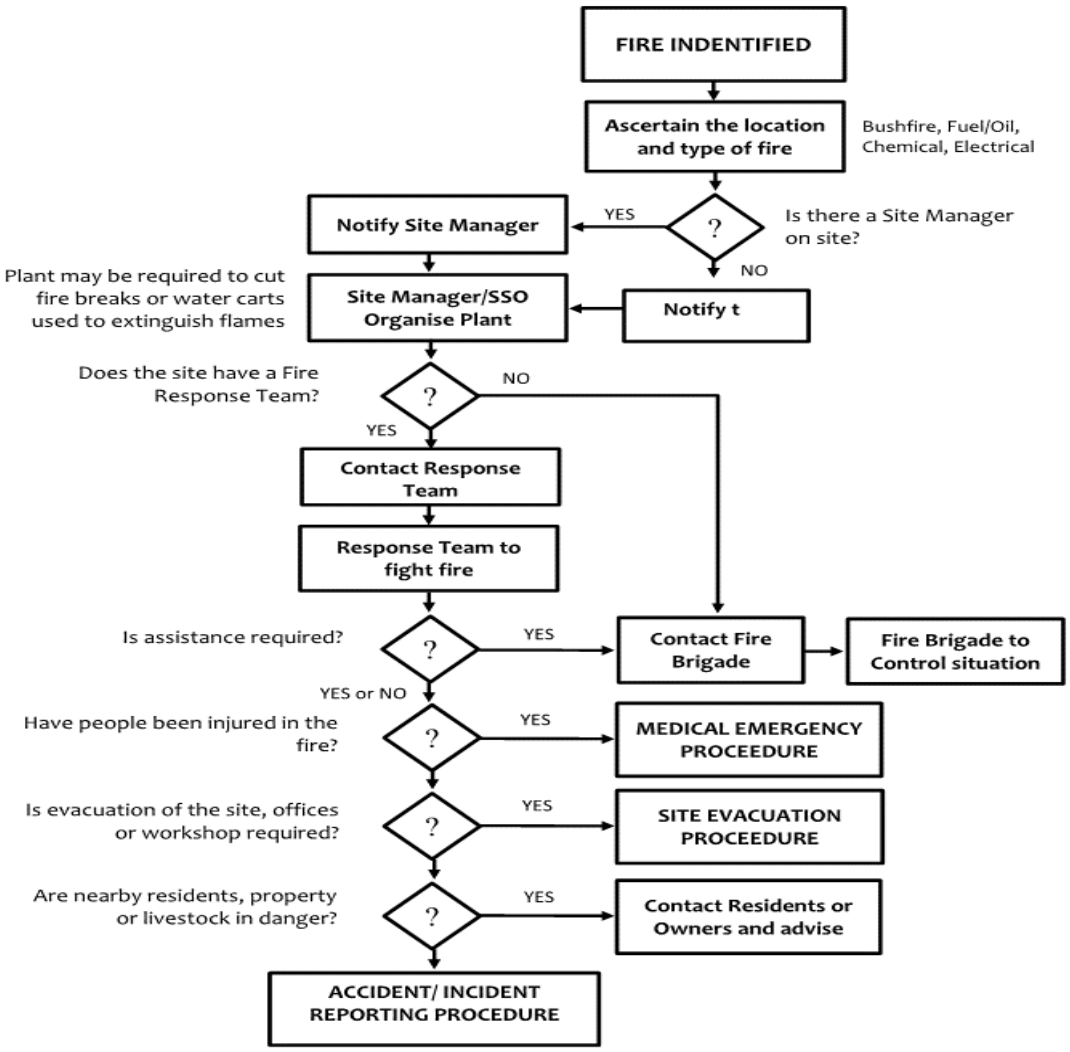
	NSW
Body to notify:	EPA
Time period:	As soon as practical
How to notify:	Per instructions on this page

EPA Environment Line on 131 555

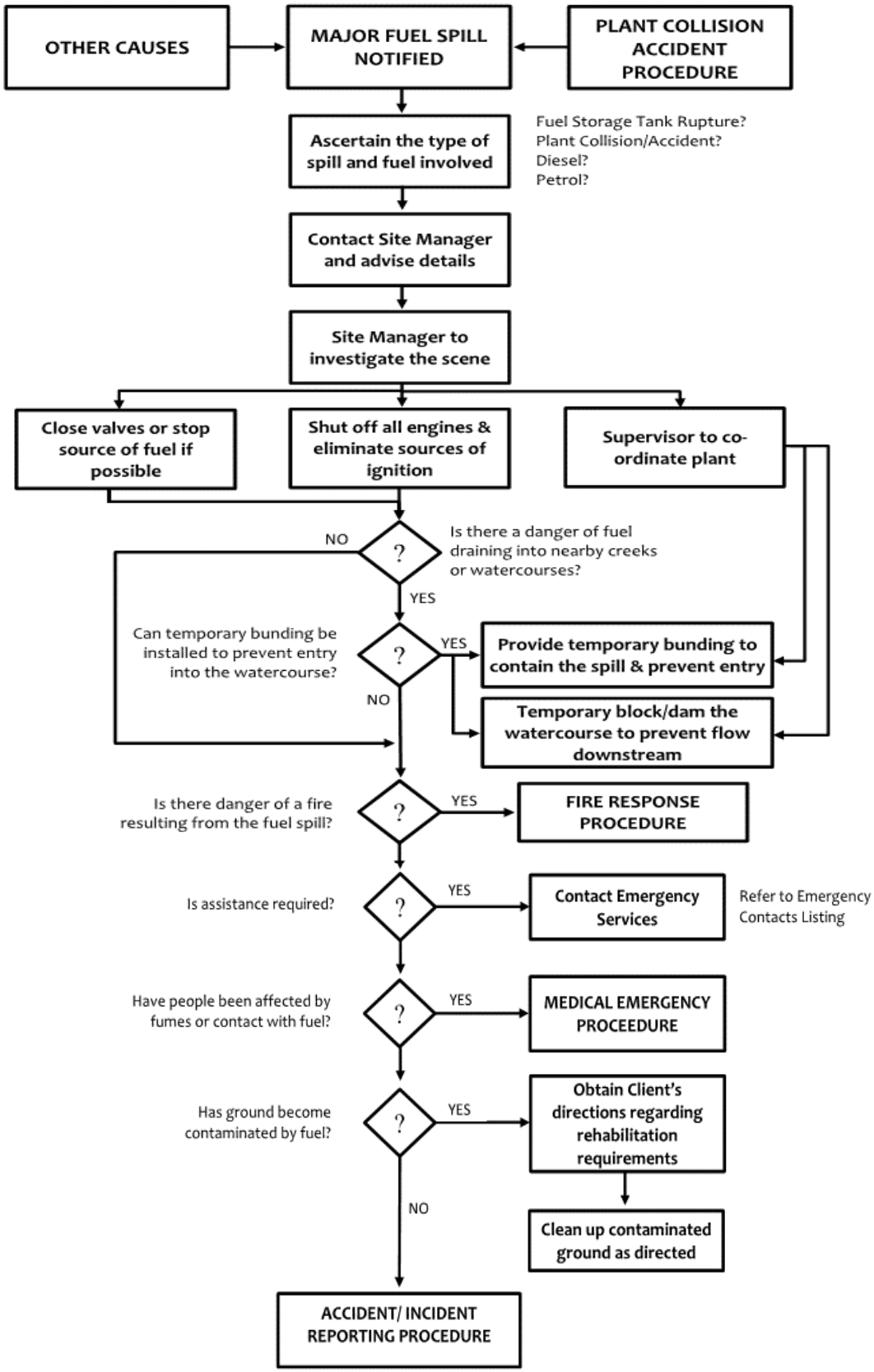
Safework NSW Authority – phone 13 10 50 (Where appropriate)

Newcastle City Council Telephone (02) 4974 2000

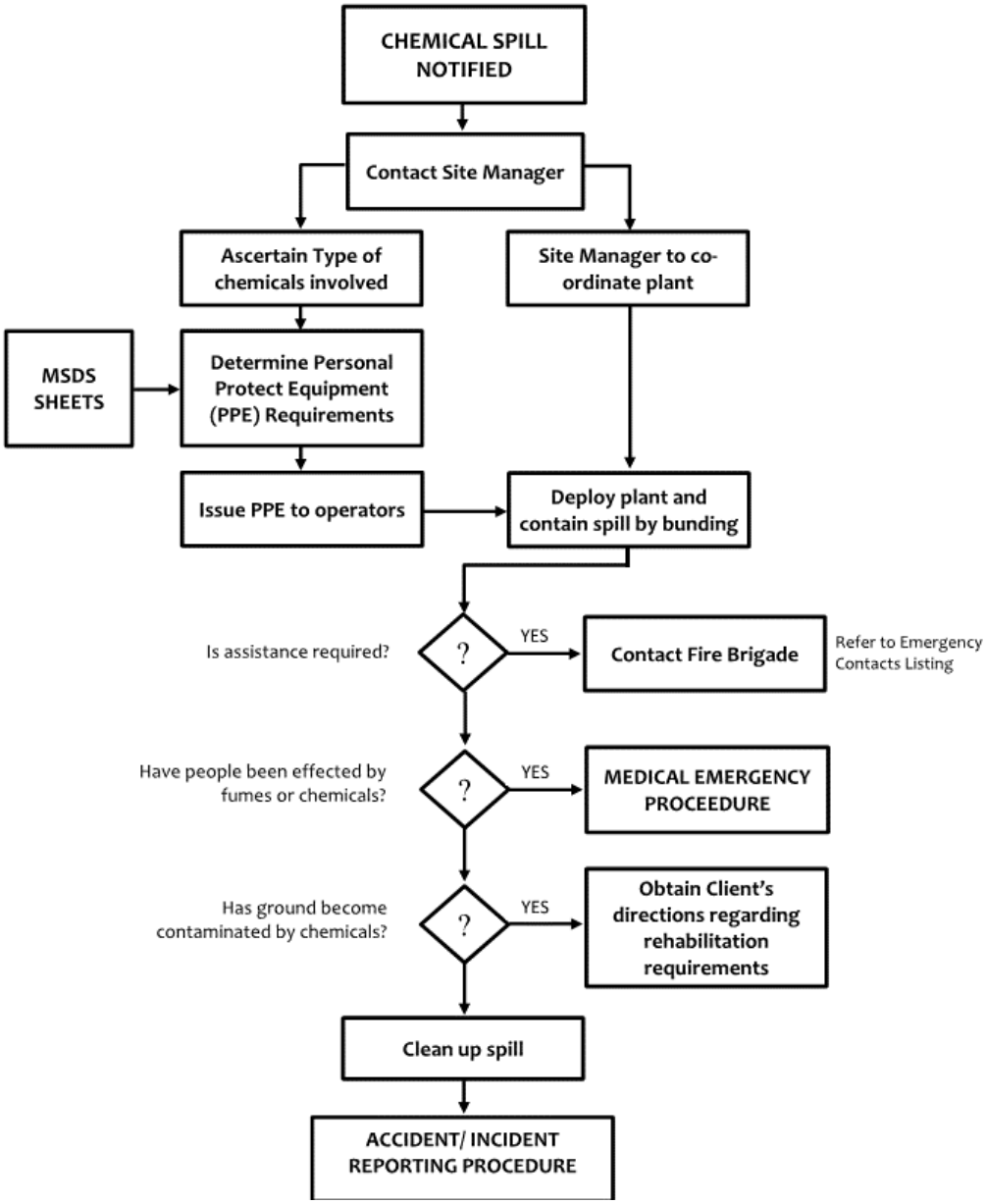
Fire



Major Fuel Spill



Chemical Spill



5.2 Environmental Inspections & Audits

Inspections & audits of the site including environmental controls shall be conducted in accordance with the procedure for Site HSE Inspections & the project Audit Management Plan. The following inspections will be conducted onsite throughout the time on the project:

- Weekly site inspections,
- Monthly task observations,
- 3 monthly internal audits,
- Monthly external audits in line with the GC21 requirements &,

Where an item has been assessed as Non-Conformance (NC) during any internal inspection an issue shall be raised in Hammertech to bring the activity or process into compliance with requirements. The issue(s) shall be recorded in Hammertech and allocated to the relevant contractor/subcontractor.

The independent consultant in writing shall raise all items assessed as non-conformance during external audits and HY will address all issues and close out within the time frame advised.

6 References

Environmental Planning and Assessment Act 1979 No 203

Environmental Planning and Assessment Regulation 2000

Protection of the Environment Operations Act 1997 (NSW)

Protection of the Environment Operations (General) Regulation 2009

AS/NZS ISO 14001; 2004 Environmental management systems - Requirements with guidance for use

AS/NZS ISO 31000:2009 Risk management – Principles and guidelines

HB158:2010 Delivering assurance based on ISO 31000:2009 – Risk management – Principles and guidelines

NSW Government Environmental Management System Guidelines (edition 3 - August 2013)

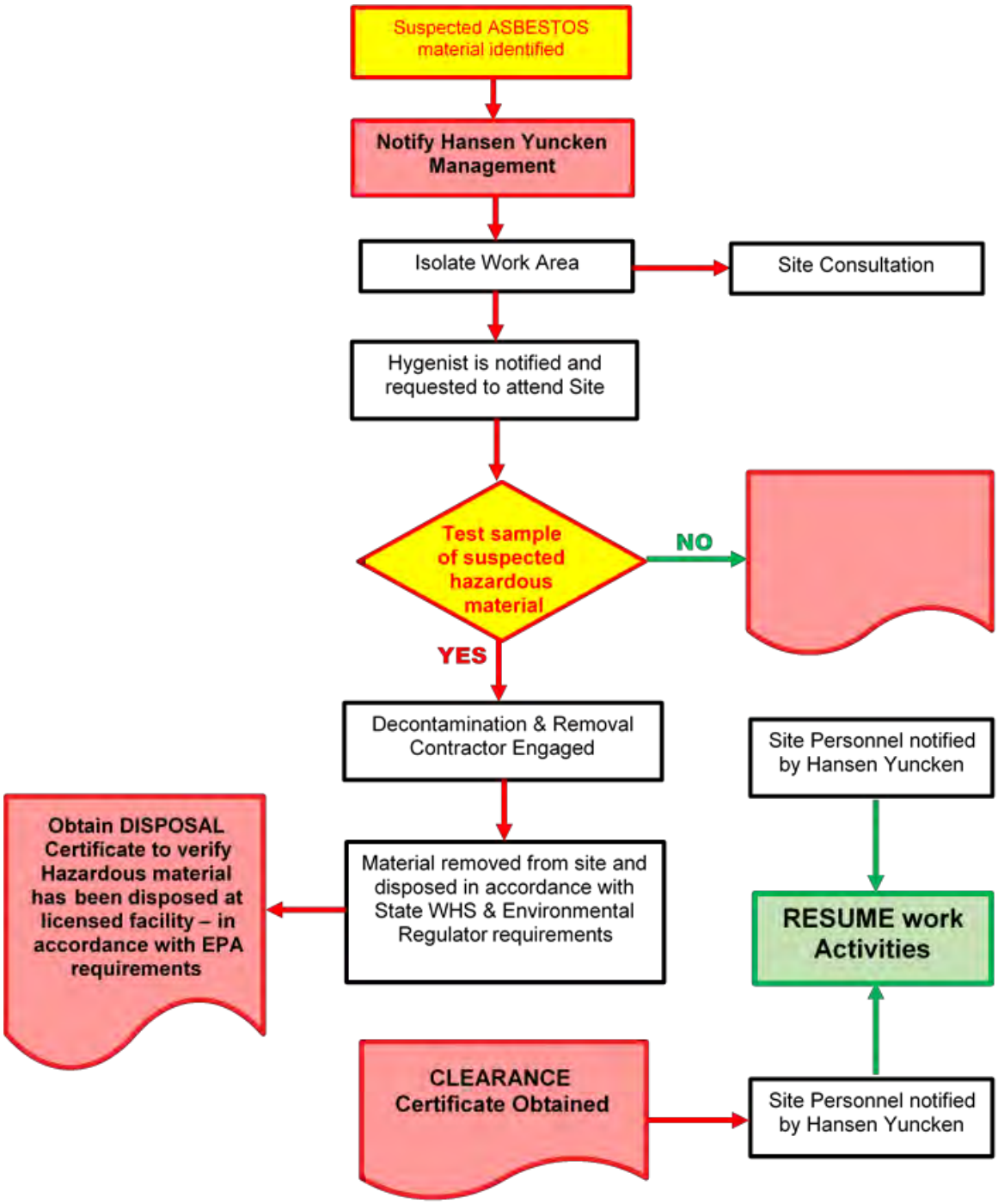
CLMP & UFP 754-NTLEN213472-R05c Rev 3 Final 2 (Site establishment 16 Honeysuckle drive Newcastle)

NSW EPA Waste Classification Guidelines (2014),

'Blue Book (Managing Urban Stormwater Soils and Construction) (Landcom, 2004)

7 Appendices

7.1 A.1 Unexpected Finds Process



Site establishment plan to be coordinated with the CLMP & UFP

754-NTLEN213472-R05c

7.2 Non-Aboriginal Unexpected Finds Protocol

Historical Archaeology - Unexpected Finds Procedure

University of Newcastle City Campus Student Accommodation:
SSD 61618229

FINAL

August 2025

umwelt

Historical Archaeology - Unexpected Finds Procedure

University of Newcastle City Campus Student Accommodation: SSD 61618229

FINAL

Prepared by
Umwelt (Australia) Pty Limited

On behalf of
The University of Newcastle

Project Director:	Tim Adams
Project Manager:	Ryan Desic
Report No.:	32474/R05
Date:	August 2025

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This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

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1.0 Introduction

Umwelt has prepared this Unexpected Finds Procedure on behalf of the University of Newcastle to address Condition of Approval (CoA) B52 of State Significant Development (SSD) SSD-61618229.

Condition B52 Historical Archaeology – Heritage NSW is as follows:

A procedure for the management of unexpected relics and human remains must be developed in consultation with Heritage NSW. This procedure must:

(a) be prepared in accordance with Heritage NSW guidelines and codes of practice.

(b) include a hold point requiring the development of a revised historical archaeological assessment in the event an unexpected relic is identified.

> *(i) The Archaeological Assessment must be prepared in accordance with the guideline Archaeological Assessment (1996) and Assessing Significance for Historical Archaeological Sites and Relics (2009) to inform and guide archaeological mitigation measures.*
>
> *(ii) If harm cannot be avoided in whole or part, an Archaeological Research Design and Excavation Methodology (ARDEM) with a nominated Excavation Director should also be prepared to guide any proposed excavations or salvage program.*
>
> *(iii) The Archaeological Assessment must be provided to the Secretary of the Department of Planning, Housing and Infrastructure for approval in consultation with Heritage NSW.*

(c) must be implemented for the duration of the project.

In addition to this Historical Archaeology Unexpected Finds Procedure the following documents should also be referred to:

- The Project's Maritime Archaeological Unexpected Find Procedure (MTS Heritage 2025); in accordance with CoA B55 Maritime Unexpected Finds – Heritage NSW.
- The Project's Aboriginal Cultural Heritage Management Plan (Umwelt 2025a) - Management of New Finds and Unexpected Cultural Materials; in accordance with CoA B56 Aboriginal Cultural Heritage Management Plan – ACHAR.

1.1 Project Overview

1.1.1 Project Background

The University of Newcastle is progressing with Stage 1B of the University's City Campus, including a nine-storey building for the purpose of campus student accommodation and ground floor retail (herein referred to as 'the Project').

The Project is identified as a State Significant Development (SSD) site by virtue of Condition A5 of the Concept Plan SSD-9262 Consent and by virtue of Schedule 2 of State Environmental Planning Policy (Planning Systems) 2021. Previously, Concept Plan (SSD-9262) was granted approval by the Minister for Planning and Public Spaces on 21 May 2020 and includes the Project Area.

Development consent (the consent) for the current Project (SSD-61618229) was granted by the Department of Planning, Housing and Infrastructure (DPHI) on 6 June 2025.

1.1.2 Project Area

The University of Newcastle City Campus is located within the City of Newcastle Local Government Area (LGA) at 16 Honeysuckle Drive, Newcastle (**Figure 1.1**). It is on the lands of the Awabakal and Worimi peoples.

Specifically, Site B (Stage 1B in the approved concept masterplan) is located at the southwestern corner of the University's City Campus. Site B has an overall area of 3,341 m^2 and is legally described as Lot 2 in DP 1247375.

Landscaping and public domain works will be undertaken in a portion of Wright Lane and is legally described as Lot 5 in DP 1247375. Together, these areas comprise the 'Project Area'. Both Lot 2 and Lot 5 in DP 1247375 are owned by the University of Newcastle.

1.1.3 Project Summary

The Project will generally involve the following works, as illustrated in **Figure 1.2**:

- Construction of a nine (9) storey building (known as Building B), to be used for campus student accommodation and retail. Building B will have a maximum gross floor area (GFA) of 10,765 m^2, comprising of:
  - Approximately 130 m^2 of retail floor space at ground level.
  - Approximately 683 m^2 of communal residential amenity facilities at ground level.
  - Approximately 9,520 m^2 of student accommodation including a total of 445 beds.
- Maximum building height of Reduced Level 33.85 (nine storeys excluding plant and services).
- Maximum height of RL 37.53 (building including plant and services).
- End of trip facilities, including 90 bicycle spaces and back of house amenities.
- Landscaping and public domain works.
- The ground floor level will be built-up to RL 2.9 which is approximately 500 mm (on average) above the ground level across the Project Area.

1.2 Historical Archaeological Background

Umwelt completed a Historical Archaeological Assessment (Umwelt 2024) for the Project to support the Project's Environmental Impact Statement (EIS).

The Historical Archaeological Assessment (Umwelt 2024) assessed that prior to reclamation the northwest portion of the Project Area was located entirely within the harbour.

From the mid nineteenth century the Project Area has been associated with the railway, associated rail yards and reclamation activities. One archaeological feature of significance was identified within the Project Area, being a Locomotive Turntable which is beneath the current ground surface. The Locomotive Turntable is outside the construction footprint of the Project and will not be physically impacted.

Umwelt concluded that it is unlikely that any significant historical archaeological 'relics' will be exposed or impacted within the Project Area. No further investigations or mitigation measures were proposed with the exception of the management of the former locomotive turntable and unexpected historical archaeological and maritime remains.

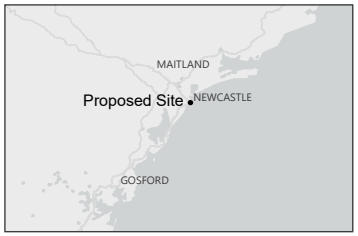
The assessment recommended that the location of the former locomotive turntable should be identified and protected during proposed Project works to ensure no inadvertent impacts occur to the below ground structure of the turntable. The location of the Locomotive Turntable in relation to the Project design is shown on **Figure 1.2**.

The former locomotive turntable is being managed in accordance with a specific Archaeological Method Statement (Umwelt 2025b) in accordance with CoA C44 Historical Archaeology – Heritage NSW and does not form part of this unexpected finds procedure.

FIGURE 1.1
Local Context

Legend

- Project Area
- Waterbody
- Watercourse
- Road
- Track



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Metres

Scale 1:2,500 at A4
GDA2020

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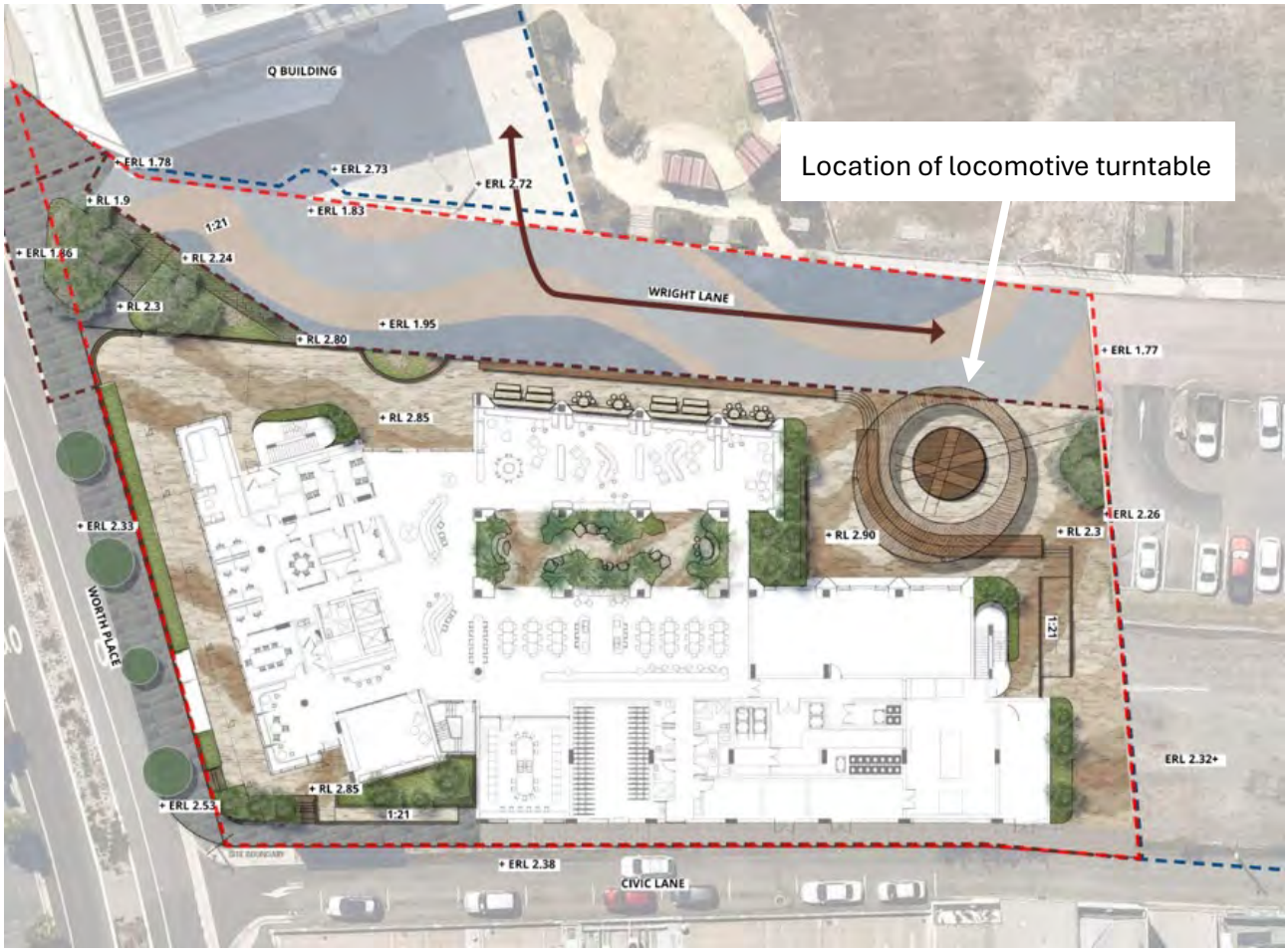


Figure 1.2 The Project Design Concept

2.0 Archaeological Remains

Historical archaeology in Australia generally relates to the study of the past using physical evidence in conjunction with historical sources. Historical archaeology is generally defined as comprising the period since European arrival in Australia in 1788.

Archaeological remains are physical evidence of the past and may comprise sub-surface evidence including building foundations, occupation deposits, features and artefacts. The historical archaeological potential of an area is the likelihood that there may be physical evidence relating to earlier phases of development and occupation beneath the current footprint of the site.

As discussed, the Project Historical Archaeological Assessment (Umwelt 2024) considered it unlikely that any significant historical archaeological 'relics' will be exposed within the Project Area. Although the northwest portion of the Project Area was originally entirely within the harbour (and has no potential for any significant archaeological remains) and from the mid nineteenth century the Project Area has been associated with the railway, associated rail yards and reclamation activities, there remains the potential for unexpected archaeological remains to be discovered during works. The potential for unexpected archaeological finds includes within reclamation fill or at the interface with the natural bed of Throsby Creek.

2.1 Heritage Act 1977

2.1.1 Relics Provision of the Heritage Act

The *Heritage Act 1977* (Heritage Act) affords automatic statutory protection to 'relics' which form part of archaeological deposits (except where these provisions are suspended by other prevailing legislation).

The Heritage Act defines a 'relic' as any deposit, artefact, object, or material evidence that:

(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and

(b) is of State or local heritage significance.

It is noted that some archaeological remains are not considered to be relics; but are instead referred to as works or engineering works. Examples of items that can be considered works rather than relics include culverts (drains), historic road formations, historic pavements, buried roads and tramlines or rail lines, retaining walls, cisterns, fences, sheds, buildings and conduits (TfNSW 2022, RMS 2015 and Higginbotham 2013).

Although not considered to be relics as defined by the Heritage Act, if discovered any such archaeological remains still need consideration of appropriate management dependant on their significance. Although an item may not be considered a relic itself, relics could be present associated with it (for example in the form of artefacts).

2.1.2 Heritage Act Section 146 Notification of Discovery of a Relic

Section 146 of the Heritage Act requires any person who is aware or believes that they have discovered or located a relic must notify the Heritage Council of NSW providing details of the location and nature of the relic in addition to proposed management measures.

Section 146 states:

A person who is aware or believes that he or she has discovered or located a relic (in any circumstances, and whether or not the person has been issued with a permit) must—

(a) within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and

(b) within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.

2.2 Potential Archaeological Remains

Archaeological remains comprise below ground evidence which can include building foundations, occupation deposits, features and artefacts. For example:

- Below ground infrastructure can include wells, cisterns or cesspits (made from sandstone, brick or local stone materials), drainage features such as culverts and drains (made from timber, stone or brick).
- Redundant / former rail alignment and associated infrastructure.
- Below ground features such as postholes, fill features or foundation cuts.
- Artefactual material such as broken or whole glass, ceramic or earthenware bottles, containers or plates, clay or bone tobacco pipes, pieces of metal.
- Archaeological skeletal material (animal or human).

Table 2.1 provides images of archaeological remains discovered in the Newcastle area to provide examples of what archaeological remains can comprise of and assist in primary identification if discovered during Project works.

Table 2.1 Archaeological Remains

Archaeological Remains in the Newcastle Area	
1872 Railway Carriage Shed and Repairing Shop brick footing - Civic Station Newcastle (Umwelt 2020a)	1872 Honeysuckle Station Newcastle sandstone platform footing (Umwelt 2020b)
Brick well – Hunter Street Newcastle (Umwelt 2020b)	Sandstone causeway wall footing – Worth Place Newcastle (Umwelt 2020b)

Archaeological Remains in the Newcastle Area

Timber slab covered sandstone drain – Hunter Street Newcastle
(Umwelt 2020b)

Sandstone slab covered stormwater drain – Hunter Street Newcastle
(Umwelt 2020b)

Brick barrel drain – Scott Street Newcastle
(Umwelt 2020b)

Former rail line – Hunter Street Newcastle
(Umwelt 2020b)

Archaeological Remains in the Newcastle Area

Circular brick rail related infrastucture – former heavy rail corridor Newcastle

(Umwelt 2020b)

Reclamation fill / artefact dump – Hunter Street Newcastle

(Umwelt 2020b)

Historical postholes and cuts extending into natural sand – Honeysuckle Newcastle

(Curio Projects 2021)

Admiralty patent anchor - Honeysuckle Newcastle

(Umwelt 2021)

Archaeological Remains in the Newcastle Area

Salt glazed ginger beer and blackening bottles
(Umwelt 2020c)

Medicine / pharmaceutical bottle and soda bottle (embossed with *G E Redman, Newcastle*)
(Umwelt 2020c)

Blue willow transferware platter ceramic fragments
(Umwelt 2020c)

Animal bones
(Umwelt 2020c)

3.0 Unexpected Finds Procedure

An unexpected archaeological find can be defined as any unanticipated archaeological discovery that has not been identified during a previous assessment (Umwelt 2024) or is not covered by an existing approval.

If unexpected finds are discovered during works, this procedure (refer to **Figure 3.1**) must be followed:

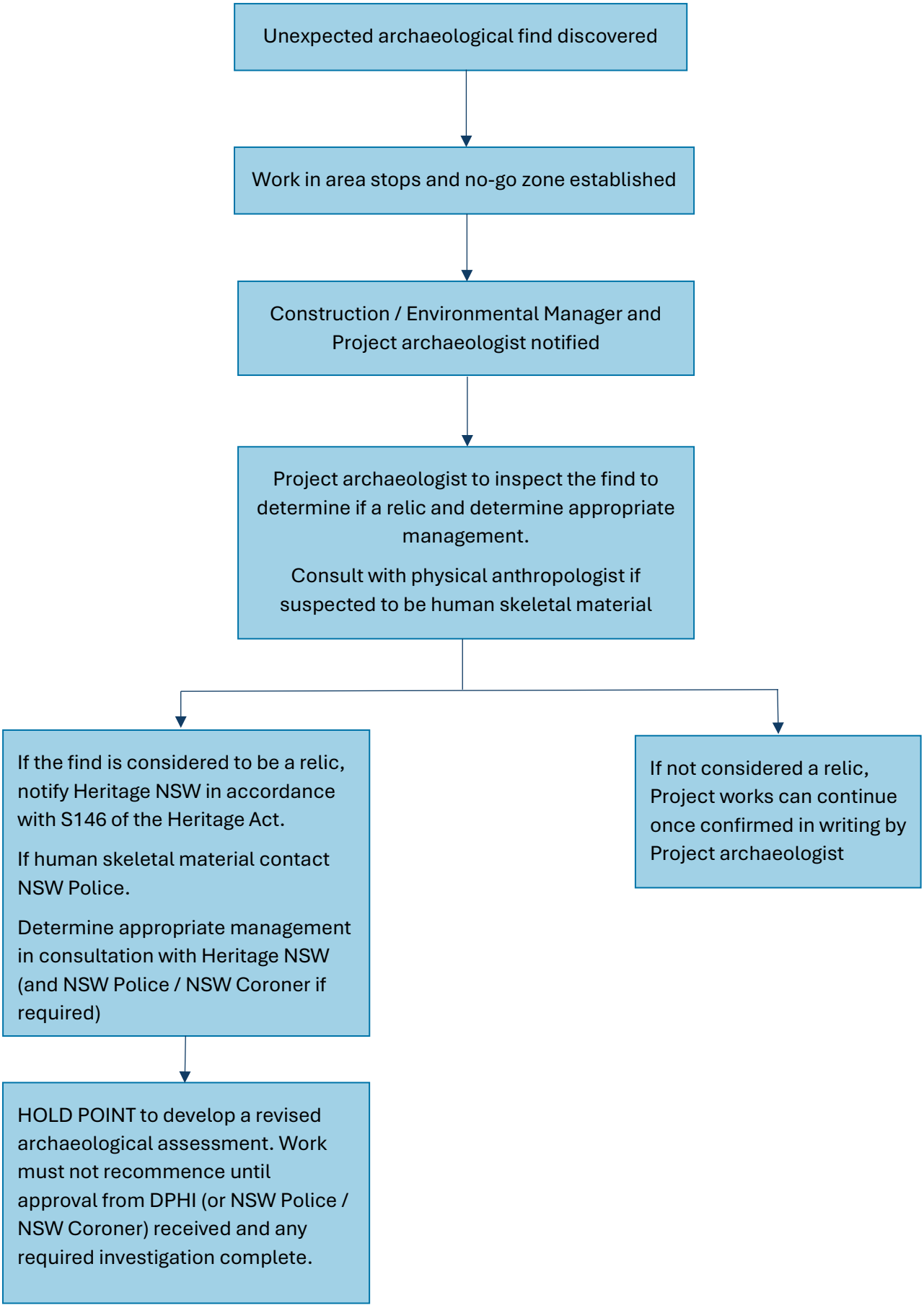
- In the event potential historical archaeological remains are discovered all works in the immediate area must stop.
- The person who identified the potential historical archaeological remains must immediately notify the person in charge of the activity e.g., Construction / Environmental Manager or delegate.
- A 'no-go zone' must be established around the item, for example high visibility fencing where practical and all site personnel informed about the no-go zone.
- No work is to be undertaken within this no-go zone until further investigations are complete and, if required, appropriate approvals are obtained.
- The Project archaeologist must be contacted to notify them of the find – including provision of supporting information such as photographs and a location map.
- Project archaeologist is to inspect the find to identify if the archaeological remains are considered to be a relic as defined by the Heritage Act and determine appropriate management and mitigation measures.
- If determined not to be a relic or other significant archaeological remains (such as an archaeological work) Project works can continue.
- If determined to be a relic other significant archaeological remains Heritage NSW (as delegate of the Heritage Council) must be notified in accordance with Section 146 of the Heritage Act.
    - **NOTE** if skeletal remains are identified the above steps must also be followed to allow assessment. If the Project archaeologist suspects the remains to be human, a physical anthropologist, Heritage NSW (and potentially NSW Police / NSW Coroner if confirmed to be human by the physical anthropologist) will be contacted to determine an appropriate course of action.

At this point a hold point must be established to develop a revised archaeological assessment (including an archaeological research design and methodology and a nominated Excavation Director if archaeological investigation is required) in accordance with Heritage NSW guidelines.

The assessment will be provided to Secretary of the Department of Planning, Housing and Infrastructure (DPHI) for approval in consultation with Heritage NSW and implemented for the duration of the project.

- Work must not recommence until approval from DPHI (or NSW Police / NSW Coroner) is received and any required investigation complete.

Figure 3.1 Unexpected Finds Procedure



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University of Newcastle City Campus Student Accommodation (SSD-61618229)

Contaminated Land Management Plan and Unexpected Finds Protocol, Stage 1B Development

University of Newcastle

Reference: 754-NTLEN274023-R08 Rev 2

31 July 2025

UNIVERSITY OF NEWCASTLE CITY CAMPUS STUDENT ACCOMMODATION (SSD-61618229)

Contaminated Land Management Plan and Unexpected Finds Protocol, Stage 1B Development

Report reference number: 754-NTLEN274023-R08 Rev 2
31 July 2025

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QUALITY INFORMATION

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Revision	Description	Date	Author	Reviewer	Approver
V1 Draft	Draft for Discussion	8/9/2021	Paul Wright	Laurie Fox	Paul Wright
V2 Draft	Draft	18/07/2023	Craig Schrader	Laurie Fox	Paul Wright
Final	Final Report	8/08/2023	Craig Schrader	Paul Wright	Paul Wright
Revision 1	SSD Revision	8/03/2024	Peter Sanderson	Laurie Fox	Paul Wright
Revision 2	Post-SSD Consent addressing SSD Condition B51. (UFP is provided as Section 7 of this report without change from previous versions)	31/07/2025	Shaun McKay	Laurie Fox	Shaun McKay

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Final	1	PDF	University of Newcastle	8/08/2023
Revision 1	1	PDF	University of Newcastle	8/03/2024
Revision 2	1	PDF	University of Newcastle	31/07/2025

CONSULTANT DECLARATION

PROJECT DETAILS	
PROJECT NAME	
Application number	SSD-61618229
Address of subject land	20 Civic Lane, Newcastle, NSW, 2300
Lot / DP	Lot 2 DP 1247375 & Lot 5 DP 1247375
APPLICANT DETAILS	
Applicant name	University of Newcastle
Applicant address	University Drive, Callaghan, NSW 2308
REPORT DETAILS	
Name of report this declaration relates	University of Newcastle City Campus Student Accommodation (SSD-61618229) Contaminated Land Management Plan and Unexpected Finds Protocol (CLMP-UFP)
Report reference no.	754-NTLEN274023-R08 Rev 2
Report date	31 July 2025
Company name (inc. ABN / ACN)	Tetra Tech Coffey Pty Ltd. (ABN 55 139 460 521)
Author name	Shaun McKay
Author qualifications	Senior Associate Environmental Scientist
Author address	Unit 4, 60 Griffiths Road, Lambton NSW 2299
DECLARATION BY CONSULTANT	
Name	Laurence Fox
Registration no.	CPSS CSAM 2024
Organisation registered with	Soil Science Australia
Declaration	The undersigned declares that the University of Newcastle City Campus Student Accommodation (SSD-61618229) Contaminated Land Management Plan and Unexpected Finds Protocol: • has been prepared in accordance with the following policy, guidelines, or legislative requirements: – **Contaminated Land Management Act (1997).** – **Protection of the Environment Operations Act (1997) and Waste Regulation (2014, 2016).** – The Work Health and Safety Act (2011). – **National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Volume 2, Schedule B1 (ASC NEPM 1999 (2013).** – **NSW EPA Waste Classification Guidelines 2014.** – **NSW EPA Resource Recovery Orders and Resource Recovery Exemptions under Part 9, Clause 93 of the POEO Waste Regulations (2014).** – **NSW EPA (2020) Consultants Reporting on Contaminated Land – Contaminated Land Guidelines.**

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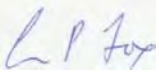
PROJECT DETAILS	
	– **NSW EPA Guidelines for NSW Site Auditor Scheme 3rd Edition (2017).** • contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the CLMP-UFP relates; • does not contain information that is false or misleading; • identifies and addresses the relevant Planning Secretary's environmental assessment requirements (SEARs) for the project; • identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments to which the CLMP-UFP relates; • contains a consolidated summary of the proposed or necessary mitigation measures
Signature	
Date	**20/06/2024**

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ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
ACM	Asbestos Containing Material
AEC	Areas of Environmental Concern
AHD	Australian Height Datum
AHIP	Aboriginal Heritage Impact Permit
ASRIS	Australian Soil Resource Information System
ASS	Acid Sulfate Soils
BGS	Below Ground Surface
BTEX	Benzene Toluene Ethylbenzene and Xylene
CLMP	Contaminated Land Management Plan
CN	City of Newcastle
COPC	Chemicals/Contaminants of Potential Concern
CSM	Conceptual Site Model
DECC	Department of Environment and Climate Change
DNAPL	Dense Non-Aqueous Phase Liquid
DP	Deposited Plan
DQI	Data Quality Indicator
DQO	Data Quality Objective
DSI	Detailed Site Investigation
EIL	Ecological Investigation Level
ESL	Ecological Screening Level
HIL	Health Investigation Level
HDPE	High-Density Polyethylene
HSE	Health, Safety and Environmental
HSSE	Health, Safety, Security and Environmental
HSL	Health Screening Level
LNAPL	Light Non-Aqueous Phase Liquid
LTEMP	Long-Term Environmental Management Plan
NEPC	National Environment Planning Council
NEPM	National Environment Protection (Assessment of Site Contamination) Measure
NSW	New South Wales
NSW EPA	New South Wales Environmental Protection Authority

Acronyms/Abbreviations	Definition
NSW Health	NSW Health Administration Corporation
PAH	Polycyclic Aromatic Hydrocarbon
PSI	Preliminary Site Investigation
QA	Quality Assurance
QC	Quality Control
RAP	Remediation Action Plan
SAC	Site Assessment Criteria
SEPP	State Environmental Protection Policy
SWMS	Safe Work Method Statement
TCLP	Toxicity Characteristic Leaching Procedure
TRH	Total Recoverable Hydrocarbon
UCL	Upper Confidence Limit
UFP	Unexpected Finds Protocol
VENM	Virgin Excavated Natural Material

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1. INTRODUCTION

This Contaminated Land Management Plan and Unexpected Finds Protocol has been prepared by Tetra Tech Coffey (Tetra Tech) on behalf of University of Newcastle (University) to accompany a State Significant Development Application (SSD-61618229) that seeks approval for Stage 1B of the University's City Campus, including a nine-storey building for the purpose of campus student accommodation and ground floor retail.

Stage 1B will be undertaken at Lot 2 DP 1247375 and Lot 5 DP 1247375 (Site B), located at 20 Civic Lane, Newcastle NSW and 20A Wright Lane, Newcastle NSW respectively collectively defined as "the Site". A locality and site plan are presented in Figure 1 and Figure 2 of the Attachments respectively. An overview of the site context and description and the proposed development is included in Section 2.

1.1 BACKGROUND – APPROVED CONCEPT PLAN

A Concept Plan (SSD-9262) granted approval by the Minister for Planning and Public Spaces on 21 May 2020, applies to the Site. The Concept SSD established the maximum building envelope, gross floor area and preferred land use to facilitate the future redevelopment of the site. Additionally, the Concept Proposal provides a design excellence framework to guide future development within the building envelopes and achieve design excellence. The detailed Building B SSD will be consistent with the Concept Proposal and design excellence strategy.

The approved Concept Plan is shown in Figure 1-1.

Figure 1-1: Approved Concept Plan for the University of Newcastle City Campus

1.2 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

A request for the issue of Industry Secretary's Environmental Assessment Requirements (SEARs) was sought on the 18 August 2023. Accordingly, the SEARs were issued on 31 August 2023 for SSD-.61618229. The

purpose of this report is to provide a contaminated land management plan and unexpected finds protocol to manage potentially contaminated soils during construction. This was a recommendation following the completion of the contamination assessment completed to accompany the SSDA as required by the SEARs which is reproduced below:

SEAR	Expected Deliverable

13. Ground and Water Condition
• **Assess potential impacts on soil resources and related infrastructure and riparian lands on and near the site, including soil erosion, salinity and acid sulfate soils.**
  ○ **Provide a Surface and Groundwater Impact Assessment that assesses potential impacts on:**
  ○ **surface water resources (quality and quantity) including related infrastructure, hydrology, dependent ecosystems, drainage lines, downstream assets and watercourses.**
• **groundwater resources in accordance with the Groundwater Guidelines."**
	• Geotechnical Assessment
	• Surface and Groundwater Impact Assessment
	• Salinity Management Plan and/or Acid Sulfate Soils Management Plan

This report should be read in conjunction with the attached '*Important Information about your Tetra Tech Coffey Environmental Report*'.

1.3 STAGE 1B (SITE B) DESCRIPTION

The University of Newcastle City Campus is located within the City of Newcastle Local Government Area (LGA) at 16 Honeysuckle Drive, Newcastle. It is located on the lands of the Awabakal and Worimi peoples.

Specifically, Site B (Stage 1B in the approved concept masterplan) is located at the southwestern corner of the University's City Campus. Site B has an overall area of 3,341m^2 and is legally described as Lot 2 in DP 1247375. Landscaping and public domain works will be undertaken in a portion of Wright Lane and is legally described as Lot 5 in DP 1247375. Both Lot 2 and 5 in DP 1247375 are owned by the University of Newcastle.

Located within the wider Newcastle City Campus, the site is strategically positioned in the geographical heart of the Newcastle CBD. This area is undergoing a process of significant transformation, with a number of major commercial and residential developments having been recently completed.

The campus is also located in proximity to the Newcastle Light Rail, with stops at Honeysuckle and Civic, which has improved transport connectivity to the site and broader area. The University's Q Building is located north of the site, beyond the Hunter River. On the southern end of the site, is the Civic Precinct of Newcastle, and adjacent University NU Space building. The location of Stage 1B is shown in Figure 1-2.

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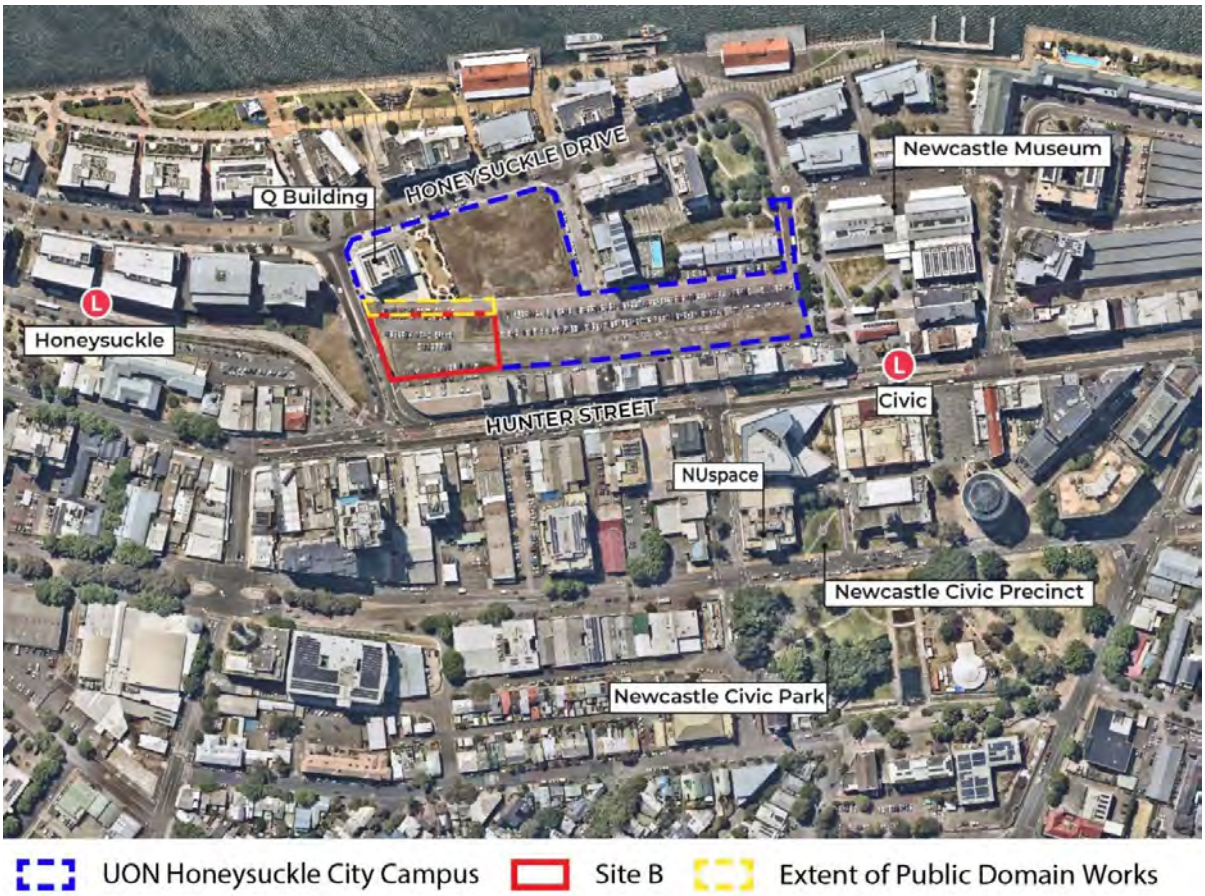
Figure 1-2: University of Newcastle City Campus Context



1.4 OVERVIEW OF PROPOSED DEVELOPMENT

The State Significant Development Application (SSDA) seeks approval for Stage 1B of the University's City Campus, including a nine-storey building for the purpose of campus student accommodation and ground floor retail. The key objective of the proposed development is to establish a contemporary and sustainable building to provide student accommodation that offers a high level of residential amenity, cultural safety and provide a convenient location within the University's City Campus.

Stage 1B is the next step in delivering the vision for the University's City Campus established under the Concept Plan (SSD-9262), which was approved by the Minister for Planning and Public Spaces on 21 May 2020. The Concept Plan establishes seven (7) building envelopes across the campus, to be used for academic and ancillary uses, and student accommodation. The approved maximum building height for Building B under SSD-9262 is RL 33.85. (nine storeys excluding plant)

This SSDA specifically seeks detailed approval for the following works:

- Site grading;
- Construction of a nine (9) storey building (known as Building B), to be used for campus student accommodation and retail;
- Maximum gross floor area (GFA) of 10,765m^2, comprising of:
- Approximately 130m^2 of retail floor space at ground level,

- Approximately 683m^2 of communal residential amenity facilities at ground level, and
- Approximately 9,520m^2 of student accommodation including a total of 453 beds
- Maximum building height of Reduced Level 33.85 (nine storeys excluding plant and services);
- Maximum height of RL 40.9 (building including plant and services)
- End of trip facilities, including 82 bicycle spaces and back of house amenities; and
- Associated landscaping and public domain works.

For a detailed project description refer to the Environmental Impact Statement prepared by Ethos Urban.

1.5 PREVIOUS ASSESSMENTS

The Site has previously been subject to two Site Audit Reports.

- *Environ (2013) Site Audit Report - GN484, prepared for Hunter Development Corporation - Wright Lane Car Park, Newcastle (Reference No: AS121614, dated 11 June 2013).*
- *Ramboll Environ Australia Pty Ltd (2016) Site Audit Report – GN 508A, prepared for Urban Growth NSW – Newcastle Rail Corridor, NSW (Reference No: AS121809, dated 29 June 2016).*

The Site is currently managed under the following management plans:

- *Environmental Resources Management Australia (2007) Environmental Management Plan - Newcastle Track Renewal from Broadmeadow to Newcastle Stations, NSW (Reference No: 0067294RP01 Final, dated 27 October 2007).*
- *CH2MHill Australia Pty Ltd (2013) Environmental Management Plan, Wright Lane, Newcastle NSW (Reference No: 427985, dated 16 May 2013). The Environmental Management Plan (EMP's) were developed to address contaminated soils within the car park and former railway corridor areas.*

The existing car parks and railway corridor within Sites 2 and 3, fall under the management of the two EMP's and SAR, at this time. Excavations and management of soils must be undertaken in accordance with the existing Environmental Resources Management Australia (2007) and CH2MHILL (2013) EMPs.

A Remediation Action Plan (Stage 1B RAP) *(Tetra Tech Reference: 754-NTLEN274023-R07 Rev1, dated 04 April 2024)* has been prepared for the Stage 1B works. The Stage 1B RAP contains specific requirements for remediation and management of the proposed development areas, including buildings, pavements and landscaped areas.

The Stage 1B RAP describes the capping requirements as follows:

> *"Based on consideration of potential remedial options, the preferred remedial strategy for the Site is a combination of Option 3 - Excavation and onsite consolidation below hardstand areas and building footprints and Option 4 - Onsite capping of material below a suitable barrier layer. The use of barrier layer as the primary control for the elimination of exposure pathways to sensitive receptors will sufficiently manage the risks associated with the variability of the horizontal and vertical distribution of contaminants across the Site."*
>
> *"The Site will be considered to be adequately managed once final barrier layer(s) are constructed (i.e. building footprints, hardstand surfaces or landscaping)."*

The Stage 1B RAP also specifies the following for final development capping:

> *"Final remediation capping will be completed during the future development of the Site to include the placement of a barrier layer which will include the footprint of building, hardstand surfaces and landscaping planted in clean imported growth media to provide a*

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> *final barrier over the contaminated soils. Landscaping will be required to meet the 300mm minimum depth specification for the placement of topsoil and turf. Deeper rooted plants and trees requiring establishment below this depth must be placed following removal of existing soil and replacement by suitable growth media comprising clean imported growth media, VENM or ENM as appropriate. Further details of this are provided in Section 6.2 Trenches for utilities services excavated for installation within existing soils must be backfilled with clean VENM or ENM materials."*

Following development (including individual development stages), Stage 1B will be managed in perpetuity under a specific Long-Term Environmental Management Plan (LTEMP), progressively revised as the Site is further developed. The LTEMP will supersede previously prepared EMPs.

To guide the excavation programs related to the works, the preparation of a Contaminated Land Management Plan (CLMP) with an associated Unexpected Finds Protocol (UFP) was recommended. The CLMP-UFP will allow contractor compliance with soil assessment requirements to the guidelines and legislative requirements currently in force under the *Protection of the Environment Operation Act 1997* (POEO Act), *National Environment Protection (Assessment of Site Contamination) Amendment Measure 1999 (2013)* (ASC NEPM) and *NSW EPA Waste Classification Guidelines 2014* (Waste Classification Guidelines).

This document contains a CLMP-UFP as prepared by Tetra Tech Coffey Pty Ltd. (Tetra Tech) for the Site. For works to be undertaken within the Site and CN services corridors or on Council lands, the *Newcastle City Council, Newcastle Technical Manual Contaminated Land Management, 2012* has been included as Appendix B: for guidance.

This CLMP-UFP must be read in conjunction with the enclosed sheet entitled '*Important Information about your Tetra Tech Environmental Report*', which can be found attached to this report.

1.6 OBJECTIVES

The objectives of the CLMP-UFP are to:

- Provide information to alert future contractors of the presence and location of known (and suspected) contamination and provide strategies to prevent exposure to the identified contamination during the enabling works.
- Provide guidance to undertake excavations and site reinstatement in accordance with the Stage 1B RAP.
- Provide procedures to manage potentially contaminated materials and unexpected finds during excavation into the site soils undertaken during site works.

It is noted that this CLMP-UFP is not a Construction Environmental Management Plan (CEMP) and only addresses the management of potentially contaminated site soils during excavation for compliance with the existing site EMP and Stage 1B RAP.

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2. ROLES AND RESPONSIBILITIES

Table 2-1 below outlines the roles and responsibilities for implementing this plan.

Table 2-1: Roles and Responsibilities

Role	Contact Information	Responsibilities
Site Owner/Representative	Mathew Watson (APP)	• Project management and execution, University of Newcastle authorised representative.
Site Superintendent/ Principal Contractor	To be confirmed	• Arrange for themselves (including contractors/subcontractors) and relevant representatives to be inducted into this CLMP/UFP, both now and in the future as required, by a competent environmental professional or appropriately trained alternative representative. • Ensure that this CLMP/UFP is implemented and adhered to. • Provide relevant information regarding site environmental management to contractors and subcontractors working at the site. • Ensure that contractors and subcontractors undertaking works at the site are fulfilling the environmental protection/management responsibilities for the work, including holding relevant licences and permits. • Maintain records and documents produced as a result of this CLMP/UFP, especially for movement of soil materials from and onto the site.
Contractors / subcontractors	To be confirmed	• Liaise with the Site Superintendent / Principal Contractor, other contractors and parties, and relevant authorities. • Ensure overall compliance with the CLMP/UFP, applicable legislation and regulations for their contribution to site works.
Environmental Consultant	To be confirmed	• Induct the Civil Contractor into the requirements of the CLMP/UFP, as required. • Provide advice to the Site Superintendent / Principal Contractor and relevant parties regarding management requirements as detailed in this CLMP/UFP. • Address the management of unexpected contamination and unexpected finds, as required. • Required to validate areas remediated as a result of identified unexpected contamination and make a conclusion on the suitability of the Site for the proposed end use (s).
Site Auditor	Fiona Robinson	• Review of project documentation and provision of third-party review of works compliance

2.1 RELEVANT LEGISLATION AND GUIDELINES

Legislation in NSW relevant to contaminated land management includes:

- *Contaminated Land Management Act (1997).*
- *Protection of the Environment Operations Act (1997) and Waste Regulation (2014, 2016).*
- *The Work Health and Safety Act (2011).*

2.2 GUIDELINES

Relevant guidelines endorsed by the NSW EPA include:

- *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Volume 2, Schedule B1 (ASC NEPM 1999 (2013).*
- *NSW EPA Waste Classification Guidelines 2014.*
- *NSW EPA Resource Recovery Orders and Resource Recovery Exemptions under Part 9, Clause 93 of the POEO Waste Regulations (2014).*
- *NSW EPA (2020) Consultants Reporting on Contaminated Land – Contaminated Land Guidelines.*
- *NSW EPA Guidelines for NSW Site Auditor Scheme 3rd Edition (2017).*

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3. SITE INFORMATION

3.1 SITE LOCATION AND IDENTIFICATION

The general site location and layout is shown in Figure 1 and Figure 2 of Appendix A respectively, with the relevant site information provided in **Table 3-1**.

Table 3-1: Summary of site details

Site Address	20 Civic Lane, Newcastle NSW
Site Identification	Part Lot 2 DP 1247375 and Part Lot 5 DP 1247375 (the Site)
Site Area	Proposed student accommodation development – 3,441m^2
Zoning	MU1 Mixed Use
Site Ownership	University of Newcastle
Local Government Area	City of Newcastle
Current Land Use	At the time of the preparation of this report, the Site was being used as a car park, operational road (i.e. Wright Lane) and included a former rail corridor (tracks removed).
Previous Land Use	The Site has had many previous uses, but the predominant use was for railway activities including rail corridor, railway yard, workshops (including blacksmiths, carpenters, and plumbers), boiler makers and rail turn table.
Future Land Use	• Wright Lane – Hardstand walkway • Building B Footprint – Student accommodation, with non-residential use at ground level of the buildings. • Hardstand recreational areas immediately surrounding Building B footprint.
Adjoining Site Uses	• **North** – University of Newcastle Q-Building. Further north is residential and commercial developments and the Hunter River • **East** – Reconfigured Wright Lane public carpark in Lot 3 DP1247375, information centre, car park and public open space • **South** – Mixture of commercial and residential buildings • **West** – Worth Place (public road), Commercial buildings, and Light Rail line
Site Co-ordinates	The north-eastern corner of the Site is located approximately at - 32°55’35.47” S, 151. °46’11.89E

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3.2 DESKTOP REVIEW

Information for the desktop review was obtained from the following sources:

- Geological, topographic, soil landscapes and hydrology.
- A search of the NSW Office of Water register for groundwater bores.
- Selected historical aerial images and photographs dating back to 1916.
- A search of the NSW EPA contaminated land register of declared or notified contaminated sites for listings of the Site and nearby sites.

- Site Audit Reports relevant to Lot 2 DP 1247375, prepared by Environ and Ramboll Environ Australia Pty Ltd as listed below:
  - *Environ (2013) Site Audit Report - GN484, prepared for Hunter Development Corporation - Wright Lane Car Park, Newcastle (Reference No: AS121614, dated 11 June 2013).*
  - *Ramboll Environ Australia Pty Ltd (2016) Site Audit Report – GN 508A, prepared for Urban Growth NSW – Newcastle Rail Corridor, NSW (Reference No: AS121809, dated 29 June 2016).*
- Environmental reports relevant to the Site, from 1993 to present prepared by Douglas Partners, CH2M Hill Australia Pty Ltd, RCA Australia, and ERM Australia as listed below:
  - *D.J. Douglas & Partners Pty Ltd (1993) Report on Contamination Assessment Proposed Commercial Development Civic Workshop Area, Honeysuckle Project Honeysuckle Newcastle (Reference No: 16670/2, dated June 1993).*
  - *CH2M Hill Australia Pty Ltd (1999) Final Phase 1 Report - Wright Lane, Civic - Lot 2 DP 856783 (Reference No: 110067.S21, dated December 1999).*
  - *RCA Australia (2003) Environmental Site Assessment – Car Park Area off Wright Lane, Honeysuckle (Reference No: 3394-002/0, dated 1 August 2003).*
  - *Douglas Partners (2006) Report on Waste Classification – Proposed Railway Platform Upgrades, Hamilton Wickham and Civic Stations (Reference No. 39593, dated 24 November 2006).*
  - *Douglas Partners (2007) Additional Sampling and Asbestos Testing - Newcastle Rail Corridor Project, Hamilton, Wickham and Civic Stations (Reference No: 39593, dated 22 March 2007).*
  - *Environmental Resources Management Australia (2007) Environmental Management Plan - Newcastle Track Renewal from Broadmeadow to Newcastle Stations, NSW (Reference No: 0067294RP01 Final, dated 27 October 2007).*
  - *Environmental Resources Management Australia (2007) Waste Classification of Ballast and Soils - Newcastle Track Renewal from Broadmeadow to Newcastle Station (Reference No: 0067294 RP1 - FINAL.DOC, dated 10 December 2007).*
  - *CH2M Hill Australia Pty Ltd (2012) Final Phase 1 and 2 Environmental Site Assessment prepared for Hunter Development Corporation - Wright Lane, Newcastle (Reference No. 427985, dated 24 February 2012).*
  - *CH2MHill Australia Pty Ltd (2013) Environmental Management Plan, Wright Lane, Newcastle NSW (Reference No: 427985, dated 16 May 2013).*
  - *Douglas Partners (2016) Targeted Detailed Site Investigation (Contamination) - Newcastle Urban Transformation and Transport Program Newcastle Rail Corridor (Reference No: 81716.00. R.006.Rev0, dated 28 June 2016).*
  - *Douglas Partners (2016) Remediation Action Plan - Newcastle Urban Transformation and Transport Program Newcastle Rail Corridor (Reference No: 81716.00. R.009.Rev0, dated 28 June 2016).*

Results of Tetra Tech's desktop review are summarised in **Table 3-2**.

Table 3-2: Summary of Desktop Review

Item	Discussion
Topography	The Newcastle 1:25,000 topographic map indicates that the Site has an elevation of 5m or less above Australian Height Datum (AHD). The Site is generally flat and bounded to the north by the University Stage 1A (Q Building) development, Honeysuckle Drive, Commercial Buildings, and the Hunter River and by commercial buildings to the South.
Geology	The Site is underlain by fill, alluvial / estuarine soils that are on top of bedrock from the Lambton Subgroup of the Newcastle Coal Measures. This subgroup comprises siltstone, sandstone, and coal seams. Sub-surface materials observed during previous environmental assessments included:

Item	Discussion
	• Fill – (0.0 to approximately 0.8 m, within local depths up to 2.3 m) brown to dark grey silty, gravelly sand, fine to medium grained, fine to coarse gravels with railway ballast, coal chitter, building waste, slag, steel fragments and marine shell inclusions. • Alluvium/ Residual – (from approximately 0.3m onwards) SAND/ Sandy CLAY, grey to brown colour fine to coarse grained with mollusc shells.
Acid Sulfate Soils	The Department of Land and Water Conservation (1997) 1:25,000 Newcastle Acid Sulfate Soil Risk Map indicates that the Site is located within areas of high (majority of Wright Lane, carpark and rail corridor) and low (southern portion of rail corridor) acid sulfate soil probability. Areas of high probability have a potential for Acid Sulfate Soils (ASS) within 1m of the ground surface level. This is likely to be present in the proposed building footprint of the campus student accommodation development (refer **Figure 2-1**). Areas of low probability have a potential for ASS to be greater than 3 m below the ground surface. This is likely to be the southernmost portions of the proposed building footprint.
Surface Water	Surface water currently generated from rainfall runoff at the Site is expected to be captured by an extensive network of public stormwater drains along Wright Lane (north direction). It is expected that the stormwater drainage will ultimately discharge into the Harbour.
Groundwater	There are eight registered groundwater bores located within 500m of the Site and associated information in previous assessments indicates that bores surrounding the Site were installed primarily for monitoring and industrial purposes only. Previous assessment works on the Site reported by CH2MHILL 2011 indicate that Standing Water Levels (SWLs) ranged from 0.266 m to 0.369 m AHD and 1.56 to 1.77m AHD during the DP 2016 assessment. SWLs recorded during the assessment of Lot 1 DP 1247375 (north of the Site) by Tetra Tech in 2019, ranged from 3.410m to 4.090 mAHD. Groundwater flow direction from previous assessments is generally north to northwest. Differences in reported SWLs may be attributed to perched water and/ or historically modified landscapes at and around the Site.
Historical Aerial Photographs	The Site has previously been used for heavy rail services from the 1900's to the mid 1990's. Features apparent on historical aerial images and photographs reviewed by Tetra Tech included: • **1916** – the Site appears to be occupied by rail lines through Lot 2 DP 1247375. • **1954** – the Site appears to be still occupied, with rail lines in Lot 2 DP 1247375. What appears to be signal boxes or similar are present along the northern end of Lot 2 DP 1247375. • **1966** – the Site appears to be relatively unchanged between 1954 and 1966. Surrounding buildings outside of the assessment area have been removed and replaced to the north of Lot 2 DP 1247375. • **1976** – Signal boxes (or similar) identified in 1954 appear to have been removed. • **1987** – Multiple buildings to the north of Lot 2 DP 1247375 have since been removed. • **1993** – Use of the Site for rail repairs appears to have ceased and Lot 2 DP 1247375 appears to be vacant. • **2004** – All Site buildings have been removed and a car park now occupies Lot 2 DP 1247375. The rail corridor is still operational. • **2019** –Site is still used as a car park, however, the rail lines have been removed and construction activities are apparent. The western end of Lot 2 DP 1247375 within the former rail corridor appears to have site sheds and amenities for construction works.

Item	Discussion
	The former rail corridor appears to be a lay down area as well as parking area for construction activities.
NSW EPA	A search of the NSW EPA database on 20 May 2020 identified two (2) sites within the Newcastle City (Newcastle City Council) on the contaminated land register as having current and/or former notices. No current EPA investigation orders and/ or Environmental Protection Licences exist for the subject site.

Previous Site Audits	**Environ (2013) Site Audit Report - GN484, prepared for Hunter Development Corporation - Wright Lane Car Park, Newcastle (Reference No: AS121614, dated 11 June 2013)**
	• The Site Audit Report (SAR) was commissioned by Hunter Development Corporation (HDC) to review the CH2MHill EMP and the suitability of the Site to be managed under commercial/ industrial land use purposes, (single level car park).
	• The SAR also included a review of data from previous environmental assessments, including the DP Contamination Assessment (1993), CH2M Hill Final Phase 1 Report (1999), RCA Environmental Site Assessment (2003), RCA Waste Classification (2006), CH2M Hill Phase 1 and Phase 2 Environmental Site Assessment (2012).
	• The SAR included a review and commentary of the suitability of desktop review, fieldworks completed, QA/QC suitability and interpretation of analytical results.
	• The SAR confirms that the CH2MHill EMP strategy is a suitable option for the Sites intended use as a car park.
	• The auditor indicates that there is no evidence that there is a potential risk of contamination migrating offsite once the EMP is implemented.
	• The SAR concluded that:
	  ○ The Site in the current condition (sealed asphalt car park and grassed surfaces would present a low risk to human health.
	  ○ Excavations at the Site could result in airborne asbestos fibres and exposure to lead impacted soils which may present a human health risk.
	  ○ Reported groundwater contaminants are not likely to pose a human health risk based on analytical results being only slightly above the adopted guideline values and abstraction and use on Site was not considered likely.
	
	Ramboll Environ Australia Pty Ltd (2016) Site Audit Report – GN 508A, prepared for Urban Growth NSW – Newcastle Rail Corridor, NSW (Reference No: AS121809, dated 29 June 2016)
	• The SAR was commissioned by Urban Growth NSW to review the DP Remediation Action Plan (RAP) and the suitability of the proposed remedial options for mixed development purposes at four portions of the Newcastle Rail line (i.e. Newcastle Station and Bus Depot, Newcastle to Civic Station, Civic Station and Civic Station to Worth Place).
	• The SAR also included a review findings for previous environmental assessments, including AECOM Phase 1 Environmental Site Assessment, (2015), AECOM Sampling Analysis and Quality Plan (2015), Douglas Partners Sampling, Analysis and Quality Plan - Addendum, Targeted Detailed Site Investigation (2015), Douglas Partners Addendum, Sampling Analysis and Quality Plan, Proposed Additional Investigation (2015), Douglas Partners Targeted Detailed Site Investigation (Contamination), (2016).
	• The SAR included a review and commentary on the adequacy of desktop review, fieldworks completed, QA/QC assessment and interpretation of analytical results.
	• The SAR confirms that the DP remedial approach(s) is suitable however, recommended that site specific RAPs or remedial work plans be prepared for each of the four portions of the rail corridor with respect to the management of contamination for the specific development(s).

Previous Environmental Assessments	**D.J. Douglas & Partners Pty Ltd (1993) Report on Contamination Assessment Proposed Commercial Development Civic Workshop Area, Honeysuckle Project Honeysuckle Newcastle (Reference No: 16670/2, dated June 1993)**

Item	Discussion
	• Douglas & Partners were engaged by Property Services Group (PSG) to conduct a contamination assessment of the Honeysuckle development, which included locations within Lot 2 DP 1247375 car park area. • Six boreholes (B16, B17, B24, B25, B34 and B35) were drilled, four test pits (T18, T31, T33 and T36) were excavated and two boreholes were converted into groundwater monitoring wells (P45 and P46). • Results from assessment reported lead concentrations in excess of the adopted guidelines (i.e. commercial industrial land use criteria within the ANZEC/ NHMRC (1992) Australian and New Zealand Guidelines for the Assessment of Contaminated Sites), in soil samples collected near the disused railway turntable and the demolished railway workshop. Tetra Tech's comparison of DP's analytical results to current Health Investigation Levels listed in Schedule B1 of the National Environmental Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) (ASC NEPM) showed that lead exceeds HIL C, from proposed public domain areas (i.e. B18, B24, B25, B33, B35 and TP35). • Two groundwater monitoring wells were installed and reported concentrations of metals and Polycyclic Aromatic Hydrocarbons (PAH's) comparable to regional concentrations. **CH2M Hill Australia Pty Ltd (1999) Final Phase 1 Report - Wright Lane, Civic - Lot 2 DP 856783 (Reference No: 110067.S21, dated December 1999)** • CH2M HILL was engaged by the State Rail Authority to undertake a Phase 1 investigation of the car park area of Lot 2 DP 1247375. • Four surface soil samples (S11 to S14) were collected as part of the assessment. • These four soil samples were analysed for heavy metals and PAH's only. • The report confirmed the use of the Site as a former railway yard and found levels of arsenic and benzo(a)pyrene in soil to be above the adopted commercial industrial assessment criteria listed in ANZEC/ NHMRC (1992) at the western portion of the Site. Tetra Tech's comparison of CH2M HILL's analytical results to current Health Investigation Levels listed in Schedule B1 of the ASC NEPM indicated that benzo(a)pyrene was above ESLs for Residential/ Public Open Space. • The Site was reported by CH2M HILL to be acceptable for continued commercial/ industrial use as a carpark. **RCA Australia (2003) Environmental Site Assessment – Car Park Area off Wright Lane, Honeysuckle (Reference No: 3394-002/0, dated 1 August 2003)** • RCA was engaged by the Honeysuckle Development Corporation to undertake an environmental Site assessment located within the car park area of Lots 2 and 3 DP 1247375. • Five boreholes were drilled as part of the assessment within Lot 2 DP 1247375. • Comparison of the analytical results to the ASC NEPM commercial industrial criteria showed that there were two samples which exceeded the HILs for lead at a shallow depth (0.5 metres). The first was at the eastern end of the Site (BH01) and the second near the centre of the Site (BH03). • A comparison of the analytical results against criteria within the ASC NEPM was completed by Tetra Tech, with lead reported to exceed HIL C for samples collected from boreholes BH01 to BH03. • Lead levels reported in excess of HIL D were not considered by RCA to be concern for the proposed car park development given the proposed hardstand surface finish, which will limit exposure to those using the Site. RCA also recommend that lead remediation would be required if a more sensitive land use is considered for the Site. **ERM Australia (2007) Environmental Management Plan - Newcastle Track Renewal from Broadmeadow to Newcastle Stations, NSW (Reference No: 0067294RP01 Final, dated 27 October 2007)** • The Environmental Management Plan (EMP) was commissioned by Rail Corporation NSW, to outline soil and groundwater management measures for the Newcastle Line upgrade works.

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Item	Discussion

	• The EMP was prepared based on findings from previous environmental assessments within the Newcastle line rail corridor, which included Civic Station (the Site).
	• Management measures included the removal and management of ballast and underlying materials to depths of 0.4m below ballast to the east of the Site boundary.
	
	CH2MHill Australia Pty Ltd (2012) Final Phase 1 and 2 Environmental Site Assessment prepared for Hunter Development Corporation - Wright Lane, Newcastle (Reference No. 427985, dated 24 February 2012)
	• The Phase 1 and 2 Environmental Site Assessment (ESA) was commissioned by Hunter Development Corporation and was focused within the Wright Lane car park.
	• A summary of the Site history outlined that the Site was obtained by 'Railways' in 1857 and formed part of the larger Civic Workshop, comprised of railway yards, and workshops (including blacksmiths, boilers, carpenters and plumbers) and rail turn table.
	• CH2MHill advanced three soil boreholes (BH01 to BH03), which were later converted to groundwater monitoring wells.
	• Analytical results from soil samples were assessed to be below the commercial/ industrial guidelines (superseded NEPM 1999 guidelines). Tetra Tech's comparison of results against the amended ASC NEPM guidelines showed that:
	• Lead was above HIL C for sample BH02_0.5.
	• Carcinogenic PAHs (benzo(a)pyrene TEQ) was above HIL C for samples BH02_0.5 and BH03_0.2 (subsequently removed during Worth Place road construction).
	• Asbestos was identified at one location (BH03) within fill at a depth of 1.1 metres below ground surface (mbgs). Tetra Tech notes that Worth Place (road) has since been constructed over this location.
	• A comparison of groundwater results against the ASC NEPM Marine Water GILs, was made by Tetra Tech with concentrations above GIL identified for copper and zinc.
	• The report concludes that the Site is suitable for a proposed multi-level car park, subject to the following recommendations:
	  ○ An Environmental Management Plan (EMP) be prepared to manage lead and asbestos contamination.
	  ○ Material required for off-site disposal be classified.
	  ○ Further consideration to the assessment results should a more sensitive land use be considered.
	  ○ Areas not isolated beneath hardstand require suitably validated capping layer with marker layer.
	
	The CH2MHill ESA also presented a summary of findings reported in RCA Australia (2006) Waste Classification, Wright Lane Honeysuckle. The ESA also presented a summary of lead analytical results reported by RCA. A summary of the reported findings relevant to the Site included the following:
	• RCA was engaged by Honeysuckle Development Corporation to undertake a waste classification assessment within the car park area of Lot 2 DP 1247375.
	• Seven test pits (TP1 to TP7) were excavated as part of the assessment, with test pits TP2 to TP7 within Lot 2 DP 1247375.
	• Elevated levels benzo(a)pyrene, lead, arsenic, nickel, and mercury were reported.
	• However, results from a TCLP analysis classified assessed soils as inert waste under the former NSW EPA (1999) Waste Guidelines.
	• These elevated levels of contaminants were found across the Site, particularly in the area surrounding the railway turntable. As a copy of the RCA report was not made available for review, a comparison of the results against ASC NEPM was not completed. the exception to this was lead which were included within the CH2MHILL ESA within a summary table.
	• One sample was reported to exceed the commercial industrial land use criteria for lead.

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Item	Discussion

	CH2MHill Australia Pty Ltd (2013) Environmental Management Plan, Wright Lane, Newcastle NSW (Reference No: 427985, dated 16 May 2013)
	• The Environmental Management Plan (EMP) was commissioned by Newcastle Hunter Development Corporation (HDC) to outline management measures to mitigate the risk posed by identified contamination within soils off Wright Lane, Newcastle for future use of that area as a proposed car park.
	• The EMP was prepared based on findings from the CH2M Hill ESA (2012) and environmental assessments in the area which preceded it.
	• CH2MHill notes that soil at Site requires management for the intended use as a car park.
	• The EMP outlines mitigation measures to limit exposure to contaminated soils, including maintenance of a bitumen and grass capping layer, educating maintenance and construction workers when disturbing the capping layer and underlying soils, as well as other safety issues such as minimum PPE requirements.
	• CH2MHill recommended that where the land use is proposed for change, additional remediation/ management was required.
	
	Douglas Partners (2016) Targeted Detailed Site Investigation (Contamination) - Newcastle Urban Transformation and Transport Program Newcastle Rail Corridor (Reference No: 81716.00. R.006.Rev0, dated 28 June 2016)
	• The assessment was commissioned by UrbanGrowth NSW and focused on soil and groundwater assessment within the former rail corridor from the Former Newcastle Train Station west to Worth Place (west of the former Civic Station).
	• The assessment included the excavation of eight test pits and drilling of four boreholes within the former rail corridor, which were converted into groundwater monitoring wells.
	• Analytical results were compared against all ASC NEPM criteria (i.e. low and high density residential, recreational as well as commercial/ industrial health and ecological. Reported concentrations above HIL/ HSL B and HIL/ HSL C for arsenic and lead. Results also reported concentrations above EIL/ ESL values for heavy metals (copper, lead, nickel, and zinc), benzo(a)pyrene and Total Recoverable Hydrocarbons (TRH) fractions >C_{16}-C_{34} for Residential/ Public Open Space.
	• Results from groundwater assessment reported heavy metals (arsenic, cobalt, copper, manganese, zinc) and PAH's (anthracene, benzo(a)pyrene and fluoranthene) in excess of the ANZECC 2000 Marine Water Ecosystem guidelines. Groundwater exceedances were attributed to be consistent with regional conditions.
	• Remediation options provided specific to the Site included:
	  ○ Localised soil remediation.
	  ○ On-site containment.
	
	Douglas Partners (2016) Remediation Action Plan - Newcastle Urban Transformation and Transport Program Newcastle Rail Corridor (Reference No: 81716.00. R.009.Rev0, dated 28 June 2016)
	• The Remediation Action Plan (RAP) was commissioned by Urban Growth NSW, to outline methodologies, procedures, and responsibilities for the remediation of localised contaminated soil within the Site.
	• The RAP was prepared based on findings from the DP (2016) Targeted DSI.
	• DP identified locations 4 and 5 as requiring remediation, which were associated with previous assessment locations 229, 509 and 510 (location 4) and 315, 507 and 508 (location 5). Location 5 is within Lot 2 DP 1247375, former rail corridor.
	• Locations 4 and 5 were identified to be impacted by arsenic and lead and each has an estimated area of 475m^2 to a depth of approximately 0.6mbgs requiring remediation. The estimated approximate volume to be remediated from both locations 4 and 5 was 285m^3.
	• Material from each location was classified as General Solid Waste.
	Remedial options proposed for the two locations included:
	• Removal/ segregation and off-site disposal.

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Item	Discussion
	• Low permeability capping layer. • The DP preferred remedial option for locations 4 and 5 was excavation and off-site disposal, however on-site management was also considered depending on the proposed future development(s). • The RAP outlines disposal methodology, onsite containment specifications for the low permeability capping layer, roles and responsibilities, regulatory approvals, site management methodology and validation requirements.
Summary of Potential Sources of Contamination	A review of historical environmental assessments indicates that the source of heavy metal and PAH contamination is likely associated with the following: • Historical filling. • Former railway yard. • Workshops. and/ or • Rail turn table. COCs were assessed to be heavy metals (predominantly lead), PAH's and asbestos.

3.3 CONTAMINATION INVESTIGATION SUMMARY

The objective of the Contamination Investigation (CI) *Phase I Preliminary Site Investigation and Phase II Detailed Site Investigation, City Campus Student Accommodation – State Significant Development Application (SSDA) (SSD-61618229) (Tetra Tech Reference: 754-NTLEN274023-R03 Rev 1, dated 4 April 2024)* was to assess if the Site was suitable (or could be made suitable) for its intended use as a university campus (which would include student accommodation) as well as interim land uses (public domain and car park).

The CI assessed the potential sources of contamination and Contaminants of Potential Concern (COPCs) identified in previous environmental investigations.

Sample locations across the Site as part of the CI were selected to achieve the minimum recommended sampling density recommended in the NSW EPA (1995) *Contaminated Sites: Sampling Design Guidelines*.

The CI included planning and fieldworks, which comprised:

1. Preparing and implementing a project specific health, safety, security and environment (HSSE) plan for Tetra Tech's field-related activities.
2. Location of underground services in selected areas by a qualified and experienced service locator prior to intrusive works commencing.
3. Field assessment program, including:
   a. Soil sampling from thirty-seven (37) boreholes (BH1 to BH20, BH32 to BH44 and MW01 to MW05).
   b. Soil sampling from eleven (11) test pits (TP21 to TP31).
   c. Groundwater sampling from two (2) groundwater monitoring wells installed as part of the 1993 Douglas Partners Assessment (wells P45 and P46).
   d. Groundwater sampling from five (5) groundwater monitoring wells installed as part of this CI (MW01 to MW05).
4. Laboratory analysis for COPCs and general properties for soil and groundwater included:
   a. Soil - Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), Asbestos, pH, Cation Exchange Capacity (CEC), Clay Content, and Iron Content.
   b. Groundwater – TRH, VOC, PAH, Heavy Metals, cations (sodium (Na), potassium (K), calcium (Ca), magnesium (Mg) and Hardness), anions Cl, SO_4, Alkalinity (calcium carbonate (CO_3), hydrogen

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carbonate (HCO_3), hydroxide (OH-), Total Alkalinity), fluoride (F)), nutrients (Total Nitrogen, Total Kjeldahl Nitrogen (TKN), nitrogen oxide (NO_X), nitrogen dioxide (NO_2), nitrate (NO_3), ammonia (NH_3), Total Phosphorus), pH and EC.

5. Data appraisal and interpretation.
6. Preparation of a CI in general accordance with NSW EPA (2020) Consultants Reporting on Contaminated Land Guidelines.
7. Based on a review of available data from historical and recent assessment works, and observations made during fieldwork, Tetra Tech concluded that:
   a. Exceedances of the health-based criteria for lead occurred in one (1) sample from sample location BH10. The risk associated with lead health-based exceedance is considered to be tolerable, given it will continue to be isolated below a hardstand surface as part of the proposed campus student accommodation with commercial only on ground floor and public domain development.
   b. Exceedances of the ecological based criteria for concentrations of benzo(a)pyrene and copper in two (2) samples at two (2) sample locations (BH17 (benzo(a)pyrene) and BH18 (benzo(a)pyrene and copper)). However, the risk associated with these impacts is considered tolerable, given the proposed use of the Site is for campus student accommodation with commercial only on ground floor with associated public domain.
   c. No suspected asbestos continuing material was observed across Lot 2 DP 1247375.
   d. Heavy metals detected within groundwater samples are considered to be associated with regional groundwater characteristics from historical industrial operations and reclamation of inundated areas with uncontrolled fill material. Ammonia concentrations detected in monitoring well MWP45, are attributed to decay of organic matter as part of the nitrogen cycle over time under low oxygen conditions.

Based on the conclusions presented above, Tetra Tech considered that no unacceptable health risk attributed to land contamination was identified at Lot 2 DP 1247375.

Potentially unacceptable ecological risk was identified as locations BH17 and BH18, however is unlikely to require remediation because introduced vegetation is reasonably expected to be planted in an imported commercial growing medium. Future use of both Sites for academic and student accommodation (accommodation, with non-residential use at ground level) would not require consideration to ecological receptors.

Lot 2 DP 1247375 was considered suitable for the proposed campus student accommodation and associated public domain provided remediation is completed under a RAP.

Lot 2 DP 1247375 when developed into campus student accommodation and associate public domain, would be required to be appropriately managed under a Long-term Environmental Management Plan (LTEMP) for interim and future uses depending on the remedial design adopted. The LTEMP would be prepared to manage environmental risk posed to construction workers, and to the surrounding public and environment, by construction excavation activity and to manage waste in accordance with appropriate New South Wales statutes.

Revisions to the interim concept plan and future re-development at Lot 2 DP 1247375 (depending on the final design) may require additional remedial works that may consist of the excavation, relocation and re-burial within the footprint of future buildings and/ or hardstand surfaces. This would need to be undertaken in accordance with a revision to the RAP.

Both the RAP and EMP should include an appropriate Unexpected Finds Procedure (UFP), to provide a procedure for emergency response should additional visible ACM material, or any other unknown contamination, be uncovered during site redevelopment.

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3.3.1 Asbestos in Fill

Sample collection, screening and analysis was completed in general accordance with Section 11.3.2 of Schedule B2 of the ASC NEPM and included the following:

- Fill material was collected from each borehole and test pit location and initially placed into 15L of plastic bulk bags.
- Samples were collected from surface level to an approximate depth of 0.2 mbgs.
- Tetra Tech notes that samples collected at borehole locations obtained using a 300mm diameter auger attachment in order to collect a sufficient sample. Sampling depth ranges would typically range from surface to approximately 0.2 to 0.3mbgs.
- A 10L sub-sample was taken from the bulk sample and was weighed and screened through a 7mm x 7mm sieve. The material retained on the sieve was examined for the presence of any cement sheeting fragments or other material with the potential to contain asbestos. Any suspect asbestos material retained on the sieve was collected and placed in double zip lock bags.
- 500ml of screened soil was collected and placed in double zip lock bags and with samples of any suspect material retained on the sieve was forwarded to the laboratory for analysis.

Tetra Tech notes that for samples collected from boreholes BH39 to BH44, were less than the required 10L and due to a narrower auger (150mm) being used to drill these locations and the sample material sieved containing a higher proportion of aggregates and cobble sized rock, less than 500ml of screened sample was forwarded to the laboratory for a quantitative asbestos analysis. Therefore, the analytical results from these borehole locations were reported with an LOR of 0.01% w/w.

During the assessment fieldworks, material with the potential to be asbestos containing (e.g. cement sheeting) was not observed.

No asbestos fines less than 7mm x 7mm were found during laboratory analysis of field screened 500ml soil samples. The weight of asbestos in the 500ml samples were reported less than the 0.001% w/w Health Screening Levels for asbestos fines/ friable asbestos. No asbestos fibres were identified by trace analysis using polarised light microscopy.

Analytical results from analysed screened samples less than 500ml (due to coarse fraction inclusions) at locations BH39 to BH34, submitted for analysis were reported to be less than 0.01% w/w. No asbestos fibres were identified by trace analysis using polarised light microscopy.

3.3.2 Groundwater Contamination Status

The presence of heavy metals in groundwater at concentrations above the marine water default guideline values were identified during the GME.

Known heavy metal impacted filling material within the Honeysuckle area is considered the likely cause, and that impact by heavy metals on groundwater is a regional factor and the likelihood that the Site alone has contributed materially to heavy metal contamination in groundwater is low.

Reported ammonia concentrations are likely to be related to natural decay of organic matter in layers of alluvium within the former Honeysuckle Shoreline, which has broken down as part of the nitrogen cycle over time under low oxygen conditions. Tetra Tech acknowledges that processes at the former Newcastle steelworks and the ICI facility on Kooragang produced ammonia in waste liquids released to the Hunter River under licence, however, Tetra Tech considers that these secondary sources are unlikely to act as a potential source of ammonia in groundwater beneath the site.

When Lot 2 DP 1247375 is occupied with building footprint, paved with a hardstand surface or landscaped as part of the proposed development comprising commercial/ student accommodation or for interim car parking,

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Tetra Tech expects that any heavy metals and ammonia in groundwater beneath Lot 2 DP 1247375 will have less potential for movement because recharge of shallow groundwater will be substantially reduced due to the presence of building footprints, hardstand surfaces, imported growing medium or pavement over most of the currently unsealed areas.

3.4 CI ADDENDUM SUMMARY

An addendum to the CI (*Addendum to the Phase I Preliminary Site Investigation and Phase II Detailed Site Investigation (Tetra Tech Reference: 754-NTLEN274023-R02, Rev 1, dated 04 December 2023*) (Addendum CI) was required to address the data gap represented by the substation and the former turntable, which were not able to be assessed at the time of the CI.

The additional assessment included planning and fieldworks, which comprised:

- Preparing and implementing a project specific health, safety, environment and quality (HSEQ) plan for
- Tetra Tech's field-related activities.
- Location of underground services by a qualified and experienced service locator prior to intrusive works commencing.
- Field assessment program, including:
  - Soil sampling from six boreholes (BH01 to BH6A).
  - Soil sampling from five test pits (BH07 to BH11).
  - Groundwater sampling from two newly installed groundwater monitoring wells (MW06 and MW07).
  - Groundwater sampling from three existing groundwater monitoring wells (MW01, MW05 and
  - MWP45).
- Laboratory analysis for COPCs for soil and groundwater included:
  - Soil - Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX),
  - Polycyclic Aromatic Hydrocarbons (PAH), Organochloride/ Organophosphate Pesticides (OCP/ OPP),
  - Polychlorinated Biphenyls (PCBs), Heavy Metals (arsenic, cadmium, chromium, copper, lead,
  - mercury, nickel and zinc) and Asbestos.
  - Groundwater – TRH, BTEX, PAH, OCP, PCB and Heavy Metals.
  - Data appraisal and interpretation.
  - Preparation of an Addendum to the CI report in general accordance with NSW EPA (2020) *Consultants Reporting on Contaminated Land Guidelines*.

Based on the observations made during fieldworks and analytical findings from investigations completed to date at the Site, Tetra Tech concludes that:

- Health based exceedances were reported from within the locomotive turntable area. The exceedances were for lead and asbestos containing material associated with the placement of controlled filling material. Material within the turntable area presents a potential human health risk posed to maintenance and construction crews as well as the general public if not adequately remediated and/ or managed.
- Heavy metal exceedances were reported for arsenic, copper and lead above the ecological based criteria from within the turntable area. Due to the assessed health-based exceedances, and as the turntable is proposed to be repurposed as part of future development works, it is anticipated that this area would require the remediation to enable the proposed recreational land use.
- Heavy metals detected within groundwater samples are considered to be associated with regional groundwater characteristics from historical industrial operations and reclamation of inundated areas with uncontrolled fill material.

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- Potential top-down contamination from the substation was not detected from boreholes and/ or monitoring wells assessed.

Based on the conclusions presented above, Tetra Tech considers that material from within the locomotive turntable area currently presents an unacceptable human and ecological health risk. Additional assessment within soils below the sub-station was not completed due to its live status.

Based on the findings from the additional assessment works within the turntable area, a revision was made to the Tetra Tech (2023) *Honeysuckle City Campus Development Project: Remediation Action Plan, Site 2 and 3 Development (Reference No. 754-NTLEN213472-R07 Rev1, dated 4 December 2023)*. The revised Stage 1B RAP was reported in *Tetra Tech (2024) City Campus Student Accommodation Project, Remediation Action Plan, Stage 1B Development (Ref. 754-NTLEN213472-R07 Rev 3, dated 2 April 2024)*. The Site would be required to be appropriately managed under a Long-term Environmental Management Plan (LTEMP) for future uses depending on the remedial design adopted.

3.4.1 Data Gaps

At the time of undertaking additional assessments of the turntable and substation as part of the Tetra Tech CI Addendum, the substation was still in operation, therefore the contamination status within the footprint of the substation is currently unknown and will require assessment once it is decommissioned and the structure demolished.

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4. CONCEPTUAL SITE MODEL

4.1 POTENTIAL CONTAMINATION SOURCES AND ASSOCIATED CONTAMINANTS OF CONCERN

A summary of the potential contamination sources and the associated Contaminants of Potential Concern (COPCs) associated with the Site is presented in Table 4-1.

Table 4-1: Sources of Contamination and Associated Contaminants of Concern

AEC	Potentially Contaminating Activity	COPCs	Likelihood of Contamination	Comments
The whole of Site	Fill of Unknown Origin and Quality	Heavy metals, and asbestos	Moderate to High	Historic filling of the Site with fill of unknown origin. Similar observations to previous assessments were made during the Tetra Tech's 2021 assessment. ballast, coal chitter, building waste, slag, steel fragments and mollusc shells. The north-west portion of the Site was subject to land reclamation (likely dredged sands and other imported material).
Substation	Refurbishment or upgrades to the subject resulting in the contamination of soils or groundwater. Fill of unknown origin and quality Pest control	TRH, PAH PCBs, OCPs, lead and asbestos	Low to Moderate	Based on the observations and analytical findings (both soil and groundwater), the potential for contamination impact from the following influences is low: • Capacitors containing COPCs to have leaked during maintenance or refurbishment works. • Improper demolition or removal of materials containing hazardous materials. • Impact from the use of pesticides within cable trenches is low. We note that given the live status of the substation, there is a potential for top-down migration of contamination into the substation footprint not intercepted as part of the additional assessment works.
Former Locomotive Turntable	Impact to underlying and surrounding media from spills and leaks of diesel and fallout from ash from steam engines Potential maintenance and repair activities.	TRH, BTEX, PAH PCBs, lead and asbestos	Low	Impact to soil and groundwater from maintenance and repairs.

	Fill of unknown origin and quality placed following closure.	Heavy metals, TRH and asbestos	High	Based on observations and analytical results, the material used to backfill the turntable was a mixture of blast furnace slag, waste fill and demolition waste.
Areas around former structures **Historical rail line and support buildings** **Machinery maintenance**	Potential Weathering of Hazardous Building Materials Improper Demolition of Former Structures	Asbestos and lead	Moderate to High	Weathering of hazardous building materials such as lead paint, asbestos and other building materials such as galvanised iron. Potentially present from former site structures.
Railway Line	Mechanical repairs to former machinery (steam and diesel engines, steam boilers and/ or pipe lagging) within the within and adjacent to the former rail corridor	TRH, heavy metals and asbestos	Moderate	There is the potential for petroleum hydrocarbons used in the maintenance of trains and other machinery associated with the railway line to have leaked/ spilled. Asbestos and heavy metals are also likely to have impacted the railway corridor from train operations and maintenance. Potential use of fill material of unknown quality or origin may have been imported for the construction of the railway line. There is potential for top-down migration from contamination through surface soils into underlying groundwater.

Total Recoverable Hydrocarbons (TRH), Benzene, Toluene, Ethylbenzene and Xylene (BTEX), Polycyclic Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyls (PCBs), Organochlorine Pesticides (OCP), heavy metals (arsenic, cadmium, chromium, copper, lead, mercury and zinc).

4.2 SOURCE CONTAMINATION, TRANSPORT MECHANISMS, PATHWAYS AND RECEPTORS

A summary of the potentially affected media, key potential receptors and transport mechanisms is presented in Table 4-2.

Table 4-2: Source Contamination, Transport Mechanisms and Receptors

Primary Sources	Secondary Sources	Transport Mechanisms	Exposure Routes	Exposure Receptors
The whole of Site **Substation** **Areas around former structures** **Historical rail line and support buildings** **Machinery maintenance** **Railway Line** **Machinery maintenance activities** **Locomotive Turntable**	Impacted fill and shallow natural soils (from about 0.3m to 1.0m) from potential leaching of COCs from contaminated fill into underlying soils and/ or groundwater	• Leaching from soil to groundwater and movement with groundwater seepage • Surface water runoff • Dust generation during construction and/ or mobilisation by wind from unsealed surfaces	• Soil Ingestion • Dermal Contact with Soil • Outdoor dust inhalation • Incidental ingestion of groundwater • Dermal contact with groundwater	• Site Users • On Site Workers • Construction Workers • Maintenance Workers • Ecological – surface water, aquatic ecosystems, transitory wildlife

4.3 KEY EXPOSURE PATHWAYS

A summary of the key potential exposure pathways is presented in Table 4-3.

Table 4-3: Key Potential Exposure Pathways

Receptor/ Media	Exposure Pathway	Comment
Maintenance/ Construction Workers	Potentially Complete	There is a potential for workers involved in excavation to be exposed to soils containing contaminants via dermal contact, ingestion and inhalation pathways (particularly asbestos) during redevelopment work, and any ongoing maintenance works.
Current and Future Site Users	Potentially Complete	Unsealed surfaces may present a potentially complete pathway to dermal contact, and ingestion of soils.
	Potentially Incomplete	Sealed surfaces or surfaces covered with grass are likely to have an incomplete pathway for those accessing the Site as the exposure is likely for short periods of time.
Ecological	Potentially Complete	Leaching of COPCs into surface water runoff and/ or groundwater likely given the Site is largely unsealed, therefore a complete pathway would probably exist. Surface water runoff has the potential to transport sediment containing COCs from unsealed surfaces during rainfall events into stormwater drainage systems. Given the distance to the nearest receptor a complete pathway may only exist during periods of heavy rain or storm events.
Groundwater	Potentially incomplete	There is a potential for workers in a shallow trench to be exposed to groundwater containing dissolved metals via dermal contact and incidental ingestion during development or maintenance works given groundwater is less than 5mbgs.

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5. MANAGEMENT PLAN FOR EXCAVATIONS

Excavations proposed for the works include trenching for the installation of utilities and services including telecommunications, gas, water and sewer. Most of the excavations with be relatively shallow i.e. <1.0 metres below ground surface (mbgs) with the exception of sewer which will be installed at a typical depth of approximately 5mbgs and lift shafts which may extend 3 – 4mbgs.

For proposed excavations within fill materials during works, the following procedures must be followed.

- Preparation of a Construction Environment Management Plan (CEMP) for excavations noting the depth location, depth and potential volume of excavated material, and management procedures for handling excavated fill including appropriate PPE. The CEMP should reference this Contaminated Land Management Plan.
- During excavations, carry out a visual assessment of excavations and stockpiles to check that excavated materials do not include potentially contaminated materials. Section 5.1 outlines indicators of potential contamination. Should contaminated material be encountered, a suitably qualified environmental consultant should be engaged, and the steps outlined in Section 5.3 implemented.

5.1 VISUAL ASSESSMENT OF MATERIAL

The excavated materials will be visually assessed for indications of contamination as they are excavated and/or moved around the Site. The visual assessments will be used to identify indicators of potential contamination or areas of contamination previous identified (i.e. lead and asbestos). Such indicators will include:

- Soils that exhibit a strong odour.
- Soils that appear to be oil-stained, fibrous or have unusual colours.
- Soils that contain lead slag materials, are black, metalliferous or shiny.
- Soils that contain asbestos containing material (ACM) (e.g. cement sheeting, insulation, pipe lagging, building materials with a sprayed covering (e.g. vermiculite) etc) and other building materials.

If potentially contaminated materials are identified, these will either be:

- Stockpiled in a location separate from the other site works and further assessed, in accordance with the procedures outlined in the following sections. OR
- Be left in-situ undisturbed (where practicable) and further assessed, , in accordance with the procedures outlined in the following sections.

Should unexpected materials be identified within site soils, the Unexpected Finds Protocol presented in Section 7 must be implemented.

5.2 MATERIAL TRACKING

During works, the Site Superintendent/ Principal Contractor will be responsible for the tracking of soil and fill materials that are imported to the Site, and removed from the Site, to provide required information for Site validation following removal of impacted soils.

Accurate records must be maintained to ensure that, on-site reuse of excavated soil is consistent with site acceptance criteria. A register of validation samples collected from excavations and stockpiles will be maintained by the environmental consultant. Any required validation activities should be carried out by a suitably qualified environmental consultant in accordance with the relevant NSW EPA endorsed guidelines (if required).

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Material tracking forms will be used during works to provide relevant information about:

1. **Off-site Reuse / Disposal Form**: provides a record of the soil-like materials removed from the site including the type, volume, origin and approved fate of the material based on advice from the environmental consultant.
2. **Material Stockpiling Form**: provides a record of soil-like material temporarily placed in stockpiles within the site including the type, origin, volume and temporary on-site storage location of the material. Where known, the intended fate of the material would also be documented. This form would be used for material excavated from the site awaiting beneficial on-site reuse and/or off-site disposal, and material imported to the site for use as fill.
3. **Imported Materials:** Must be tracked as per the following requirements and the following information shall also be recorded:
   - Truck and/or bin registration number
   - Origin of material
   - Material type
   - Approximate volume
   - Relevant classification document
   - Proposed use onsite
   - Proposed location for use
   - Observations and photographs of material and confirmation it matches approved material.

In addition to the above forms, copies of weighbridge dockets from off-site disposal and importation of material will be retained by the Site Superintendent/ Principal Contractor.

5.3 MANAGEMENT OF POTENTIALLY CONTAMINATED MATERIAL

5.3.1 Temporary Stockpiling

These general procedures will be followed during stockpiling of excavated potentially contaminated material:

- Potentially contaminated material (including slag) should be separated (if possible) and stockpiled separately from other stockpiled soils in an isolated area of the Site.
- Access to stockpiles of potentially contaminated fill will be limited by keeping the stockpiles within the site's fencing.
- Stockpiles will be placed on level ground. Stockpiles will not be placed on slopes greater than 5°.
- Stockpiles will be placed on strong impermeable plastic sheeting such as high-density polyethylene (HDPE). If this procedure is not followed there is the potential for contaminants to migrate into the surface soils.
- The stockpile heights will be kept to a maximum of approximately 2m.
- Where stockpiles are proposed to remain in a location overnight, the stockpiles will be covered by weighted HDPE sheets or tarpaulins to prevent erosion of stockpiled materials. Heavy objects not containing sharp edges will be placed on the sheets to prevent them from being blown by winds.
- Adequate hay bales and/or silt fences will be placed around the perimeter of the stockpile area to filter runoff from the stockpiles and prevent overland stormwater flow from affecting the base of the stockpiles; and
- A stormwater diversion bund will be created up gradient of the stockpiles to prevent stormwater running through the stockpiles.

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The stockpiles should be assessed by a suitably qualified environmental consultant, in accordance with Section 5.3, as soon as practical, to remove the risk of stockpiling potentially contaminated materials on site.

5.3.2 Management of Open Excavations

Excavations resulting from the removal of potentially contaminated soil will be barricaded in order to restrict access to the excavation areas. Appropriate warning signs will be placed around the excavations, in accordance with applicable regulations and codes of practice.

The excavations will remain barricaded until such time when the excavations have been validated and backfilled (where appropriate).

The validation of excavations should be carried out by a suitably qualified environmental scientist, in accordance with Section 5.3, as soon as practical, to remove the risk of open excavations on site.

5.3.3 Haulage of Soils

Trucks transporting soil or imported fill to and from the site must be covered to prevent dust generation. Dust generation from movement of material within the works boundaries should also be minimised either by covering the load or by wetting the load down prior to transport from one section of the site to the next. The following procedures will be followed on-site to limit the potential for transport of soil/dust off-site via vehicular movement:

1. Vehicles, plant and equipment on the site at any one time will be kept to a practical minimum.
2. Vehicles, plant and equipment entry to and exit from the site will be kept to a practical minimum.
3. Movements within site to use defined haul roads.
4. Transport of loads within the site boundaries (cut to fill activities) should minimise the generation of dust (covering or wetting down the loads).
5. Plant and equipment will be washed down before it leaves the Site.

5.3.4 Assessment of Potentially Contaminated Stockpiled Materials

Sampling of Stockpiles

Assessment of stockpiles for re-use on site, or to provide waste classification to allow disposal to landfill, the stockpile sampling will be undertaken in accordance with Section 6.4 of the Stage 1B RAP, with consideration to the following:

- Soil samples from large stockpiles will be taken with the aid of excavators to provide representative samples of material from within the stockpiles.
- Samples will be taken from the centre of the excavator bucket in order to minimise the potential for cross-contamination.
- A clean pair of disposable gloves will be worn when collecting each sample.
- Samples will be kept chilled while in the field and in transit to the laboratory.
- Where stockpiles are not placed on impervious material, sampling of the stockpile footprints at a rate of 1 sample per 25m^2, with a minimum of 3 samples collected.

5.3.5 Laboratory analysis for stockpile disposal to landfill

Where required, the stockpile waste classification samples will be dispatched to a NATA-accredited laboratory for analysis. Each sample will be analysed for the following suite of contaminants:

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- TRH.
- BTEX.
- PAH.
- Asbestos (Presence/Absence)
- Heavy Metals.

In addition, selected samples may be analysed for leachability using the Toxicity Characteristic Leaching Procedure (TCLP), based on the initial results.

The volume and type of waste material will be tracked using the relevant material tracking form as described in Section 5.2.

Classified waste is to be transported to an appropriately licensed facility. In some cases (i.e. disposal of special (asbestos) waste), disposal approval may be required from the landfill prior to transportation.

5.3.6 Requirements for Material Transport

Minimum requirements for transport of material from the Site are:

1. All material transported off-site by a licensed contractor.
2. Excess dust or load material will be removed from the outside of the truck (and dog where relevant) prior to leaving the site. This may require on-site a wheel wash or spray wash to dislodge excess material. Where soil is tracked outside the site, it will be promptly cleaned up in a manner that does not adversely affect the surrounding land, surface water bodies or local stormwater system.
3. Trucks will be covered prior to leaving the site and throughout travel to the disposal site.
4. Trucks will enter and exit the site in predetermined points and will follow strict transport routes to and from the disposal site/s.
5. Trucks will not wait in the streets surrounding the Site.

5.3.7 Licenced Waste Disposal Facilities

The following facilities detained below in Table 5-1 are licenced to accept various types of contaminated soils that may be required to be disposed during the works.

Table 5-1: Waste Facilities and Types of Waste Accepted (Newcastle)

Waste Facility	Address	Environmental Protection Licence	Waste Accepted
Summerhill Waste Management Centre	141 Minmi Rd, Wallsend NSW 2287	5897	General Solid Waste, Special Waste Asbestos
Cleanaway Technical Services	Raven Street, Kooragang, NSW 2304	6124	Various Hazardous and Restricted materials including contaminated soil and liquids

5.3.8 Reuse on-site

Excavated soils with contaminant concentrations below the site assessment criteria may be reused on-site. The material should be assessed for its potential to pose unacceptable risk to human and ecological receptors, and for aesthetic quality in the context of future use of the placement area. The material will be considered unsuitable for reuse if potential unacceptable risk or unacceptable aesthetic quality is identified.

Where appropriate, soil samples shall be analysed for site COPCs, which include the following:

1. Heavy Metals (Arsenic, Cadmium, Chromium (total), Copper, Mercury, Nickel, Lead and Zinc)

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2. TRH.
3. BTEX.
4. PAH.
5. Asbestos (Presence/Absence) or assessment in line with the WA Asbestos guidelines and the ASC NEPM should a specific assessment of asbestos concentrations be required for a specific land use setting.

Depending on the findings from additional assessment completed, additional analytes may be required to be analysed to assess the suitability for on-site re-use purposes (e.g. PCB, OCP etc.).

5.3.9 Validation of Excavations

Excavations resulting from the removal of potentially contaminated material will need to be validated prior to works re-commencing in those areas. Validation will be required in order to assess whether the potentially contaminated material has been adequately removed, or if further excavations or management of the material are necessary.

The methodology for validation sampling is provided in Section 6.4 of the Stage 1B RAP. Typically, validation samples are collected at a frequency of one per 25m^2 on bases and 1 per 10 linear meters on walls of excavations based on the NSW EPA (2022) Sampling Design: Part 1 Application. Depending on the size of the excavation, the environmental consultant will assess the validation sampling frequency.

The validation samples would be tested for the chemicals of concern identified, as outlined in Section 5.3 above.

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6. SAFETY AND ENVIRONMENTAL MANAGEMENT PROCEDURES

During excavations, the following management measures will be adopted:

6.1 PERSONAL PROTECTIVE EQUIPMENT

In order to reduce short and long-term health risks associated with the potential exposure to the chemicals of concern, the minimum level of Personal Protective Equipment (PPE) required for people, during the enabling works, is listed below:

- **Body Protection.** High-visibility clothing should be worn on-site as per Contractor requirements
- **Head Protection.** Personnel working around excavation equipment will be required to wear a hard-hat. The hard hat must be in date, worn properly and not altered in ways that would lessen the degree of protection offered.
- **Eye Protection.** Eye protection is required to prevent eye injuries resulting from contact with dust, contaminated soil or liquid. Safety glasses are required to be worn by site personnel during the works.
- **Foot Protection.** Steel toed boots without laces will be worn by on-site personnel.
- **Skin Protection.** Long sleeves and trousers are to be worn. Skin protection will be required to prevent absorption of contaminated soil into the body. Gloves will be worn by personnel involved in site activities which will come into contact with contaminated soil or liquid. Sunscreen (SPF +30) shall also be worn to protect exposed skin areas not covered by PPE from the sun.
- **Hearing Protection.** Site workers will be required to have hearing protection (ear plugs or earmuffs) on site during works. Personnel who are likely to be exposed to high noise levels on site will be required to wear hearing protection.

Site personnel will be made aware during induction and at toolbox meetings that PPE required to be worn may limit manual dexterity, hearing, visibility and may increase the difficulty of performing tasks. PPE places an additional strain on the user when performing work that requires physical activity.

Eating, drinking, chewing gum or tobacco, smoking or other practices that involves hand to mouth transfer increases the probability of ingestion of foreign matter into the body. Hands must be thoroughly washed before eating, drinking or smoking.

6.2 STORMWATER MANAGEMENT AND SEDIMENT CONTROL

Adequate stormwater runoff, run-on and sediment control measures will be put in place for the excavation works. The measures should form a Soil and Water Management Plan, a sub-plan top the CEMP to be prepared by the Site Superintendent/ Principal Contractor for the works.

Where temporary stockpiling of material is required, the stockpiles would need to be managed in a way to prevent harm to the environment and general public from potentially contaminated soils within the stockpiles. Section 5.3.1 provides guidance on managing stockpiled material.

6.3 DUST CONTROL AND AIR MONITORING

Dust control is required to prevent airborne dust being inhaled by human receptors. Airborne dust may be generated by wind action from loose earth left on the ground. This could cause migration of contaminated dust, as well as cause a nuisance for the surrounding area and must be controlled. A comprehensive Air Quality Management Plan, A sub-plan to the CEMP to be prepared by the Site Superintendent/ Principal Contractor for the works.

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The following management measures should be implemented to prevent dust impacts.

- A communications and complaints register should be kept on site to ensure that concerns of local residents and workers are recorded and addressed.
- Boundary fences should be maintained around the perimeter of the site to prevent dust from migrating laterally from these areas.
- Excavated soils should be watered as required to minimise the potential for dust generation.
- If dust migration from excavation areas is considered excessive due to high winds, the works should be delayed or limited during these periods.
- Trucks removing material from the site should have loads covered.
- Vehicular movements entering and exiting the site should be kept to a minimum; and
- Works should be limited during times of high winds.

6.4 WORKS WITHIN THE NEWCASTLE CITY COUNCIL WORKS CORRIDOR

Any works that are conducted within the CN services corridor on or through lands under the control of the Council will be required to be undertaken in general accordance with the Newcastle City Council, *Newcastle Technical Manual Contaminated Land Management, 2012.* The document outlines the procedures and requirements for the management of contaminated materials encountered on Council lands. The technical manual has been included as Appendix B of the attached Unexpected Finds Protocol.

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7. UNEXPECTED FINDS PROCEDURES

7.1 PURPOSE

This procedure outlines a methodology for consistent response and management of unexpected finds during proposed enabling, early and development works. This procedure considers heritage obligations under the Heritage Act 1977 (NSW), National Park and Wildlife Act 1974 (NSW), *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth)* and the *Coroners Act 2009 (NSW)*.

7.2 SCOPE

This procedure applies to all contractors and sub-contractors conducting excavation works at the Site including any support of works. These include the installation of service trenches, stormwater drains and all bulk earthworks activities.

This procedure considers that an application for a Project specific Aboriginal Heritage Impact Permit (AHIP) has been applied for under Section 90 of the National Parks and Wildlife Act 1974 to manage harm or potential harm to Aboriginal objects and places. Detailed investigations undertaken as part of the AHIP process notwithstanding, unexpected heritage items may still be unearthed during excavation works being undertaken on site. This procedure is applicable in those cases and triggers a cessation of work and guides on the relevant processes of seeking technical advice and regulatory notification.

7.3 APPLICABLE LEGISLATION AND PROCEDURES

- *Heritage Act 1977 (NSW).*
- *National Parks and Wildlife Act 1974 (NSW).*
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cth).*
- *Coroner's Act 2009 (NSW).*
- *Unexpected Heritage Items 2015 (RMS).*

7.4 TYPES OF UNEXPECTED FINDS

For this procedure an 'Unexpected find' is defined as any unanticipated potential contaminant or archaeological discovery not identified during previous assessments. An unexpected find may include:

- Contaminated materials (including lead slag and ash).
- Buried infrastructure (e.g. underground storage tanks, pipes, footings).
- LNAPL (Light Non-Aqueous Phase Liquid)/DNAPL (Dense Non-Aqueous Phase Liquid) contamination.
- Asbestos.
- Potential acid sulphate soils.
- Aboriginal and Non-Aboriginal Heritage artefacts.
- Human skeletal remains.

7.5 GENERAL INITIAL RESPONSE

If during works, there is any unexpected find the following applies:

- Cease Work Immediately and notify the Site Supervisor.

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- Identification and classification of the find (Aboriginal/European Heritage, buried infrastructure, possible ACM, Contaminants).
- Evacuate and Isolate the area.
- Provide PPE to workers as required (for contaminated material including Underground Storage Tanks (UST's), pipes, ACM.
- Photograph the find and mark the identified location using a GPS.
- Install temporary fencing and signage.
- Notify the University Health and Safety representative.
- Execute a toolbox talk to all site staff to communicate the hazard and associated responses; and
- Notify the University and Engage specialist consultants as required.

7.6 MANAGEMENT OF ASBESTOS

Asbestos places worker health at risk when elevated levels of asbestos fibers are breathed into the lungs. The Safework NSW guideline for Managing Asbestos in or On Soil, 2014 states the following regarding asbestos exposure:

"The likelihood of exposure occurring depends upon the potential for the asbestos material to release fibres, whether the asbestos material is contained or covered, and any operational control measures or personal protective equipment which have been applied to limit the generation and/or inhalation of airborne fibres.

Non-friable asbestos, previously referred to as 'bonded asbestos', in sound condition represents a low human health risk. However, friable asbestos materials or damaged, crumbling bonded asbestos, have the potential to generate, or be associated with, free asbestos fibres and therefore must be carefully managed to minimise the release of asbestos fibres into the air."

If in situ soil (surface/fill) or stockpiled material is suspected to contain asbestos, the Site Supervisor should be informed immediately. It should be assumed that the soil is asbestos impacted, and work immediately ceased. A suitably qualified environmental consultant or LAA, should be contacted to sample the material for confirmation of asbestos presence and type (friable or bonded).

If confirmed, the Site Supervisor must ensure the implementation of asbestos management procedures as outlined in an approved project specific Asbestos Management Plan (AMP) to be prepared by the building contractor and included as a sub-plan within their CEMP. The control measures will include but not be limited to:

- Identifying contaminant boundaries as determined by an independent LAA or suitably qualified environmental consultant.
- Minimize disturbance to in situ soils or stockpiles containing potential ACM until the asbestos management procedures have been implemented.
- Isolating, securing and clearly identifying the area of potential ACM impact site using signs and barriers.
- Application of dust reduction/control measures such as spraying of water and application of wetting agents.
- Providing workers with appropriate PPE based on the suspected level of contamination and the control measures implemented.
- Sampling of the suspected contaminated materials and/ or air monitoring either by an LAA or suitably qualified environmental consultant.
- Execute a site toolbox talk focused on the provision of information to workers on hazards and safe work practices to minimise airborne dust exposure.

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A LAA should be engaged, and a comprehensive assessment conducted as required. If asbestos is confirmed, any impacted material must be removed by a licensed asbestos removalist and a clearance certificate obtained from a LAA.

7.6.1 Disposal of Bonded Asbestos Materials

Handling and disposal of asbestos waste will be carried out in accordance with an approved AMP prepared by a suitably environmental consultant and executed by a Licensed Asbestos Removal Contractor (LARC). The following general procedures would be undertaken, but do not constitute an AMP.

Hand-picked asbestos waste (i.e. removal of bonded asbestos fragments) removed during the construction works shall be collected and double bagged in heavy duty, low density polyethylene 0.2mm thick bags. A maximum bag size of 1,200mm (length) x 900mm (width) shall be used and bags shall be filled to no more than 50 per cent capacity.

The bags must be labelled as containing “Asbestos Waste” and that dust inhalation must be avoided. The bags are to be ‘double-necked’ and sealed by wire ties or tape. The bags shall then be disposed to the nearest licensed facility as asbestos waste. The loaded weight of the bags shall not exceed 20kg each. Each bag or other container shall be labelled on its outermost surface with warning statements.

Bags or primary containers which have held asbestos material shall not be re-used, and containers marked as above shall not be used for other purposes and shall be disposed of accordingly as per requirements for ACM.

Care must be taken to ensure that the integrity of the plastic bags is not damaged during handling or transportation. Vehicles may be checked for cleanliness prior to leaving the work site.

Controlled wetting of waste shall be employed, where practicable, to reduce dust emissions during bag sealing. Excessive water logging shall be avoided as the excess of contaminated water may leak out of the bags, thereby creating a future source of airborne dust.

The asbestos waste shall be disposed of at a landfill licensed to receive asbestos waste in accordance with State and EPA requirements. Documentary evidence (waste disposal dockets) of the disposal shall be collected and provided. This will include name of the authorised waste facility, weighbridge docket and registration number of vehicles for every disposal.

7.7 CONTAMINATED MATERIALS

In the event suspected contaminated materials (lead slag, ash, UST’s, footings, pipes, flowing free phase hydrocarbons, oily wastes odorous or suspicious looking soils etc.) are discovered, steps must be taken to assess the materials and minimize potential impact on the environment. Upon discovering the items work will cease and an assessment of immediate risks carried out by the Site Supervisor and Project Manager.

Following the initial assessment, a suitably qualified environmental consultant will be engaged to assess the short and long-term risks to human health and the environment and provide options for mitigation, management and/or and disposal. Contaminated materials must be assessed for the suitability to be retained for on-site isolation in accordance with measures detailed within the Stage 1B RAP or disposed at a licensed facility under an appropriate waste classification in accordance with the *NSW EPA Waste Classification Guidelines (2014)*.

All contaminated materials on site to be managed in accordance with the CLMP.

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7.8 POTENTIAL ACID SULPHATE SOILS (PASS)

Based on the proposed depth of remedial works PASS materials are not expected to be encountered during excavation. However, should PASS be encountered during construction works, appropriate management procedures detailed within the *City Campus Student Accommodation (SSD-61618229) Acid Sulfate Soil Management Plan (Tetra Tech reference: 754-NTLEN274023-R10 Rev 1, dated 8 March 2024)* must be followed.

7.9 SKELETAL REMAINS

During the progression of excavation works bones may be unexpectedly exhumed. If the bones are clearly human in origin, work will cease, access will be prevented to the immediate area by installing barriers and contact the local police immediately. The police may take control of the site for investigative purposes. The bones are not to be touched or disturbed. The coroner will assess the bones to determine if they are under 100 years old. If the bones are assessed to be over 100 years old, they are managed, human or otherwise, as heritage items.

If the origin of the bones cannot be immediately identified as human, a suitably qualified Archaeologist or Anthropologist should be engaged to undertake an assessment of origin. Approval from the coroner, police, Aboriginal groups, Office of Heritage, Anthropologist or the client may be required before bones can be removed.

7.10 ABORIGINAL HERITAGE

The identification of any relic, artefact or material suspected to be of Aboriginal original triggers an immediate cessation of works. The Site Supervisor and or Project Manager shall be notified immediately, who will in turn contact the University Health and Safety (HSE) representative. A qualified archaeologist must be engaged to confirm the find.

Following this, the Site Supervisor and or Project Manager must complete a preliminary assessment and recording of the item. If the item was identified to not be of Aboriginal origin works will immediately recommence following that clearance. Should Aboriginal Heritage items be confirmed the University HSE representative will then notify NSW Police, National Parks and Wildlife Service and Local Aboriginal stakeholders. If an approved Heritage Management Plan exists as part of an approved CEMP this must be executed.

The following flowchart illustrates the required actions following the suspected identification of Aboriginal heritage objects.

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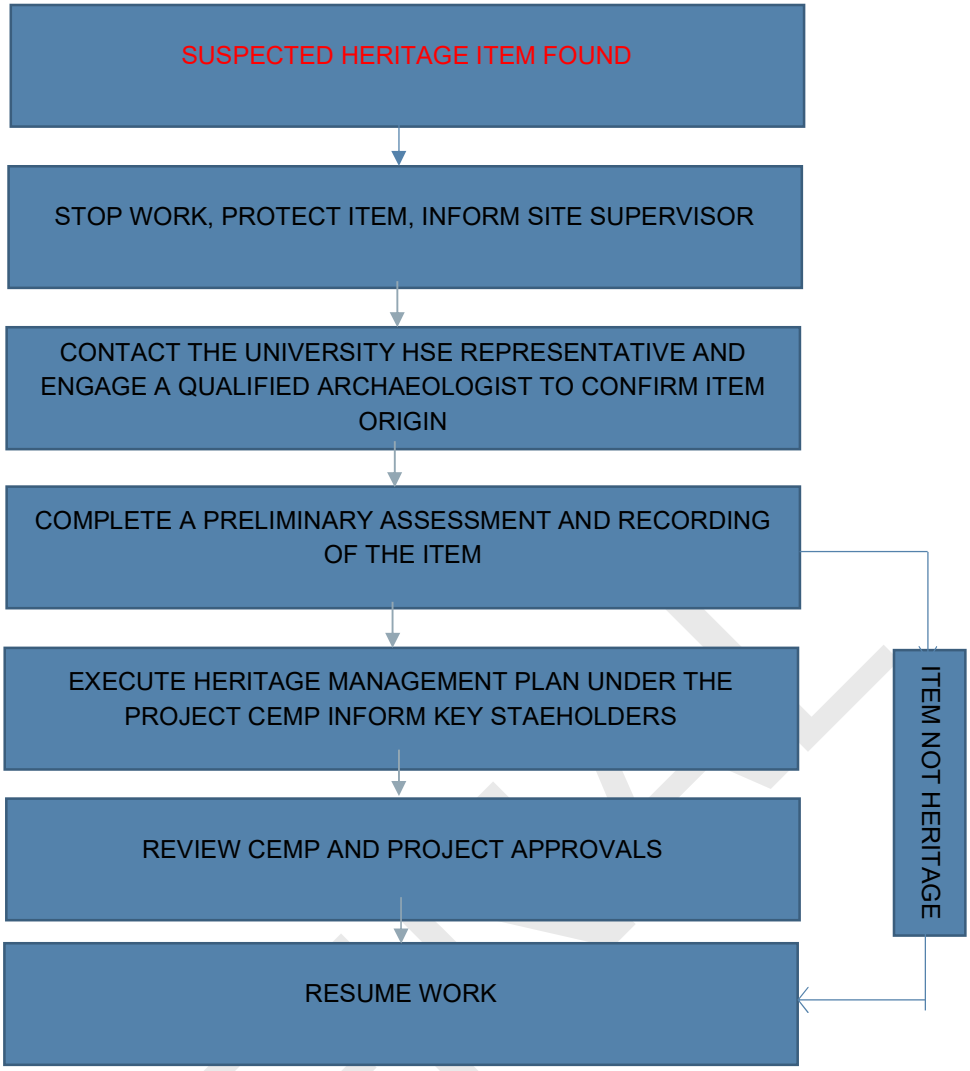

The NSW Department of Climate Change, Energy, the Environment and Water – Environment and Heritage. require notification and an AHIP permit is required prior to removal of artefacts. The remediation and construction works will be carried out under an AHIP. Site inductions should include an introduction and awareness to the possible presence of Aboriginal heritage and the expectation and procedures regarding their management. Aboriginal Artefacts could include but not limited to stone tools, shell middens, axe grinding grooves, rock art, burials and scarred trees. Please refer to the included *RMS Unexpected Heritage Items Procedure 2015* included in Appendix C: for further procedural and visual guidance.

8. REFERENCES

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- NSW EPA Resource Recovery Orders and Resource Recovery Exemptions under Part 9, Clause 93 of the POEO Waste Regulations (2014).
- NSW EPA (2020) Consultants Reporting on Contaminated Land – Contaminated Land Guidelines.
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- Protection of the Environment Operations Act (1997) and Waste Regulation (2014, 2016).

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- RMS (2015) Unexpected Heritage Items.
- Site Audit Statement (SAS) WRR15A (Summary Site Audit Report, William Ryall, Contamination Management Pty Ltd, dated 27 September 2002).
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FINAL

9. LIMITATIONS

In preparing this report, current guidelines for assessment and management of contaminated land were followed. This work has been conducted in good faith in accordance with Tetra Tech's understanding of the client's brief and general accepted practice for environmental consulting.

This report was prepared for the University of Newcastle with the objectives to provide guidance on the management of contaminated materials and other unexpected finds during works. No warranty, expressed or implied, is made as to the information and professional advice included in this report. Anyone using this document does so at their own risk and should satisfy themselves concerning its applicability and, where necessary, should seek expert advice in relation to the particular situation.

We draw your attention to the enclosed sheet entitled "*Important information about your Tetra Tech Coffey Environmental Report*" which should be read in conjunction with this report.

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IMPORTANT INFORMATION ABOUT YOUR TETRA TECH COFFEY ENVIRONMENTAL REPORT

Introduction

This report has been prepared by Tetra Tech Coffey for you, as Tetra Tech Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice.

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Tetra Tech Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Tetra Tech Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Tetra Tech Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Tetra Tech Coffey should be kept appraised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statues and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

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The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Tetra Tech Coffey would be pleased to assist with any investigation or advice in such circumstances.

Recommendations in this report

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be reviewed and may need to be revised.

Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Tetra Tech Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Tetra Tech Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see how other professionals have incorporated the report findings.

Given Tetra Tech Coffey prepared the report and has familiarity with the site, Tetra Tech Coffey is well placed to provide such assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Tetra Tech Coffey disowns any responsibility for such misinterpretation.

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Data should not be separated from the report

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

Responsibility

Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site.

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APPENDIX A: FIGURES

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Scale (metres) 1:15000

IMAGERY SOURCE: WORLD STREET MAP
SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), NGCC, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

drawn	CS / DR	TETRA TECH COFFEY	client:	UNIVERSITY OF NEWCASTLE	
approved	-		project:	CLMP-UFP - CITY CAMPUS STUDENT ACCOMMODATION (SSD-61618229)	
date	22-02-2024		title:	SITE LOCATION PLAN	
scale	AS SHOWN		project no: 754-NTLEN320411-R08	figure no: FIGURE 1	rev: A
original size	A4				

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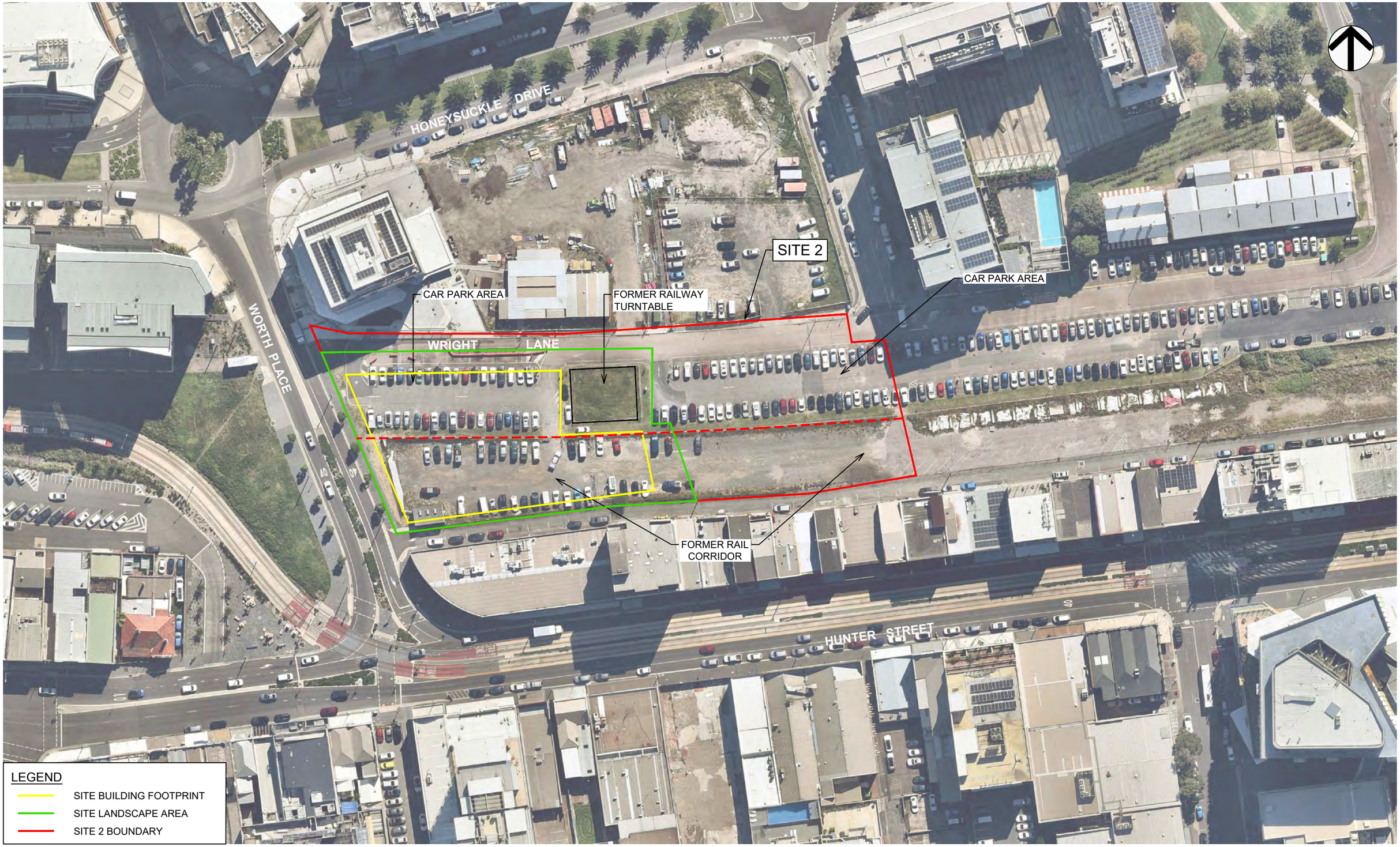

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A	ORIGINAL ISSUE			

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SOURCE: NEARMAP IMAGE - 14/04/2021

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original size	A3

TETRA TECH COFFEY

client: UNIVERSITY OF NEWCASTLE

project: CLMP-UFP - CITY CAMPUS STUDENT ACCOMMODATION (SSD-61618229)

title: SITE PLAN

project no: 754-NTLEN320411-R08 | figure no: FIGURE 2 | rev: A

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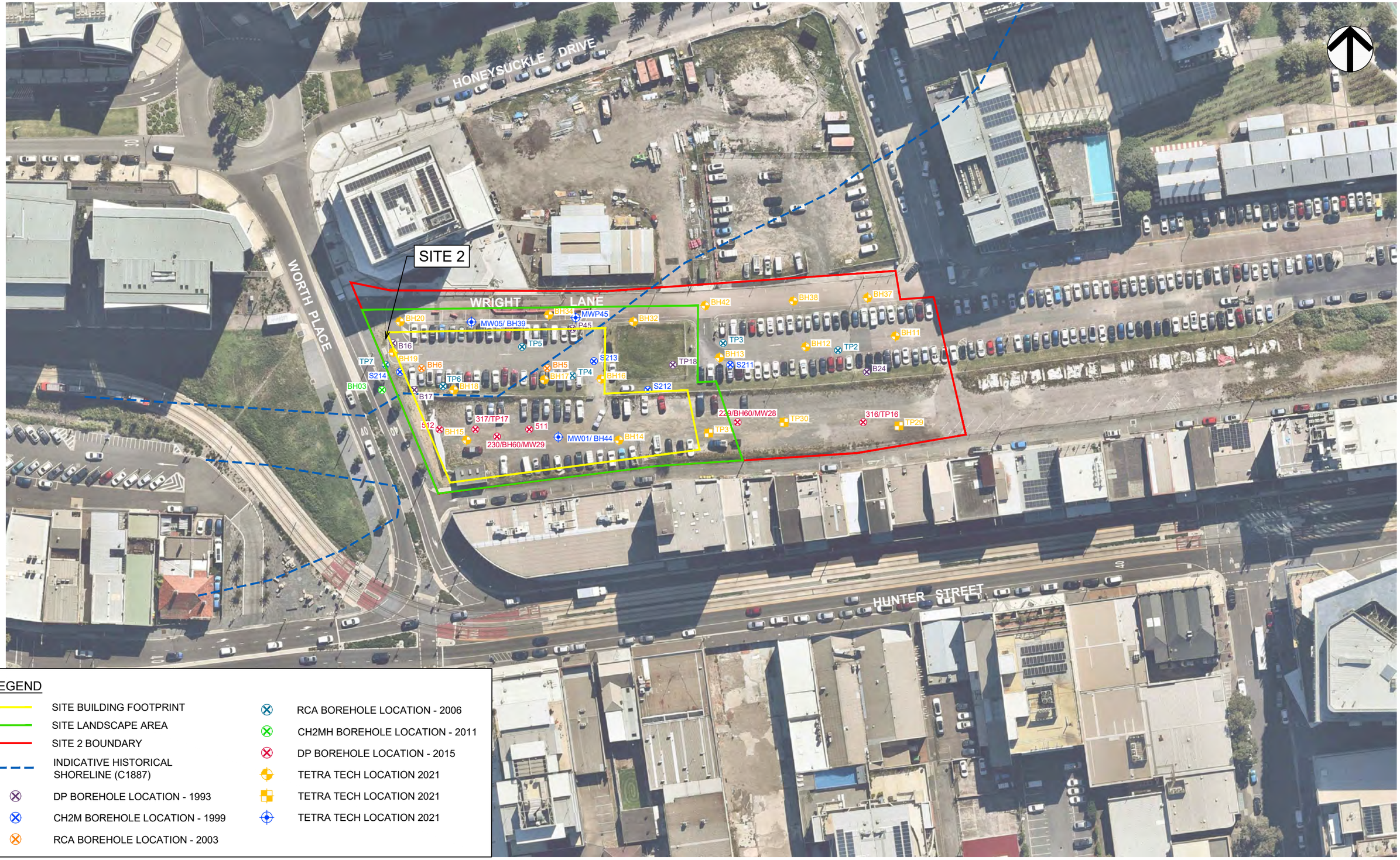

LEGEND

- SITE BUILDING FOOTPRINT
- SITE LANDSCAPE AREA
- SITE 2 BOUNDARY
- INDICATIVE HISTORICAL SHORELINE (C1887)
- DP BOREHOLE LOCATION - 1993
- CH2M BOREHOLE LOCATION - 1999
- RCA BOREHOLE LOCATION - 2003
- RCA BOREHOLE LOCATION - 2006
- CH2MH BOREHOLE LOCATION - 2011
- DP BOREHOLE LOCATION - 2015
- TETRA TECH LOCATION 2021
- TETRA TECH LOCATION 2021
- TETRA TECH LOCATION 2021

revision no.	description	drawn	approved	date
A	ORIGINAL ISSUE			

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Scale (metres) 1:1000

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date	22-02-2024
scale	AS SHOWN
original size	A3

TETRA TECH COFFEY

client: UNIVERSITY OF NEWCASTLE

project: CLMP-UFP - CITY CAMPUS STUDENT ACCOMMODATION (SSD-61618229)

title: PREVIOUS ENVIRONMENTAL ASSESSMENT LOCATIONS

project no: 754-NTLEN320411-R08 | figure no: FIGURE 3 | rev: A

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APPENDIX B: NEWCASTLE CITY COUNCIL, TECHNICAL MANUAL CONTAMINATED LAND MANUAL

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Technical Manual

Contaminated Land Management

Production:

Newcastle Technical Manual Contaminated Land Management was prepared by the Future City Group of The City of Newcastle.

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1. Contaminated Land Management

This Manual:

- supplements Section 5.02 of the Newcastle DCP 2012 by providing detailed technical information relating to the use and development of land that is or may be contaminated
- outlines procedures and requirements for the early identification of sites, determination of rezoning and development applications, the recording and use of information and the provision of information to the community
- outlines requirements for the carrying out of remediation work.
- provides a statement of policy to be followed by The City of Newcastle when exercising its planning functions in relation to land that may be contaminated
- provides a local context for decision making that is generally consistent with the Contaminated Land Planning Guidelines notified under Section 145C of the *Environmental Planning and Assessment Act 1979*.

2. Contaminated Land Management Principles

Contaminated land management is a process that may take place at any phase of development including plan making, site preparation, construction, demolition and ongoing site use.

Appropriate management of contaminated land is important to the health and safety of the community and to ensure that contaminated sites can be remediated for sustainable reuse.

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Council functions to which this Technical Manual applies

- the preparation of local environmental plans
- the preparation and approval of development control plans
- the preparation and adoption of plans of management for community land
- the determination of development applications
- the modification of development consents
- the determination of activities under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (where the Council is the determining authority)
- the recording and keeping of information relating to land contamination, and the furnishing of such information to the public, such as by the issue of Planning Certificates under section 149 of the EP&A Act.

SEPP 55 - Remediation of Land

This Technical Manual specifies requirements in respect of ‘category 2 remediation work’, as provided for under clause 9(f) of State Environmental Planning Policy No. 55 - Remediation of Land.

Category 2 remediation work does not require Council development consent however it is required to comply with the requirements of this Technical Manual.

3. Development Assessment

Initial evaluation

When making a determination in respect of any of the applicable matters referred to above that would authorise a change of use of land or the carrying out of earthworks, the Council is to undertake an initial evaluation generally in accordance with the Contaminated Land Planning Guidelines.

Matters to be considered include:

- whether the land is within an investigation area or remediation area
- whether the land is currently used for an activity listed in Part 8 – Potentially Contaminating Activities
- whether Council records show that an activity listed in Part 8 – Potentially Contaminating Activities has ever been carried out, approved, licensed or otherwise regulated on the land
- if a site inspection is held, whether there is any obvious evidence that the land may have been associated with an activity listed in Part 8 – Potentially Contaminating Activities
- whether the land has at any time been previously zoned for industrial, agricultural or defence purposes
- whether any Council records indicate that the use of the land has been restricted due to possible contamination (for example, notices issued by the NSW State Government that have been forwarded to the Council)
- whether any Council records indicate that the land has been the subject of complaints concerning pollution or illegal dumping of wastes
- whether the Council is aware of the results of previous investigations concerning contamination of the land
- whether the Council is aware of information concerning contamination impacts on immediately adjacent land which could affect the subject land.

Conditions of consent

In making its determination, the Council is to consider:

- the need to impose conditions relating to the remediation issues outlined in Part 5 – Remediation Work
- in the case of development applications, whether it would be appropriate to issue a deferred commencement consent or a staged consent
- the management of soil and groundwater contamination to ensure that the community is not unduly disadvantaged by accepting the dedication of public assets which have increased human health or environmental risks or have potentially higher asset management costs due to contamination.

4. Dedication of assets to Council

Contamination investigation requirements

The investigation of soil and groundwater contamination should be carried out in accordance with NSW State Government approved contaminated sites sampling design guidelines.

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Acceptable soil contaminations levels

Assets to be dedicated to Council must meet the following National Environment Protection (Assessment of Site Contamination) Measure (**NEPM) Health Investigation Level (HIL)** and must also at a minimum meet the **General solid waste** (non-putrescible) criteria as defined in the NSW DECC Waste Classification Guidelines as outlined in Table 1 below.

Table 1. Investigation levels and waste classification criteria that must be met:

	Investigation levels and waste criteria that must be met	
	NEPM Health Investigation Level (HIL)	Waste classification
Soil under roads	HIL 'F' (Commercial/Industrial)	General solid waste
Open space & footpath areas	HIL 'E' (Parks, recreational open space)	General solid waste
Other assets	Use appropriate HIL for most sensitive landuse permissible under the zoning	General solid waste

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Specific investigation requirements for sampling of road parcels

For the detailed investigation of contamination of road areas the road must be regarded as a separate parcel of land for the purposes of the sampling design. Accordingly an appropriate number of samples must be taken within the actual parcel of land to be dedicated to Council in order to adequately investigate/delineate contamination.

At a minimum soil samples should be taken at 3 depths per sampling location to define the possible vertical extent of contamination including one surface sample and one at the depth of the lowest possible service.

Note: this should be considered a minimum requirement and further samples may be required to adequately categorise contamination in accordance with NSW State Government approved sampling guidelines.

5. Remediation Work

Applicable matters

This Part applies to remediation work, that is, works carried out for the purpose of:

- removing, dispersing, destroying, reducing, mitigating or containing the contamination of any land
- eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land).

Category 1 remediation work

Category 1 remediation work is a special category of remediation work defined by State Environmental Planning Policy No. 55 - Remediation of Land (SEPP 55). Under SEPP 55, category 1 remediation work may only be carried out with development consent.

The exact definition of category 1 remediation is complicated, and interested persons should refer to clauses 9 and 14 of SEPP 55.

Category 2 remediation work

Category 2 remediation work is any remediation work that is not Category 1 remediation work.

Under SEPP 55, category 2 remediation work may be carried out without development consent. However, if remediation work is carried out in a manner that does not comply with a policy adopted under the Contaminated Land Planning Guidelines (that is, this Technical Manual), such work is then classified as category 1 remediation work.

In accordance with clause 16 of SEPP 55, prior notice of category 2 remediation work to Council is required at least 30 days before commencement of works.

In addition to the information that must be submitted to Council in clause 16 of SEPP 55, Council will require the following information to be submitted at least 14 days prior to the commencement of category 2 remediation works:

- copies of any Preliminary Investigation, Detailed Investigation and Remedial Action Plan for the subject site
- contact details for the remediation contractor and party responsible for ensuring compliance of remediation work with all relevant regulatory requirements (if different to remediation contractor).

Although consent is not required for Category 2 remediation work, Council will need to be satisfied that the site is suitable for the proposed use when considering any subsequent development applications for the subject site. Hence it is recommended that comprehensive records are maintained during the remediation and validation works for all sites.

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Requirements for category 2 remediation work

Category 2 remediation work must be carried out in accordance with the following required site management provisions. These provisions have been formulated to ensure that category 2 remediation work does not adversely impact on the environment or public amenity.

Note: These site management provisions have been adapted from the SSROC (1999) Model Policy on Contaminated Land.

All category 2 remediation works shall be conducted in accordance with the site management provisions listed below. The site management provisions apply to all of the Newcastle Local Government Area (LGA).

Category 2 remediation work that does not comply with the site management provisions outlined in this section will be classified as category 1 remediation work and will require development consent.

Development applications lodged for category 1 remediation works should identify any areas of non-compliance with the site management provisions listed below and identify any alternative site management measures to be implemented.

Note: It is the responsibility of those remediating a site to ensure compliance with all relevant environmental legislation and regulations. Compliance with the site management provisions outlined below does not imply that all relevant environmental legislation and regulations have been complied with. Non-compliance with relevant environmental legislation and regulations such as the Protection of the Environment Operations Act 1997 may incur on-the-spot fines for minor offences or more substantial fines and imprisonment for more serious offences.

It is the responsibility of those remediating a site to ensure compliance with the Heritage Act 1995 in relation to excavation permits for land that is likely to result in the disturbance of relics.

Hours of Operation

All remediation work which is audible on residential premises shall be conducted within the following hours:

Monday - Friday	7am - 6pm
Saturday	8am - 1pm

No work is permitted on Sundays or Public Holidays.

Soil and Water Management

The *Managing Urban Stormwater: Soils and Construction 4th Edition - Vol. 1* (the "Blue Book") published by Landcom, 2004 outlines Council's requirements for the preparation of a soil and water management plan. All remediation works shall be conducted in accordance with a soil and water management plan. A copy of the plan shall be kept onsite and made available to Council Officers on request. All erosion and sediment measures must be maintained in a functional condition throughout the remediation works.

A summary of the soil and water management measures for category 2 remediation work in relation to stockpiles, site access, excavation pump-out, landscaping/rehabilitation and bunding are discussed below:

Stockpiles

- no stockpiles of soil or other materials shall be placed on footpaths or nature strips unless prior Council approval has been obtained
- all stockpiles of soil or other materials shall be placed away from drainage lines, gutters or stormwater pits or inlets
- all stockpiles of soil or other materials likely to generate dust or odours shall be covered
- all stockpiles of contaminated soil shall be stored in a secure area and be covered if remaining more than 24 hours. (A secure area is addressed by the requirement for **Site Security** below.)
- if landfarming techniques are being employed, alternative control measures and contingencies must be put in place to address the potential for odour and dust impacting off-site.

Site Access

Vehicle access to the site shall be stabilised to prevent the tracking of sediment onto the roads and footpath. Soil, earth, mud or similar materials must be removed from the roadway by sweeping, shovelling, or a means other than washing, on a daily basis or as required. Soil washings from wheels shall be collected and disposed of in a manner that does not pollute waters.

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Excavation Pump-out

All excavation pump-out water must also be analysed for suspended solid concentrations, pH and any contaminants of concern identified during the preliminary or detailed site investigation, prior to discharge to the stormwater system. The analytical results must comply with relevant NSW State Government endorsed standards and guidelines for water quality as applicable to the contaminants and the receiving waters. Other options for the disposal of excavation pump-out water include disposal to sewer with prior approval from the Hunter Water Corporation, or off-site disposal by a liquid waste transporter for treatment/disposal to an appropriate waste treatment/processing facility.

Landscaping/Rehabilitation

All exposed areas shall be progressively stabilised and/or revegetated to prevent dust and erosion on the completion of remediation works.

Bunding

All landfarming areas for hydrocarbon contaminated soils shall be bunded to contain surface water runoff from the landfarm areas and to prevent the leaching of hydrocarbons into the subsurface. All surface water discharges from the bunded areas to Council's stormwater system must comply with relevant NSW State Government endorsed standards and guidelines for water quality as applicable to the contaminants and the receiving waters.

Noise

Category 2 remediation work shall comply with appropriate NSW State Government construction noise guidelines.

All equipment and machinery shall be operated in an efficient manner to minimise the emission of noise.

Vibration

The use of any plant and/or machinery shall not cause vibrations in excess of the relevant NSW State Government guidelines and Australian Standards, on any premises.

Dust Control

Dust emissions shall be confined within the site boundary. The following dust control procedures shall be employed to comply with this requirement:

- erection of dust screens around the perimeter of the site
- securely covering all loads entering or exiting the site
- use of water sprays across the site to suppress dust
- covering of all stockpiles of contaminated soil remaining more than 24 hours
- keeping excavation surfaces moist.

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Odour Control

No offensive odours shall be detected at any boundary of the site during remediation works by an authorised Council Officer relying solely on sense of smell. The following procedures may be employed to comply with this requirement:

- use of appropriate covering techniques such as the use of plastic sheeting to cover excavation faces or stockpiles
- use of fine mist sprays
- use of a hydrocarbon mitigating agent on the impacted areas/materials
- adequate maintenance of equipment and machinery to minimise exhaust emissions.

Volatile or semi-volatile compounds that could generate odours include monocyclic aromatic hydrocarbons (styrene, benzene, toluene, xylene, ethyl benzene, butyl benzene), polycyclic aromatic hydrocarbons (PAHs), hydrogen sulfide, hydrogen cyanide, pesticides, polychlorinated biphenyls (PCBs) and herbicides.

Groundwater

Any contamination assessment should address the potential for contamination of groundwater at the site to have occurred. Any work below the water table requires a licence from the NSW State Government under Part 5 of the *Water Act 1912*, and the *Water Management Act 2000*. These works include bores for water supply, testing and monitoring, and any extraction. If groundwater at the site is found to be contaminated then the appropriate NSW State Government agency is to be notified. Any remedial actions proposed for the site to remediate contaminated groundwater should consider monitoring provisions and the NSW State Government groundwater policies.

Copies of all Groundwater Investigations (Preliminary and Detailed) and the Remedial Action Plan for the site are to be submitted to the appropriate NSW State Government department 14 days prior to the commencement of works.

Groundwater shall be analysed for pH and any contaminants of concern identified during the preliminary or detailed site investigation, prior to discharge to the stormwater system. The analytical results must comply with relevant NSW State Government guidelines and standards for water quality.

Other options for the disposal of groundwater include disposal to sewer with prior approval from the Hunter Water Corporation, or off-site disposal by a liquid waste transporter for treatment/disposal to an appropriate waste treatment/processing facility.

Transport

All haulage routes for trucks transporting soil, materials, equipment or machinery to and from the site shall be selected to meet the following objectives:

- comply with all road traffic rules
- minimise noise, vibration and odour to adjacent premises
- utilise State Roads and minimise use of local roads.

Applicants may consult Council prior to selecting the most suitable transport route.

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Category 2 remediation work shall ensure that all site vehicles:

- conduct deliveries of soil, materials, equipment or machinery during the hours of remediation work identified above under **Hours of Operation**
- securely cover all loads to prevent any dust or odour emissions during transportation
- exit the site in a forward direction
- do not track soil, mud or sediment onto the road.

Hazardous Materials

Hazardous and/or liquid wastes arising from the remediation work shall be removed and disposed of in accordance with the requirements of the relevant NSW State Government agencies, together with the relevant regulations, namely:

- *Protection of the Environment Operations Act 1997* and Regulations
- *Occupational Health and Safety* Act *2000* and Regulations
- *Contaminated Land Management Act 1997* and Regulations
- *Environmentally Hazardous Chemicals Act 1985* and Regulations.

Disposal of Contaminated Soil

The disposal of contaminated soil shall have regard to the provision of both the *Protection of the Environment Operations Act 1997* and Regulations and relevant state agency waste guidelines.

Any queries associated with the off-site disposal of waste from a contaminated site should be referred to the appropriate NSW state government agency. If contaminated soil or other waste is transported to a site unlawfully, the owner of the waste and the transporter are both guilty of an offence.

Containment/Capping of Contaminated Soil

No contaminated soil shall be encapsulated or capped on the site that contains concentrations of contaminants that are above the soil investigation levels for urban development sites in NSW for the range of landuses permissible on the subject site. For example, a site zoned commerical/industrial shall not encapsulate or cap soil containing concentrations of contaminants above the 'commercial or industrial NEHF F health-based investigation levels'. The soil investigation levels for urban redevelopment in NSW are contained in Guidelines approved by the NSW State Government.

Note: Approval to cap contaminated soil which exceeds the soil investigation levels for the range of landuses permissible on the site can be sought through a development application to Council (category 1 remediation).

Importation of Fill

All fill imported on to the site shall be validated to ensure it is suitable for the proposed land use from a contamination perspective and will not impact adversely on the drainage of the site.

Council may require details of appropriate validation of imported fill material to be submitted with any application for future development of the site. Hence all fill imported onto the site should be validated by either one or both of the following methods during remediation works:

- imported fill should be accompanied by documentation from the supplier which certifies that the material has been excavated or quarried from areas that are not contaminated with manufactured chemicals or

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process residues, as a result of industrial, commercial, mining or agricultural activities, and that it does not contain any sulfidic ores or soils or any other waste

- sampling and analysis of the fill material conducted in accordance with the NSW State Government approved sampling design guidelines to ensure that the material is not contaminated.

Site Signage and Contact Numbers

A sign displaying the contact details of the remediation contractor (and site manager if different to remediation contractor) shall be displayed on the site adjacent to the site access. This sign shall be displayed throughout the duration of the remediation works.

Community Consultation

Owners and/or occupants of premises adjoining and across the road from the site shall be notified by the proponent at least two days prior to the commencement of category 2 remediation works.

Site Security

The site shall be secured to prevent unauthorised access by means of an appropriate fence.

Occupational Health & Safety

It is the employer's responsibility to ensure that all site remediation works comply with all Occupational Health and Safety and Construction Safety Regulations of the NSW WorkCover Authority.

Removal of Underground Storage Tanks

The removal of underground storage tanks shall be undertaken in accordance with the requirements of all relevant NSW State Government Agencies including WorkCover NSW. The tank removal shall be conducted in accordance with all relevant standards, guidelines, codes of practice and legislation including the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008*.

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6. Plan Making

Initial evaluation

Evaluation is to be based upon records held by Newcastle City Council that are readily accessible, and may also be based upon factual information gained from a site inspection. There is no requirement to research or consider records held by other agencies.

Matters to be considered include:

- whether the land is within an investigation area or remediation area
- whether the land is currently used for an activity listed in Part 8 – Potentially Contaminating Activities
- whether Council records show that an activity listed in Part 8 – Potentially Contaminating Activities has ever been carried out, approved, licensed or otherwise regulated on the land
- if a site inspection is held, whether there is any obvious evidence that the land may have been associated with an activity listed in Part 8 – Potentially Contaminating Activities

- whether the land has at any time been previously zoned for industrial, agricultural or defence purposes
- whether any Council records indicate that the use of the land has been restricted due to possible contamination (for example, notices issued under the *Contaminated Land Management Act 1997* by State Government Agencies that have been forwarded to the Council)
- whether any Council records indicate that the land has been the subject of complaints concerning pollution or illegal dumping of wastes
- whether the Council is aware of the results of previous investigations concerning contamination of the land
- whether the Council is aware of information concerning contamination impacts on immediately adjacent land which could affect the subject land.

Is a site investigation required?

Where a site investigation is required, it is to be carried out in accordance with the Contaminated Land Planning Guidelines.

Insufficient information on which to make a decision exists if there are significant gaps in historical information for a site, or if land uses are not described in sufficient detail to identify the presence or absence of uses listed in Part 8 - Potentially Contaminating Activities during periods in which such uses could be lawfully carried out.

Site investigation process

If contamination is or may be present, the site is to be the subject of a site investigation process. Please refer to Part 3 – Development Assessment for details pertaining to the site investigation process.

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7. Information Management

Record keeping

So as to facilitate the exercise of its planning functions generally in accordance with the Contaminated Land Planning Guidelines, the Council is to keep sufficient and appropriate records relating to the existence or likelihood of land contamination. Such records may include:

- previous property descriptions (for cross-referencing purposes)
- chronological land use history
- complaints about contamination or potentially contaminating activities and whether the complaints were substantiated
- information from any initial evaluations
- information from any site investigations, including preliminary investigation reports, detailed investigation reports, remedial action plans, validation and site monitoring reports or any other contamination assessment reports
- site audit statements and site audit reports

- notifications of remediation given under State Environmental Planning Policy No. 55 - Remediation of Land
- previous zones and permissible uses, particularly uses listed in Part 8 – Potentially Contaminating Activities
- rezoning requests, development consents and building approvals for uses listed in Part 8 -Potentially Contaminating Activities or where contamination was an issue
- rezoning requests, development applications and building applications that were refused on the basis of contamination-related issues
- declarations, orders and notices under the *Contaminated Land Management Act 1997* (where the Council has been informed by the Environment Protection Authority)
- voluntary investigation proposals and voluntary remediation proposals under the *Contaminated Land Management Act 1997* (where the Council has been informed by the Environment Protection Authority).

Supply of information

Information about land contamination held within the Council's records is to be supplied to the public only by the following means:

- by issuing Planning Certificates (upon application by any person, and subject to payment of the prescribed fee)
- by making the following documents identified on the Planning Certificates and held by the Council available for inspection (upon request by the holder of the Planning Certificate, free of charge):
  - site investigation reports (including preliminary investigation reports, detailed investigation reports, remedial action plans, validation and site monitoring reports) or any other contamination assessment reports prepared by consultants
  - site audit reports
  - site audit statements.
- by making the following documents held by the Council available for inspection (upon request by any person, free of charge):
  - the register of development applications and consents kept under clause 264 of the *Environmental Planning and Assessment Regulation 2000*
  - documents relating to development applications and development consents kept available for public inspection under clause 266 of the *Environmental Planning and Assessment Regulation 2000*
  - the record of approvals kept under section 113 of the *Local Government Act 1993*
  - business papers and minutes of council and committee meetings
  - other documents that may be inspected under section 12(1) of the *Local Government Act 1993.*
- by providing access to documents in accordance with the *Government Information (Public Access) Act 2009 (GIPA Act)*.

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Planning Certificates - prescribed information

This clause applies to the provision of information on planning certificates under section 149(2) of the EP&A Act, as prescribed by Schedule 4 of *the Environmental Planning and Assessment Regulation 2000* and section 59(2) of the *Contaminated Land Management Act 1997.*

The Council is to provide the following prescribed information:

- a statement that Council has by resolution adopted a policy to restrict development of the land because of the likelihood of the land being contaminated – if it is considered to be contaminated or potentially contaminated
- a statement that the land is significantly contaminated land - if it is within such an area or site at the date when the certificate is issued*

> Note: This disclosure relates to the matter "whether or not the council has adopted a policy to restrict the development of the land because of the likelihood of land slip, bushfire, flooding, tidal inundation subsidence, acid sulphate soils or any other risk". (Item 7 of Schedule 4, EP&A Regulation 2000).

- a statement that the land is subject to a management order - if it is subject to such an order at that date*
- a statement that the land is the subject of a voluntary management proposal or ongoing maintenance order that is subject to an agreement with the NSW State Government - if it is the subject of such a proposal or order which has not been fully carried out, at the date when the certificate is issued*
- a statement that the land is the subject of a site audit statement - if a copy of such a statement has been provided at any time to the Council.

*** Information provided only to the extent that the Council has been informed by the NSW State Government.**

Planning Certificates – additional information

This clause applies to the provision of additional information on planning certificates under section 149(5) of the EP&A Act.

Where an applicant for a Planning Certificate has requested (and paid for) additional information under section 149(5), the Council is to disclose the following information.

- If the Council is in possession of a site investigation report, site audit report, or any other contamination assessment report relating to the land:
  - a statement that the Council is in possession of any such report
  - details of the author, title and date of each report
  - whether or not the report or reports indicate that the land is affected by elevated concentrations of soil or groundwater contaminants, (and if so, whether any recommendations have been made regarding restrictions or special conditions over the use or development of the land)
  - a statement that the reports held by the Council may be examined upon request at the office of the Council
  - a statement that any person relying on the certificate is advised to examine and consider the contents of each report.

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- If the Council is in possession of records evidencing that a potentially contaminating activity may have been conducted on the land:
  - a statement that a potentially contaminating activity may have been conducted on the land
  - brief details of the known potentially contaminating activity
  - a statement that any person relying on the certificate is advised to make their own investigations as to whether the land is affected by elevated concentrations of soil or groundwater contaminants.
- If the Council is in possession of records evidencing that the land may be affected by soil or groundwater contaminant migration originating from nearby land:
  - a statement that the land may be affected by soil or groundwater contaminant migration originating from nearby land
  - brief details of the known possible source of soil or groundwater contaminant migration
  - a statement that any person relying on the certificate is advised to make their own investigations as to whether the land is affected by elevated concentrations of soil or groundwater contaminants.
- Details of the date, subject matter and informant of any notice of remediation work under State Environmental Planning Policy No. 55 - Remediation of Land - if any such notice has been received by the Council in relation to the land.

Note: It is the aim of Council to record all contaminated sites on the property information system and s149 certificates, however this is a very time consuming process which requires continual updating and review as land is subdivided and new potentially contaminating activities are commenced and discovered. Therefore, the lack of reference to contamination on a s149 certificate should not be taken as an assurance that the site is not contaminated.

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8. Potentially Contaminating Activities

- acid or alkali plant and formulation
- agricultural or horticultural activities
- airports
- asbestos production and disposal
- chemicals manufacture and formulation
- defence works
- drum reconditioning works
- dry cleaning establishments
- electrical manufacturing (transformers)
- electroplating and heat treatment processes
- engine works
- explosives industry
- gas works

- iron and steel works
- landfill sites
- metal treatment
- mining and extractive industries
- oil production and storage
- paint formulation and manufacture
- pesticide manufacture and formulation
- power stations
- railway yards
- scrap yards
- service stations
- sheep and cattle dips
- smelting and refining
- tanning and associated trades
- waste storage and treatment
- wood preservation
- other activities that the Council considers to be a potentially contaminating activity.

Source: Based on Table 1 in Department of Urban Affairs and Planning and Environment Protection Authority (1998) Managing Land Contamination: Planning Guidelines, DUAP, Sydney.

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9. Sources of Site History Information

- Past aerial photographs
- Council records - town planning, development and building applications, complaints, pollution incident reports
- local historical publications
- current and previous site owners
- current and previous site workers
- long-term residents
- past and present telephone books
- Noxious Trades Act register of Noxious Trades
- NSW Environment Protection Authority Section 35 Notices, past and present scheduled premises, unhealthy building land
- Hunter Water Corporation Trade Waste Agreements

- WorkCover Authority Dangerous Goods Branch
- Energy Australia sites containing present and past electrical substations.

Source: Adapted from SSROC (1999) Model Policy on Contaminated Land.

10. References

These references include both current and superseded references on which the policy was made.

- *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites 1992* (Australia and New Zealand Environment Conservation Council and National Health and Medical Research Council)
- *Code of Practice The Removal and Disposal of Underground Petroleum Storage Tanks AIP CP22 -1994* (Australian Institute of Petroleum)
- *Contaminated Land Management Act 1997* and Regulations
- *Contaminated Land Management Technical Manual 13*
- *Contaminated Sites: Guidelines for Assessing Service Station Sites 1994* (EPA)
- *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme 1998* (EPA)
- *Contaminated Sites: Sampling Design Guidelines 1995* (EPA)
- *Draft Noise Guide for Local Government 2002* (EPA)
- *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes 1999* (EPA)
- *Environmentally Hazardous Chemicals Act 1985* and Regulations
- *Environmental Criteria for Road Traffic Noise 1999* (EPA)
- *Environmental Guidelines: Solid Waste Landfills 1996* (EPA)
- *Environmental Noise Control Manual* (EPA)
- *Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report 1999* (EPA)
- *Government Information (Public Access) Act 2009 (GIPA Act).*
- *Guidelines for Consultants Reporting on Contaminated Sites 1997* (EPA)
- *Interim Construction Noise Guideline 2009* (NSW DECC)
- *Managing Land Contamination: Planning Guidelines SEPP55 - Remediation of Land 1998* (DUAP and EPA)
- *Managing Urban Stormwater: Soils and Construction 4th Edition - Vol. 1* (the "Blue Book") published by Landcom, 2004
- *Model Policy on Contaminated Land 1999* (SSROC)
- *NSW Industrial Noise Policy 2000* (EPA)
- *Occupational Health and Safety Act 2000* and Regulations

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- *Preparing an Erosion and Sediment Control Plan* (Department of Land and Water Conservation)
- *Protection of the Environment Operations Act 1997* and Regulations
- *State Environmental Planning Policy No. 55 - Remediation of Land 1998* (NSW Government)
- *Waste Classification Guidelines* (NSW DECC).

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APPENDIX C: RMS UNEXPECTED HERITAGE ITEMS PROCEDURE

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Transport Roads & Maritime Services

Unexpected Heritage Items

Heritage Procedure 02

November 2015

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Please note

This procedure applies to all development and activities concerning roads, road infrastructure and road related assets undertaken by Roads and Maritime.

For advice on how to manage unexpected heritage items as a result of activities related to maritime infrastructure projects, please contact the Senior Environmental Specialist (Heritage).

1 Purpose

This procedure has been developed to provide a consistent method for managing unexpected heritage items (both Aboriginal and non-Aboriginal) that are discovered during Roads and Maritime activities. This procedure includes Roads and Maritime's heritage notification obligations under the *Heritage Act 1977* (NSW), *National Parks and Wildlife Act 1974* (NSW), A*boriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and the *Coroner's Act 2009* (NSW).

This document provides relevant background information in Section 3, followed by the technical procedure in Sections 6 and 7. Associated guidance referred to in the procedure can be found in Appendices A-H.

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2 Scope

This procedure assumes that an appropriate level of Aboriginal and non-Aboriginal heritage assessment has been completed before work commences on site. In some cases, such as exempt development, detailed heritage assessment may not be required.

Despite appropriate and adequate investigation, unexpected heritage items may still be discovered during maintenance and construction works. When this happens, this procedure must be followed. This procedure provides direction on when to stop work, where to seek technical advice and how to notify the regulator, if required.

This procedure applies to all Road and Maritime construction and maintenance activities

This procedure **applies to**:

- The discovery of any unexpected heritage item (usually during construction), where Roads and Maritime does not have approval to disturb the item or where safeguards for managing the disturbance (apart from this procedure) are not contained in the environmental impact assessment.
- All Roads and Maritime projects that are approved or determined under Part 3A (including Transitional Part 3A Projects), Part 4, Part 5 or Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), or any development that is exempt under the Act.

This procedure must be followed by Roads and Maritime staff, alliance partners (including local council staff working under Road Maintenance Council Contracts, [RMCC]), developers under works authorisation deeds or any person undertaking Part 5 assessment for Roads and Maritime.

This procedure **does not** apply to:

- The legal discovery and disturbance of heritage items as a result of investigations being undertaken in accordance with OEH's *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (2010); an Aboriginal Heritage Impact Permit (AHIP) issued under the *National Parks and Wildlife Act 1974*; or an approval issued under the *Heritage Act 1977*[1].
- The legal discovery and disturbance of heritage items as a result of investigations (or other activities) that are required to be carried out for the purpose of complying with any environmental assessment requirements under Part 3A (including Transitional Part 3A Projects) or Part 5.1 of the EP&A Act.
- The legal discovery and disturbance of heritage items as a result of construction related activities, where the disturbance is permissible in accordance with an AHIP[2]; an approval issued under the *Heritage Act 1977*; the Minister for Planning's conditions of project approval; or safeguards (apart from

[1] RMS' heritage obligations are incorporated into the conditions of heritage approvals.

[2] RMS *Procedure for Aboriginal cultural heritage consultation and investigation* (2011) recommends that Part 4 and Part 5 projects that are likely to impact Aboriginal objects during construction seek a whole-of-project AHIP. This type of AHIP generally allows a project to impact known and potential Aboriginal objects within the entire project area, without the need to stop works. It should be noted that an AHIP may exclude impact to certain objects and areas, such as burials or ceremonial sites. In such cases, the project must follow this procedure.

this procedure) that are contained in the relevant environmental impact assessment.

All construction environment management plans (CEMPs) must make reference to and/or include this procedure (often included as a heritage sub-plan). Where approved CEMPs exist they must be followed in the first instance. Where there is a difference between approved CEMPs and this procedure, the approved CEMP must be followed. Where an approved CEMP does not provide sufficient detail on particular issues, this procedure should be used as additional guidance. When in doubt always seek environment and legal advice on varying approved CEMPs.

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3 Types of unexpected heritage items and their legal protection

The roles of project, field and environmental staff are critical to the early identification and protection of unexpected heritage items. **Appendix A** illustrates the wide range of heritage discoveries found on Roads and Maritime projects and provides a useful photographic guide. Subsequent confirmation of heritage discoveries must then be identified and assessed by technical specialists (usually an archaeologist).

An 'unexpected heritage item' means any unanticipated discovery of an actual or potential heritage item, for which Roads and Maritime does not have approval to disturb[3] or does not have a safeguard in place (apart from this procedure) to manage the disturbance.

These discoveries are categorised as either:

(a) Aboriginal objects

(b) Historic (non-Aboriginal) heritage items

(c) Human skeletal remains.

The relevant legislation that applies to each of these categories is described below.

3.1 Aboriginal objects

The *National Park and Wildlife Act 1974* protects *Aboriginal objects* which are defined as:

"*any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non Aboriginal extraction, and includes Aboriginal remains*"[4].

Examples of Aboriginal objects include stone tool artefacts, shell middens, axe grinding grooves, pigment or engraved rock art, burials and scarred trees.

IMPORTANT!

<u>All</u> Aboriginal objects, regardless of significance, are protected under law.

If any impact is expected to an Aboriginal object, an Aboriginal Heritage Impact Permit (AHIP) is usually required from the Office of Environment and Heritage (OEH)[5]. Also, when a person becomes aware of an Aboriginal object they must notify

[3] Disturbance is considered to be any physical interference with the item that results in it being destroyed, defaced, damaged, harmed, impacted or altered in any way (this includes archaeological investigation activities).
[4] Section 5(1) *National Park and Wildlife Act 1974*.
[5] Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the *EP&A Act* applies.

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the Director-General of OEH about its location[6]. Assistance on how to do this is provided in Section 7 (Step 5).

3.2 Historic heritage items

Historic (non-Aboriginal) heritage items may include:

- Archaeological 'relics'
- Other historic items (i.e. works, structures, buildings or movable objects).

3.2.1 Archaeological relics

The *Heritage Act 1977* protects *relics* which are defined as:

"*any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance*"[7].

Relics are archaeological items of local or state significance which may relate to past domestic, industrial or agricultural activities in NSW, and can include bottles, remnants of clothing, pottery, building materials and general refuse.

IMPORTANT!

All relics are subject to statutory controls and protections.

If a relic is likely to be disturbed, a heritage approval is usually required from the NSW Heritage Council[8]. Also, when a person discovers a relic they must notify the NSW Heritage Council of its location[9]. Advice on how to do this is provided in Section 7 (Step 5).

3.2.2 Other historic items

Some historic heritage items are not considered to be 'relics'; but are instead referred to as works, buildings, structures or movable objects. Examples of these items that Roads and Maritime may encounter include culverts, historic road formations, historic pavements, buried roads, retaining walls, tramlines, cisterns, fences, sheds, buildings and conduits. Although an approval under the *Heritage Act 1977* (NSW) may not be required to disturb these items, their discovery must be managed in accordance with this procedure.

As a general rule, an archaeological relic requires discovery or examination through the act of excavation. An archaeological excavation permit under Section 140 of the Heritage Act is required to do this. In contrast, 'other historic items' either exist above the ground's surface (e.g. a shed), or they are designed to operate and exist beneath the ground's surface (e.g. a culvert).

[6] This is required under s89(A) of the *National Park and Wildlife Act 1974* (NSW) and applies to **all projects** assessed under Part 3A, Part 4, Part 5 and Part 5.1 of the *EP&A Act*, including exempt development.

[7] Section 4(1) *Heritage Act 1977*.

[8] Except when Part 3A, Division 4.1 of Part 4 or Part 5.1 of the *EP&A Act* applies.

[9] This is required under s146 of the *Heritage Act 1977* and applies to **all projects** assessed under Part 3A, Part 4, Part 5 and Part 5.1 of the *EP&A Act*, including exempt development.

Despite this difference, it should be remembered that relics can often be associated with 'other heritage items', such as archaeological deposits within cisterns and underfloor deposits under buildings.

3.3 Human skeletal remains

Human skeletal remains can be classed as:

- Reportable deaths
- Aboriginal objects
- Relics

Where it is suspected that less than 100 years has elapsed since death, human skeletal remains come under the jurisdiction of the State Coroner and the *Coroners Act* 2009 (NSW). Under s 35(2) of the Act, a person must report the death to a police officer, a coroner or an assistant coroner as soon as possible. This applies to all human remains less than 100 years old[10] regardless of ancestry. Public health controls may also apply.

Where remains are suspected of being more than 100 years old, they are considered to be either Aboriginal objects or non-Aboriginal relics depending on the ancestry of the individual. Aboriginal human remains are protected under the *National Parks and Wildlife Act 1974*, while non-Aboriginal remains are protected under the *Heritage Act 1977*.

The approval and notification requirements of these Acts are described above in sections 3.1 and 3.2. Additionally, the discovery of Aboriginal human remains also triggers notification requirements to the Commonwealth Minister for the Environment under s 20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

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IMPORTANT!

<u>All</u> human skeletal remains are subject to statutory controls and protections.

All bones must be treated as potential human skeletal remains and work around them must stop while they are protected and investigated urgently.

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Guidance on what to do when suspected human remains are found is in **Appendix E**.

[10] Under s 19 of the *Coroners Act 2009*, the coroner has no jurisdiction to conduct an inquest into reportable death unless it appears to the coroner that (or that there is reasonable cause to suspect that) the death or suspected death occurred within the last 100 years.

4 Responsibilities

The following roles and responsibilities are relevant to this procedure:

Role	Definition/responsibility
Aboriginal Cultural Heritage Advisor (ACHA)	Provides Aboriginal cultural heritage advice to project teams. Acts as Aboriginal community liaison for projects on cultural heritage matters. Engages and consults with the Aboriginal community as per the Roads and Maritime *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.
Aboriginal Sites Officer (ASO)	Is an appropriately trained and skilled Aboriginal person whose role is to identify and assess Aboriginal objects and cultural values. For details on engaging Aboriginal Sites Officers, refer to Roads and Maritime *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.
Archaeologist (A)	Professional consultant, contracted on a case-by-case basis to provide heritage and archaeological advice and technical services (such as reports, heritage approval documentation etc). Major projects with complex heritage issues often have an on call Project archaeologist.
Project Manager (PM)	Ensures all aspects of this procedure are implemented. The PM can delegate specific tasks to a construction environment manager, Roads and Maritime site representatives or regional environment staff, where appropriate.
Regional Environment Staff (RES)	Provides advice on this procedure to project teams. Ensuring this procedure is implemented consistently by supporting the PM. Supporting project teams during the uncovering of unexpected finds. Reviewing archaeological management plans and liaising with heritage staff and archaeological consultants as needed.
Registered Aboriginal Parties (RAPs)	RAPs are Aboriginal people who have registered with Roads and Maritime to be consulted about a proposed Roads and Maritime project or activity in accordance with OEH's Aboriginal cultural heritage consultation requirements for proponents (2010).
Senior Environmental Specialist (Heritage) (SES(H))	Provides technical assistance on this procedure and archaeological technical matters, as required. Reviewing the archaeological management plans and facilitating heritage approval applications, where required. Assists with regulator engagement, where required.
Team Leader - Regional Maintenance Delivery (TL-RMD)	Ensures Regional Maintenance Delivery staff stop work in the vicinity of an unexpected heritage item. Completes Unexpected Heritage Item Recording Form 418 and notifies WS-RMD.
Technical Specialist	Professional consultant contracted to provide specific technical advice that relates to the specific type of unexpected heritage find (eg a forensic or physical anthropologist who can identify and analyse human skeletal

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	remains).
Works Supervisor - Regional Maintenance Delivery (WS-RMD)	Ensures Regional Maintenance Delivery staff are aware of this procedure. Supports the Team Leader - Regional Maintenance Delivery during the implementation of this procedure and ensures reporting of unexpected heritage items through environment management systems.

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5 Acronyms

The following acronyms are relevant to this procedure:

Acronym	Meaning
A	Archaeologist
ACHA	Aboriginal Cultural Heritage Advisor
AHIP	Aboriginal Heritage Impact Permit
ASO	Aboriginal Site Officer
CEMP	Construction Environment Management Plan
OEH	Office of Environment and Heritage.
PACHCI	Procedure for Aboriginal Cultural Heritage Consultation and Investigation
PM	Project Manager
RAP	Registered Aboriginal Parties
RES	Regional Environmental Staff
SES(H)	Senior Environmental Specialist (Heritage)
TL-RMD	Team Leader – Regional Maintenance Division
RMD	Regional Maintenance Delivery
RMS	Roads and Maritime
WS-RMD	Works Supervisor - Regional Maintenance Division

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6 Overview of the Procedure

On discovering something that could be an unexpected heritage item ('the item'), the following procedure must be followed. There are eight steps in the procedure. These steps are summarised in **Figure 1** below and explained in detail in Section 7.

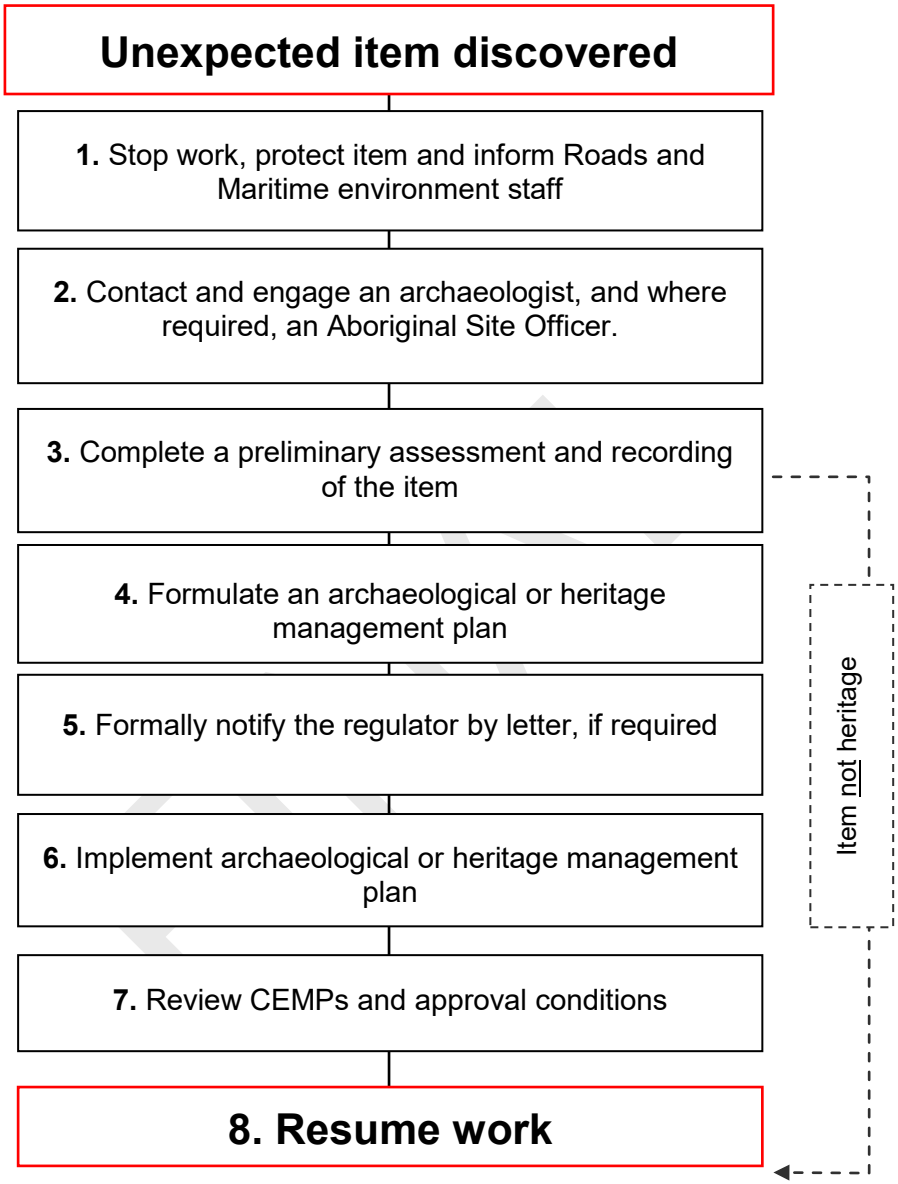

Figure 1: Overview of steps to be undertaken on the discovery of an unexpected heritage item.

IMPORTANT!

RMS may have approval or specific safeguards in place (apart from this procedure) to impact on certain heritage items during construction. If you discover a heritage item and you are unsure whether an approval or safeguard is in place, STOP works and follow this procedure.

7 Unexpected heritage items procedure

Table 1: Specific tasks to be implemented following the discovery of an unexpected heritage item.

Aboriginal Cultural Heritage Advisor (ACHA); Aboriginal Sites Officer (ASO); Archaeologist (A); Project Manager (PM); Regional Environment Staff (RES); Registered Aboriginal Parties (RAPs); Senior Environmental Specialist (Heritage) (SES(H)); Team leader – Roads and Maintenance Division (TL - RMD); Works supervisor – Roads and Maintenance Division (WS - RMD).

Step	Task	Responsibility	Guidance & Tools
1	**Stop work, protect item and inform Roads and Maritime environment staff**		
1.1	Stop all work in the immediate area of the item and notify the Project Manager or Team Leader-RMD. (For maintenance activities, the Team Leader is to also notify the Works Supervisor-RMD)	All	**Appendix A** (Identifying Unexpected Heritage items)
1.2	Establish a 'no-go zone' around the item. Use high visibility fencing, where practical.	PM or TL-RMD	
1.3	Inform all site personnel about the no-go zone. No further interference, including works, ground disturbance, touching or moving the item must occur within the no-go zone.	PM or TL-RMD	
1.4	Inspect, document and photograph the item using 'Unexpected Heritage Item Recording Form 418'.	PM or TL-RMD	**Appendix B** (Unexpected Heritage Item Recording Form 418) **Appendix C** (Photographing Unexpected Heritage items)

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Step	Task	Responsibility	Guidance & Tools
1.5	Is the item likely to be bone? If **yes**, follow the steps in Appendix E – 'Uncovering bones'. Where it is obvious that the bones are human remains, you must notify the local police by telephone immediately. They may take command of all or part of the site. If **no**, proceed to next step.	PM or WS-RMD	**Appendix E** (Uncovering Bones)
1.6	Is the item likely to be: a) A relic? (A relic is evidence of past human activity which has local or state heritage significance. It may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse) and/or b) An Aboriginal object? (An Aboriginal object may include a shell midden, stone tools, bones, rock art or a scarred tree). If **yes**, proceed directly to Step 1.8 If **no**, proceed to next step.	PM or WS-RMD	**Appendix A** (Identifying heritage items)
1.7	Is the item likely to be a "work", building or standing structure? (This may include tram tracks, kerbing, historic road pavement, fences, sheds or building foundations). If **yes**, can works avoid further disturbance to the item? (E.g. if historic road base/tram tracks have been exposed, can they be left in place?) If **yes**, works may proceed without further disturbance to the item. Complete Step 1.8 within 24 hours. If works cannot avoid further disturbance to the item, works must not recommence at this time. Complete the remaining steps in this procedure.	PM or WS-RMD	**Appendix A** (Identifying heritage items)

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Step	Task	Responsibility	Guidance & Tools
1.8	Inform relevant Roads and Maritime Regional Environmental Staff of item by providing them with the completed 'Form 418'.	PM or WS-RMD (RES)	**Appendix D** (Key Environmental Contacts)
1.9	Regional Environmental Staff to advise Project Manager or Works Supervisor whether RMS has an approval or safeguard in place (apart from this procedure) to impact on the 'item'. (An approval may include an approval under the *Heritage Act*, the *National Parks and Wildlife Act* or the *Planning and Assessment Act*). Does RMS have an approval, permit or appropriate safeguard in place to impact on the item? If **yes**, work may recommence in accordance with the approval, permit or safeguard. There is no further requirement to follow this procedure. If **no**, continue to next step.		
1.10	Liaise with Traffic Management Centre where the delay is likely to affect traffic flow.	PM or WS-RMD	
1.11	Report the item as a 'Reportable Event' in accordance with the Roads and Maritime *Environmental Incident Classification and Reporting Procedure*. Implement any additional reporting requirements related to the project's approval and CEMP, where relevant.	PM or WS-RMD	RMS Environmental Incident Classification and Reporting Procedure
2	**Contact and engage an archaeologist and, where required, an Aboriginal site officer**		
2.1	Contact the Project (on-call) Archaeologist to discuss the location and extent of the item and to arrange a site inspection, if required. The project CEMP may contain contact details of the Project Archaeologist. OR	PM or WS-RMD (A; RES; SES(H))	Also see **Appendix D** (Key Environmental Contacts)

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Step	Task	Responsibility	Guidance & Tools
	Where there is no project archaeologist engaged for the works, engage a suitably qualified and experienced archaeological consultant to assess the find. A list of heritage consultants is available on the RMS contractor panels on the Buyways homepage. Regional environment staff and Roads and Maritime heritage staff can also advise on appropriate consultants.		Buyways
2.2	Where the item is likely to be an Aboriginal object, speak with your Aboriginal Cultural Heritage Advisor to arrange for an Aboriginal Sites Officer to assess the find. Generally, an Aboriginal Sites Officer would be from the relevant local Aboriginal land council. If an alternative contact person (ie a RAP) has been nominated as a result of previous consultation, then that person is to be contacted.	PM or WS-RMD (ACHA; ASO)	
2.3	If requested, provide photographs of the item taken at Step 1.4 to the archaeologist, and Aboriginal Sites Officer if relevant.	PM or WS-RMD (RES)	**Appendix C** (Photographing Unexpected Heritage items)
3	**Preliminary assessment and recording of the find**		
3.1	In a minority of cases, the archaeologist (and Aboriginal Sites Officer, if relevant) may determine from the photographs that no site inspection is required because no archaeological constraint exists for the project (*eg the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'*). Any such advice should be provided in writing (eg via email) and confirmed by the Project Manager or Works Supervisor - RMD.	A/PM/ASO/ WS-RMD	Proceed to Step 8
3.2	Arrange site access for the archaeologist (and Aboriginal Sites Officer, if relevant) to inspect the item as soon as practicable. In the majority of cases a site inspection is required to conduct a preliminary assessment.	PM or WS-RMD	
3.3	Subject to the archaeologist's assessment (and the Aboriginal Sites Officer's assessment, if relevant), work may recommence at a set distance from the item. This is to protect any other archaeological material that may exist in the vicinity, which has not yet been uncovered. Existing protective fencing established in Step 1.2 may need to be adjusted to	A/PM/ASO/ WS-RMD	

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Step	Task	Responsibility	Guidance & Tools
	reflect the extent of the newly assessed protective area. No works are to take place within this area once established.		
3.4	The archaeologist (and Aboriginal Sites Officer, if relevant) may provide advice after the site inspection and preliminary assessment that no archaeological constraint exists for the project (*eg the item is not a 'relic', a 'heritage item' or an 'Aboriginal object'*). Any such advice should be provided in writing (eg via email) and confirmed by the Project Manager or Works Supervisor - RMD.	A/PM/ASO/ WS-RMD	Proceed to Step 8
3.5	Where required, seek additional specialist technical advice (such as a forensic or physical anthropologist to identify skeletal remains). Regional environment staff and/or Roads and Maritime heritage staff can provide contacts for such specialist consultants.	RES/SES(H)	**Appendix D** (Key Environmental Contacts)
3.6	Where the item has been identified as a 'relic', 'heritage item' or an 'Aboriginal object' the archaeologist should formally record the item.	A	
3.7	The regulator can be notified informally by telephone at this stage by the archaeologist, Project Manager (or delegate) or Works Supervisor - RMD. Any verbal conversations with regulators must be noted on the project file for future reference.	PM/A/WS-RMD	
4	**Prepare an archaeological or heritage management plan**		
4.1	The archaeologist must prepare an archaeological or heritage management plan (with input from the Aboriginal Sites Officer, where relevant) shortly after the site inspection. This plan is a brief overview of the following: (a) description of the feature, (b) historic context, if data is easily accessible, (c) likely significance, (d) heritage approval and regulatory notification requirements, (e) heritage reporting requirements, (f) stakeholder consultation requirements, (g) relevance to other project approvals and management plans etc.	A/ASO	**Appendix F** (Archaeological/ Heritage Advice Checklist)
4.2	In preparing the plan, the archaeologist with the assistance of regional environment staff must review the CEMP, any heritage sub-plans, any conditions of heritage approvals, conditions of project approval (and or Minister's Conditions of Approval) and heritage assessment documentation (eg Aboriginal Cultural Heritage Assessment Report). This will outline if the unexpected item is consistent with previous heritage/project approval(s)	A/RES/PM	**Appendix F** (Archaeological/ Heritage Advice Checklist)

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Step	Task	Responsibility	Guidance & Tools
	and/or previously agreed management strategies. The Project Manager and regional environment staff must provide all relevant documents to the archaeologist to assist with this. Discussions should occur with design engineers to consider if re-design options exist and are appropriate.		
4.3	The archaeologist must submit this plan as a letter, brief report or email to the Project Manager outlining all relevant archaeological or heritage issues. This plan should be submitted to the Project Manager as soon as practicable. Given that the archaeological management plan is an overview of all the necessary requirements (and the urgency of the situation), it should take no longer than two working days to submit to the Project Manager.	A	
4.4	The Project Manager or Works Supervisor must review the archaeological or heritage management plan to ensure all requirements can reasonably be implemented. Seek additional advice from regional environment staff and Roads and Maritime heritage staff, if required.	PM/RES/SES(H)/ WS-RMD	
5	**Notify the regulator, if required.**		
5.1	Review the archaeological or heritage management plan to confirm if regulator notification is required. Is notification required? If **no**, proceed directly to Step 6 If **yes**, proceed to next step.	PM/RES/SES(H)/ WS-RMD	
5.2	If notification is required, complete the template notification letter.	PM or WS-RMD	**Appendix G** (Template Notification Letter)
5.3	Forward the draft notification letter, archaeological or heritage management plan and the site recording form to regional environment staff and Senior Environmental Specialist (Heritage) for review, and consider any suggested amendments.	PM/RES/SES(H)/ WS-RMD	

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Step	Task	Responsibility	Guidance & Tools
5.4	Forward the signed notification letter to the relevant regulator (ie notification of relics must be given to the Heritage Division, Office of Environment and Heritage (OEH), while notification for Aboriginal objects must be given to the relevant Aboriginal section of OEH). Informal notification (via a phone call or email) to the regulator prior to sending the letter is appropriate. The archaeological management plan and the completed site recording form must be submitted with the notification letter. For Part 3A and Part 5.1 projects, the Department of Planning and Environment must also be notified.	PM or WS-RMD	**Appendix D** (Key Environmental Contacts)
5.5	A copy of the final signed notification letter, archaeological or heritage management plan and the site recording form should be kept on file by the Project Manager or Works Supervisor- RMD and a copy sent to the Senior Environmental Specialist (Heritage).	PM or WS-RMD	
6	**Implement archaeological or heritage management plan**		
6.1	Modify the archaeological or heritage management plan to take into account any additional advice resulting from notification and discussions with the regulator.	A/PM or WS-RMD (RES)	
6.2	Implement the archaeological or heritage management plan. Where impact is expected, this would include such things as a formal assessment of significance and heritage impact assessment, preparation of excavation or recording methodologies, consultation with registered Aboriginal parties, obtaining heritage approvals etc, if required.	PM or WS-RMD (RAPs and RES)	PACHCI Stage 3
6.3	Where heritage approval is required contact regional environment staff for further advice and support material. Please note time constraints associated with heritage approval preparation and processing. Project scheduling may need to be revised where extensive delays are expected.	PM/RES/WS-RMD	
6.4	For Part 3A/Part 5.1 projects, assess whether heritage impact is consistent with the project approval or if project approval modification is required from the Department of Planning and Environment. Seek advice from regional environment staff and Environment Branch specialist staff if unsure.	PM/RES	

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Step	Task	Responsibility	Guidance & Tools
6.5	Where statutory approvals (or project approval modification) are required, impact upon relics and/or Aboriginal objects must not occur until heritage approvals are issued by the appropriate regulator.	PM or WS-RMD	
6.6	Where statutory approval (or Part 3A/Part 5.1 project modification) is not required and where recording is recommended by the archaeologist, sufficient time must be allowed for this to occur.	PM or WS-RMD	
6.7	Ensure short term and permanent storage locations are identified for archaeological material or other heritage material is removed from site, where required. Interested third parties (eg museums or local councils) should be consulted on this issue. Contact regional environment staff and Senior Environmental Specialist (Heritage) for advice on this matter, if required.	PM or WS-RMD	
7	**Review CEMPs and approval conditions**		
7.1	Check whether written notification is required to be sent to the regulator before re-commencing work. Where this is not explicit in heritage approval conditions, expectations should be clarified directly with the regulator.	PM	
7.2	Update the CEMP, site mapping and project delivery program as appropriate with any project changes resulting from final heritage management (eg retention of heritage item, salvage of item). Updated CEMPs must incorporate additional conditions arising from any heritage approvals, and Aboriginal community consultation if relevant. Include any changes to CEMP in site induction material and update site workers during toolbox talks.	PM	
8	**Resume work**		
8.1	Seek written clearance to resume project work from regional environment staff and the archaeologist (and regulator, if required). Clearance would only be given once all archaeological excavation and/or heritage recommendations (where required) are complete. Resumption of project work must be in accordance with the all relevant project/heritage approvals/determinations.	RES/A/PM/WS-RMD	
8.2	If required, ensure archaeological excavation/heritage reporting and other heritage	PM/A/WS-RMD	

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Step	Task	Responsibility	Guidance & Tools
	approval conditions are completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies.		
8.3	Forward all heritage/archaeological assessments, heritage location data and its ownership status to the Senior Environmental Specialist (Heritage). They will ensure all heritage items in Roads and Maritime ownership and/or control are considered for the Roads and Maritime S170 Heritage and Conservation Register.	PM/SES(H)/ WS-RMD	
8.4	If additional unexpected items are discovered this procedure must begin again from Step 1.	PM/TL-RMD	

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8 Seeking advice

Advice on this procedure should be sought from Roads and Maritime regional environment staff in the first instance. Contractors and alliance partners should ensure their own project environment managers are aware of and understand this procedure. Regional environment staff can assist non-Roads and Maritime project environment managers with enquires concerning this procedure.

IMPORTANT!

Roads and Maritime Services staff and contractors are not to seek advice on this procedure directly from the Office of Environment and Heritage without first seeking advice from regional environment staff and heritage policy staff.

Technical archaeological or heritage advice regarding an unexpected heritage item should be sought from the contracted archaeologist. Technical specialist advice can also be sought from heritage policy staff within Environment Branch to assist with the preliminary archaeological identification and technical reviews of heritage/archaeological reports.

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9 Related information

Contact details: Senior Environmental Specialist (Heritage), Environment Branch, 02 8588 5754

Effective date: 01 February 2015

Review date: 01 February 2016

This procedure should be read in conjunction with:

- Roads and Maritimes' *Heritage Guidelines 2015.*
- Roads and Maritime Services *Environmental Incident Classification and Reporting Procedure*
- Roads and Maritime's *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*
- RTA *Environmental Impact Assessment Guidelines.*

This procedure replaces:

- Procedure 5.5 ("*unexpected discovery of an archaeological relic or Aboriginal object*") outlined in the RTA's *Heritage Guidelines* 2004.

Other relevant reading material:

- NSW Heritage Office (1998), *Skeletal remains: guidelines for the management of human skeletal remains.*
- Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal remains.*
- Department of Health (April 2008), *Policy Directive: Burials - exhumation of human remains*[11].

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[11] http://www.health.nsw.gov.au/policies/pd/2008/pdf/PD2008_022.pdf

Appendix A

Identifying Unexpected Heritage Items

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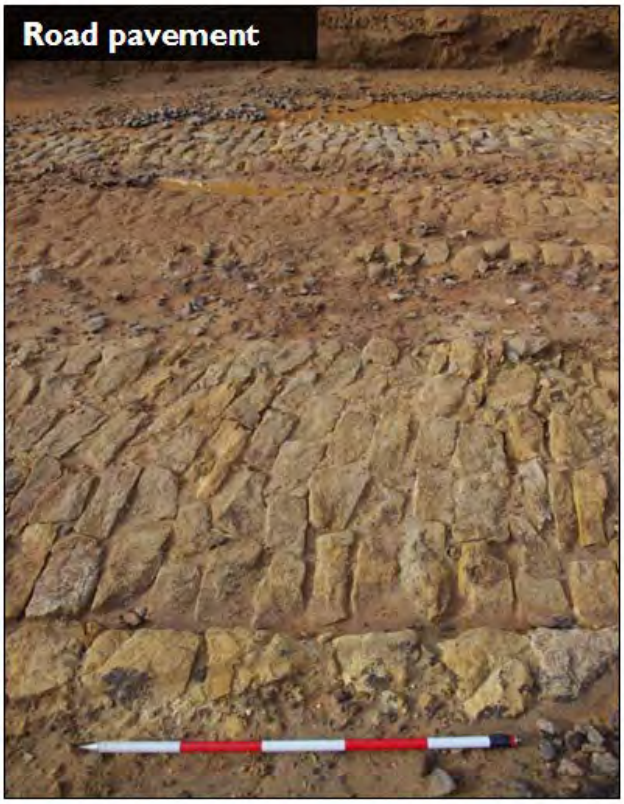
The following images can be used to assist in the preliminary identification of potential unexpected items (both Aboriginal and non-Aboriginal) during construction and maintenance works. Please note this is not a comprehensive typology.

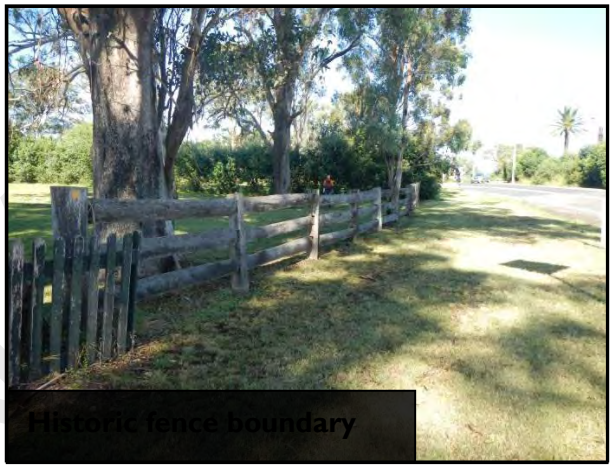
Top left hand picture continuing clockwise: Stock camp remnants (Hume Highway Bypass at Tarcutta); Linear archaeological feature with post holes (Hume Highway Duplication), Animal bones (Hume Highway Bypass at Woomargama); Cut wooden stake; Glass jars, bottles, spoon and fork recovered from refuse pit associated with a Newcastle Hotel (Pacific Highway, Adamstown Heights, Newcastle area).

Top left hand picture continuing clockwise: Woodstave water pipe with tar and wire sealing (Horsley Drive); Tram tracks (Sydney); Brick lined cistern (Clyde); Retaining wall (Great Western Highway, Leura).



Top left hand picture continuing clockwise: Road pavement (Great Western Highway, Lawson); Sandstone kerbing and guttering (Parramatta Road, Mays Hill); Telford road (sandstone road base, Great Western Highway, Leura); Ceramic conduit and sandstone culvert headwall (Blue Mountains, NSW); Corduroy road (timber road base, Entrance Road, Wamberai).

Top left hand corner continuing clockwise: Alignment Pin (Great Western Highway, Wentworth Falls); Survey tree (MR7, Albury); Survey tree (Kidman Way, Darlington Point, Murrumbidgee); Survey tree (Cobb Highway, Deniliquin); Milestone (Great Western Highway, Kingswood, Penrith); Alignment Stone (near Guntawong Road, Riverstone). Please note survey marks may have additional statutory protection under the *Surveying and Spatial Information Act 2002*.



Top left hand corner continuing clockwise: Remnant bridge piers (Putty Road, Bulga); Wooden boundary fence (Campbelltown Road, Denham Court); Dairy shed (Ballina); Golden Arrow Mine Shaft.

Top left hand corner: Culturally modified stone discovered on Main Road 92, about two kilometres west of Sassafras. The remaining images show a selection of stone

artefacts retrieved from test and salvage archaeological excavations during the Hume Highway Duplication and Bypass projects from 2006-2010.

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Appendix B

Unexpected Heritage Item Recording Form 418

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Unexpected heritage item recording form

Date:		**Recorded by:** (Include name and position)	
Project name:			
Description of works being undertaken (eg Removal of failed pavement by excavation and pouring concrete slabs in 1m x 1m replacement sections).			
Description of exact location of item (eg Within the road formation on Parramatta Road, east bound lane, at the corner of Johnston Street, Annandale, Sydney).			
Description of item found (What type of item is it likely to be? Tick the relevant boxes).			
A. A relic	☐	A 'relic' is evidence of a past human activity relating to the settlement of NSW with local or state heritage significance. A relic might include bottles, utensils, plates, cups, household items, tools, implements, and similar items.	
B. A 'work, building or structure'	☐	A 'work' can generally be defined as a form infrastructure such as tram tracks, a culvert, road base, a bridge pier, kerbing, and similar items.	
C. An Aboriginal object	☐	An 'Aboriginal object' may include stone tools, stone flakes, shell middens, rock art, scarred trees and human bones.	
D. Bone	☐	Bones can either be human or animal remains. **Remember that you must contact the local police immediately by telephone if you are <u>certain</u> that the bone(s) are <u>human remains</u>.**	
E. Other	☐		

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Provide short description of item (eg Metal tram tracks running parallel to road alignment. Good condition. Tracks set in concrete, approximately 10cms (100 mm) below the current ground surface).	

Sketch
(Provide a sketch of the item's general location in relation to other road features so its approximate location can be mapped without having to re-excavate it. In addition, please include details of the location and direction of any photographs of the item taken).

Action taken (Tick either A *or* B)

A. Unexpected item **would not** be further impacted on by works ☐

Describe how works would avoid impact on the item. (eg The tram tracks will be left *in situ*, and recovered with road paving).

B. Unexpected item **would be** further impacted on by works ☐

Describe how works would impact on the item. (eg Milling is required to be continued to 200 mm depth to ensure road pavement requirements are met. Tram tracks will need to be removed).

Project manager / works supervisor signature	

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Appendix C

Photographing Unexpected Heritage Items

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Photographs of unexpected items in their current context (*in situ*) may assist heritage staff and archaeologists to better identify the heritage values of the item. Emailing good quality photographs to specialists can allow for better quality and faster heritage advice. The key elements that must be captured in photographs of the item include its position, the item itself and any distinguishing features. All photographs must have a scale (ruler, scale bar, mobile phone, coin) and a note describing the direction of the photograph.

Context and detailed photographs

It is important to take a general photograph (Figure 1) to convey the location and setting of the item. This will add much value to the subsequent detailed photographs also required (Figure 2).

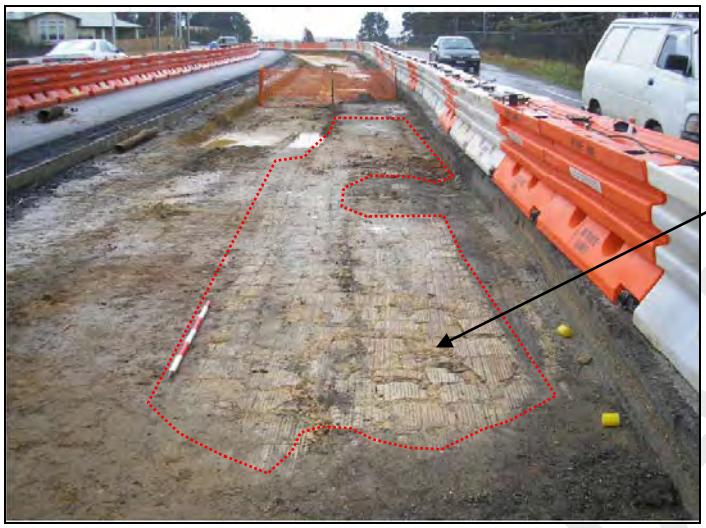

Figure 2: Close up detail of the sandstone surface showing material type, formation and construction detail. This is essential for establishing date of the feature.

Figure 1: Telford road uncovered on the Great Western Highway (Leura) in 2008.

Photographing distinguishing features

Where unexpected items have a distinguishing feature, close up detailed photographs must be taken of this, where practicable. In the case of a building or bridge, this may include diagnostic details architectural or technical features. See Figures 3 and 4 for examples.

Figure 3: Ceramic bottle artefact with stamp.

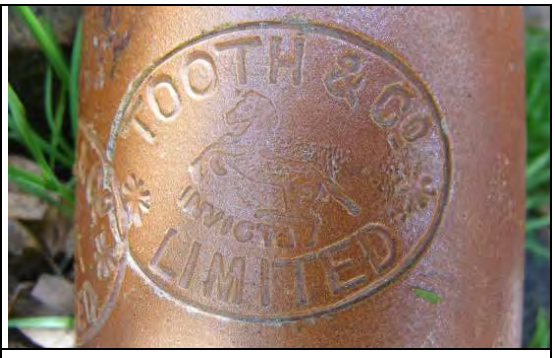

Figure 4: Detail of the stamp allows '*Tooth & Co Limited*' to be made out. This is helpful to a specialist in gauging the artefact's origin, manufacturing date and likely significance.

Photographing bones

The majority of bones found on site will those of be recently deceased animal bones often requiring no further assessment (unless they are in archaeological context). However, if bones are human, Roads and Maritime must contact the police immediately (see Appendix F for detailed guidance). Taking quality photographs of the bones can often resolve this issue quickly. Heritage staff in Environment Branch can confirm if bones are human or non-human if provided with appropriate photographs.

Ensure that photographs of bones are not concealed by foliage (Figure 5) as this makes it difficult to identify. Minor hand removal of foliage can be undertaken as long as disturbance of the bone does not occur. Excavation of the ground to remove bone(s) should not occur, nor should they be pulled out of the ground if partially exposed. Where sediment (adhering to a bone found on the ground surface) conceals portions of a bone (Figure 6) ensure the photograph is taken of the bone (if any) that is not concealed by sediment.

Figure 5: Bone concealed by foliage.

Figure 6: Bone covered in sediment

Ensure that all close up photographs include the whole bone and then specific details of the bone (especially the ends of long bones, the *epiphysis*, which is critical for species identification). Figures 7 and 8 are examples of good photographs of bones that can easily be identified from the photograph alone. They show sufficient detail of the complete bone and the epiphysis.

Figure 7: Photograph showing complete bone.

Figure 8: Close up of a long bone's epiphysis.

Appendix C

Key Environmental Contacts

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Key environmental contacts

Hunter region	Environmental Manager (Hunter)	4924 0440
	Aboriginal Cultural Heritage Advisor	4924 0383
Northern region	Environment Manager (North)	6640 1072
	Aboriginal Cultural Heritage Advisor	6604 9305
Southern region	Environmental Manager (South)	6492 9515
	Aboriginal Cultural Heritage Advisor	4221 2767
South West region	Environment Manager (South West)	6937 1634
	Aboriginal Cultural Heritage Advisor	6937 1647
Sydney region	Environment Manager (Sydney)	8849 2516
	Aboriginal Cultural Heritage Advisor	8849 2583
Western region	Environment Manager (West)	6861 1628
	Aboriginal Cultural Heritage Advisor	6861 1658
Pacific Highway Office	Environment Manager	6640 1375
Regional Maintenance Delivery	Environment Manager	9598 7721
Environment Branch	Senior Environmental Specialist (Heritage)	8588 5754

Heritage Regulators

Heritage Division Office of Environment and Heritage Locked Bag 5020 Parramatta NSW 2124 Phone: (02) 9873 8500	Department of the Environment (Clth) GPO Box 787 Canberra ACT 2601 Phone: (02) 6274 1111
Office of Environment and Heritage (Sydney Metropolitan) Planning and Aboriginal Heritage Section PO Box 668 Parramatta NSW 2124 Phone: (02) 9995 5000	Office of Environment and Heritage (North Eastern NSW) Planning and Aboriginal Heritage Section Locked Bag 914 Coffs Harbour NSW 2450 Phone: (02) 6651 5946
Office of Environment and Heritage (North Western NSW) Environment and Conservation Programs PO Box 2111 Dubbo NSW 2830 Phone: (02) 6883 5330	Office of Environment and Heritage (Southern NSW) Landscape and Aboriginal Heritage Protection Section PO Box 733 Queanbeyan NSW 2620 Phone: (02) 6229 7188

Project-Specific Contacts

Position	Name	Phone Number
Project Manager		
Site/Alliance Environment Manager		
Regional Environmental Officer		
Aboriginal Cultural Heritage Advisor		
Consultant Archaeologist		
Local Police Station		
OEH: Environment Line		131 555

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Appendix E

Uncovering Bones

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This appendix provides Project Managers with (1) advice on what to do when bones are discovered; (2) guidance on the notification pathways; and (3) additional considerations and requirements when managing the discovery of human remains.

1. First uncovering bones

Stop all work in the vicinity of the find. All bones uncovered during project works should be **treated with care and urgency** as they have the potential to be human remains. Therefore they must be identified as either human or non-human as soon as possible by a qualified forensic or physical anthropologist. These specialist consultants can be sought by contacting regional environment staff and/or heritage staff at Environment Branch.

On the very rare occasion where it is *instantly obvious* from the remains that they are human, the Project Manager (or a delegate) should **inform the police by telephone** prior to seeking specialist advice. It will be obvious that it is human skeletal remains where there is no doubt, as demonstrated by the example in Figure 1. Often skeletal elements in isolation (such as a skull) can also clearly be identified as human. Note it may also be obvious that human remains have been uncovered when soft tissue and clothing are present.

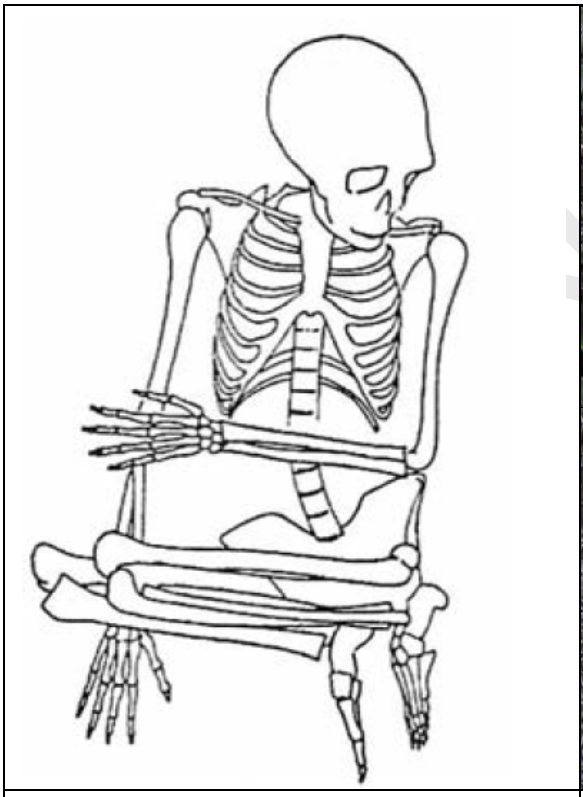

Figure 1: Schematic of a complete skeleton that is 'obviously' human[12].

Figure 2: Disarticulated bones that require assessment to determine species.

This preliminary phone call is to let the police know that Roads and Maritime is undertaking a specialist skeletal assessment to determine the approximate date of death which will inform legal jurisdiction. The police may wish to take control of the site at this stage. If not, a forensic or physical anthropologist must be requested to make an on-site assessment of the skeletal remains.

[12] After Department of Environment and Conservation NSW (2006), *Manual for the identification of Aboriginal Remains*: 17.

Where it is not 'obvious' that the bones are human (in the majority of cases, illustrated by Figure 2), specialist assessment is required to establish the species of the bones. Photographs of the bones can assist this assessment if they are clear and taken in accordance with guidance provided in Appendix C. Good photographs often result in the bones being identified by a specialist without requiring a site visit; noting they are nearly always non-human. In these cases, non-human skeletal remains must be treated like any other unexpected archaeological find.

If the bones are identified as human (either by photographs or an on-site inspection) a technical specialist must determine the likely ancestry (Aboriginal or non-Aboriginal) and burial context (archaeological or forensic). This assessment is required to identify the legal regulator of the human remains so **urgent notification** (as below) can occur. Preliminary telephone or verbal notification by the Project Manager or regional environment staff is considered appropriate. This must be followed up later by Roads and Maritime's formal letter notification as per Appendix G when a management plan has been developed and agreed to by the relevant parties.

2. Range of human skeletal notification pathways

The following is a summary of the different notification pathways required for human skeletal remains depending on the preliminary skeletal assessment of ancestry and burial context.

A. Human bones are from a recently deceased person (*less than* 100 years old).

> **☑ Action**
> A police officer must be notified immediately as per the obligations to report a death or suspected death under s35 of the *Coroners Act 2009* (NSW). It should be assumed the police will then take command of the site until otherwise directed.

B. Human bones are archaeological in nature (*more than* 100 years old) and are likely to be *Aboriginal* remains.

> **☑ Action**
> The OEH and the RMS Aboriginal Cultural Heritage Advisor (ACHA) must be notified immediately. The ACHA must contact and inform the relevant Aboriginal community stakeholders who may request to be present on site. Relevant stakeholders are determined by the RTA's *Procedure for Aboriginal Cultural Heritage Consultation and Investigation*.

C. Human bones are archaeological in nature (*more than* 100 years old) and likely to be *non-Aboriginal* remains.

> **☑ Action**
> The OEH (Heritage Branch, Conservation Team) must be notified immediately.

The simple diagram below summarises the notification pathways on finding bones.

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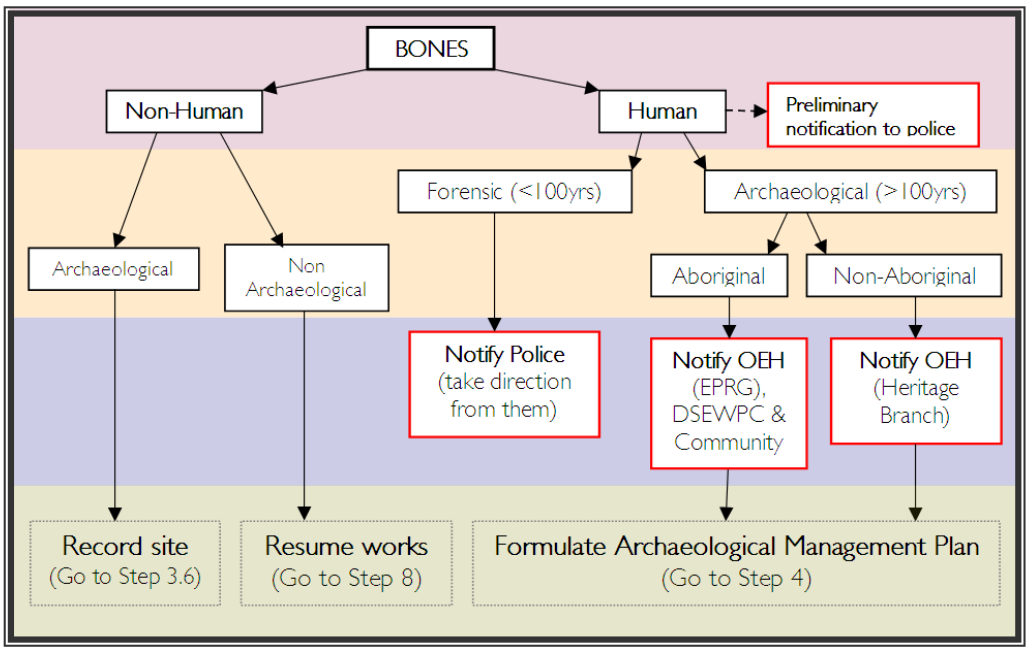

After the appropriate verbal notifications (as described in B and C), the Project Manager must proceed through the *Unexpected Heritage Items Procedure* to formulate an archaeological management plan (Step 4). Note no archaeological management plan is required for forensic cases (A), as all future management is a police matter. Non-human skeletal remains must be treated like any other unexpected archaeological find and so must proceed to recording the find as per Step 3.6.

3. Additional considerations and requirements

Uncovering archaeological human remains must be managed intensively and needs to consider a number of additional specific issues. These issues might include facilitating culturally appropriate processes when dealing with Aboriginal remains (such as repatriation and cultural ceremonies). Roads and Maritime's ACHA can provide advice on this and how to engage with the relevant Aboriginal community. Project Managers, more generally, may also need to consider overnight site security of any exposed remains and may need to manage the onsite attendance of a number of different external stakeholders during assessment and/or investigation of remains. Project Managers may also be advised to liaise with local church/religious groups and the media to manage community issues arising from the find. Additional investigations may be required to identify living descendants, particularly if the remains are to be removed and relocated.

If exhumation of the remains (from a formal burial or a vault) is required, Project Managers should also be aware of additional approval requirements under the *Public Health Act 1991* (NSW). Specifically, Roads and Maritime is required to apply to the Director General of NSW Department of Health for approval to exhume human remains as per Clause 26 of the *Public Health (Disposal of Bodies) Regulation 2002* (NSW)[13]. Further, the exhumation of such remains needs to consider health risks such as infectious disease control, exhumation procedures and reburial approval and registration. Further guidance on this matter can be found at the NSW Department of Health website.

In addition, due to the potential significant statutory and common law controls and prohibitions associated with interfering with a public cemetery, project teams are

[13] This requirement is in addition to heritage approvals under the *Heritage Act 1977*.

advised, when works uncover human remains adjacent to cemeteries, to confirm the cemetery's exact boundaries.

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Appendix F

Archaeological Heritage Advice Checklist

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The following checklist can be used by the Project Manager and the archaeologist to ensure all relevant archaeological issues are considered when developing the management plan required at Step 4 of this procedure.

An archaeological or heritage management plan can include a range of activities and processes, which differ depending on the find and its significance.

	Required	**Outcome/notes**
Assessment and investigation		
• Assessment of significance	Yes/No	
• Assessment of heritage impact	Yes/No	
• Archaeological excavation	Yes/No	
• Archival photographic recording	Yes/No	
Heritage approvals and notifications		
• AHIPs, Section 140, S139 exceptions etc	Yes/No	
• Regulator relics/objects notification	Yes/No	
• Roads and Maritime's S170 Heritage and Conservation Register listing requirements	Yes/No	
• Compliance with CEMP or other project heritage approvals	Yes/No	
Stakeholder consultation		
• Aboriginal stakeholder consultation requirements and how it relates to RTA *Procedure for Aboriginal Cultural Heritage Consultation and Investigation* (PACHCI).	Yes/No	
• Advice from regional environmental staff, Aboriginal Cultural Heritage Advisor, Roads and Maritime heritage team.	Yes/No	
Artefact/ heritage item management		
• Retention or conservation strategy (eg items may be subject to long conservation and interpretation) • Disposal strategy (eg former road pavement) • Short term and permanent storage locations (interested third parties should be consulted on this issue).	Yes/No	
• Control Agreement for Aboriginal objects.	Yes/No	
Program and budget		
• Time estimate associated with archaeological or heritage conservation work.		
• Total cost of archaeological/heritage work.		

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Appendix G

Template Notification Letter

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PASTE INTO RMS LETTER TEMPLATE

"[Select and type date]"

[Select and type reference number]

[Select and type file number]

[Insert recipient's name and address, see **Appendix D**]

[Select and type salutation and name],

Re: Unexpected heritage item discovered during Roads and Maritime Services project works.

I write to inform you of an unexpected [select: relic, heritage item or Aboriginal object] found during Roads and Maritime Services construction works at [insert location] on [insert date]. [Where the regulator has been informally notified at an earlier date by telephone, this should be referred to here].

This letter is in accordance with the notification requirement under [select: Section 146 of the *Heritage Act 1977* (NSW) or Section 89(A) of the *National Parks and Wildlife Act 1974* (NSW) **NB:** There may be not be statutory requirement to notify of the discovery of a 'heritage Item that is not a relic or Aboriginal object].

NB: On finding Aboriginal human skeletal remains this letter must also be sent to the Commonwealth Minister for Sustainability, Environment, Water, Populations and Communities (SEWPC) in accordance with notification requirements under Section 20(1) of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth).

[Provide a brief overview of the project background and project area. Provide a summary of the description and location of the item, including a map and image where possible. Also include how the project was assessed under the *Environmental Planning and Assessment Act 1979* (NSW) (eg Part 5). Also include any project approval number, if available].

Roads and Maritime Services [*or contractor*] has sought professional archaeological advice regarding the item. A preliminary assessment indicates [provide a summary description and likely significance of the item]. Please find additional information on the site recording form attached.

Resulting from these preliminary findings, Roads and Maritime Services *[or contractor]* is proposing [provide a summary of the proposed archaeological/heritage approach (eg develop archaeological research design (where relevant), seek heritage approvals, undertake archaeological investigation or conservation/interpretation strategy). Also include preliminary justification of such heritage impact with regard to project design constraints and delivery program].

The proposed approach will be further developed in consultation with a nominated Office of Environment and Heritage staff member.

Please contact me if you have any input on this approach or if you require any further information.

Yours sincerely

[Sender name and position]

[Attach the archaeological/heritage management plan and site recording form].

About this release

Reference number	RMS 12.003 | PN 285 P02
Title	Unexpected Heritage Items Procedure
Parent procedure	RMS Heritage Guidelines
Prepared by	Environment Officer (Heritage) Gretta Logue Environment Officer (Heritage) Daniel Percival
Approved by	Manager Environmental Policy, Planning and Assessment Michael Crowley
Document location	Objective - SF2013/153770 / Unexpected heritage items procedure.doc
Document status	Version 1.0, 16 March 2015

Version	Date	Revision description
1.0	01/11/11	First issue
Revised	23 July 2012	Amended to reflect that (a) unexpected finds do not include items covered by a relevant approval; (b) Aboriginal people must be consulted where an unexpected find is likely to be an Aboriginal object; (c) the Department of Planning and Environment must be notified in accordance with Step 5 of this procedure for Part 3A and Part 5.1 projects.
Revised	09 October 2013	Amended to clarify that the procedure applies to all types of unexpected heritage items, not just archaeological items. The procedure introduces the term 'Historic Items' to cover both 'archaeological relics' and 'other historic items' such as works, structures, buildings and movable objects. The title of the document has been amended to better reflect this clarification.
Revised	16 March 2015	The procedure was streamlined to address all project types including maintenance works. The separate maintenance procedure (formerly Appendix B) was removed. Names and titles updated throughout.

Your comments and suggestions to improve this or any of the Heritage Guidelines and associated documents may be sent to:

Senior Environmental Specialist (Heritage)
Environmental Policy, Planning and Assessment
Environment Branch, Roads and Maritime Services
Level 17, 101 Miller Street
North Sydney, NSW 2060
Ph: 8588 5726

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rms.nsw.gov.au

heritage@rms.nsw.gov.au

Customer feedback
Roads and Maritime
Locked Bag 928,
North Sydney NSW 2059

NSW GOVERNMENT | Transport Roads & Maritime Services

7.3 Temporary Protection Plan

Temporary Protection Plan (Heritage)

University of Newcastle City Campus Student Accommodation: SSD 61618229

Final

July 2025

umwelt

Temporary Protection Plan (Heritage)

University of Newcastle City Campus Student Accommodation: SSD 61618229

Final

Prepared by
Umwelt (Australia) Pty Limited

On behalf of
The University of Newcastle

Project Director:	Tim Adams
Project Manager:	Ryan Desic
Report No.:	R01
Date:	July 2025

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

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Document Status

Rev No.	Reviewer Name	Date	Approved for Issue Name	Date
V1	Tim Adams	17/07/2025	Tim Adams	17/07/2025

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1.0 Introduction

1.1 Background

The University of Newcastle is progressing with Stage 1B of the University's City Campus, including a nine-storey building for the purpose of campus student accommodation and ground floor retail (herein referred to as 'the Project').

The Project is identified as a State Significant Development (SSD) site by virtue of Condition A5 of the Concept Plan SSD-9262 Consent and by virtue of Schedule 2 of State Environmental Planning Policy (Planning Systems) 2021. Previously, Concept Plan (SSD-9262) was granted approval by the Minister for Planning and Public Spaces on 21 May 2020 and includes the Project area.

Development consent (the consent) for the current Project (SSD-61618229) was granted by the Department of Planning, Housing and Infrastructure (DPHI) on 6 June 2025. The consent requires the preparation and implementation of management plans, strategies, protocols and procedures detailing environmental commitments, controls and performance objectives throughout Project construction and operation.

Umwelt (Australia) Pty Ltd has prepared this document on behalf of the University of Newcastle to address Conditional of Approval (CoA) B58 for a Temporary Protection Plan in relation Aboriginal and historical heritage. Condition B58 is as follows:

Temporary Protection Plan

B58. Prior to commencement of works, a temporary protection plan prepared by a suitably qualified and experienced consultant shall be submitted to the Certifier. The plan is to identify the potential risks and outlines measures to reduce the potential for damage to significant built, landscape and archaeological elements during site preparation and the works.

1.2 Project Overview

1.2.1 Project Area

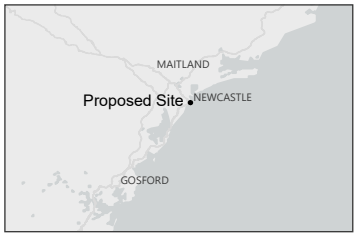
The University of Newcastle City Campus is located within the City of Newcastle Local Government Area (LGA) at 16 Honeysuckle Drive, Newcastle (**Figure 1.1**). It is on the lands of the Awabakal and Worimi peoples.

Specifically, Site B (Stage 1B in the approved concept masterplan) is located at the southwestern corner of the University's City Campus. Site B has an overall area of 3,341 m^2 and is legally described as Lot 2 in DP 1247375. Landscaping and public domain works will be undertaken in a portion of Wright Lane and is legally described as Lot 5 in DP 1247375. Together, these areas comprise the 'Project Area'. Both Lot 2 and Lot 5 in DP 1247375 are owned by the University of Newcastle.

FIGURE 1.1
Local Context

Legend

- Project Area
- Waterbody
- Watercourse
- Road
- Track



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1.2.2 Project Summary

The Project will generally involve the following works, as illustrated in **Figure 1.2**:

- Construction of a nine (9) storey building (known as Building B), to be used for campus student accommodation and retail. Building B will have a maximum gross floor area (GFA) of 10,765 m^2, comprising of:
  - Approximately 130 m^2 of retail floor space at ground level.
  - Approximately 683 m^2 of communal residential amenity facilities at ground level.
  - Approximately 9,520 m^2 of student accommodation including a total of 445 beds.
- Maximum building height of Reduced Level 33.85 (nine storeys excluding plant and services).
- Maximum height of RL 37.53 (building including plant and services).
- End of trip facilities, including 90 bicycle spaces and back of house amenities.
- Landscaping and public domain works.
- The ground floor level will be built-up to RL 2.9 which is approximately 500 mm (on average) above the ground level across the Project Area.

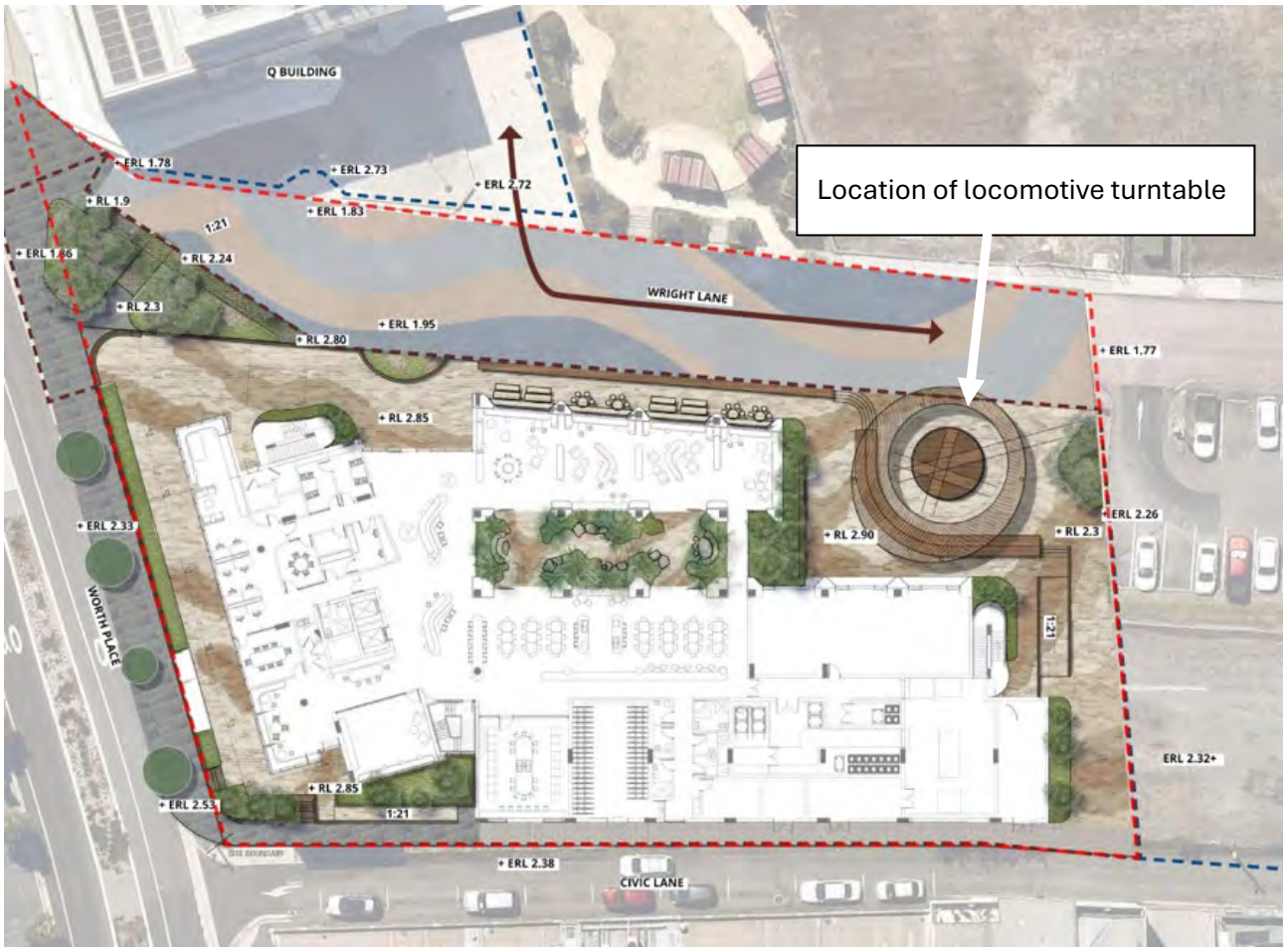

Figure 1.2 The Project Design Concept Including Indicative Location of Locomotive Turntable

2.0 Heritage Context

2.1 Aboriginal Cultural Heritage

Umwelt (2024a) prepared an ACHA to inform the Project Environmental Impact Statement (EIS). This included Aboriginal community consultation, desktop studies, a visual inspection and an evaluation of the potential Aboriginal cultural heritage values of the Project Area. This assessment, in addition to prior archaeological investigations completed within, or in proximity to, the Project Area (see Curio 2018, Curio 2020 and Umwelt 2021), identified that the original shoreline of the Hunter River, and associated dune landforms, likely intersect with the south-eastern portion of the Project Area.

Overall, the archaeological context of the Project Area indicates that the shoreline and associated foredune landforms are highly likely to contain significant archaeological deposits. The potential for archaeological material is directly linked to the former shoreline and the impacts of historical disturbance. The primary finding relevant to the Project Area is that excavation activities in areas where natural sands occur (i.e., in areas confirmed to be within the original shoreline) can impact Aboriginal archaeological deposits starting at between ~400–500 mm depth.

As illustrated in **Figure 2.1**, the western and north-western portion of the Project Area is likely to be almost exclusively beyond the original shoreline and on reclaimed land, and based on the results of prior archaeological investigations, is likely to contain upwards of 1.5 m of historical fill before encountering the original submerged river floor. The potential for undisturbed/in-situ archaeological deposits beyond the shoreline/seaward is entirely diminished because it is a historical modified terrain. There is some residual potential for ex-situ archaeological material in reclaimed land, but its quantity and provenance would be indeterminable and therefore have low archaeological significance/value.

Only one site, 'UoN PAD 1' (AHIMS #38-4-2024), is relevant to this ACHMP. It comprises a subsurface archaeological deposit of unquantified geographic extent that represents the original shoreline and dunes of the Honeysuckle locality.

The extent of Project related impacts on 'UoN PAD 1' was not determined during the ACHA because the Project ground disturbance footprint had not been defined, and that archaeological test excavations did not occur. Overall, it was concluded that the Project would result in partial impact/destruction of the deposit because archaeological material associated with 'UoN PAD' 1 is known to extend beyond the Project Area boundary.

Overall, Project ground disturbance activities that extend deeper than historical fill (i.e. beyond 400 mm depth) within the original Hunter River shoreline have high potential to impact intact and/or disturbed portions of the 'UoN PAD 1' site. Whereas, Project ground disturbance activities beyond the shoreline have residual potential to impact disturbed/imported archaeological material but such areas are considered to be of low archaeological potential.

As part of CoA B56, Umwelt prepared an Aboriginal Cultural Heritage Management Plan (ACHMP) for the Project (Umwelt 2025a) which is the primary mechanism to manage, protect and mitigate impacts to Aboriginal cultural heritage values within the Project Area during Project construction and utilisation. This Temporary Protection Plan refers to relevant sections of the ACHMP to address CoA B58 in Section 3.0 of this document.

FIGURE 2.1

AHIMS Sites and Original Shoreline/Landform Sensitivity

Legend

- Project Area
- Suburb
- Waterbody
- Watercourse
- Road
- Approximate alignment of the original Hunter River Shoreline (1857 – Hunter River railway through Newcastle, F. W. Darby)
- Approximate alignment of the original Hunter River Shoreline (10 m Buffer)

Aborginal Archaeological Potential

- Moderate to High Aboriginal Archaeological Sensitivity
- Low Aboriginal Archaeological Sensitivity

AHIMS Site features

- Artefact
- Potential Archaeological Deposit (PAD)

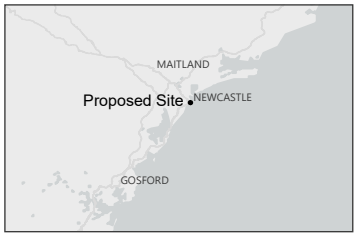

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Image Source: ESRI (2023) | **Data Source:** NSW DFSI (2023), AHIMS Web Service (2024) '1857 – Hunter River railway through Newcastle, F. W. Darby' National Library of Australia

2.2 Historical Heritage

Umwelt completed a Heritage Impact Statement (HIS) (Umwelt 2024b) and a Historical Archaeological Assessment (Umwelt 2024c) for the Project to support the EIS.

This HIS was prepared to assess the potential impacts of Stage 1B of the Project on built heritage as the Project Area is located in the vicinity of both local and State listed heritage items, as well as within the boundaries of the locally listed Newcastle City Centre Heritage Conservation Area (HCA). The HIS found that the Project Area comprises vacant land, with no buildings or structures of heritage significance present. The HIS determined that the Project Area does not contribute meaningfully to the wider HCA within which it is located, nor does it form part of an area or streetscape that demonstrates discernible consistency or integrity in terms of building scale, form, age, design or materiality. Umwelt concluded that Project will not result in any significantly greater visual impact to the HCA or heritage items in the vicinity than existing and/or already approved development of a comparable scale already has and therefore would not constitute an adverse built heritage impact.

The Historical Archaeological Assessment (Umwelt 2024c) found that prior to reclamation the northwest portion of the Project Area was located entirely within the harbour. From the mid nineteenth century the Project Area has been associated with the railway, associated rail yards and reclamation activities. One archaeological feature of significance was identified within the Project Area, being a Locomotive Turntable which is beneath the current ground surface. The Locomotive Turntable is outside the construction footprint of the Project and will not be physically impacted.

Umwelt concluded that it is unlikely that any significant historical archaeological 'relics' will be exposed or impacted within the Project Area. No further investigations or mitigation measures were proposed with the exception of the management of the former locomotive turntable and unexpected historical archaeological and maritime remains.

The assessment recommended that the location of the former locomotive turntable should be identified and protected during proposed Project works to ensure no inadvertent impacts occur to the below ground structure of the turntable. The location of the Locomotive Turntable in relation to the Project design is shown on Figure 1.3 and the boundary of current protective fencing around it is shown in Figure 3.1.

The Project CoA includes several conditions in relation to the Locomotive Turntable regarding the accurate recording of its location, the requirement for no physical impacts to occur to it, the requirement for protective exclusion zones to be established in the CEMP, and for an Archaeological Method Statement to be prepared to identify and protect it. CoAs C39 to C44 provide further detail around these requirements.

As part of CoA C44, an Archaeological Method Statement (AMS) specific to the Locomotive Turntable will be prepared for the Project (Umwelt 2025b *in draft*). The Method Statement will be the primary mechanism to manage and protect the Locomotive Turntable where subsurface investigation is required to identify and protect the location of the turntable.

2.3 Summary and Applicability

This heritage context section has aimed to summarise the relevant heritage values and protective instruments that are applicable to the Temporary Protection Plan. Overall, it has established that the Project Area only features archaeological heritage values that require protective measures which are:

- the subsurface Aboriginal archaeological deposit of 'UoN PAD 1' (AHIMS #38-4-2024) which is predicted to occur within the former Honeysuckle Shoreline as mapped in Figure 2.1.
- The subsurface archaeological feature of the Locomotive Turntable as indicated in Figure 1.3.

There are no significant built or landscape elements within the Project Area that require protective measures to satisfy the CoA B58.

Section 3 of this report addresses the potential risks and outlines the measures (or refers to the relevant documentation containing such measures) to reduce the potential for damage to UoN PAD 1' (AHIMS #38-4-2024) and the Locomotive Turntable.

3.0 Temporary Protection Plan

3.1 Potential Risks

The potential risk of the Project damaging significant archaeological elements relates only to Project-related excavation activities. The Project will involve a range of construction activities incorporating various heavy machinery, plant and equipment that will operate in several locations across the Project Area. However, only Project activities in certain areas extending to certain depths have the potential to impact heritage values. The identified risks are set out in the sections below.

3.1.1 Risks to Aboriginal archaeological deposit of 'UoN PAD 1' (AHIMS #38-4-2024)

Ground disturbing activities exceeding ~400 mm depth within the original shoreline (landward) of the Hunter River (including the shoreline buffer area) have the potential to impact the Aboriginal archaeological deposit of 'UoN PAD 1' (AHIMS #38-4-2024).

As outlined in Table 3.1**,** sub-structure and sub-surface services will require excavation and earthworks to varied depths. All ground disturbance activities will be contained within the Project Area. However, the final depths of excavation may vary based on required build.

Figure 3.1 illustrates an overview of the proposed ground disturbance activities but only within the Hunter River shoreline inclusive of a 10 m buffer, as these activities have the potential to impact the archaeological deposit.

Notwithstanding the above, ground disturbing activities with the potential to intersect with archaeological deposit are limited because the ground floor level will be built-up to RL 2.9 which is approximately 500 mm (on average) above the existing ground level across the Project Area. This will generally result in an approximate 1 m buffer between the new building level to the subsurface cultural heritage values, except for the specific activities that are addressed in this section.

Table 3.1 Project Activities That May Impact UoN PAD 1' (AHIMS #38-4-2024)

Project Component	Activity Causing Impact/Potential Impact to Aboriginal Heritage
Installation of piles and pile caps	Localised earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Pile diameter: 900 mm. Estimated range of depth: <500 mm to 1,500 mm below ground surface. Quantity: 44 piles within Hunter River shoreline inclusive of 10 m buffer.
Stormwater services	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 500 mm to 1,400 mm below ground surface. Lineal meters of trenching: 200 m within Hunter River shoreline inclusive of 10 m buffer.
Lint trap and sewer line	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils.

Project Component	Activity Causing Impact/Potential Impact to Aboriginal Heritage
	Estimated range of depth: 600 mm to 800 mm (internal), 1,700 mm to 2,000 mm (external) below ground surface. Lineal meters of trenching: 50 m extra over the shared trench with other services within Hunter River shoreline inclusive of 10 m buffer.
Grease arrestor pit	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 1,000 mm to 1,300 mm below ground surface. Area: 6 m^2.
Common service trench	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 600 mm to 2,000 mm below ground surface. Lineal meters of trenching: incl in other trenching works within Hunter River shoreline inclusive of 10 m buffer.
Electrical cable trench	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 1,000 m to 1,200 mm below ground surface. Lineal meters of trenching: 80 m within Hunter River shoreline inclusive of 10 m buffer.

*Note that the ground floor level will be built-up to RL 2.9, approximately 500 mm (on average) above the ground level across the Project Area.

3.1.2 Risks to Locomotive Turntable

Ground disturbing activities, including archaeological works to identify and protect the location of the locomotive turntable, within the currently fenced area of the Locomotive Turntable present a risk to damaging this archaeological feature. This fenced area is within the north-eastern corner of the Project Area and shown on Figure 3.1. Although no Project impacts are planned for the turntable, and it will be retained in-situ, there will be Project works (for example landscaping activities) required adjacent to and above the Locomotive Turntable which will be guided by the results of the archaeological works and an Archaeological Method Statement (refer to Section 3.2.2).

3.2 Protective Measures

3.2.1 Aboriginal archaeological deposit of 'UoN PAD 1' (AHIMS #38-4-2024)

The following protective measures apply for the Aboriginal archaeological deposit of 'Uon PAD 1' (AHIMS #38-4-2024):

- The Project ACHMP (Umwelt 2025a) must be consulted prior to any subsurface works within the Protection Plan Area.
- The Protection Plan Area must be communicated to all contractors who are involved in ground disturbing activities for the Project.
- The boundary of the Protection Plan Area must include physical indicators (such as marking paint and/or bunting) on site to clearly establish where protective measures apply.
- No excavation works[1], beyond the removal of pavement or other hardstand, is permitted within the Protection Plan Area prior to the implementation of the Archaeological Mitigation Measures set out in Section 5 of the ACHMP.
- Works that require excavation below the current ground level to a depth greater than ~400 mm and are within (i.e. landward from) the mapped original Hunter River shoreline including its buffers, must be undertaken in accordance with the archaeological methods set out in Section 5 of the ACHMP.
- No protective measures are required for Aboriginal heritage outside of the Protection Plan Area and ground disturbing activities can proceed without archaeological supervision. However, unexpected finds procedures still apply (skeletal and archaeological) for the entirety of the Project Area and are set out in Section 5.4 of the ACHMP.

3.2.2 Locomotive Turntable

The following protective measures apply for the Locomotive Turntable:

- No ground disturbing activities are permitted[2] within the 'Locomotive Turntable Fenced Area' (Figure 3.1) until an Archaeological Method Statement (AMS) is prepared and implemented in accordance with CoA C44.
- To satisfy CoA C39, the AMS will include an archaeological methodology to expose and accurately map the top of the perimeter wall of the Locomotive Turntable
- To satisfy CoA C40, the AMS will include provisions to prevent physical impacts to the Locomotive Turntable relating to the proposed works. This includes impacts related to paving and bedding, soft landscaping, structures and footings, and services.
- To satisfy CoA C41, an exclusion zone must be established around the Locomotive Turntable prior to excavation works in the area (for example the archaeological excavation works undertaken in accordance with CoA C39 to accurately map the location of the Turntable). The exclusion zone must

[1] This excludes any ground disturbing activities associated with implementing the archaeological mitigation measures of the ACHMP.
[2] This excludes any ground disturbing activities associated with implementing the AMS, once approved by the Department.

at a minimum include the Locomotive Turntable Fenced Area (Figure 3.1) and feature physical and clearly visible exclusion zone boundaries and signage. Details of the exclusion zone will be included in the CEMP to satisfy CoA C41. The AMS and the results of the archaeological works will provide recommendations for and guide the ongoing protection of the Locomotive Turntable.

3.2.3 Unexpected Historical Archaeological Finds

The following protective measure applies to unexpected potential historical archaeological relics and human remains:

- To satisfy CoA B55, any unexpected historical archaeological remains (including skeletal material) will be managed in accordance with the Project's Historical Archaeological Unexpected Finds Procedure (Umwelt 2025c *in draft*).

3.2.4 Unexpected Maritime Archaeological Finds

The following protective measure applies to maritime archaeological specific unexpected finds:

- To satisfy CoA B58, any unexpected maritime archaeological finds will be managed in accordance with the Project's Maritime Archaeological Unexpected Find Procedure (MTS Heritage 2025).

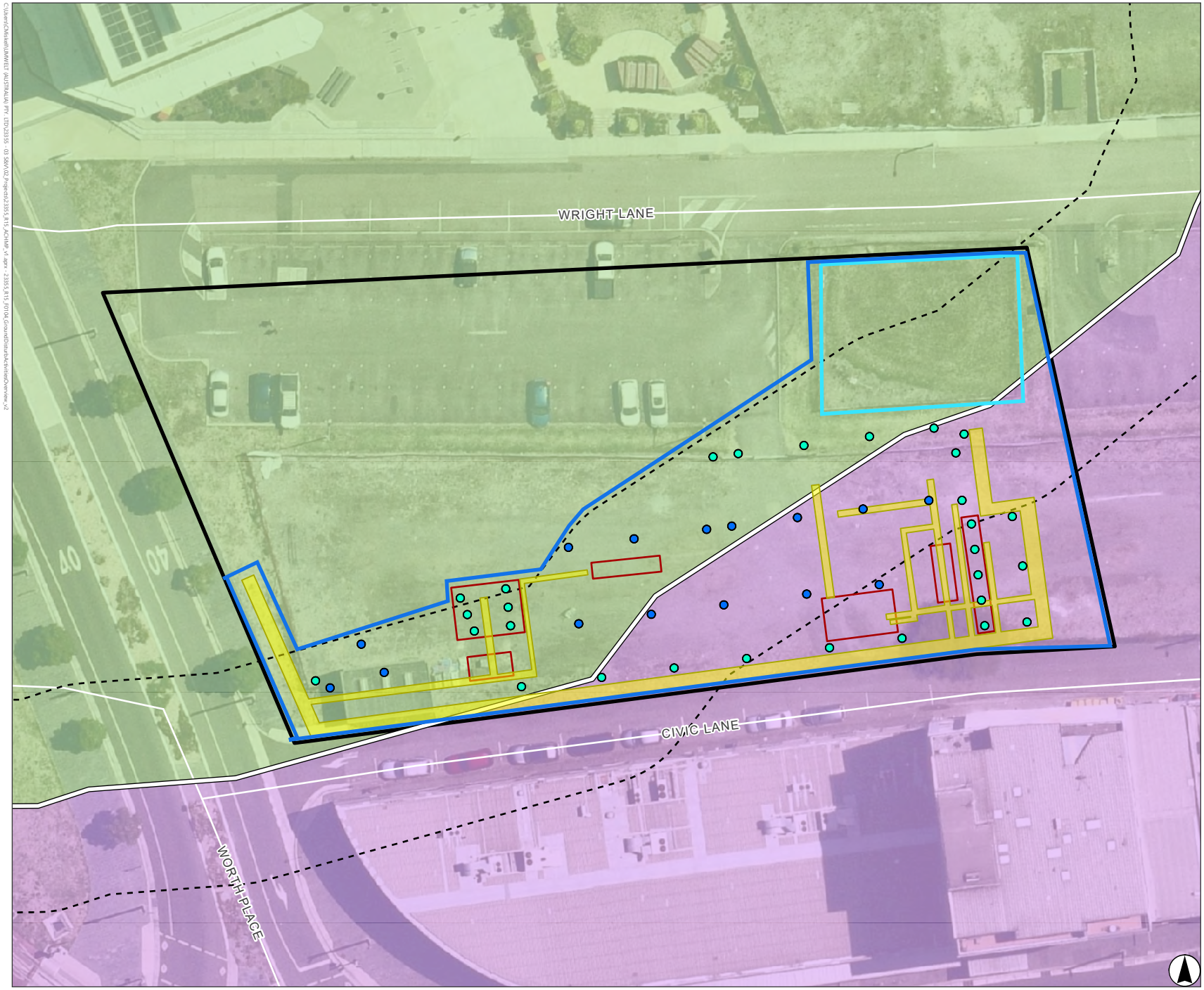

FIGURE 3.1 Relevant Ground Disturbing Activities and Protection Plan Areas

- Project Area
- Trenching
- Service Trenching
- Pile Cap
- Pile Concrete
- Moderate to High Aboriginal Archaeological Sensitivity
- Low Aboriginal Archaeological Sensitivity
- Approximate alignment of the original Hunter River Shoreline (1857 – Hunter River railway through Newcastle, F. W. Darby)
- Approximate alignment of the original Hunter River Shoreline (10 m Buffer)
- Road
- Locomotive Turntable Fenced Area
- Protection Plan Area

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Scale 1:500 at A4
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MTS Heritage 2025. University of Newcastle City Campus Accommodation Development: Maritime Archaeological Unexpected Find Procedure

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Umwelt, 2024b. Stage 1B of The University of Newcastle City Campus Student Accommodation Project Heritage Impact Statement. Prepared for The University of Newcastle.

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Umwelt 2025a. University of Newcastle City Campus Student Accommodation: SSD-61618229, Aboriginal Cultural Heritage Management Plan.

Umwelt 2025b. University of Newcastle City Campus Student Accommodation: SSD-61618229, Locomotive Turntable Archaeological Method Statement (*In Draft)*.

Umwelt 2025c. University of Newcastle City Campus Student Accommodation: SSD-61618229, Historical Archaeological Unexpected Finds Procedure (*In Draft)*

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7.4 Archaeological Method Statement

Archaeological Method Statement

University of Newcastle City Campus Student Accommodation:
SSD 61618229

FINAL

July 2025

umwelt

Archaeological Method Statement

University of Newcastle City Campus Student Accommodation: SSD 61618229

FINAL

Prepared by
Umwelt (Australia) Pty Limited

On behalf of
The University of Newcastle

Project Director:	Tim Adams
Project Manager:	Ryan Desic
Report No.:	R02
Date:	July 2025

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1.0 Introduction

Umwelt has prepared this Archaeological Method Statement on behalf of the University of Newcastle to address Condition of Approval (CoA) C44 of State Significant Development (SSD) SSD-61618229.

Condition C44 is as follows:

> *HISTORICAL ARCHAEOLOGY – HERITAGE NSW C44. Where works to identify and protect the location of the locomotive turntable require subsurface investigation, these are to be monitored by a suitably qualified historical archaeologist to ensure that the locomotive turntable is not impacted. An Archaeological Method Statement to guide archaeological monitoring and specify measures which will be implemented to protect the turntable is to be included as a part of a Construction Environmental Management Plan (CEMP) for the site. The CEMP is to be provided to the Department for approval prior to the commencement of works within the area of influence of the locomotive turntable.*

1.1 Background

The University of Newcastle is progressing with Stage 1B of the University's City Campus, including a nine-storey building for the purpose of campus student accommodation and ground floor retail (herein referred to as 'the Project').

The Project is identified as a State Significant Development (SSD) site by virtue of Condition A5 of the Concept Plan SSD-9262 Consent and by virtue of Schedule 2 of State Environmental Planning Policy (Planning Systems) 2021. Previously, Concept Plan (SSD-9262) was granted approval by the Minister for Planning and Public Spaces on 21 May 2020 and includes the Project Area.

Development consent (the consent) for the current Project (SSD-61618229) was granted by the Department of Planning, Housing and Infrastructure (DPHI) on 6 June 2025.

A potentially 1857 constructed locomotive turntable is located in the northeast corner of the Project Area. As required by CoA C44 this archaeological method statement has been prepared to guide archaeological monitoring in the former location of the turntable.

1.2 Project Overview

1.2.1 Project Area

The University of Newcastle City Campus is located within the City of Newcastle Local Government Area (LGA) at 16 Honeysuckle Drive, Newcastle (**Figure 1.1**). It is on the lands of the Awabakal and Worimi peoples.

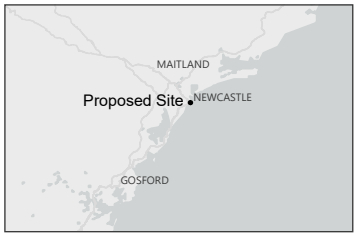
Specifically, Site B (Stage 1B in the approved concept masterplan) is located at the southwestern corner of the University's City Campus. Site B has an overall area of 3,341 m^2 and is legally described as Lot 2 in DP 1247375.

Landscaping and public domain works will be undertaken in a portion of Wright Lane and is legally described as Lot 5 in DP 1247375. Together, these areas comprise the 'Project Area'. Both Lot 2 and Lot 5 in DP 1247375 are owned by the University of Newcastle.

FIGURE 1.1
Local Context

Legend

- Project Area
- Waterbody
- Watercourse
- Road
- Track



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1.2.2 Project Summary

The Project will generally involve the following works, as illustrated in **Figure 1.2**:

- Construction of a nine (9) storey building (known as Building B), to be used for campus student accommodation and retail. Building B will have a maximum gross floor area (GFA) of 10,765 m^2, comprising of:
  - Approximately 130 m^2 of retail floor space at ground level.
  - Approximately 683 m^2 of communal residential amenity facilities at ground level.
  - Approximately 9,520 m^2 of student accommodation including a total of 445 beds.
- Maximum building height of Reduced Level 33.85 (nine storeys excluding plant and services).
- Maximum height of RL 37.53 (building including plant and services).
- End of trip facilities, including 90 bicycle spaces and back of house amenities.
- Landscaping and public domain works.
- The ground floor level will be built-up to RL 2.9 which is approximately 500 mm (on average) above the ground level across the Project Area.

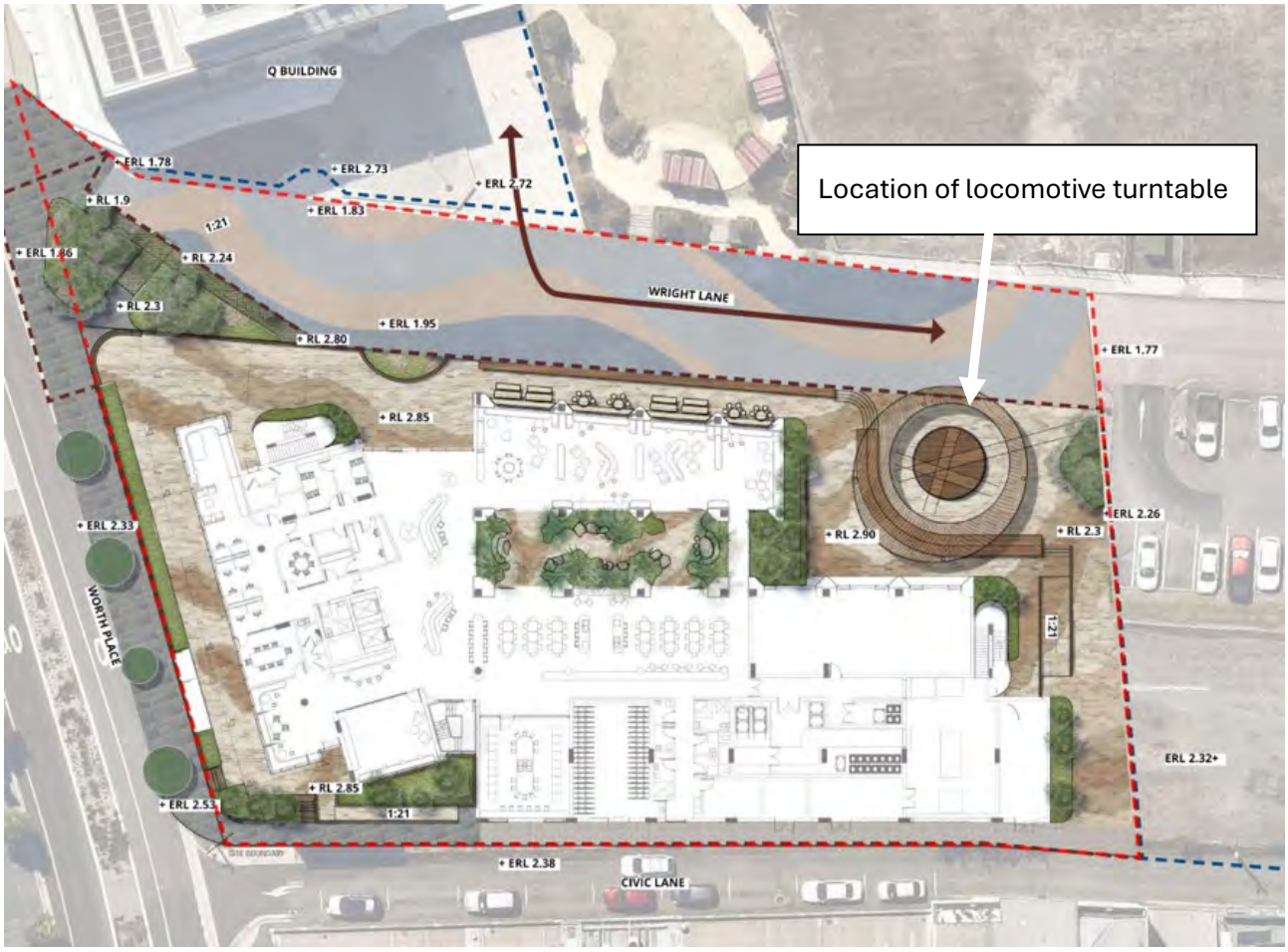

Figure 1.2 The Project Design Concept Including Indicative Location of Locomotive Turntable

2.0 Historical Context

2.1 Great North Railway

The first railway line in the Newcastle area was established between East Maitland and Newcastle in 1857, with the terminating station being 'Honeysuckle Point'; the line was known as the 'Great Northern Railway'. The original station was likely located a short distance to the west of the current former Civic Station building (Umwelt 2020). The line was extended to the centre of Newcastle to join the wharves shortly afterwards; with Newcastle Station at the foot of Watt Street being opened in March 1858.

In 1872 a new 'Honeysuckle Station' was established roughly at present day Steele Street, approximately 700 m to the west of the original (1857) Station; and to the west of the University City Campus Development area. The original 1857 Station was removed around this time to make way for new development.

2.2 Railway Workshops

As the railway expanded there was an increased need (and demand) for additional infrastructure at Honeysuckle Point. The Maitland Mercury and Hunter River General Advertiser reported that:

> *...We understand that the erection of some additional workshops at the Honeysuckle Point Station has been decided upon, and is to be commenced immediately. Like those already existing, we learn that new the workshops are to be composed of wood, with galvanised iron roofs (Maitland Mercury and Hunter River General Advertiser 31 October 1865; from RPS 2018).*

The Railway Department acquired additional land at Honeysuckle Point for the expansion of the workshops:

> *We understand that the Government is about to resume possession of an allotment of land at Honeysuckle Point, whereon stands a considerable number of houses, which must be pulled down and cleared away...The Government require the land in question for the railway workshops which are becoming so extensive to necessitate an enlargement of the present area (Newcastle Chronicle 2 April 1870; from RPS 2018).*

Following the acquisition of the land the new 'Honeysuckle Station' was constructed in 1872 and a number of workshops (the Honeysuckle Point Locomotive Workshops) were opened in the surrounding area (refer to **Figure 1.1** to **Figure 2.2**). These 1870s constructed industrial workshops were established both to secure increased accommodation for the rolling stock used on the Great Northern line, and in recognition of the exclusive facilities and rolling stock required to handle coal traffic (Umwelt 2020). The area has been dominated by the rail workshops and rail yards ever since (refer to **Figure 2.3**).

The first rail workshop building in Sydney was constructed in approximately 1855 at Redfern. The Redfern Railyard complex (Redfern Station) carried on expanding into the 1870s before being relocated to Eveleigh. Eveleigh was where major works were carried out supplemented by some smaller regional workshops; such as Bathurst, Goulburn and Lismore (Otto Cserhalmi + Partners P/L 2002).

Honeysuckle Workshops were established in the 1870s separately from Redfern/Eveleigh because until 1889, when the new bridge across the Hawkesbury from Brooklyn was constructed, there was no rail link between Sydney and Newcastle to connect the Sydney and Newcastle rail systems. Although smaller, the Honeysuckle complex, and its workshops, ran contemporaneously with Eveleigh; which also had the single storey brick rail sheds with a characteristic gable form constructed at the Honeysuckle Workshops (Otto Cserhalmi + Partners P/L 2002).

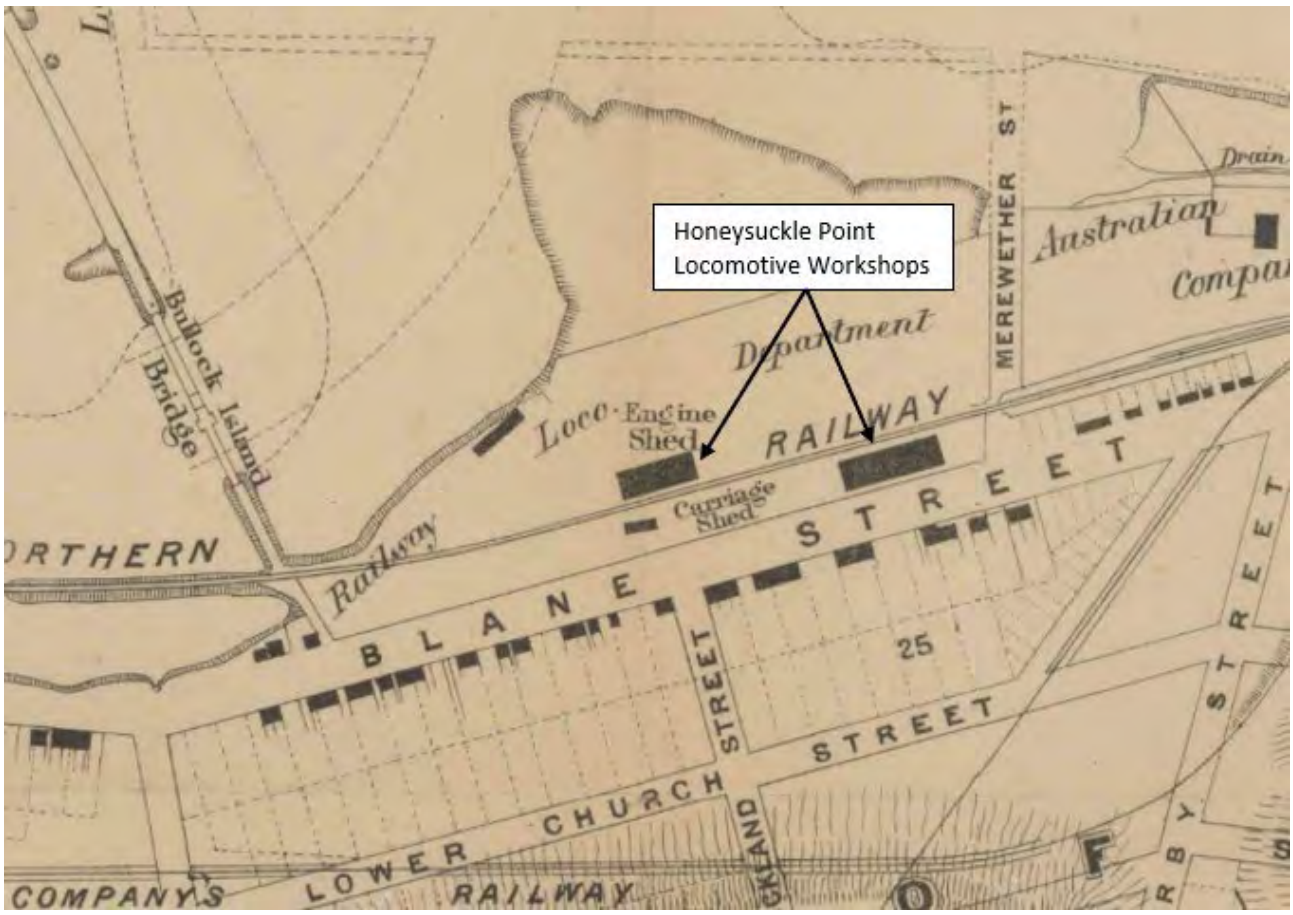

Figure 2.1 1880 dated Plan of the Port of Newcastle

Source: Cultural Collections, University of Newcastle.

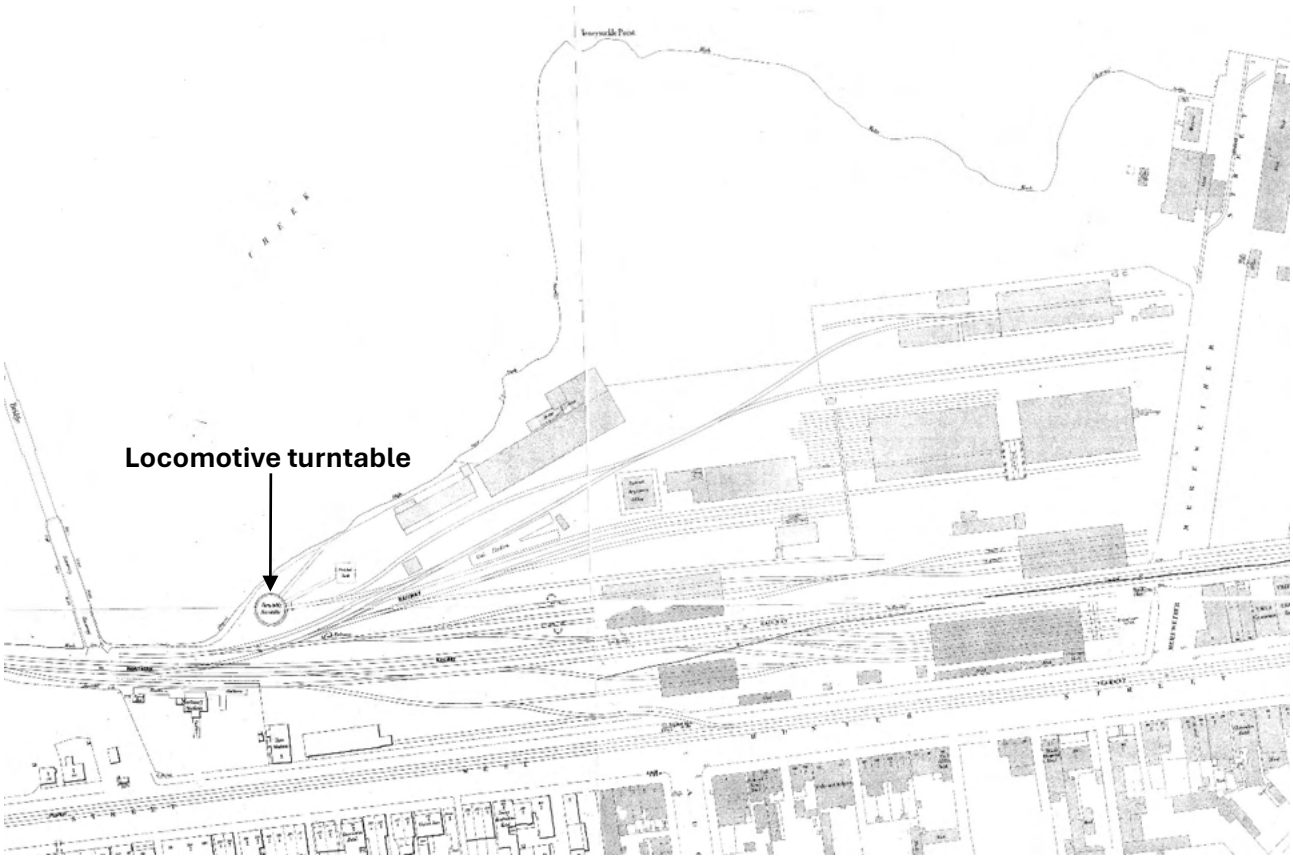

Figure 2.2 Detail of 1896 Hunter District Water Board Plan

Detail shows the extent of the railway workshops and the location of the former locomotive turntable. Refer to Figure 2.4 for detail showing the Project Area.

In 1890 the Survey Section of the Land Department was commissioned by the Hunter District Water Board to produce a series of large-scale plans of urban Newcastle, for planning purposes. The first plans were produced in 1894 and show detailed footprints of buildings present at the time. Some of the plans were later revised to reflect an approximately 1920 footprint. The plans cover a large portion of Newcastle, from the east end as far west as Lambton, providing accurate information of all buildings (and other features such as cellars, wells and cisterns) present at the time (Russell Rigby 2019). Archaeological excavation undertaken in various locations in the Newcastle CBD confirms the accuracy of the 1890s Waterboard plans.

Source: Cultural Collections, University of Newcastle.

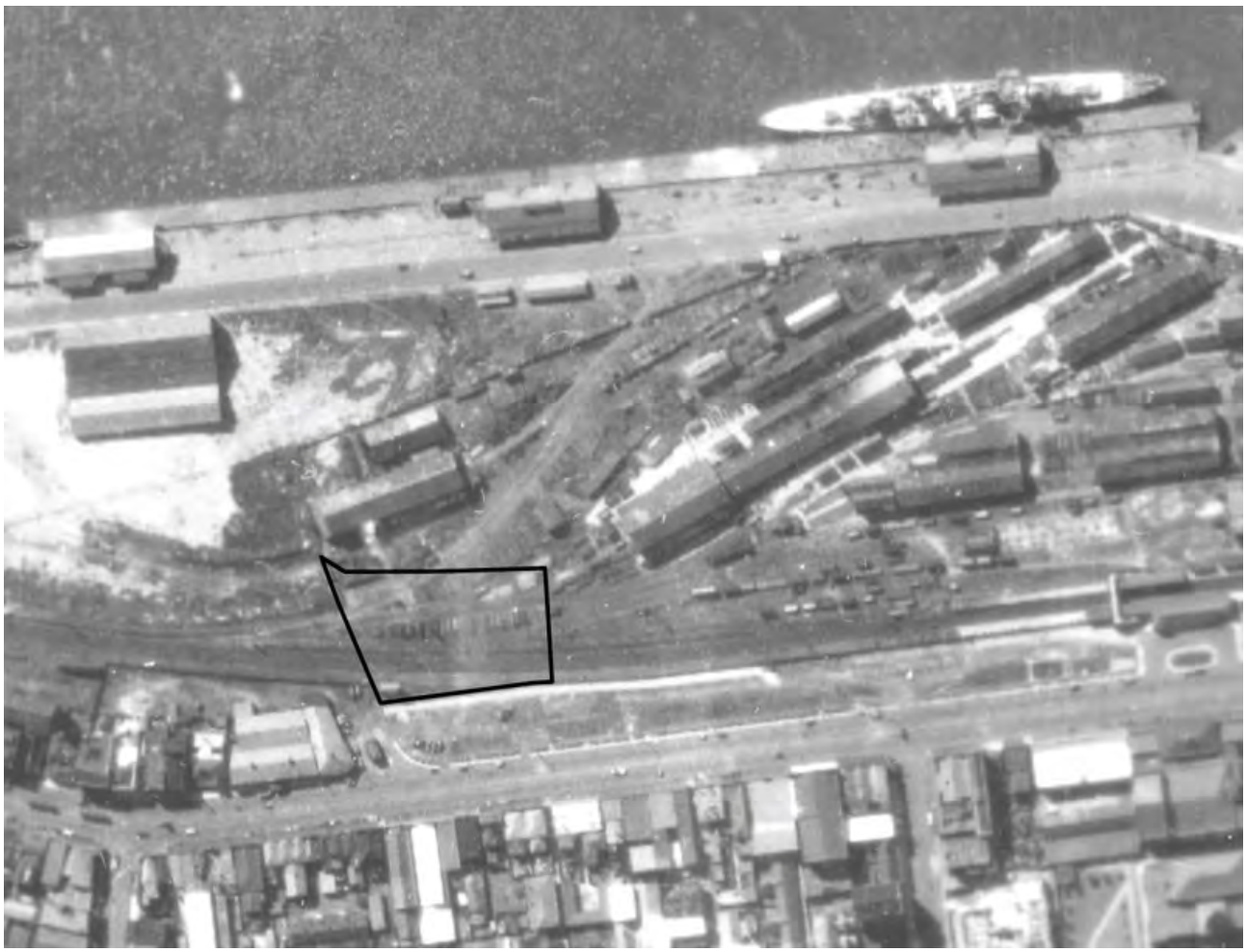

Figure 2.3 Detail of 1938 Aerial Photograph

Note the large area of reclaimed land (since the 1896 plan shown in **Figure 2.2**). The Project Area essentially comprises rail lines and rail yard areas.

Source: Cultural Collections, University of Newcastle.

2.3 Locomotive Turntable

The 1990 Honeysuckle Point Heritage Study (C and M.J Doring) referred to a potentially 1857 constructed locomotive turntable at Honeysuckle. The turntable is indicated on several plans and drawings including the 1896 Hunter District Water Board Plan (refer to **Figure 2.4**) and an approximately 1905 State Rail Authority plan which identifies the turntable as '*Old Turntable, Filled In*' (Fenwick 1994). The turntable was likely no longer in use by the beginning of the twentieth century and filled in by approximately 1905 (Suters 1997. Refer to **Section 3.1**). It is not shown on the 1938 aerial photograph (refer to **Figure 2.3**).

In 1994 archaeological investigation was undertaken in the location of the turntable (refer to

Figure 2.5 and Fenwick 1994).

The investigation exposed the circular brick wall and the brick floor of the turntable pit. The pit measured 12.270 m (40 feet 3 inches) in diameter and up to 1.55 m in depth (to brick base of running rail platform / brick drain base) (refer to **Figure 2.6** and **Figure 2.7**).

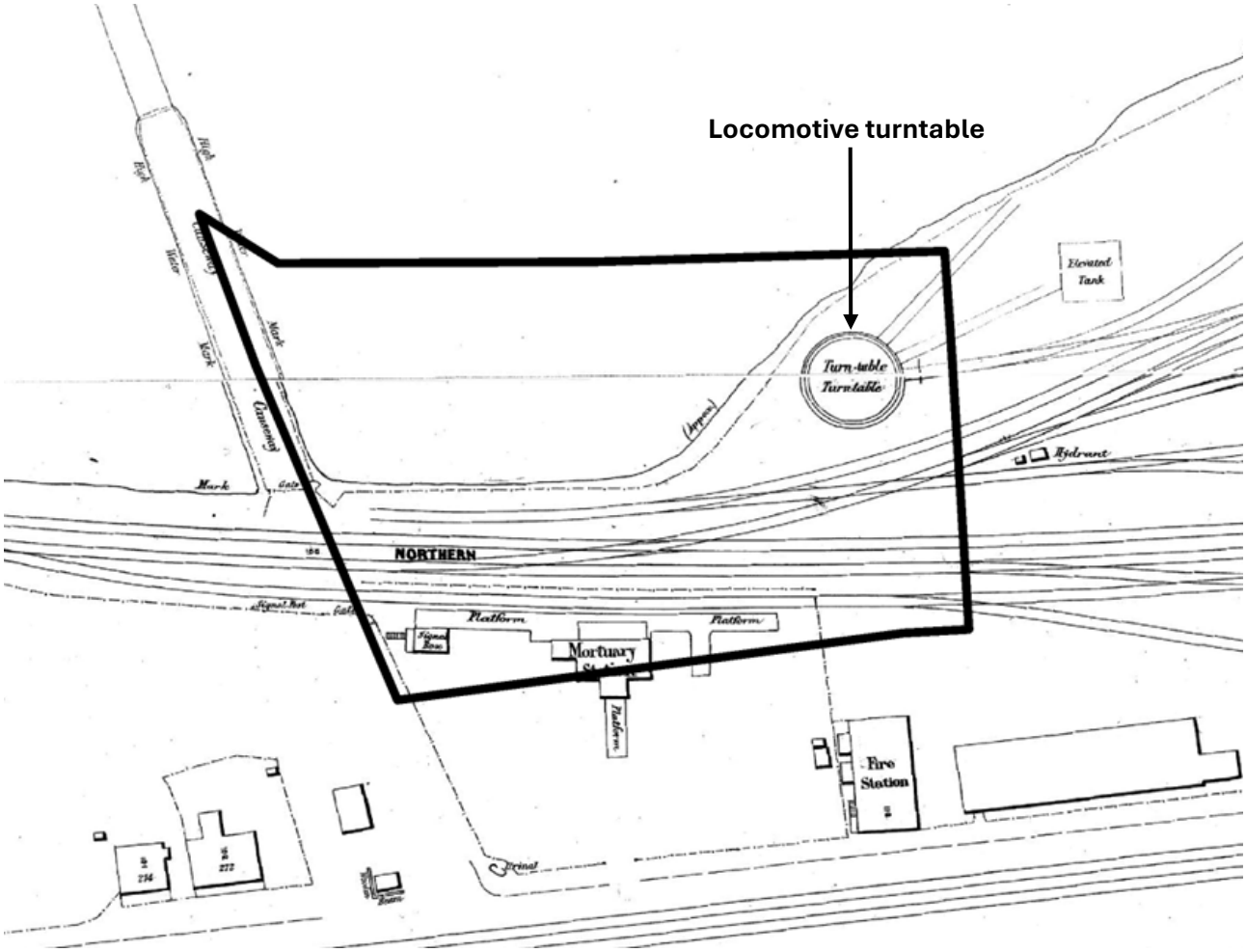

Figure 2.4 Detail of 1896 Hunter District Water Board Plan showing Project Area

Detail shows the early shoreline and the location of the locomotive turntable within the Project Area.

Source: Cultural Collections, University of Newcastle.

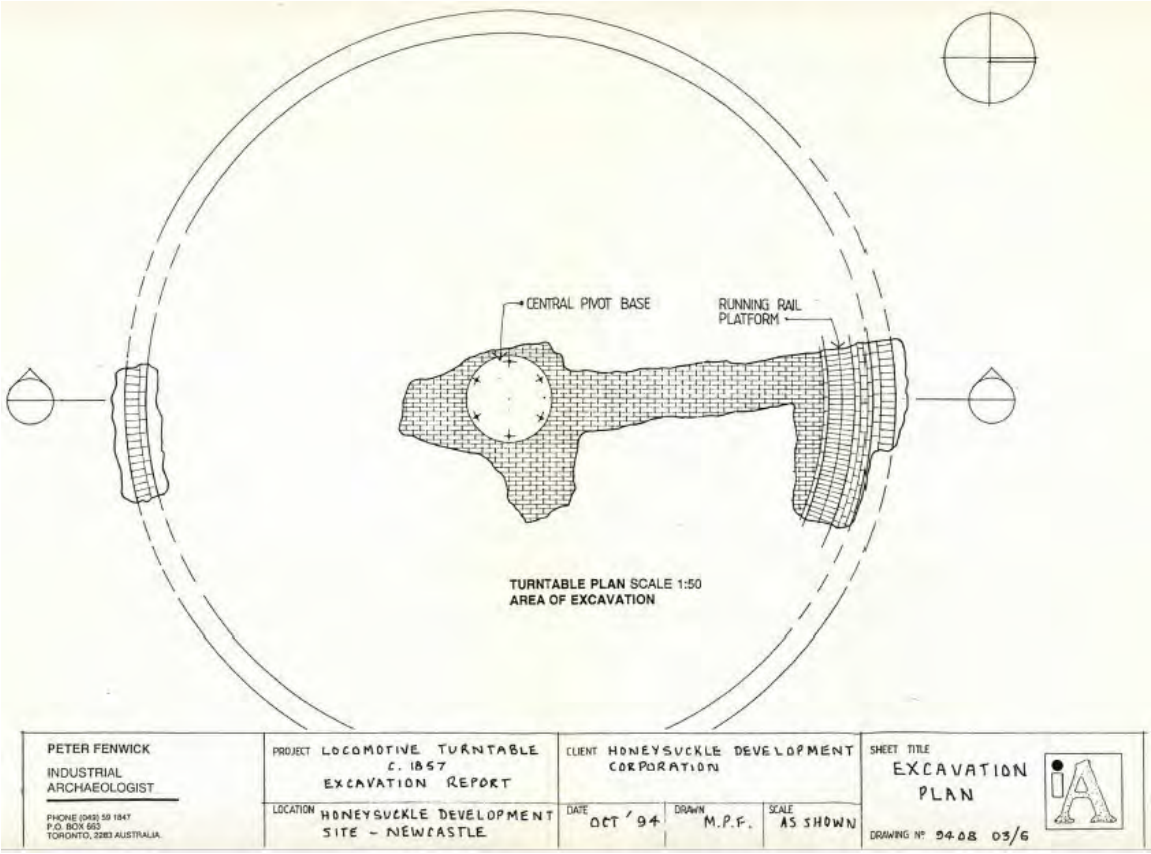

Figure 2.5 Archaeological Plan of the Locomotive Turntable

Source: Fenwick 1994.

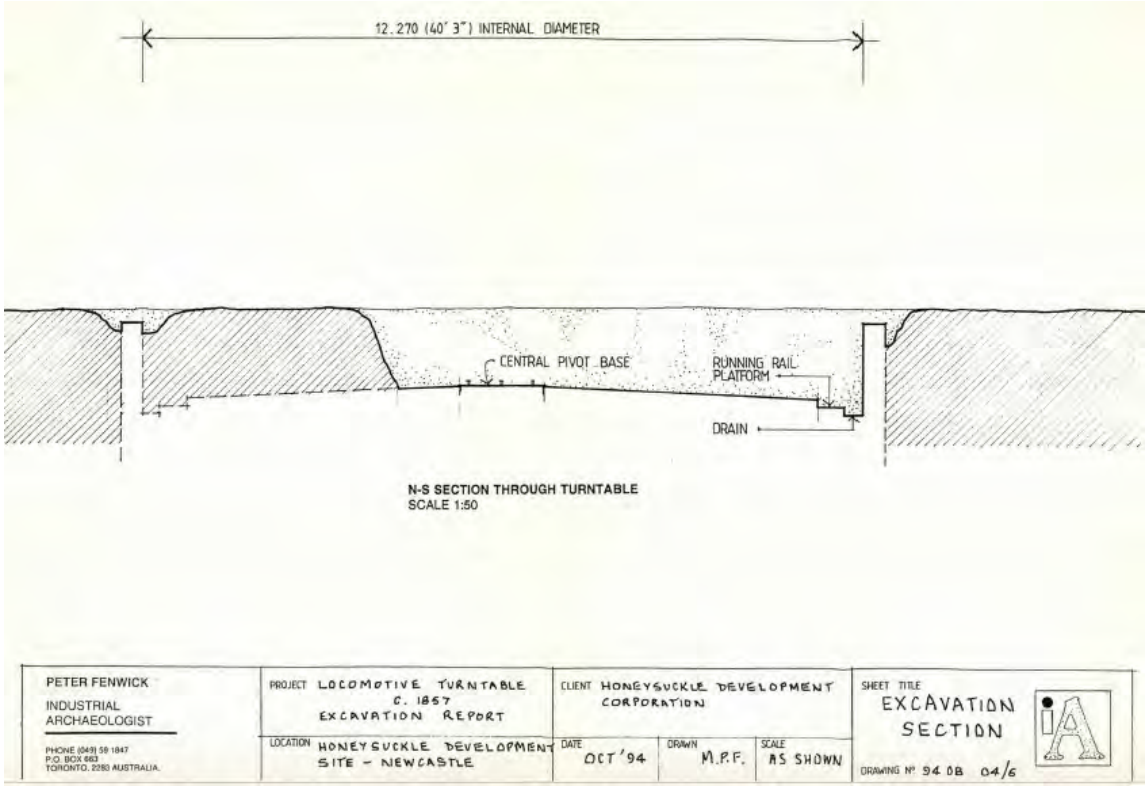

Figure 2.6 Archaeological Section of Locomotive Turntable

Source: Fenwick 1994.

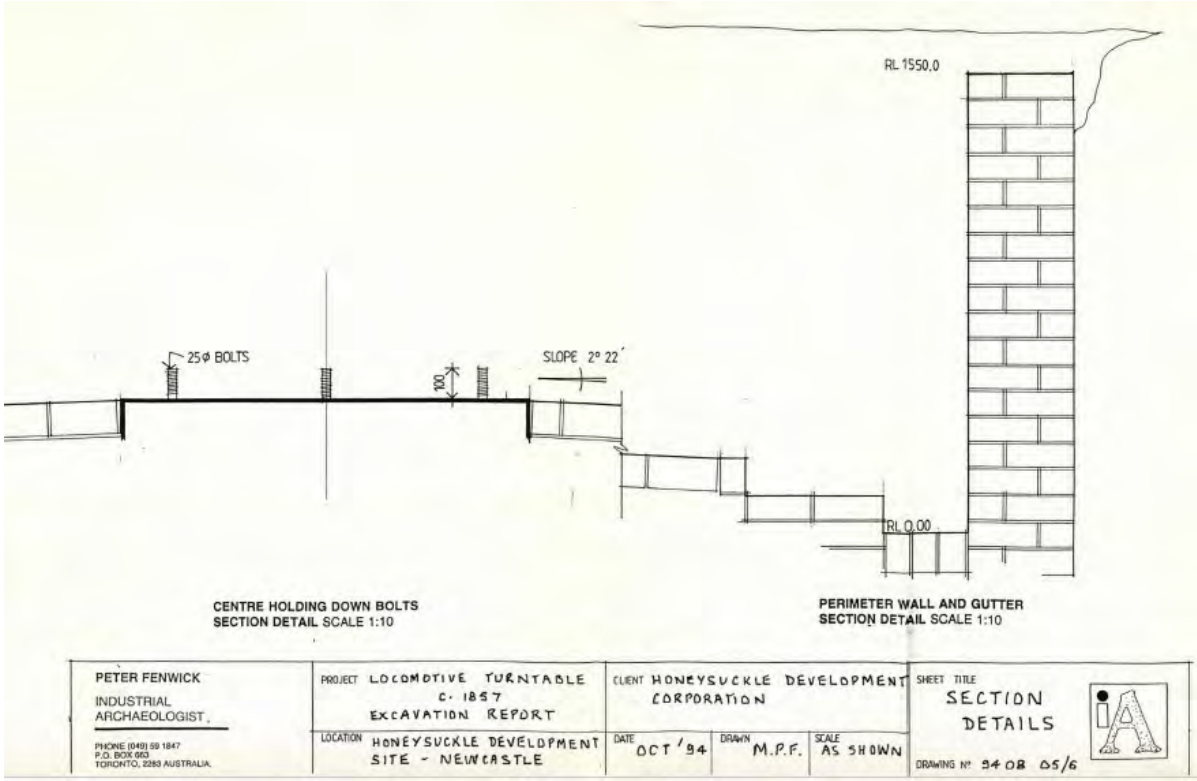

Figure 2.7 Archaeological Section Detail of Locomotive Turntable

Source: Fenwick 1994.

3.0 Archaeological Management Plans

3.1 Newcastle Archaeological Management Plan 1997

The Newcastle AMP 1997 (NAMP 1997) was prepared to give an indication of the nature and extent of historical archaeological resources in central Newcastle and to provide a framework to ensure historical archaeological resources are recognised and integrated into the urban planning framework.

While the NAMP has no legal status, it is a planning tool that provides an overview of areas that require the consideration of archaeological issues in conjunction with any development applications.

The NAMP identified nine archaeological precincts within Newcastle that define areas 'in which a common pattern of development has occurred and may be expected to contain an archaeological resource of some cohesive characteristic' (Suters 1997:40). The Project Area falls within the 'Harbour Foreshore 1860' Precinct 8; described as:

> *The land north of Hunter Street being the original Harbour Foreshore. This includes the previously identified Honeysuckle Point, and that narrow strip of land controlled by the AA Company. Associated with the development of the railways, coal loading, wharfage and industry (Suters 1997).*

The Honeysuckle Point Railway Turntable (the former locomotive turntable located within the Project Area) is listed as indicative site 1034 (refer to **Figure 3.1**):

The archaeological resource and condition of the Honeysuckle Point Railway Turntable (Indicative site 1034) is described by the NAMP as:

> *Brick-lined circular pit still survives. In good condition. It was partly excavated recently by P. Fenwick, then reburied....iron turntable beam removed long ago. Circular masonry pit filled and buried c1905. It is still on railway land...possibly oldest surviving railway relic in NSW. Conserve and eventually expose pit (Suters 1997).*

The NAMP 1997 further describes the turntable as:

> *The turntable comprised an iron beam (like a bridge span), pivoted to turn 360 degrees within a circular brick-lined pit, about 10 metres diameter. Rails on top of the rotating beam could be lined up with other sets of rails radiating into the yard. A loco would run onto the turntable from one set of yard rails, then the turntable swung manually to direct the loco into another set of yard rails, or turned 180 degrees to send the loco back onto the first set of rails, but facing the opposite way.*
>
> *'Two 36 ft diameter turntables were ordered from England In 1853/55. One was Installed at Honeysuckle In 1857, mainly to allow steam locomotives arriving at Honeysuckle terminus to turn around and face the right way for the journey out again. The turntable became inadequate as locomotives became larger. By c1905,*

the turntable pit had been filled in, and a shed built over the top. The pit still exists, and is now possibly the oldest surviving railway relic in NSW (Suters 1997).

Figure 3.1 Detail of AMP 1997 plan showing indicative archaeological sites

Approximate Project Area shaded red. Indicative site 1034 (Honeysuckle Point Railway Turntable) is shown within the Project Area.

Source: Newcastle City Council 2008 / Suters 1997.

3.2 Draft Newcastle Archaeological Management Plan Review 2013

The NAMP 1997 is currently being reviewed. At present the AMP Review is a draft working document, however, as stated by Council (2015) the NAMP 1997 and the AMP Review 2013 should both be utilised and are both identified as the current operative documents.

The Project Area falls within AMP Review Inventory No. 2176282; noting that Inventory No. 2176282 covers an extensive area of which the Project Area comprises only a small portion (refer to **Figure 3.2**). The potential archaeological resource and significance of the potential railway and port infrastructure archaeological resource of the Inventory No. 2176282 is described as:

A number of the archaeological sites on this block are likely to survive, except for the recent development with basement car parking. This may include below ground remains of the Railway Workshops, the urban development dated from the 1850s and 1860s, as well as below ground evidence for Lee Wharf

The railway from Newcastle to Maitland is of State significance. Opened from Honeysuckle Point Station in 1857 and extended to Newcastle in 1858, it was the second passenger railway network in New South Wales. The Railway Workshops at Honeysuckle Point are also of state significance as the second largest railway workshops in New South Wales, the Eveleigh Workshops in Sydney being the largest (Edward Higginbotham & Associates 2013).

Figure 3.2 Detail of AMP Review Inventory of Archaeological Sites Map

Approximate project area shaded yellow within the larger Inventory No. 2176282.

Source: Edward Higginbotham & Associates 2013.

4.0 Locomotive Turntable Exclusion Zone

The former locomotive turntable is located within the northeast corner of the Project Area outside the proposed building footprint and will not be physically impacted (refer to **Figure 1.2**). The turntable will be retained in situ and interpreted in accordance with CoA C43 and C45 and as detailed in:

- Stage 1B of the University Newcastle City Campus Student Accommodation Project Heritage Interpretation Strategy (Umwelt 2024)
- University Newcastle City Campus Student Accommodation Project Heritage Interpretation Plan (Umwelt 2025 in prep).

Since the 1994 archaeological investigation the turntable has been protected (and remains protected) within a fenced area (an exclusion zone) (refer to **Table 4.1**).

Table 4.1 Locomotive Turntable Exclusion Zone

Locomotive Turntable Exclusion Zone Photographs	
2010 aerial photograph showing protected fenced area Nearmaps 2010	2025 aerial photograph showing protected fenced area Nearmaps 2025
2024 photograph to northwest showing protected fenced area Umwelt 2024	2024 photograph to south showing protected fenced area Umwelt 2024

Locomotive Turntable Exclusion Zone Photographs

2025 (current) photograph to east showing protected fenced area (exclusion zone) within the Project Area

Umwelt 2025

2025 (current) photograph to east showing protected fenced area (exclusion zone) within the Project Area

Umwelt 2025

2025 (current) photograph to north showing protected fenced area (exclusion zone) within the Project Area

Umwelt 2025

2025 (current) photograph to north showing protected fenced area (exclusion zone) within the Project Area

Umwelt 2025

5.0 Archaeological Method Statement

In accordance with CoA C44 this archaeological method statement has been prepared to guide archaeological monitoring undertaken to ensure the location and elevation of the turntable is known and accurately recorded. This will enable the turntable to be protected during proposed Project works to ensure no inadvertent impacts occur to the below ground structure of the turntable and to inform the interpretation of the turntable and final Project design of the former turntable area.

5.1 Archaeological Works

The archaeological works will comprise removing the grass and associated soil currently covering the turntable to expose the top of the turntable circular brick wall to enable the surveying and recording of the top of the structure.

Excavation works (removal of grass and associated soil) will be undertaken both manually (by hand) and mechanically (using a small excavator with a small flat/mud bucket). All mechanical excavation will be directed and monitored by an archaeologist to ensure there are no physical impacts to the turntable and will revert to hand tools once the turntable wall is uncovered. It is noted the intent of the excavation work is to expose and record the circular wall only and no excavation of the internal fill (or any external deposit) of the turntable will be undertaken.

Following the exposure of the top of the circular turntable wall, the structure will recorded in accordance with the requirements of Heritage NSW and accepted best practice procedures. This is expected to include photographic recording (including drone photography), measured drawing and survey by the Project surveyor.

As a result of the nature of the investigation (removal of post 1994 topsoil and grass) no archaeological deposits or artefactual material is expected to be disturbed or uncovered.

A report detailing the archaeological works and recording of the turntable will be prepared following the completion of the works.

5.2 Post Archaeological Work Protective Measures

Following the completion of the archaeological exposure and recording of the turntable a layer of geo-textile will be placed over the exposed turntable. The geo-textile will be covered with up to 200 mm of clean sand before a temporary gravel base is placed across the area of the former turntable.

The location of the turntable will remain a clearly demarcated exclusion zone with clearly visible boundaries and signage. No physical / ground disturbance Project works will be undertaken in the area of the turntable with the exception of the area being utilised as a temporary laydown area for materials if required.

The Project Heritage Interpretation Plan (Umwelt 2025 in prep) and final design of the former turntable area will be informed by the results of the archaeological works.

6.0 References

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Umwelt 2025 in prep. Stage 1B of the University Newcastle City Campus Student Accommodation Project Heritage Interpretation Plan

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7.5 Aboriginal & Cultural Heritage Management Plan (ACHMP)

umwelt
Environmental & Social Consultants

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

UNIVERSITY OF NEWCASTLE CITY CAMPUS STUDENT ACCOMMODATION: SSD-61618229

Aboriginal Cultural Heritage Management Plan

FINAL

August 2025

UNIVERSITY OF NEWCASTLE CITY CAMPUS STUDENT ACCOMMODATION: SSD-61618229

Aboriginal Cultural Heritage Management Plan

FINAL

Prepared by
Umwelt (Australia) Pty Limited
on behalf of
The University of Newcastle

Project Director: Ryan Desic
Project Manager: Alison Fenwick
Report No. 23355/R01
Date: August 2025

This report was prepared using Umwelt's ISO 9001 certified Quality Management System.

Acknowledgement of Country

The University of Newcastle acknowledges the traditional custodians of the lands which the University resides: the Awabakal, Darkinjung, Biripai, Worimi, Wonnarua and Eora Nations..

We also pay our respect to the wisdom of the Elders, past, present and emerging. The University would like to extend this acknowledgement to the Awabakal and Worimi who are the traditional custodians of the land upon where the City Campus Student Accommodation site is located.

The University recognise that First Nations sovereignty was never ceded. This continent always was and always will be Aboriginal Land.

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Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
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1.0 Introduction

1.1 Background

The University of Newcastle is progressing with Stage 1B of the University's City Campus, including a nine-storey building for the purpose of campus student accommodation and ground floor retail (herein referred to as 'the Project').

The Project is identified as a State Significant Development (SSD) site by virtue of Condition A5 of the Concept Plan SSD-9262 Consent and by virtue of Schedule 2 of State Environmental Planning Policy (Planning Systems) 2021. A Concept Plan (SSD-9262) granted approval by the Minister for Planning and Public Spaces on 21 May 2020, applies to the site. The Concept SSD established the maximum building envelope, gross floor area and preferred land use to facilitate the future redevelopment of the site. Additionally, the Concept Proposal provides a design excellence framework to guide future development within the building envelopes and achieve design excellence.

Secretary's Environmental Assessment Requirements (SEARs) were issued for the Project on 31 August 2023 under SSD-61618229. An environmental impact statement (EIS) was prepared to accompany the development application for the Project and address the requirements of State agencies under the NSW *Environmental Planning & Assessment Act 1979* (EP&A Act). An Aboriginal Cultural Heritage Assessment (ACHA) (Umwelt 2024) was prepared to inform the Project EIS.

Development consent (the consent) was granted by the Department of Planning, Housing and Infrastructure (DPHI) in May 2025. The consent requires the preparation and implementation of management plans, strategies, protocols and procedures detailing environmental commitments, controls and performance objectives throughout Project construction and operation. This Aboriginal Cultural Heritage Management Plan (ACHMP or 'the plan') is required in accordance with Condition of Approval (CoA) B56 and associated protocols, management and mitigations set out for Aboriginal heritage in the consent.

This plan incorporates the relevant management measures presented in the Project EIS (Umwelt 2024) prepared for the Project and submitted as part of the EIS.

1.2 Project Overview

1.2.1 Project Area

The University of Newcastle City Campus is located within the City of Newcastle Local Government Area (LGA) at 16 Honeysuckle Drive, Newcastle (**Figure 1.1** and **Figure 1.2**). It is on the lands of the Awabakal and Worimi peoples.

Specifically, Site B (Stage 1B in the approved concept masterplan) is located at the southwestern corner of the University's City Campus. Site B has an overall area of 3,341 m^2 and is legally described as Lot 2 in DP 1247375. Landscaping and public domain works will be undertaken in a portion of Wright Lane and is legally described as Lot 5 in DP 1247375. Together, these areas comprise the 'Project Area'. Both Lot 2 and Lot 5 in DP 1247375 are owned by the University of Newcastle.

FIGURE 1.1
Local Context

Legend

- Project Area
- Waterbody
- Watercourse
- Road
- Track

0 25 50
Metres

Scale 1:2,500 at A4
GDA2020

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Image Source: NearMap (2023) | **Data Source:** NSW DFSI (2023)

FIGURE 1.2
Regional Context

Legend

- Project Area
- Suburb
- Waterbody
- Watercourse
- Road

0 200 400
Metres

Scale 1:10,000 at A4
GDA2020 MGA Zone 56

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Image Source: ESRI (2023) | **Data Source:** NSW DFSI (2023)

1.2.2 Project Overview

1.2.2.1 Overview

The Project will generally involve the following works, as illustrated in **Figure 1.3**:

- Construction of a nine (9) storey building (known as Building B), to be used for campus student accommodation and retail. Building B will have a maximum gross floor area (GFA) of 10,765 m^2, comprising of:
  - Approximately 130 m^2 of retail floor space at ground level
  - Approximately 683 m^2 of communal residential amenity facilities at ground level
  - Approximately 9,520 m^2 of student accommodation including a total of 445 beds.
- Maximum building height of Reduced Level 33.85 (nine storeys excluding plant and services).
- Maximum height of RL 37.53 (building including plant and services).
- End of trip facilities, including 90 bicycle spaces and back of house amenities.
- Landscaping and public domain works.
- The ground floor level will be built-up to RL 2.9 which is approximately 500 mm (on average) above the ground level across the Project Area.

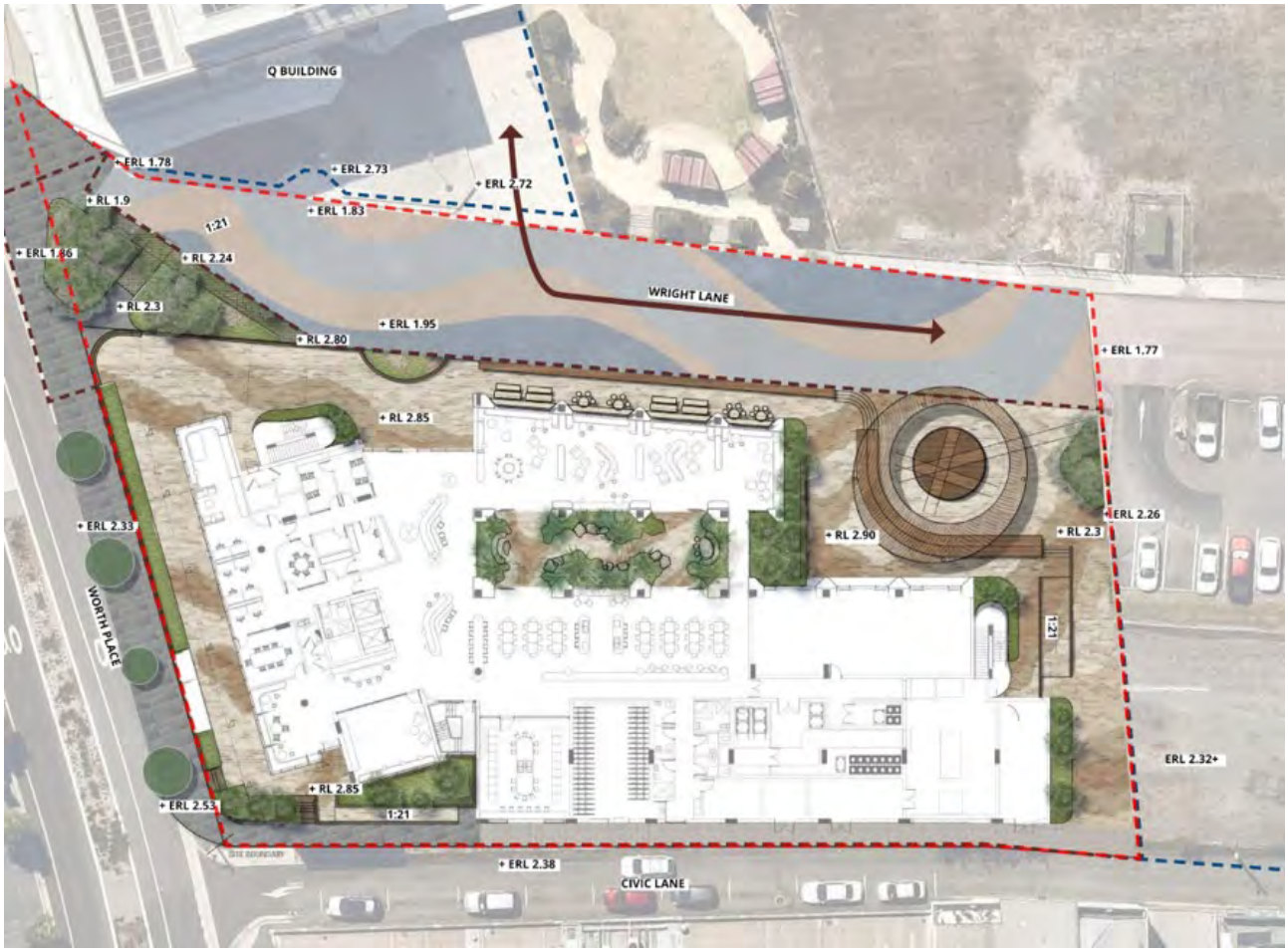


Figure 1.3 The Project Design Concept

1.2.2.2 Ground Disturbing Activities

The Project will involve a range of construction activities incorporating various heavy machinery, plant and equipment that will operate in several locations across the Project Area. Only Project activities that will extend to certain depths below current ground level within the original shoreline of the Hunter River have potential to impact the Aboriginal cultural heritage values associated with the Project Area (present as the archaeological resource of AHIMS #38-4-2024).

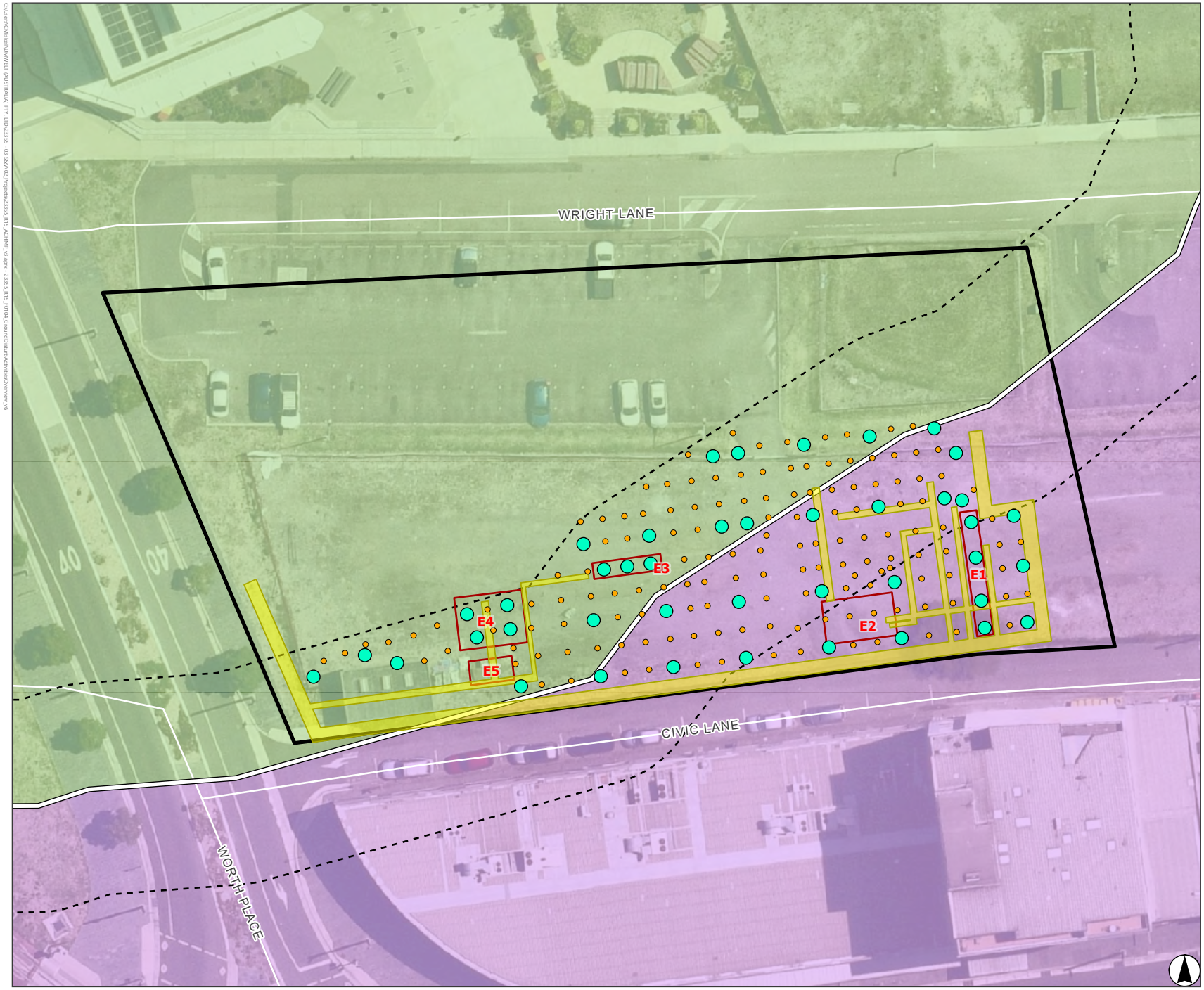
Ground disturbing activities with the potential to intersect with the underlying archaeological deposit are limited because the ground floor level will be built-up to RL 2.9 which is approximately 500 mm (on average) above the ground level across the Project Area. This will generally result in an approximate 1 m buffer between the new building level to the archaeological deposit, except for the specific activities that are addressed in this section.

The Project includes construction activities that will require ground disturbance. As outlined in **Table 1.1** and in **Figure 1.4**, sub-structure and sub-surface services will require excavation and earthworks to varied depths. All ground disturbance activities will be contained within the Project Area. However, the final depths of excavation may vary based on required build. **Figure 1.4** illustrates an overview of the proposed ground disturbance activities within the Hunter River shoreline inclusive of a 10 m buffer.

As outlined in the ACHA (2024) and discussed in **Section 4.1,** Project works undertaken at depths exceeding ~400 mm from current ground surface and within the original Hunter River shoreline may intersect natural soils with archaeological deposits. This is dependent on the location and nature of the works but provides a conservative estimate so that all relevant Project activities are assessed for their potential impacts to the archaeological resource.

FIGURE 1.4

Overview of Ground Disturbing Activities



Legend

- Project Area
- Trenching
- Service Trenching
- Auger Locations (350 mm)
- Piling Locations (900 mm)
- Moderate to High Aboriginal Archaeological Sensitivity
- Low Aboriginal Archaeological Sensitivity
- Approximate alignment of the original Hunter River Shoreline (1857 – Hunter River railway through Newcastle, F. W. Darby)
- Approximate alignment of the original Hunter River Shoreline (10 m Buffer)
- Road

0 10 20

Metres

Scale 1:500 at A4
GDA2020 MGA Zone 56

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Image Source: NearMap (2023) | **Data Source:** NSW DFSI (2023)

Table 1.1 Ground Disturbing Activities

Project Component	Activity Causing Impact/Potential Impact to Aboriginal Heritage
Installation of piles and pile caps	Localised earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Pile diameter: 900 mm. Estimated range of depth: <500 mm to 1,500 mm below ground surface. Quantity: 44 piles within Hunter River shoreline inclusive of 10 m buffer.
Stormwater services	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 500 mm to 1,400 mm below ground surface. Lineal meters of trenching: 200 m within Hunter River shoreline inclusive of 10 m buffer.
Lint trap and sewer line	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 600 mm to 800 mm (internal), 1,700 mm to 2,000 mm (external) below ground surface. Lineal meters of trenching: 50 m extra over the shared trench with other services within Hunter River shoreline inclusive of 10 m buffer.
Common service trench	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 600 mm to 2,000 mm below ground surface. Lineal meters of trenching: incl in other trenching works within Hunter River shoreline inclusive of 10 m buffer.
Electrical cable trench	Trenching and earthworks that involve the disturbance of potentially artefact bearing sub-surface soils. Estimated range of depth: 1,000 mm to 1,200 mm below ground surface. Lineal meters of trenching: 80 m within Hunter River shoreline inclusive of 10 m buffer.
Ground improvement works	Review of geotechnical information during detailed design has identified the need for additional ground improvement work. The method involves the use of rigid inclusions to enhance ground stability. Rigid inclusions will be installed using a displacement auger (i.e. augured material will be retained underground rather than being brought to the surface). Estimated depth: 7,000 mm below ground surface. Auger diameter: 350 mm Quantity: 144 auger locations within mapped Hunter River Shoreline including buffer** Total footprint: 13.8 m^2

**Note that the* ground floor level *will be built-up to RL 2.9, approximately 500 mm (on average) above the ground level across the Project Area.*
*** Note that the number of auger locations within the actual shoreline would be dependent on the accuracy of historical mapping. The estimate of 144 is a conservative estimate based on the entire buffered area and is likely to be less than this estimate.*

1.3 Purpose and Objectives

This ACHMP describes how the University of Newcastle will manage impacts to Aboriginal cultural heritage values within the Project Area during Project construction and utilisation.

Specific objectives of the ACHMP are to address CoAs by providing requirements on:

- processes to maintain ongoing consultation with the Project's registered Aboriginal parties (RAPs) and Heritage NSW

- management procedures for Aboriginal cultural heritage values associated with the Project during pre-construction and construction phases
- protocols and procedures for new cultural finds, including Aboriginal objects and human remains
- other administrative requirements, including post-project management of Aboriginal heritage finds and recovered material, ongoing compliance, regular review and update of the ACHMP to ensure its functionality is maintained through the Project.

The ACHMP is prepared for a mixed audience of consent authorities, environmental regulators, Aboriginal stakeholders and site personnel; the latter of which are responsible for implementing this plan as part of day-to-day operations.

1.4 ACHMP Implementation

1.4.1 Implementation

Prior to commencing construction, the University of Newcastle will prepare and submit this ACHMP for the development to the satisfaction of DPHI.

1.4.2 Roles for Implementation

University of Newcastle will implement this ACHMP as approved by the CoAs. The individuals responsible for the implementation of the plan are provided in **Table 1.2**. The plan will be stored in University of Newcastle's document control system; the latest version will be available electronically at all times. As the document owner, University of Newcastle is the contact point for this plan and its requirements and will provide guidance and training to any person that requires additional training regarding this plan.

Table 1.2 Roles and Responsibilities for Aboriginal Heritage Management

Role	Responsibilities
Project Manager (University of Newcastle)	• Ensure that the ACHMP is implemented as approved by the Secretary. • Ensure adequate financial and personnel resources are made available for the implementation of this plan.
Environment and Stakeholder Advisor (University of Newcastle)	• Ensure the implementation of this plan is carried out appropriately during construction/operations. • Ensure the Aboriginal heritage management measures required to be undertaken prior to ground disturbance activities are conducted in accordance with the measures outlined in this plan. • Distribute copies of this plan as required. • Engage and coordinate relevant specialist personnel to undertake management measures or additional assessment as specified in this plan. • Arrange for a review of this plan in accordance with review cycles and conditions specified in this plan.
Project Archaeologist	• Implementing relevant management measures that require archaeologist supervision. • Primary contact with RAPs • Maintain records of Aboriginal consultation. • Ensure relevant reporting, data management and registration is conducted, maintained and updated.

Role	Responsibilities
	• Undertaking heritage assessments where required. • Assistance in implementing responsibilities of the Environment and Stakeholder Advisor, where engaged by University of Newcastle.
Construction Manager (or delegate) and HSE Support (Principal Contractor)	• Manage the implementation of this plan during construction and operation (Construction Manager). • Reporting new/unexpected finds, incidents or non-compliance (Construction Manager and HSE Support). • Authorizing stop work in the event of new/unexpected finds (Construction Manager or delegate). • Ensure inclusion of Aboriginal heritage in work inductions through delivery or input to induction documents (Construction Manager and HSE Support).

1.5 Document Structure

The structure of the ACHMP is outlined in **Table 1.3.**

Table 1.3 Structure of the ACHMP

Section	Content
Section 1.2.2 **Section 1.3**	Provides an overview of the Project and objectives of the plan.
Section 2.0	Outlines statutory requirements associated with the development consent, and regulator consultation undertaken by the specialist in developing the plan.
Section 3.0	Provides an overview of Aboriginal consultation completed for the Project, and processes to maintain ongoing consultation with the Project 's registered Aboriginal parties (RAPs).
Section 4.0	Provides an overview of the Aboriginal cultural heritage context of the Project Area and surrounds which has provided the basis for the Aboriginal heritage management measures presented in this ACHMP.
Section 5.0	Provides management procedures for Aboriginal cultural heritage for the Project during pre-construction and construction. Provides protocols and procedures for new cultural finds, including Aboriginal objects and human remains.
Section 5.2.3	Provides the archaeological excavation methodology for the relevant Aboriginal sites requiring this management measure.
Section 6.0	Provides requirements, procedures and protocols for compliance, training, review and improvement.
Section 7.0	References.
Appendix 1	Provides site definitions and descriptions for a range of Aboriginal site types.
Appendix 2	Provides details of Aboriginal consultation undertaken in preparing the ACHMP.
Appendix 3	Provides an overview of relevant legislation and reporting requirements under NSW law.

1.6 Authorship

The ACHMP was prepared by Umwelt Archaeologist Alison Fenwick and Principal Archaeologist, Aboriginal Heritage Team Leader Ryan Desic (BA Hons Historical and Prehistoric Archaeology) who are suitably qualified and experienced archaeologist and heritage consultants.

2.0 Statutory Requirements

2.1 Development Consent

This ACHMP has been prepared in accordance with the development consent. **Table 2.1** presents the consent conditions relevant to the ACHMP and identifies where each condition has been addressed in this plan.

Table 2.1 Management Plan Requirements Relevant to Aboriginal Cultural Heritage

Condition No.	Condition Requirement	Section Reference
B56	Prior to the commencement of works, the Applicant must prepare an ACHMP for the development. This plan must:	
	a. be prepared by a suitably qualified and experienced person	**Section 1.6**
	b. be prepared in consultation with the RAPS and reviewed by Heritage NSW	**Section 3.3**
	c. include a methodology for a test excavation and salvage excavation program with Aboriginal Stakeholder participation of sites to be impacted with consideration to understanding site characteristics, and local and regional archaeological context	**Section 5.0**
	d. include a description of the measures (and associated methodologies) that would be implemented for:	
	i) salvaging and relocating the Aboriginal heritage items located within the approved development footprint;	**Section 5.2**
	ii) include updated baseline mapping of the heritage items within and adjoining to the development disturbance area;	**Section 4.2**
	iii) include updated mapping of all areas that have been and will be subject to test excavations, and salvage excavations;	**Section 5.2.3**
	iv) include conservation options for the mitigation and avoidance to impacts AHIMS registered sites situated within and outside the project footprint;	**Section 5.0**
	v) include a procedure for assessing significance of Aboriginal Objects identified during the test excavations, and salvage excavation and ensure that the management and mitigation measures are considered for all sites, and with special consideration for those of high significance	**Section 5.0**
	vi) the long-term management of any Aboriginal heritage items or material collected during the test excavations or salvage works;	**Section 5.5.2**
	vii) ensuring workers on site receive suitable heritage inductions prior to carrying out any development on site, and that records are kept of these inductions;	**Section 6.3**
	viii) ongoing consultation with RAPs during the implementation of the ACHMP;	**Section 3.3.2**

Condition No.	Condition Requirement	Section Reference
	ix) preparing Aboriginal Site Impact Recording Form/s (ASIRFs) for all Aboriginal heritage sites following construction activities with ASIRFs to be submitted to the Aboriginal Heritage Information Management System (AHIMS) registrar.	**Section 5.6** **Section Appendix 3**
	e. include a contingency plan and reporting procedure including: i. an Unexpected Heritage Finds and Human Remains Procedure prepared in relation to Aboriginal Cultural heritage, with these measures to be prepared in accordance with the guidelines and standards specified by Heritage NSW, be implemented for the duration of the project and to include the requirement to register any newly identified Aboriginal objects or sites in the AHIMS database.	**Section 5.4**
	f. include a program to monitor and report on the effectiveness of these measures and any heritage impacts of the project.	**Section 6.0**
B57	Upon the completion of Aboriginal cultural heritage test and salvage excavations, an Aboriginal Cultural Heritage Excavation Report (s), prepared by a suitable qualified expert. The Aboriginal Cultural Heritage Excavation Report(s) must:	**Section 5.6**
	a. be prepared in accordance with the Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW, 2011 and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, 2010; and	
	b. document the results of the archaeological test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds)	
	c. The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. The final report must be provided to the Planning Secretary, Heritage NSW, the relevant Councils, and the relevant Local Aboriginal Land Council, and the RAPs within 24 months of the completion of the Aboriginal archaeological collections and excavations (both test and salvage).	
C35	All reasonable steps must be taken so as not to harm, modify or other impact Aboriginal objects except as authorised by this approval.	**Section 5.2**
C36	The Registered Aboriginal Parties (RAPs) must be kept informed about the SSD. The RAPs must continue to be provided with the opportunity to be consulted about the Aboriginal Cultural heritage management requirements of the SSD.	**Section 3.3.2**

2.2 Statutory Context

Legislation and its relevance to the Project is summarised in **Table 2.2**. Further details of statutory obligations relating to Aboriginal cultural heritage is provided in **Appendix 3**.

Table 2.2 Commonwealth and State Legislation Relevant to the ACHMP

Legislation	Description	Relevant to the Project?	Details
Commonwealth			
Environment Protection and Biodiversity Conservation Act 1999	Recognises sites with universal value on the World Heritage List (WHL). Protects Indigenous heritage places with outstanding heritage value to the nation on the National Heritage List (NHL), and significant heritage value on the Commonwealth Heritage List (CHL).	No	There are no Indigenous heritage places within the project area that are listed on the WHL, NHL, or the CHL.
Native Title Act 1993	Administers rights and interests over lands and waters by Aboriginal people. Provides for negotiation and registration of Indigenous Land Use Agreements (ILUAs). Often used in NSW to identify relevant stakeholders for consultation.	No	No native title claim applications or determinations or Indigenous Land Use Agreements exist over the Project area.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	Preserves and protects areas and objects of particular significance to Aboriginal people that are under threat from injury or desecration.	No	There are no areas or objects within the project area subject to a Declaration under the Act.
State			
Environmental Planning and Assessment Act 1979	Requires environmental impacts, including to Aboriginal heritage, to be considered in land use planning. Provides for the development of environmental planning instruments, including State Environmental Planning Policies and Local Environmental Plans.	Yes	The Project was assessed as a State Significant Development (SSD) and approval of this plan is required by DPHI.
National Parks and Wildlife Act 1974 (NPW Act)	Provides blanket protection for all Aboriginal objects and declared Aboriginal places. Includes processes and mechanisms for development where Aboriginal objects are present, or where Aboriginal Places are proposed for harm.	Yes	The NPW Act generally remains in force for the Project in relation to the discovery, impact notification and care of Aboriginal objects in NSW. However, as the Project is classed as SSD, an Aboriginal heritage impact permit (AHIP) is therefore not required to permit harm to Aboriginal objects associated with the Project. Instead, the SDD consent and an approved ACHMP serve as an approval to impact on and manage impacts to Aboriginal objects associated with the Project Area.

2.3 Regulator Consultation

CoA B56 (b) requires this plan to be prepared in consultation with Heritage NSW. The ACHMP will be provided to Heritage NSW for review through the DPHI Major Projects portal and their comments addressed. Correspondence with Heritage NSW will be attached to the ACHMP as **Appendix 2**.

3.0 Aboriginal Consultation

3.1 Registered Aboriginal Parties

There are 17 Aboriginal parties registered for the Project and are listed in **Table 3.1.** The RAPs were identified, registered and consulted as part of the ACHA (Umwelt 2024).

Table 3.1 List of Project RAPs

Organisation	Contact name	Phone	Email
ADTOAC	Peter Leven	0405 149 684	peterleven@y7mail.com
AT Gomilaroi Cultural Consultancy	Aaron Talbott	0457 165 736	ngurrugu74@outlook.com
Didge Ngunawal Clan	Lilly Carroll	0426 823 944 0450 616 404	didgengunawalclan@yahoo.com.au
Long Gully Cultural Services	Ethan Trewlynn	0401 424 853	Ethan3trewlynn@gmail.com
Gomery Cultural Consultants	Leanne Kirkman	0458 532 707	leannekirkman1964@gmail.com
Jarban & Mugrebea	Les Atkinson	0466 316 069	Les.atkinson@hotmail.com
Murra Bidgee Mullangari Aboriginal Corporation	Darleen Johnson	0490 051 102 0475 565 517 0497 983 332	murrabidgeemullangari@yahoo.com.au
Nukara Indigenous Cultural & Heritage	Olivia Connors	0493 550 687 0450 137 512	cmcdougall49@yahoo.com
Thomas Dahlstrom	Thomas Dahlstrom	0403 529 119	gamila_roi@yahoo.com.au
Widescope Indigenous Group	Donna Hickey/ Steve Hickey	0425 230 693 0425 232 056	Widescope.group@live.com
Worimi Traditional Owners Indigenous Corporation (Worimi TOC)	Candy Towers	0412 475 362	worimitoc@hotmail.com
A1 Indigenous Services	Carolyn Hickey	0411 650 057	Cazadirect@live.com
Awabakal LALC	Brent Ellis	(02) 4965 4532	reception@awabakallalc.com.au brent.ellis@alalc.com.au
Kevin Duncan	Kevin Duncan	0431 224 099	kevin.duncan@bigpond.com
Awabakal Traditional Owners Aboriginal Corporation	Kerrie Brauer	0412 866 357	Kerrie@awabakal.com.au
Lower Hunter Aboriginal Incorporated	David Ahoy	0421 329 520	lowerhunterai@gmail.com
Awabakal & Guringai	Tracey Howie	0412 866 357 0404 182 049	tracey@guringai.com.au; kerrie@awabakal.com.au

3.2 Previous Consultation for the Project ACHA

The *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010a) were followed for the ACHA. RAPs were invited to provide cultural information about the Project, were provided with draft assessment and fieldwork methods for review, were kept consulted about Project updates and management and were provided with assessment documentation for review and comment.

The consultation period for the preparation and finalisation of the ACHA took place between September 2023 and March 2024. Further details about this process is document in the ACHA (Umwelt 2024).

3.3 Consultation in Developing this Plan

3.3.1 Original Version April 2025

In accordance with CoA B56(b), Umwelt has consulted RAPs in developing this plan. Aboriginal consultation for this ACHMP was approached in a manner consistent with the requirements set out in the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010a). Consultation was undertaken with existing RAPs**,** who have been involved in the consultation process since the preparation of the ACHA (Umwelt 2024). Documentation of the consultation process, correspondence and its outcomes is included in **Appendix 2**.

Umwelt issued a draft of the ACHMP to RAPs on 17 April 2025 via email that offered a 28-day review period for RAPs to provide feedback. This was followed by a reminder about the review period on 7 May 2025. **Table 3.2** provides a summary of RAP feedback, responses to feedback, and where relevant, references to where the ACHMP has been updated to address the feedback. **Appendix 1** includes original copies correspondence.

Table 3.2 RAP Feedback on Draft ACHMP

Summary of RAP Feedback	University of Newcastle Response
Didge Ngunawal Clan	
Email response expressed that Didge Ngunawal supports the draft ACHMP.	No response required.
Long Gully Cultural Services	
Email response expressed that Long Gully Cultural Services supports the draft ACHMP.	No response required.
Jarban & Mugrebea	
Email response expressed that Jarban & Mugrebea supports the draft ACHMP.	No response required.

Summary of RAP Feedback	University of Newcastle Response
Kevin Duncan	
Email response which opposed the identification of the Worimi as Traditional Owners of the Newcastle district. He requested that the reference to Worimi be removed, in the context of being Traditional Owners. No further comments were provided.	The inclusion of the Worimi people as Traditional Owners in Newcastle is consistent with the position of the University of Newcastle. In order to align with the University's position, no changes will be made to the in-text reference in the cover pages of this document.
Awabakal Traditional Owners Aboriginal Corporation	
Email response which raised concerns regarding the wording of the Acknowledgement of Country. The current Acknowledgement of Country, states "***The University of Newcastle acknowledges the traditional custodians of the lands within our footprint areas: the Awabakal, Darkinjung, Biripai, Worimi, Wonnarua and Eora Nations***". Kerrie has expressed that this is inappropriate, given that Newcastle, and subsequently the Project, is located within Awabakal Country.	The University of Newcastle has amended the wording of the Acknowledgement of Country in order to clarify that the wording is inclusive of additional University sites, outside of the current Project Area. Further correspondence with ATOAC sought to clarify this and ensure that the re-wording was suitable.
Awabakal Descendants Traditional Owners Aboriginal Corporation	
Email response outlining that ADTOAC support the draft ACHMP. Peter Leven further provided comment regarding Section 5.5 Management of Salvaged Aboriginal Objects, of the draft ACHMP: ***Any recovered Cultural material is to be reburied in a Culturally appropriate manner onsite following any scientific analysis.*** Additional correspondence via the phone further expanded upon the potential use of any identified artefactual material in the heritage interpretation of the Project Area. Peter Leven expressed that whilst it would be beneficial to the wider Newcastle community to engage with identified cultural artefacts, the risks associated with a public setting and public accessibility of the site would necessitate strict controls. Peter put forward a suggestion to create 3D printed models of any identified artefactual material, to be incorporated into any future interpretation plans. This approach would allow for the repatriation of all cultural material on site, as previously discussed.	**Section 5.5.2** details a process to identify and implement appropriate long-term management of any recovered artefacts. This process allows for flexibility and requires further consultation to resolve final long term arrangements.

3.3.2 Revision 1 August 2025: Ground Improvement Works

The ACHMP has been updated in August 2025 in response to proposed additional ground improvement works within the Project Area involving the use of rigid inclusions to enhance ground stability. **Table 1.1** in **Section 1.2.2.2** provides further detail about the nature of this activity.

Umwelt issued a revised draft of the ACHMP to RAPs on 14 August 2025 via email that offered a 14-day review period for RAPs to provide feedback. This was followed by a reminder on 28 August 2025. Table 3.3 provides a summary of RAP feedback, responses to feedback, and where relevant, references to where the ACHMP has been updated to address the feedback. **Appendix 1** includes original copies correspondence.

Table 3.3 RAP Feedback on Revised ACHMP

Summary of RAP Feedback	University of Newcastle Response
Worimi TOC	
Email response expressed that Worimi supports the revised ACHMP.	No response required.
A1 Indigenous Services	
Email response expressed that A1 Services supports the revised ACHMP.	No response required.
Murra Bidgee Mullangari Aboriginal Corporation	
Email response expressed that Murra Bidgee Mullangari Aboriginal Corporation supports the revised ACHMP.	No response required.
Thomas Dahlstrom	
Email response which confirmed the revised ACHMP was received. No further comments were provided.	No response required.

The ground improvement works were not reflected in the original ACHMP and therefore additional consultation was undertaken to notify RAPs of the proposed changes; develop an updated version of the ACHMP that accounts for the ground improvement works; and allows for appropriate revised management measures.

On 7 August 2025, a preliminary meeting was held by University of Newcastle and the RAP representatives undertaking archaeological works (ADTOAC, Worimi TOC and Awabakal LALC) to discuss the ground improvement works.

Through consultation it was acknowledged that the ground improvement works would result in an increase to the Project's cumulative impact on the archaeological deposit of 'UoN PAD 1' (AHIMS #38-4-2024). Despite the proposed augering method involving displacement rather than removal of soils, the activity would still have the potential to harm Aboriginal objects. RAPs expressed their desire for the additional impact/harm to be mitigated but recognised that there was not a reasonable method available to respond to individual 35 cm diameter auger locations in a controlled archaeological way[1]. Instead RAPs expressed their desire for the impact of the ground improvement works to be offset by allocating more scope to open area excavation without the requirement to excavate strictly where Project ground disturbing activities are proposed. Umwelt agrees that this method would be more valuable from an archaeological perspective as it could better address the archaeological research aims to best characterise the local deposit and explore the nature of the original Hunter River Shoreline via potentially a linear trench(es) of 1 m x 1 m pits that span from the foreshore and into the shoreline.

To account for the above discussion, Umwelt has updated the archaeological mitigation measures in **Section 5.2** with the following key changes:

[1] For example, monitoring of augered soil at each would result in a mixed/disturbed deposit with no vertical integrity to recovered archaeological material.

- Allowance for open area salvage excavation to increase from 40 m^2 to 54 m^2. This calculation has been made to directly offset the 144 x 35 cm auger locations within the mapped Hunter River Shoreline which equates to 13.8 m^2.

- Allowance for the above additional excavation to extend beyond the pile and trench locations to best characterise the local deposit and explore the nature of the original Hunter River Shoreline.

3.4 Ongoing Consultation Required for the Project

The RAPs will continue to be consulted on matters of Aboriginal heritage management for the Project. Primary communication will be via letter which may be emailed or posted depending on RAP preferred means of communication. Issues raised in conversations, whether by telephone or in person, should be documented in a letter by the person raising the issue within a reasonable time of the conversation.

Table 3.4 provides the required Aboriginal consultation to be implemented prior to, and during Project development activities. Any Aboriginal consultation undertaken as part of these activities should be documented in **Appendix 2.**

Table 3.4 provides a list of dates that are culturally sensitive, and when works requiring Aboriginal heritage input and/or participation should be avoided where possible.

Table 3.4 Aboriginal Consultation to be Undertaken as part of the Current Project

Project stage	Activity	Type and preferred method of communication	Comment or notification period to be provided
Pre-construction	Development of ACHMP	Provision of a draft copy ACHMP to RAPs for review and comment.	4 weeks (28 days)
	Finalisation of ACHMP	Provision of final report via e-mail and/ or post prior to its implementation.	Within 2 weeks (14 days) of ACHMP approval
Pre-construction and construction	Updates to the ACHMP	Initial notification via phone/e-mail to advise of proposed update. Provision of updated ACHMP for review and inputs via e-mail and/or post. Where significant changes are proposed, an on-site meeting with RAPs is recommended.	2 Weeks
Pre-construction and construction	Aboriginal site management measures	University of Newcastle will consider expressions of interest from suitably skilled, equipped and insured Aboriginal persons to provide Aboriginal cultural heritage management services. Successful applicants will be invited to provide a fieldwork representative(s) to participate in Aboriginal heritage management tasks described in **Section 5.0** of the ACHMP. Depending on the scope of specific management tasks, RAP field representatives may be required to work to a roster. Fieldwork management tasks will include one project archaeologist (as required) and will work in accordance with this plan.	1 week

Project stage	Activity	Type and preferred method of communication	Comment or notification period to be provided
	Significant cultural unexpected finds	Contact all RAPs via phone and/or e-mail to advise of any significant cultural unexpected finds and proposed management. This will include invitation to undertake on-site observations and/or meetings where significant cultural materials, such as human remains are discovered. Refer to **Section 5.4** for new finds procedures.	Within 2 days of find

Table 3.5 Culturally Sensitive Dates Applicable to the Project

Dates	Activity	Description
27 May–3 June	National Reconciliation Week, includes Sorry Day	A week during which Australians are encouraged to learn about shared histories, cultures and achievements, and to explore how one can contribute to achieving reconciliation in Australia. Aboriginal people are often committed to activities during this week and will often be unavailable.
First Sunday–Second Sunday July	NAIDOC week	A week during which Australians are encouraged to celebrate Aboriginal history, culture and achievements. Aboriginal people are often committed to activities during this week and will often be unavailable.

4.0 Aboriginal Cultural Heritage Context and Sites

4.1 Summary of Aboriginal Cultural Heritage

Umwelt (2024) prepared an ACHA to inform the Project EIS. This included Aboriginal community consultation, desktop studies, a visual inspection and an evaluation of the potential Aboriginal cultural heritage values of the Project Area.

This assessment, in addition to prior archaeological investigations completed within, or in proximity to, the Project Area (see Curio 2018, Curio 2020 and Umwelt 2021), identified that the original shoreline of the Hunter River, and associated dune landforms, likely intersect with the south-eastern portion of the Project Area. An overview of the Aboriginal cultural heritage context for the Project Area is as follows:

- Curio Projects (2018) prepared an ACHA for Stage 1A (Q Building) Enabling Works. The key findings of the ACHA were that the original Hunter River shoreline would have extended approximately northeast to southwest through the City Campus Student Accommodation Development Area, which includes the south-eastern portion of the current Project Area. The ACHA predicted that in-situ deposits are likely to be present where intact original soil profiles remain. The ACHA predicted that there is moderate to high potential for intact Aboriginal archaeological deposits to be present where natural remnant soil profiles exist within the original Hunter River shoreline. The assessment recommended salvage excavations and Aboriginal community collection measures, which were submitted as part of an AHIP application to impact 'UoN PAD 1' (AHIMS #38-4-2024). Heritage NSW issued AHIP #C0005145 for the Stage 1A Enabling works and associated salvage excavation and Aboriginal community collection.

- Curio Projects (2020) completed an archaeological excavation and community collection program under AHIP #C0005145. Community collection of 'UoN1A-1' included the recovery of complete flakes (n=6), a broken flake (n=1), flaked pieces (n=2), angular fragments (n=2), one core and one core fragment. The purpose of the archaeological program was to determine the location of the original shoreline and the boundary of reclaimed land, and to characterise the nature and extent of subsurface deposits of 'UoN PAD 1' (AHIMS #38-4-2024). A total of 38 test pits were excavated as part of the archaeological works, none of which were conducted within the current Project Area. In total, 1,692 Aboriginal stone artefacts were recovered throughout 24.5 m^2 of excavations, the majority of which were identified within the deeper B horizon (coarse sand with gravel and shell inclusions, 1,500–2,100 mm depth), within approximately 150 m of the original shoreline. Natural soil profiles were encountered on average at depths of 400–500 mm and basal depth was reached at 1,600–1,700 mm. Excavations confirmed the location of the original Hunter River shoreline within the scope of the works, consistent with the location predicted through historical overlay mapping.

- Umwelt (2021) undertook archaeological monitoring of a geotechnical/contamination testing program under AHIP #C005145 within the City Campus Student Accommodation Development Area.
  The monitoring works indicated that the north-western portion of the current Project Area is situated upon primarily historical fill associated with the historical reclamation of the shoreline in the 1850s. Natural sands were identified at depths of 500–700 mm within or directly adjacent to the current Project Area, which was interpreted as having the potential to feature Aboriginal objects at that depth and below. Although the monitoring and testing program only recovered minimal archaeological results (i.e. only 14 artefacts were collected in total and outside of the current project area), the results of the program provide further clarification on the location of the original Hunter River shoreline.
  All recovered artefacts were clearly within the original shoreline area mapped on AHIP documentation.

- More recently from December 2024 to April 2025, Umwelt and RAP representatives for AHIP #C005145 have been undertaking archaeological salvage measures as part of Aboriginal Community Collection Works related to Stage 1 Enabling Works for the University of Newcastle Honeysuckle City Campus Development 1A[2]. These works are being undertaken under Variation #3 issued for AHIP #C005145 on 10 September 2024. This has involved monitoring works within and adjacent to the current Project Area. Of note, excavation for enabling works directly abutting the south-eastern corner of the Project Area has revealed that the local archaeological deposit can occur from ~500 mm depth below current ground level and its relatively intact if not subjected to localised historical disturbance. Notably, the archaeological bearing layer only continued to ~1.2 m depth below current ground level, and beyond that depth, bleached culturally-sterile B horizon sands continue to an undetermined depth. Overall, Umwelt considers these findings are the most relevant to the Project due to their proximity and similar findings are most likely to apply to within the Project Area within the Hunter River shoreline.

Overall, the archaeological context of the Project Area indicates that the shoreline and associated foredune landforms are highly likely to contain significant archaeological deposits. The potential for archaeological material is directly linked to the former shoreline and the impacts of historical disturbance. The primary finding relevant to the Project Area is that excavation activities in areas where natural sands occur (i.e., in areas confirmed to be within the original shoreline) can impact Aboriginal archaeological deposits starting at between ~400–500 mm.

As illustrated in **Figure 4.1**, the western and north-western portion of the Project Area is likely to be almost exclusively beyond the original shoreline and on reclaimed land, and based on the results of prior archaeological investigations, is likely to contain upwards of 1.5 m of historical fill before encountering the original submerged river floor. The potential for undisturbed/in-situ archaeological deposits beyond the shoreline/seaward is entirely diminished because it is historical modified terrain. There is some residual potential for ex-situ archaeological material in reclaimed land, but its quantity and provenance would be indeterminable and therefore have low archaeological significance/value.

[2] Works are in progress and analysis and reporting is yet to be completed.

FIGURE 4.1

AHIMS Sites and Original Shoreline/Landform Sensitivity

Legend

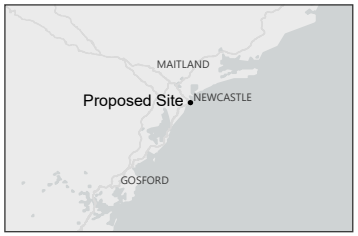
- Project Area
- Suburb
- Waterbody
- Watercourse
- Road
- Approximate alignment of the original Hunter River Shoreline (1857 – Hunter River railway through Newcastle, F. W. Darby)
- Approximate alignment of the original Hunter River Shoreline (10 m Buffer)

Aborginal Archaeological Potential

- Moderate to High Aboriginal Archaeological Sensitivity
- Low Aboriginal Archaeological Sensitivity

AHIMS Site features

- Artefact
- Potential Archaeological Deposit (PAD)



0 25 50 75

Metres

Scale 1:2,000 at A4
GDA2020 MGA Zone 56

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Image Source: ESRI (2023) | **Data Source:** NSW DFSI (2023), AHIMS Web Service (2024) '1857 – Hunter River railway through Newcastle, F. W. Darby' National Library of Australia

4.2 Aboriginal Sites Subject to this ACHMP

Only one site, 'UoN PAD 1' (AHIMS #38-4-2024), is relevant to this ACHMP. It comprises a subsurface archaeological deposit of unquantified geographic extent that represents the original shoreline and dunes of the Honeysuckle locality. **Section 4.1** provides further detail about previous investigations of this site and its known characteristics. The Project ACHA concluded that the archaeological deposit within the Project Area may have moderate to high archaeological potential.

The extent of Project related impacts on 'UoN PAD 1' was not determined during the ACHA because the Project ground disturbance footprint had not been defined, and that archaeological test excavations did not occur. Overall, it was concluded that the Project would result in partial impact/destruction of the deposit because archaeological material associated with 'UoN PAD' 1 is known to extend beyond the Project Area boundary.

Overall, Project ground disturbance activities that extend deeper than historical fill (i.e. beyond 400 mm depth) within the original Hunter River shoreline have high potential to impact intact and/or disturbed portions of the 'UoN PAD 1' site. Whereas, Project ground disturbance activities beyond the shoreline have residual potential to impact disturbed/imported archaeological material but such areas are considered to be of low archaeological potential.

There are two registered Aboriginal sites 'UoN1A-1' (#38-4-1968) and 'Artifact scatter' (#38-4-2008) within 100 m of the Project Area (**Figure 4.1**), but these will not be impacted and are not considered sites requiring management under this plan.

5.0 Aboriginal Heritage Mitigation and Management

5.1 Overview

Aboriginal site management for 'UoN PAD 1' (AHIMS #38-4-2024) will take the form of mitigated impacts through archaeological excavation and Aboriginal Community Collection, but only within the original Hunter River shoreline inclusive of buffers as shown in **Figure 4.1**. Unmitigated impacts to 'UoN PAD 1' (AHIMS #38-4-2024) will apply for all areas outside of the original Hunter River shoreline and its buffers – this however excludes Unexpected Sites or suspected human remains (refer to **Section 5.4**).

This section also includes ongoing general post-approval heritage requirements are required during construction and operational phases. These are outlined in this section and include the management of all salvaged Aboriginal objects protocols in the event that unexpected cultural materials are found.

5.2 Archaeological Mitigation Measures

5.2.1 Rationale

The archaeological mitigation measures for 'UoN PAD 1' (AHIMS #38-4-2024) has been prepared with reference to the preliminary methodology presented in the Project ACHA (Umwelt 2024, Section 10.2), and revised to respond to detailed Project design. Project construction activities that trigger consideration for archaeological mitigation are:

- any works that require excavation below the current ground level to a depth greater than ~400 mm[3], and
- is within (i.e. landward from) the mapped original Hunter River shoreline including its buffers as illustrated in **Figure 4.1** (i.e. in the area of moderate to high archaeological sensitivity).

The guiding principle behind the archaeological mitigation measures are that they should not result in additional impacts to Aboriginal objects beyond the total disturbance area of the Project. As such, Umwelt has reviewed Project construction plans to identify the types of proposed ground disturbing activities and then developed archaeological methods in response to the size and nature each activity. It is important to note that the ground disturbing activities with potential to intersect with the archaeological deposit represents only a minor proportion of the building layout and relates to ground improvement works, structural support (i.e. piling) and trenches for utilities.

As outlined in **Section 1.2.2.2**, the ground disturbing activities present a range of trenches, piles and augers distributed across the Project Area, including those within the original Hunter River shoreline and those that dissect the Hunter River shoreline into reclaimed land. The layout of these activities provide the opportunity to archaeologically investigate a range of landscape variables to address an overarching aim to better understand the boundary and archaeological characteristics of the original Hunter River shoreline/foreshore and how it transitions into reclamation fill (as noted in Section 10.2 of the Umwelt ACHA 2024).

[3] This is based on minimum potential depth of the local archaeological deposit within natural sands.

The nature of the proposed ground disturbing activities presents limitations to how they can be approached archaeologically. For example, narrow and linear service trenching required for electrical conduits and stormwater present safety and practical constraints (i.e. inability to enter physically for manual excavation) and therefore are better suited to Aboriginal Community Collection methods such as monitoring and sieving identified deposits. The Aboriginal consultation process has identified that the local Aboriginal community place high importance on the archaeological materials in the local areas, regardless of its method of retrieval. Such methods are consistent with the methods employed for similar service trenching activities associated with the enabling works under AHIP #C005145 (refer to **Section 4.1** for context).

In balance to the above, other ground disturbing activities present opportunities for investigation in a systematic and archaeological manner using best practice methods. For example, the layout of proposed piling presents a grid spread across the Project Area within the mapped original Hunter River shoreline. Archaeological excavation of these locations can aim to map the distribution of archaeological material across the original Hunter River shoreline and better refine the buffers applied to the shoreline mapping. Furthermore, areas of wider excavation (such as pile caps/beams, lint traps, grease arrestor) present opportunities for archaeological testing, followed by salvage if certain archaeological triggers are met.

Overall, the proposed mitigation measures present an opportunity to gather a representative sample of the local archaeological record through best practice archaeological methods to address research questions, while also providing the Aboriginal community the opportunity to collect cultural materials through archaeological monitoring/sieving.

5.2.2 Aims and Research Questions

5.2.2.1 Aims

The mitigation program has the following aims:

- Confirm the alignment of the Hunter River shoreline and investigate the extent to which it was impacted during historical reclamation activities. The Project provides a unique opportunity to investigate Project Area that is centred on the transition from the original Hunter River shoreline into historical reclamation fill.
- To characterise the archaeological deposits relating to past Aboriginal occupation of the local area through excavation and environmental analyses (where applicable). This may include greater understanding of resource exploitation; identification of any change through time in spatial and chronological phases of activity; and site formation processes.
- To recover a representative sample of the assemblage from 'UoN PAD 1' which may inform further understanding of how Aboriginal people accessed resources and manufactured stone artefacts in the shoreline environment of Newcastle's main waterbody.
- To use a sample of the recovered artefacts for educational and interpretative purposes in a culturally appropriate way guided by the Aboriginal community.

Research Questions

- Does the Project Area contain subsurface Aboriginal cultural material/objects and what is the level of stratigraphic integrity?
    - What does the identified assemblage reveal about past Aboriginal land use?
    - Is the identified cultural material able to provide further information regarding the types of activities that Aboriginal people were undertaking within the area?
    - Is it possible to define discrete areas of activity and/or variability in the nature of occupation based on the artefact assemblage and distribution of artefact frequences across the sampled areas?
- Is the assemblage able to provide information on how past Aboriginal land use changed through time and during variations in environmental conditions?
- What is the age of the subsurface archaeological deposit?
- How does the identified material and its distribution from a distinct shoreline deposit compare to the evidence recovered from larger archaeological excavations in the local area for which data is available, namely the Newcastle Bus Interchange (Umwelt 2021b), Newcastle Interchange and Light Rail excavations (Umwelt, 2020), Newcastle East End excavations (Umwelt 2017 and 2019), and enabling works under AHIP #C005145 (Umwelt 2021a). Do shoreline deposits have unique characteristics when compared to nearby sites set back (e.g. 100 m to 200 m) from the shoreline?
- How should the cultural materials be conserved and managed in future?

5.2.3 Archaeological Excavation Program (Applicable to Piling Works and Wider Disturbance Areas)

5.2.3.1 Definitions and Triggers

The archaeological excavation program primarily relates to the ground disturbing activities where archaeological controls can be implemented prior to construction activities. This is applicable to piling locations (900 mm diameter each) and Wider Disturbance Areas (i.e. pile caps/beams and lint traps) that are within the original Hunter River shoreline including its 10 m buffer. These areas are shown on **Figure 5.1.**

This method also includes provisions for additional open area excavation outside Wider Disturbance Areas to offset the 14 m^2 total area of additional ground disturbance from ground improvement augering within the original Hunter River Shoreline.

Methods to address the other ground disturbing activities of narrow and linear service trenching required for electrical conduits and stormwater are addressed under Aboriginal Community Collection methods in **Section 5.2.4**.

The archaeological excavation program will apply to:

- any works that require excavation below the current ground level to a depth greater than ~400 mm[4], and
- is within (i.e. landward from) the mapped original Hunter River shoreline including its buffers as illustrated in **Figure 4.1**.

[4] This is based on minimum potential depth of the local archaeological deposit within natural sands.

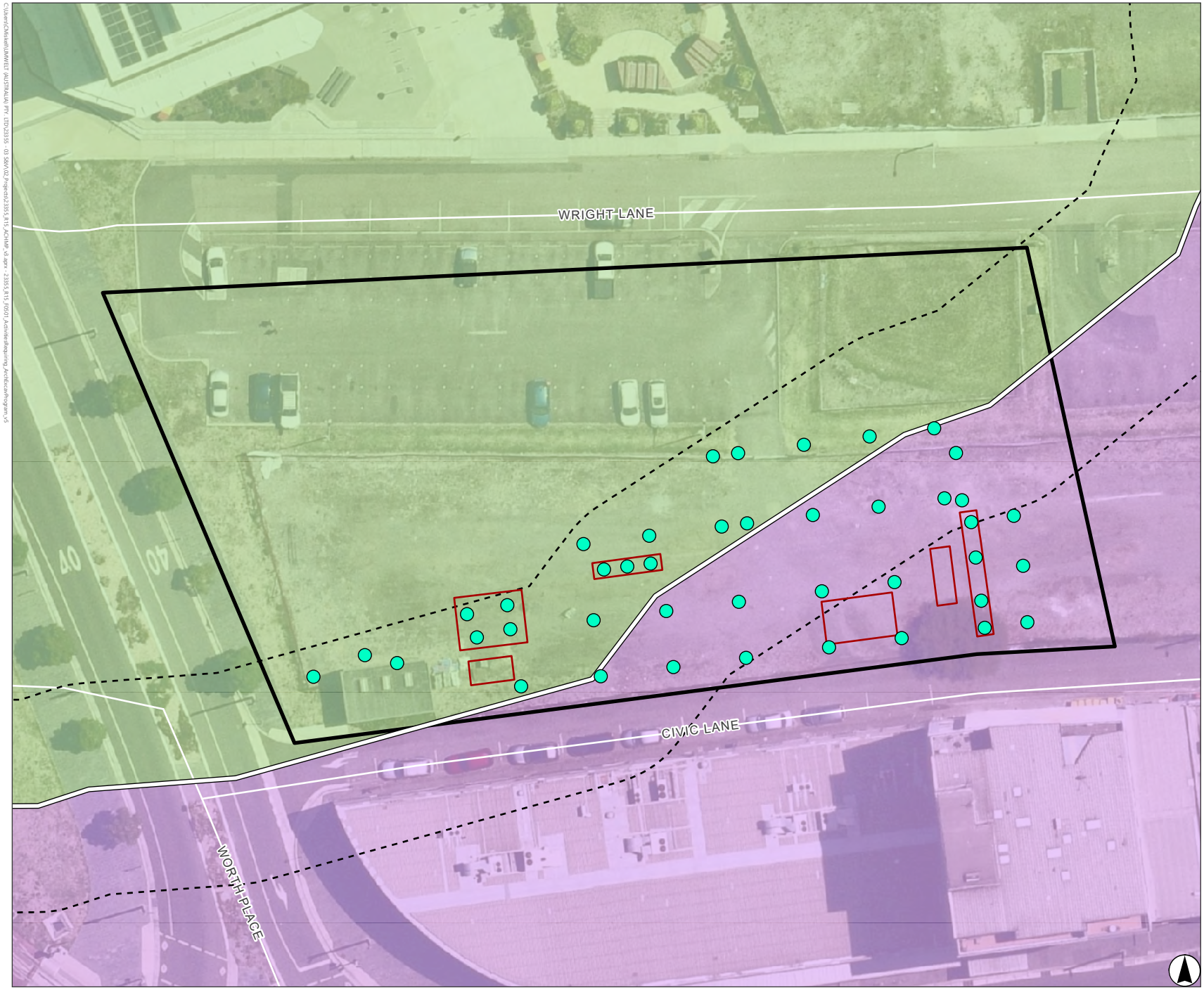

FIGURE 5.1

Ground Disturbing Activities Requiring Archaeological Excavation Program

Legend

- Project Area
- Trenching
- Piling Locations (900 mm)
- Moderate to High Aboriginal Archaeological Sensitivity
- Low Aboriginal Archaeological Sensitivity
- Approximate alignment of the original Hunter River Shoreline (1857 – Hunter River railway through Newcastle, F. W. Darby)
- Approximate alignment of the original Hunter River Shoreline (10 m Buffer)
- Road

0 10 20

Metres

Scale 1:500 at A4
GDA2020 MGA Zone 56

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5.2.3.2 Phase 1: Establishment of Hunter River shoreline and Archaeological Deposit

The purpose of Phase 1 is to establish the boundaries of the Hunter River shoreline and presence of archaeological deposit prior to implementing archaeological test pitting and/or salvage measures. This will require monitoring the machine removal hardstand features and historical fill above the ground disturbance locations until the presence of the archaeological deposit is verified, followed by archaeological excavation.

Phase 1 involves the following method:

- Monitoring will be completed by an archaeologist and may involve the assistance of RAPs as required.
- Monitoring will commence after the targeted removal of pavement and/or other hardstand.
- The monitoring will involve the inspection of trenching/excavation machinery to identify the transition from fill material into the natural sand deposit, if present (i.e., as per the descriptions of the Hamilton soil landscape in Matthei 1995). If the natural sand deposit is not encountered, machine excavation will continue until whichever comes first:
    - the water table is encountered[5], or
    - where depth of Project impact has been reached, or
    - 2 m depth is reached.
- The archaeologist will guide the excavator operator to stop excavation prior to impacting the natural sand deposit. This will involve implementing approx. 100 mm controlled scrapes once ~400 mm of fill/overburden has been removed. The archaeologist will aim to retain a thin layer of interface between the historical fill and the sand deposit so that the potential archaeological deposit is not impacted by the machine.
- All excavated fill/overburden material above the natural soil does not require sieving and may represent an unacceptable health risk due to potential contamination.

At the completion of the Phase 1 machine excavation, the archaeologist will have a refined understanding of the Hunter River Shoreline and presence of archaeological deposit. It is likely that the some or all of the excavated locations within the seaward 10 m buffer of the Hunter River shoreline will not contain archaeological deposit and represent only reclamation fill. The outcome of Phase 1 will be a refined list of areas that will require Phase 2 investigations.

5.2.3.3 Phase 2: Test Excavation

Archaeological test excavation will be undertaken for each of the locations established to contain natural sand deposits through Phase 1. The approach to testing will respond to the nature of ground disturbing activities.

[5] Observations from the enabling works under AHIP #C005145 show that the high tide mark of water table occurs at 1.5 m depth, which is below the archaeological bearing layer.

The excavation method is as follows:

- Pile locations (excluding pile cap/beam locations) which have a diameter of 900 mm will have a 1 m x 1 m excavation unit placed over them. The exact pile locations will be marked by a surveyor prior to excavation to ensure that the archaeological excavation responds only to the piling footprint. The 1 m x 1 m unit will cover the 900 mm diameter piling footprint in its entirety including a buffer margin to account for the square nature of archaeological pitting.
- Broader disturbance areas (pile cap/beams, lint traps and grease arrestor) will have 1 m x 1 m test pits laid out at 5 m intervals within the proposed disturbance area. Note that if the proposed disturbance area is less than 5 m in length, then only one test pit will occur at that location.
- Each test pit will be excavated in 10 cm spits or stratigraphically (if stratigraphic layers are visible).
- Excavations will be undertaken manually to a maximum safe depth of 1.2 m from ground level. If required, excavations will occur mechanically beyond this depth but within limits where the integrity of excavation results are not compromised (for example, excavation will be discontinued if there is potential for collapse of trench walls) or utilising suitable shoring mechanisms to allow for continued manual hand excavation. However, on observations from enabling works under AHIP #C005145, it is unlikely that excavation will be required beyond 1.2 m as culturally sterile layers are typically met by this level.
- Excavations will cease where one or more of the following criteria are established:
    - It is deemed unsafe to continue to excavate because of risk of collapse or water ingress
    - If the excavation has continued past the depth of deposits containing cultural material (sterility)
    - Where the depth of Project impacts has been reached
    - If unexpected obstructions are met that do not allow the excavation method to be implemented.
- Photographs and/or drawings should be captured from a consistent perspective throughout the project. The specific viewpoint, such as displaying the northern profile, should be determined at the discretion of the project archaeologist(s).
- Excavated soils will be dry-sieved using minimum 5-millimetre aperture wire-mesh sieves, with the exception of features such as hearths or heat treatment pits whereby smaller aperture sieves may be employed. Hand or mechanical sieving methods are appropriate.
- Soil samples may be collected for description, sedimentological and chronological analysis where such analysis is considered likely to contribute significant information. Optically Stimulated Luminescence (OSL) samples would be taken in areas where Aboriginal objects are found, and generally try to bracket the deposit (to provide a maximum and minimum age). Material for radiocarbon analysis may also be undertaken opportunistically if archaeological features containing charcoal or other dateable material are evident.
- Throughout the Phase 2 test excavations, a plan will be maintained showing excavation locations. Data will be collated on the findings of each excavation unit, such that the nature of the soil profile and any cultural material identified is documented. Preliminary artefact counts, information on raw material types and description of key artefact classes in the assemblage from each excavation unit will be documented. This information will be used to inform decision making on requirements for Phase 3 works, as discussed below.

- If features (including hearth or heat treatment pit or an accumulation of animal bone or shell likely to relate to Aboriginal cultural activities) are identified, the feature will be excavated in accordance with the methodology provided in **Section 5.2.3.6**.
- Should human/possible human skeletal material be identified (either in situ or in excavated spoil) within any excavated area, excavation activities in the immediate vicinity must cease immediately. The procedure provided in **Section 5.4.2** must then be followed.

5.2.3.4 Phase 3: Expansion Areas

Phase 3 excavations will apply as a priority to the Wider Disturbance Areas (pile cap/beams, lint traps and) where there are opportunities for expansion. Additionally, Phase 3 excavations can be applied to an upper limit excavation quota to address research aims while offsetting the cumulative impact from introducing augering for ground improvement works as discussed in **Section 3.3.2**.

A sample of up to 54 m^2 of manual excavation across the Project Area is proposed which is inclusive of the excavation completed during Phase 2 excavations. Additional excavation beyond 54 m^2 would only apply if archaeological features are identified (as per **Section 5.2.3.6**) during the Aboriginal Community Collection methods as set out in **Section 5.2.4** and the conditions meet safety requirements for manual excavation.

As a current estimate, once the Hunter River shoreline and archaeological deposit is refined during Phase 1 and the requirement for test pitting is excluded from a number of locations, it is likely that approximately half of the excavation effort will be allocated to Phase 2 excavations and half to Phase 3 excavations. However, note that the final ratios of test pitting to expansion areas will vary as guided by the results in the field.

Phase 3 works will focus on sampling areas where the Phase 2 works identified:

- comparatively high artefact densities to the test pit results, or
- uncharacteristic artefact types, namely:
    - grindstones
    - hammerstones
    - axes/hatchets
    - clusters of artefacts manufactured from raw materials other than Nobbys tuff (based on the assumption that Nobbys tuff is the most readily available raw material within the Newcastle region), or
    - where the assemblage contains an unusually high proportion of retouched artefacts or artefacts with obvious use-wear (based on comparisons with other excavation locations within the project area, unless otherwise agreed by the archaeologist and Aboriginal party representatives present on site).
- a cultural shell deposit/midden
- features such as hearths or heat treatment pits.

Phase 3 excavations will be undertaken in units of 1 m x 1 m. Phase 3 excavations would be conducted to allow for adequate excavation in the area surrounding Phase 2 units where the key requirements describe above are met. This means that Phase 3 units will be selected to provide the greatest likelihood of capturing the extent of the artefact distribution from Phase 2 that triggered the requirement for expansion.

Excavated materials (with the exception of sediments from features such as hearths or heat treatment pits) will be dry-sieved using 5-millimetre aperture wire-mesh sieves.

A plan will be maintained showing excavation locations and the outcomes of the Phase 3 excavations with reference to preliminary artefact counts, information on raw material types and description of key artefact classes in the assemblage from each excavation unit.

Continuation of the salvage excavations beyond the specified maximum of 54 m^2 would only be undertaken in consultation with the University of Newcastle and RAP field representatives. This would only apply in exceptional circumstances, such as if Unexpected Sites (as per definitions in **Table 5.1**) are identified and required additional excavation using archaeological methods, or if archaeological features are identified during Aboriginal community collection. Similar to Phase 2, identified features will be excavated in accordance with the methodology set out in **Section 5.2.3.6**.

5.2.3.5 Opportunities For Additional Collection

In the event that the 54 m^2 archaeological excavation quota is met and it is clear that the archaeological deposit continues within the proposed Wider Disturbance Areas, then the Aboriginal Community Collection methods as set out in **Section 5.2.4** may be implemented subject to the agreement between RAP representatives on site and the University of Newcastle.

5.2.3.6 Excavation of Features

Should a feature such as a possible hearth or heat treatment pit or an accumulation of animal bone or shell likely to relate to Aboriginal cultural activities be identified, the following methodology will apply:

- The surface of the feature will be cleaned by hand (using trowels, hand shovels and brushes as required) to allow the edges of the feature to be identified.
- The feature will then be excavated in cross-section (half-sectioned or part thereof depending on the location of the feature within the excavation unit and whether it extends outside the excavation unit) to investigate the dimensions and orientation of the feature to more accurately assess whether it is a cultural feature or the result of natural process (for example, a burnt tree root/stump or accumulation of bone within a former void). The excavation will proceed according to the stratigraphy (if any) of the in-filling materials.
- If it is identified as a feature, it will be photographed in cross-section and a stratigraphic profile of the cross-section will be recorded (where possible).
- If it is identified as a feature, it will then be excavated in its entirety within the excavation unit. All excavated cultural materials (including those from original cross-sectional excavation) will be retained for analysis and samples of relevant materials will be sent for additional analysis, including radio-carbon dating. If the feature extends outside the excavation unit, it will be further assessed whether excavation should continue into the adjoining area. This will be considered with reference to the need to maintain the integrity of the feature during excavation and/or backfilling if required.

- Excavation of any features will not be extended into areas that are outside of the Project ground disturbance limits unless it completed as part of additional open area excavation to offset ground improvement works and forms part of the 54 m^2 total excavation quota.
- Following the removal of all in-filling material, the remaining cut feature (where present) will be planned to scale and photographed.
- Following this excavation can resume in the remaining portion of the excavation unit.

5.2.4 Aboriginal Community Collection Method

5.2.4.1 Monitoring During Trenching

The narrow and linear service trenching required for electrical conduits and stormwater present safety and practical constraints (i.e. inability to enter physically for manual excavation) and therefore Aboriginal Community Collection via monitoring will apply to these ground disturbing activities under the following conditions:

- any works that require excavation below the current ground level to a depth greater than ~400 mm [6], and
- is within (i.e. landward from) the mapped original Hunter River shoreline including its buffers as illustrated in **Figure 4.1**.

These areas are shown on **Figure 5.2**.

The method will be consistent with the archaeological salvage measures employed for Aboriginal Community Collection Works related to Stage 1 Enabling Works for the University of Newcastle Honeysuckle City Campus Development 1A under AHIP #C005145 Variation #3.

The method will be as follows:

- Monitoring of earthworks will be completed by RAPs under the direction of an archaeologist as required. An archaeologist is not required to be present during all monitoring but must undertake regular inspections to ensure that the recording of monitoring results are accurately documented.
- Monitoring will commence after the removal of pavement and/or other hardstand.
- Monitoring will involve the inspection trenching/excavation machinery to identify the transition from fill material into the natural sand deposit.
- All excavated fill/overburden material above the natural soil does not require sieving and may represent an unacceptable health risk due to potential contamination, as the contractor has also noted asbestos in some of the overburden.

[6] This is based on minimum potential depth of the local archaeological deposit within natural sands.

- When natural sand deposits are identified, mechanical excavation will proceed under supervision. Some level of archaeological control will be attempted, acknowledging the limitations of a mechanical bucket and excavator arm. Any sandy deposit will aim to be removed in 200–300 mm spits by 2 m length sections by the width of the subject trench. Any stratified deposits will attempt to be removed stratigraphically within the limitations posed by excavator arm and bucket. Material will be deposited next to the trench, or at another suitable location in consultation with the RAPs on site, and it will be placed in dedicated stockpiles according to their provenance for sieving.
- Excavated natural sand materials must be dry-sieved using 5-millimetre aperture wire-mesh sieves. Sieved spoil, once cleared by the archaeologist and with agreement by RAP representatives, can be returned to the excavated trenches during subsequent reinstatement activities.
- The Aboriginal community collection and archaeological monitoring would cease once excavation/s reach finished depth level, stabilised groundwater level, B-horizon clay subsoils and/or bedrock, and if the excavation has continued past the depth of deposits containing cultural material (sterility).
- Where accessible, representative drawings (plan and cross-sections) and/or photographs must be recorded for each soil profile identified.

If obvious and/or suspected/definitive archaeological features or deposits such as hearths, middens, earth ovens and/or heat treatment pits are identified, manual test excavation may be undertaken (in consultation with RAPs present on site) to characterise the identified materials/feature(s) and to determine the requirement for further archaeological excavation. Manual excavation of the feature will only be undertaken where excavation depths are less than 1.2 m below ground level to align with relevant New South Wales safety standards and will follow the method for excavating features as set out in **Section 5.2.3.6**. If manual excavation cannot be implemented due to inaccessibility of the trench, then machine excavation must apply under the direction of an archaeologist. Works can resume once the feature has been excavated.

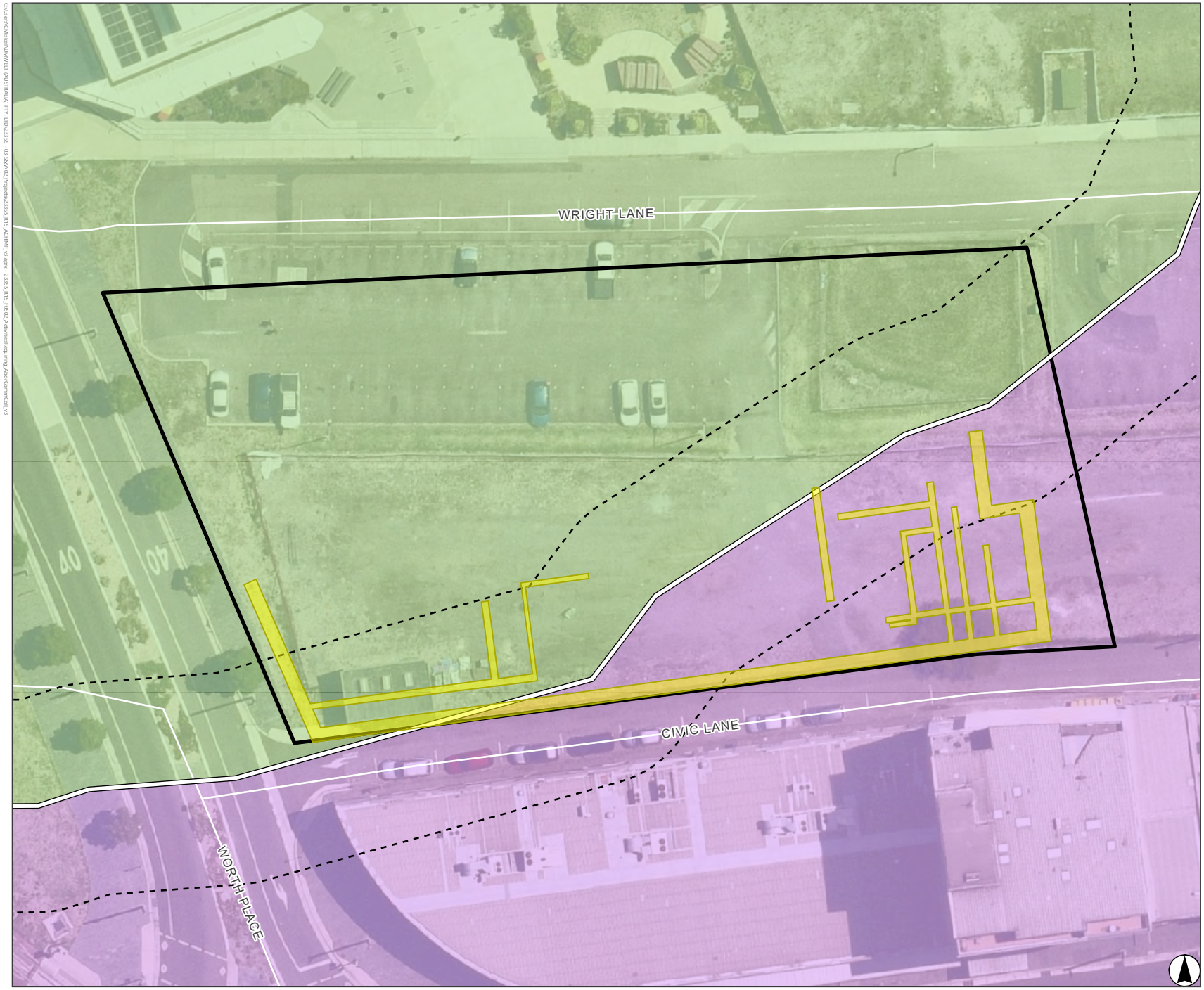

FIGURE 5.2

Ground Disturbing Activities Aboriginal Community Collection

Legend

- Project Area
- Service Trenching
- Moderate to High Aboriginal Archaeological Sensitivity
- Low Aboriginal Archaeological Sensitivity
- Approximate alignment of the original Hunter River Shoreline (1857 – Hunter River railway through Newcastle, F. W. Darby)
- Approximate alignment of the original Hunter River Shoreline (10 m Buffer)
- Road

0 10 20

Metres

Scale 1:500 at A4
GDA2020 MGA Zone 56

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5.3 Contingency For Project Design Changes

If the layout or design of certain ground disturbing activities change from that provided in the figures in this report, then the relevant archaeological mitigation measures in this ACHMP still apply to those changes. Note that this does not allow for ACHMP measures to be applied outside of the Project Area.

5.4 New Finds Procedures

5.4.1 Management of New Finds and Unexpected Cultural Materials

This section sets out the measures in the event that any newly observed cultural material is identified during the pre-construction, construction and/or use of the Project Area. Importantly, the procedures set out in this section do not apply during the archaeological excavation activities set out in **Section 5.0** of this ACHMP, unless classed as an 'Unexpected Site'[7] as specifically defined in the table below**.**

The recording of, and any proposed mitigation measures must be completed by a heritage professional(s) with participation of the RAPs representatives. Avoidance of newly identified Aboriginal objects is always the preferred heritage outcome where feasible. Mitigation measures should only be employed when it can be reasonably demonstrated that avoidance is not possible. All sites that cannot be avoided must be assessed of their archaeological significance prior to impacts in accordance with best practice heritage guidelines.

Table 5.1 Management of New Finds and Unexpected Cultural Materials

Protocols to Follow
• All works within the location of the Aboriginal object/s must stop. • The person who identified the Aboriginal object/s must immediately notify the person in charge of the activity e.g., Construction Manager or delegate. • All construction that could potentially harm the Aboriginal objects or values must cease (including stopping all construction within at least 15 m). Only construction that is required to make the area safe is permissible. • The Aboriginal object/s is to be protected with the establishment of a no-go zone. • Contact the project archaeologist and RAPs to notify them of the find and then to lead the subsequent management of the find. • Consideration of avoiding the cultural materials should be undertaken. Where avoidance **can** be achieved, implement the following: o If in direct risk of impact apply active site management comprising fencing and signage, or if at indirect risk of impact apply passive management by demarcating the location by at least one high visibility peg, stake or other marker to alert persons to their location. All sites must be suitably recorded in accordance with AHIMS site card standards by a heritage professional and representatives of the RAPS. The site/s must be integrated into the cultural inductions to ensure all personnel are aware of the location and to avoid inadvertent impacts during the construction. • Heritage NSW will be notified of unexpected finds via writing.

[7] **Unexpected Sites definition:** rarer site types and/or features not expected to occur in the Project Area (i.e., grinding grooves, engravings, stone arrangements, ceremonial sites and evidence of contact archaeology).

Protocols to Follow
Where Avoidance Cannot be Achieved:
Open Artefact Sites For sites of low to moderate archaeological significance, collection will be employed prior to Project impact. The collection will be undertaken by qualified archaeologist(s) and RAP representatives. The collection method will be as per: 1. Site coordinates for each site will be entered into mobile GPS devices to re-locate and confirm locations. 2. The general vicinity of each site location will be inspected by the field team. Stone artefacts will be flagged on the ground and a photo taken of the flagged site. Each flagged artefact will be marked as a waypoint in the GPS. 3. All artefacts will be collected into snap lock plastic bags or similar, marked with the project name, site name, collection date and waypoint number. If additional stone artefacts are identified during the artefact collection fieldwork, they will be managed in the same manner. 4. All artefacts will be sorted and recorded post-fieldwork with respect to technological type, implement type, raw material, maximum block length and weight. 5. The collected artefacts will be incorporated into a salvage report detailing the results of the fieldwork, the artefacts recovered at each site and GIS figures showing the artefact locations. 6. The Aboriginal Heritage Information Management System (AHIMS) records will be updated with a site impact recording form for each collected site. Any collection would require a report on the methods and outcomes collection and can be integrated into the salvage report required under this ACHMP.
Unexpected Site Types **Unexpected Sites Definition:** rarer site types and/or features not expected to occur in the Project Area: i.e. grinding grooves, engravings, stone arrangements, ceremonial sites, evidence of 'contact' archaeology - e.g., European materials such as glass or ceramic utilised to make traditional tools, and/or broken brick/earthenware used as hearth retainers. Heritage NSW will be consulted on the management of any Unexpected Site Type. As Unexpected Site Types have a very limited chance of being identified in the Project Area, no specific management methodology has been devised. If Unexpected Sites are identified and cannot reasonably be avoided: • A salvage method must be prepared by the Project archaeologist in consultation with RAPs and Heritage NSW. This may be established through an extraordinary meeting with RAPs or through letter correspondence with a reasonable timeframe for review. • For sites of high archaeological significance, or with potential to be of high archaeological significance through the identification of a significant PAD (as determined by the Project archaeologist in consultation with RAPs), archaeological excavation may be employed in general accordance with the Phase 2 and 3 excavation methods as set out in **Section 5.2.3.3** and **Section 5.2.3.4.** Any salvage activity to such sites may require additional assessment and approvals as dictated by Heritage NSW and would require a report on the methods and results of the exercise.
Post Fieldwork Once the archaeological on-site activities are complete to the satisfaction of the heritage professional in consultation with the RAPs, construction activities may continue in the area in consultation with the RAPs. The Project archaeologist must provide written notification clearly specifying that construction activities may continue in the area of new finds. All archaeological activities should involve suitable analysis of cultural materials. Chronological, paleoenvironmental and sedimentological samples (if retrieved) should be suitably analysed and documented in a report that is provided to Heritage NSW. This may be integrated into the salvage report required under this ACHMP.

5.4.2 Discovery of Skeletal/Human Remains

If known or suspected human skeletal remains are encountered during the activity, the following procedure in **Section 5.2** must be adhered to:

Table 5.2 Procedure for the Discovery of Potential Aboriginal Ancestral Remains

Step		Actions
1.	**Stop work and secure site**	• All work must **STOP** in the vicinity of the remains. • The immediate vicinity will be secured to protect the find and the find will be immediately reported to the person in charge of the activity e.g., Construction Manager or Delegate who will immediately advise the site management. • A no-go zone will be established around the immediate area of the site. • Complete review of activities to enable compliance and continued operations.
2.	**Notification to authorities and stakeholders**	• The site manager should notify NSW Police of the discovery as soon as possible. All subsequent steps will be dictated by the NSW Police. • Contact the project archaeologist and RAPs to brief them on the developing situation. • If advised by Police, engage suitably qualified archaeologist or forensic anthropologist to assist Police in monitoring of skeletal material.
3.	**Determination of the find and further notification**	• **If it is determined that the skeletal material is of ancestral Aboriginal remains**, RAPs must be contacted, and consultative arrangements will be made to discuss ongoing care of the remains. • Contact Heritage NSW (1300 361 967) and the NSW Environment Line (131 555) to notify them of the find, and Department of Planning and Environment. • Engage project archaeologist to assist and/or facilitate management of the Aboriginal ancestral remains with RAPs, APP and the UoN. **Proceed to Step 4.**
		• **If the skeletal material is not human**, resume work. Ensure determination of non-human material is provided by relevant experts (e.g., Coroner or Police) before resuming work.
		• **If the remains are historic but non-Aboriginal human remains**, the NSW Heritage Council (or delegate of the Heritage Council) will be consulted to determine requirements in accordance with the *NSW Heritage Act 1977* and relevant guidelines. Further actions are likely to require adherence with the following NSW Heritage Council guidelines: o Conservation Management Documents: Guidelines on Conservation Management Plans and other Management Documents o Skeletal Remains; Guidelines for Management of Human Skeletal Remains
		• **If the remains are non-Aboriginal and non-historic human remains**, the University of Newcastle is to coordinate involvement of police. Works will not proceed until written approval is granted from relevant authorities.

Step		Actions
4.	**Initial planning and reporting if it is determined that the remains are Aboriginal ancestral remains.**	• Aboriginal ancestral remains certificate to be submitted to the Police/Coroner to address the Coroners Act. • In consultation with RAPs, Heritage NSW and archaeologist, establish investigation area and any additional protocols to be adhered to during further investigation. The investigation will aim to establish whether any other burials are within or likely to occur nearby. Suitable methods could include controlled and monitored hand or machine excavation and/or non-invasive techniques such as geophysical techniques. • Engage an archaeologist to record the site and undertake significance and impact assessment of the burial site with RAPs and archaeologist. Site recordings must involve drawings and photography. Additional technical studies and samples may be taken with the consent of RAPs such as those for dating and biological information (e.g., age, sex and health of deceased). • Record burial site on AHIMs register, noting any restricted access requirements requested by RAPs.
5.	**Engagement with stakeholders to determine whether disturbance of the burial site(s) can be avoided.**	• Explore and demonstrate options have been considered for site avoidance, if RAPs desire for the skeletal material to remain in-situ. • If the Aboriginal ancestral remains cannot be avoided: o Consult with RAPs, Heritage NSW and project archaeologist to facilitate recovery and reburial protocols and actions. Approval for recovery methods must be obtained by relevant authorities prior to any further movement of the remains o Recovery methods must include: ▪ Exhumation in a controlled archaeological method and in consultation with RAPs and placed into a secure, temperate controlled storage location until a final reburial site can be identified ▪ Access to the secure storage location containing any human remains will be managed and facilitated by Jemena in consultation with RAPs ▪ RAPs will determine if further studies, media releases or other investigations are appropriate for the finds ▪ Where required, APP and the UoN will help facilitate any culturally appropriate reburial or ceremonial methods. • Prepare report for Heritage NSW and RAPs on the outcome of relevant investigation, recovery and reburial outcomes. • Update ACHMP. • Works will not recommence until written approval is received from relevant authorities.
		If the Aboriginal ancestral remains can be avoided: • Develop appropriate management and mitigation measures in consultation with RAPs, Heritage NSW and project archaeologist. • Prepare report for DPHI, Heritage NSW and RAPs. • Update ACHMP. • Works will not recommence until written advice is provided from the Project archaeologist that the remains are suitably protected and away from Project impacts.

5.5 Management of Salvaged Aboriginal Objects

5.5.1 Temporary Storage of Salvaged Objects

Artefacts salvaged under the provisions of this ACHMP will be temporarily stored at the Umwelt Archaeology Office at 69 York Street, Teralba NSW.

Umwelt may temporarily release salvaged objects to qualified consultants for the purposes of analysis and reporting, providing that the consultant nominates the storage location, and that the location is safe and lockable.

5.5.2 Long-term Care of Salvaged Objects

The long-term management of salvaged Aboriginal objects is an aspect of cultural heritage management driven by the desires of local Aboriginal community. Salvaged Aboriginal objects are typically either stored in a long-term facility (known as a 'keeping place') or reburied on Country in an area that will receive long term protection from further development or other impacts.

Detailed provisions for the Aboriginal objects recovered as part of the Project mitigation measures are yet to be determined, primarily because no objects have been identified yet, and the number and characteristics of any salvaged assemblage is unknown. Instead, the management plan seeks to step out a process for how decisions will be made about long term management of the materials, including relevant consultation with RAPs and Heritage NSW. The provisions below are based on RAP consultation to date, whereby we have established that there is a desire for a portion of recovered material to be reburied within the Project Area, and possibly a portion of exemplary objects (or their replicas) to be placed on display within the proposed Student Accommodation Building (Site B) for educational and cultural purposes, while fostering cultural awareness about the rich Aboriginal history of the Honeysuckle area. The proposed process is as follows:

1. After completing the archaeological mitigation measures in **Section 5.2**, the assemblage will be reviewed and catalogued. The Project archaeologist will develop a shortlist of materials suitable for interpretation and display. The details of these will be shared with the University of Newcastle and RAPs and their suitability for display will be determined.

2. Details regarding display and interpretation of selected objects will be developed as part of the Project Interpretation Plan. Any matters relating to the interpretation and display of recovered Aboriginal objects will be made in consultation with RAPs. A draft of the relevant interpretation plan content/sections will be shared with RAPs for their review and comment within a **28-day** period.

3. If a selection of objects are to be placed on display, the University of Newcastle would prepare a Care Agreement application to be lodged with Heritage NSW for review and approval. The Care Agreement application would provide details of the proposed display and interpretation, a list of the Aboriginal objects nominated, and evidence of RAP consultation.

4. Upon receipt of approval of the Care Agreement, the University of Newcastle will implement the display and interpretation measures in accordance with the conditions of the Care Agreement.

5. The assemblage of objects that does not form a part of a Care Agreement (which may be all of the objects if none are determined for display) will be subject to reburial within a suitable location in the Project Area. The final location and protocols for reburial will be determined in consultation with RAPs, with a 28-day review period included.

6. The reburial activity will be undertaken in general accordance with Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, 2010*. However, the reburial vessel and materials used in this process may vary from this Code depending on the feedback from the Aboriginal community received in the step above. For example, the Aboriginal community may nominate natural or cultural materials to be used instead of plastics.

5.6 Post-fieldwork Analysis and Reporting

An Aboriginal Cultural Heritage Excavation Report will be prepared following the completion of the archaeological mitigation measures set out in this ACHMP.

The report will:

- Document the results of the archaeological mitigation measures set out in this ACHMP.
- Be provided to Registered Aboriginal Parties a minimum of 28 days to consider the report and provide comments before the report is finalised.
- The post-excavation analysis (incorporating data from the excavations) would be designed to address the research objectives and aims, along with other relevant questions that may arise based on the results of the excavation. These could include, but not be necessarily limited to:
    - Stone artefact analysis, including descriptive and functional recording of the assemblage, as well as interpretation of past activities, post-depositional change and comparison with other nearby data. Artefact conjoining may also be attempted where sufficient cultural materials have been recovered.
    - Geochronology, including the processing and analysis of samples to inform the absolute age of the soil profile and/or cultural assemblage recovered. This would include Optically Stimulated Luminescence (OSL) ages, as well as radiocarbon samples, where recovered. While large number of these samples are likely to be collected, given the prohibitive cost of processing, it is probable that a small number of ages would be obtained in a small number of master-sequences to inform the broader archaeological program. The samples would be processed by either University of Gloucestershire and/or University of Wollongong.
    - Palaeo-environmental analysis, including palynology, phytolith analysis and/or charcoal analysis to explore the past vegetation and fire regimes that may have been influenced and/or modified by past human activity. These would utilise the same samples collected for geochemistry and/or sampling and sent to a range of university specialists in these fields to process and interpret the results. Reporting that would provide information on the field investigations, compilation and synthesis of the post-excavation analyses, and interpretation of the results to inform the past activity and use of the region.

- To comply with CoAs, the salvage report will:

  a) Be prepared in accordance with the *Guide to Investigation, assessing and reporting on Aboriginal cultural heritage in NSW, 2011* and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales, 2010.*

  (b) Document the results of the archaeological test excavations and any subsequent salvage excavations (with artefact analysis and identification of a final repository for finds).

  (c) The RAPs must be given a minimum of 28 days to consider the report and provide comments before the report is finalised. The final report must be provided to the Planning Secretary, Heritage NSW, the relevant Councils, and the relevant Local Aboriginal Land Council, and the RAPs within 24 months of the completion of the Aboriginal archaeological collections and excavations (both test and salvage).

  An Aboriginal Site Impact Recording Form (ASIRF) will be lodged to document the impacts to the site on the AHIMS register. The ASIRF will make reference to the excavation report for further information.

6.0 Compliance, Training, Review and Improvement

6.1 Key Points

- This section provides information to ensure the ACHMP is complied with during the Project.
- Provides training requirements and processes and procedures to manage complaints and non-compliances.
- Criteria and timing for revisiting and updating the ACHMP is provided in this section.

6.2 Compliance and Auditing

6.2.1 ACHMP Implementation and Compliance Monitoring

Implementation and compliance with the plan will be monitored by standard environmental auditing procedures undertaken at regular intervals. The audit will include an assessment of compliance with development consent conditions and the objectives of the ACHMP.

Monitoring will be undertaken to measure/record the implementation of heritage management measures to address approval requirements. **Table 6.1** outlines how compliance will be monitored for the key management measures of this ACHMP.

Table 6.1 Compliance Monitoring

Item	Measure to Monitor Compliance
Archaeological mitigation measures implemented and appropriate management of salvaged materials (**Section 5.0**).	Include Project Archaeologist written sign-off to confirm that salvage measures are completed within an area before Project impacts can occur.
Reporting on test and salvage excavations (**Section 5.6**).	Documentation that the reporting for test excavation and salvage is provided to relevant parties and to RAPs for 28 days review according to reporting requirements set out in **Section 5.6.**
Ongoing Aboriginal consultation requirements (**Section 3.3.2**).	An Aboriginal consultation log is prepared and maintained for the Project to document correspondence requirements.
Inductions are taking place and includes appropriate material.	The induction protocols set out in **Section 6.3.1** will be managed by the Principal Contractor.
Reporting and managing any newly identified Aboriginal objects or skeletal remain in accordance with this plan (**Section 5.4**).	That new sites are registered on AHIMS That impacts to any newly identified sites are reported on AHIMS A communications log must be kept to document that all relevant parties are contacted throughout the processes listed in (**Section 5.4.2,** e.g., RAPs, Heritage NSW, DPE, Coroner/Police, Project Archaeologist).
Long Term Management of Aboriginal object (**Section 5.5**).	To be determined based on outcomes of further consultation outlined in **Section 5.5** of the ACHMP.

6.3 Aboriginal Heritage Induction Requirements

6.3.1 Site Inductions

All employees, contractors and sub-contractors involved in ground-disturbing activities will undergo an Aboriginal cultural heritage induction conducted either by a representative of the RAP, the Principal Contractor, or their subcontractor (once appropriately trained to present the induction). In addition, visitors to the project and general contractors not involved in ground-disturbing activities will be made aware of their obligation to avoid harm to Aboriginal heritage through an Aboriginal heritage component of the general site induction. Records of these inductions will be kept by APP/its contractors.

The following points will be conveyed through site induction material:

- Aboriginal sites have been identified in the Project Area and the wider Newcastle context.
- Aboriginal sites are of high significance to the Aboriginal community, are important to the wider community and must be treated with respect.
- Aboriginal sites are protected by law and that development consent includes conditions allowing impacts to certain specified Aboriginal sites in accordance with this plan.
- Recorded Aboriginal sites in relation to the project have includes a potential archaeological deposit (PAD) that is only visible beneath the ground surface.
- Aboriginal sites can be hard to recognise, therefore reference must be made to the Aboriginal heritage maps in this ACHMP in order to clearly identify demarcated site boundaries (in instances prior to the salvage measures being undertaken as part of this plan).
- A site must be investigated and/or salvaged by the project archaeologist(s) and RAPs prior to ground disturbance activities.
- That there are new finds procedures which involve stopping work if suspected new Aboriginal sites or skeletal material is identified on-site.

6.3.2 Complaints and Disputes

A complaints register will apply to the works associated with this ACHMP. Complaints will be recorded and considered in improvements and subsequent updates of the ACHMP. A Complaints register will be developed and updated monthly as per SSD-61618229 Condition B8.

6.3.3 Incident Reporting

The University of Newcastle will immediately notify DPHI and any other relevant agencies after it becomes aware of an incident resulting in unauthorised Aboriginal heritage impacts. Incident will need to comply with CoA SSD-61618229 Appendix 1.

6.3.4 Non-compliance Notification and Reporting

The development consent defines a 'non-compliance' as:

> *"An occurrence, set of circumstances or development that is a breach of this approval".*

In accordance with CoA C6–C8 APA will, within seven days of becoming aware of an Aboriginal heritage non-compliance, notify DPHI of the non-compliance. Non-Compliance protocols must follow SSD-61618229 Condition A14 to A16.

6.4 Review and Improvement and Data Management

6.4.1 Continual improvement

Continual improvement of this ACHMP will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continual improvement process will be designed to:

- identify areas of opportunity for improvement of environmental management which leads to improved environmental performance
- determine the root cause or causes of non-compliances and deficiencies
- develop and implement a plan of corrective and preventative action to address non-compliances and deficiencies
- verify the effectiveness of the corrective and preventative actions
- document any changes in procedures resulting from process improvement.

6.4.2 ACHMP Review and Updates

The ACHMP is to be reviewed and updated if necessary, in the following circumstances:

Within 3 months, unless the DPHI agrees otherwise, of:

- the submission of an incident report
- the submission of an audit report
- the approval of any modification to the conditions of this approval; or
- a direction of DPHI
- where modification to the project occurs that may affect impacts to Aboriginal heritage, i.e., where approved changes to the project change or remove previously planned impacts on Aboriginal heritage where mitigation was proposed in the ACHMP but is no longer required; and/or
- where complaints and/or non-compliances have been identified that require changes to ensure suitable management of Aboriginal heritage in future stages of the Project

- Aboriginal consultation for any updates and/or changes should be undertaken in accordance with **Section 3.3.2**
- where additional impacts are proposed to Aboriginal heritage and the plan is revised to include additional impacts, the plan must be provided to Heritage NSW and RAPs for review and comment for a minimum of 14 days.

7.0 References

2010b. Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW.

2010c. Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales.

Curio Projects, 2018. Aboriginal Cultural Heritage Assessment Report, University of Newcastle, Honeysuckle City Campus Development (Stage 1A Enabling Works). Prepared for University of Newcastle.

Curio Projects, 2020. Aboriginal Archaeological Post Excavation Salvage Report (SSD 9262 and SSD 9510): University of Newcastle Stage 1A Enabling Works Draft Report.

Department of Environment Climate Change and Water (DECCW) 2010a. Aboriginal Cultural Heritage Consultation Requirements for Proponents.

Matthei, L.E. 1995. Soil landscapes of the Newcastle 1:100,000. Sydney: Department of Land and Water Conservation.

OEH 2011. Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales.

Umwelt, 2017. Aboriginal Cultural Heritage and Archaeological Assessment, Newcastle East End Project – Stage 1, Newcastle, NSW. Report prepared for Iris Land Pty Ltd.

Umwelt, 2019. Historical Archaeological Assessment – Newcastle East End Project, Stage 2. Report prepared for East End Stage 2 Pty Ltd.

Umwelt, 2021a. University of Newcastle Honeysuckle City Campus Development. Prepared for the University of Newcastle.

Umwelt, 2021b. Newcastle Bus Interchange Project – Works Conducted Under AHIP C0003418. Prepared for Doma Group.

Umwelt, 2024. Aboriginal Cultural Heritage Assessment: University of Newcastle City Campus Student Accommodation. Final. Prepared for The University of Newcastle.

APPENDIX 1

Aboriginal Site Definitions

A description of terms used to describe different site features that should be used as a guide when identifying and interpreting Aboriginal site types.

Site Feature	Definition and Recording Methods
Aboriginal ceremony and Dreaming	Previously referred to as mythological sites these are spiritual/story places where no physical evidence of previous use of the place may occur, e.g., natural unmodified landscape features, ceremonial or spiritual areas, men's/women's sites, dreaming (creation) tracks, marriage places etc.
Artefact site (open stone artefact site)	Objects such as stone tools, and associated flaked material, spears, manuports, grindstones, discarded stone flakes, modified glass or shell demonstrating evidence of use of the area by Aboriginal people.
Burials	A traditional or contemporary (post-contact) burial of an Aboriginal person, which may occur outside designated cemeteries and may not be marked, e.g., in caves, marked by stone cairns, in sand areas, along creek banks etc.
Contact site	Contact archaeology - e.g., European materials such as glass or ceramic utilised to make traditional Aboriginal tools, and/or broken brick/earthenware used as hearth retainers.
Fish trap	A modified area on watercourses where fish were trapped for short-term storage and gathering.
Grinding grooves	Grinding grooves are defined as an area of outcropping bedrock containing evidence of one or more grinding grooves where ground-stone hatchets or other grinding practices (i.e., seed grinding) were implemented.
Habitation structure	Structures constructed by Aboriginal people for short- or long-term shelter. More temporary structures are commonly preserved away from the NSW coastline, may include historic camps of contemporary significance. Smaller structures may make use of natural materials such as branches, logs and bark sheets or manufactured materials such as corrugated iron to form shelters. Archaeological remains of a former structure such as chimney/fireplace, raised earth building platform, excavated pits, rubble mounds etc.
Modified tree (carved or scarred)	Trees which show the marks of modification as a result of cutting of bark from the trunk for use in the production of shields, canoes, boomerangs, burials shrouds, for medicinal purposes, foot holds etc., or alternately intentional carving of the heartwood of the tree to form a permanent marker to indicate ceremonial use/significance of a nearby area, again these carvings may also act as territorial or burial markers.
Potential archaeological deposit (PAD)	An area where Aboriginal objects may occur below the ground surface. The term 'potential archaeological deposit' was first applied in Sydney regional archaeology in the 1980s and referred to rockshelters that were large enough and contained enough accumulated deposit to allow archaeologists to predict that subsurface cultural material was likely to be present. Since then, the term has come to include open sites where the same prediction can be made. Unless previously identified, it is considered unlikely that a PAD would be classified through an unexpected finds process.
Shell/Midden	An accumulation or deposit of shellfish from beach, estuarine, lacustrine or riverine species resulting from Aboriginal gathering or consumption. Usually found in deposits previously referred to as shell middens. Must be found in association with other objects like stone tools, fish bones, charcoal, fireplaces/hearths, and burials. Will vary greatly in size and composition.

Site Feature	Definition and Recording Methods
Stone quarry	Usually, a source of good quality stone which is quarried and used for the production of stone tools. Stone quarries represent where Aboriginal people gathered raw stone materials for stone tools and/or manufactured stone tools from the adjacent source material. Quarry sites are found at rock outcrops where the material was of suitable quality to have been used to manufacture stone tools. Stone quarries were defined by the presence of outcropping stone material with nearby evidence of the same material type used in the stone tool manufacture process. This was most commonly indicated by large stone cores or stone flakes distributed amongst the same naturally outcropping material.

APPENDIX 2

Consultation Documents

ABORIGINAL CONSULTATION RECORD				
Project Name: UNIVERSITY OF NEWCASTLE CITY CAMPUS STUDENT ACCOMMODATION: SSD-61618229 - ACHMP				Project #: 23355
ORGANISATION	CONTACTED BY	METHOD	DATE	COMMENTS
Review of draft Aboriginal Cultural Heritage Management Plan				
Didge Ngunawal Clan	Alison Fenwick	Email	17/04/2025	Response received 17/04/2025, supporting the draft ACHMP.
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	Alison Fenwick	Email	17/04/2025	No response received.
Gomery Cultural Consultants	Alison Fenwick	Email	17/04/2025	No response received.
Jarban & Mugrebea	Alison Fenwick	Email	17/04/2025	Response received 30/04/2025, supporting the draft ACHMP.
Kawul Pty Ltd trading as Wonn1 Sites	Alison Fenwick	Email	17/04/2025	No response received.
Kevin Duncan	Alison Fenwick	Email	17/04/2025	Response received 08/05/2025, requested that the reference to Worimi be removed, in the context of being Traditional Owners of the Newcastle area. Umwelt responded to this email and explained that the inclusion of the Worimi people is consistant with UoN projects.
Lower Hunter Aboriginal Incorporated	Alison Fenwick	Email	17/04/2025	No response received.
Murra Bidgee Mullangari Aboriginal Corporation	Alison Fenwick	Email	17/04/2025	No response received.
Nukara Indigenous Cultural & Heritage	Alison Fenwick	Email	17/04/2025	No response received.
Steve Talbott	Alison Fenwick	Email	17/04/2025	No response received.
Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology	Alison Fenwick	Email	17/04/2025	No response received.
WATTAKA Pty Ltd	Alison Fenwick	Email	17/04/2025	No response received.
Widescope Indigenous Group	Alison Fenwick	Email	17/04/2025	No response received.
Worimi Traditional Owners Indigenous Corporation	Alison Fenwick	Email	17/04/2025	No response received.
Yinarr Cultural Services	Alison Fenwick	Email	17/04/2025	No response received.
Long Gully Cultural Services	Alison Fenwick	Email	17/04/2025	Response received 22/04/2025, supporting the draft ACHMP.
AT Gomilaroi Cultural Consultancy	Alison Fenwick	Email	17/04/2025	No response received.
Awabakal & Guringai Pty Ltd	Alison Fenwick	Email	17/04/2025	No response received.
Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC)	Alison Fenwick	Email	17/04/2025	Response received 14/05/2025, supporting the draft ACHMP and provided feedback concerning Section 5.5 of the ACHMP report and the long-term storage of any recovered artefacts.
Awabakal Local Aboriginal Land Council	Alison Fenwick	Email	17/04/2025	Response received 07/05/2025, no comments provided.
Awabakal Traditional Owners Aboriginal Corporation (ATOAC)	Alison Fenwick	Email	17/04/2025	Response received 15/05/2025, raised concerns regarding the wording of the Acknowledgement of Country. These comments were raised with the client and UoN, and necessary changes were made to the Acknowledgement of Country.
A1 Indigenous Services	Alison Fenwick	Email	17/04/2025	No response received.
Review of Revised Aboriginal Cultural Heritage Management Plan				
Didge Ngunawal Clan	Alison Fenwick	Email	14/08/2025	No response received.
Gidawaa Walang & Barkuma Neighbourhood Centre Inc.	Alison Fenwick	Email	14/08/2025	No response received.
Gomery Cultural Consultants	Alison Fenwick	Email	14/08/2025	No response received.
Jarban & Mugrebea	Alison Fenwick	Email	14/08/2025	No response received.
Kawul Pty Ltd trading as Wonn1 Sites	Alison Fenwick	Email	14/08/2025	No response received.
Kevin Duncan	Alison Fenwick	Email	14/08/2025	No response received.
Lower Hunter Aboriginal Incorporated	Alison Fenwick	Email	14/08/2025	No response received.
Murra Bidgee Mullangari Aboriginal Corporation	Alison Fenwick	Email	14/08/2025	Reponse received 14/08/2025, endorsing the revised ACHMP. No further comments.
Nukara Indigenous Cultural & Heritage	Alison Fenwick	Email	14/08/2025	No response received.
Steve Talbott	Alison Fenwick	Email	14/08/2025	No response received.
Thomas Dahlstrom Offers ACH value by using 3D Laser and Drone technology	Alison Fenwick	Email	14/08/2025	Response received 25/08/2025, confirming the revised ACHMP had been received. No further comments.
WATTAKA Pty Ltd	Alison Fenwick	Email	14/08/2025	No response received.
Widescope Indigenous Group	Alison Fenwick	Email	14/08/2025	No response received.
Worimi Traditional Owners Indigenous Corporation	Alison Fenwick	Email	14/08/2025	Reponse received 16/08/2025, endorsing the revised ACHMP. No further comments.
Yinarr Cultural Services	Alison Fenwick	Email	14/08/2025	No response received.
Long Gully Cultural Services	Alison Fenwick	Email	14/08/2025	No response received.
AT Gomilaroi Cultural Consultancy	Alison Fenwick	Email	14/08/2025	No response received.
Awabakal & Guringai Pty Ltd	Alison Fenwick	Email	14/08/2025	No response received.
Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC)	Alison Fenwick	Email	14/08/2025	No response received.
Awabakal Local Aboriginal Land Council	Alison Fenwick	Email	14/08/2025	No response received.
Awabakal Traditional Owners Aboriginal Corporation (ATOAC)	Alison Fenwick	Email	14/08/2025	No response received.
A1 Indigenous Services	Alison Fenwick	Email	14/08/2025	Reponse received 16/08/2025, endorsing the revised ACHMP. No further comments.

23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

Reply | Reply All | Forward

Thu 17/04/2025 4:41 PM

Alison Fenwick
To
Cc Ryan Desic; Trigg, Bailey; Mathew Watson
Bcc peterleven@y7mail.com; ngurrugu74@outlook.com; lilly carroll; Ethan Trewlynn; Leanne Kirkman; Leslie Atkinson; Darleen Johnson; C McDougall; Thomas Dahlstrom; WIDESCOPE .; Worimi TOC; Carolyn .H; reception@awabakallalc.com.au; Brent Ellis; Kevin Duncan; Kerrie Brauer; Lower Hunter Aboriginal Incorporated; 'Tracey Howie'

23355_R01_ACHMP_V1.pdf
6 MB

Dear Registered Party,

Thank you for your continued involvement in Aboriginal consultation for the proposed University of Newcastle City Campus Student Accommodation Project. The attached draft Aboriginal Cultural Heritage Management Plan (ACHMP) is required in accordance with development consent that was granted for the project in March 2025. This plan incorporates the relevant management measures presented in the project Aboriginal Cultural Heritage Assessment Report (ACHA) (Umwelt 2024) submitted as part of the EIS, and conditions of consent relating to Aboriginal cultural heritage.

In accordance with the draft ACHMP, Project Registered Aboriginal Parties are being offered **28 days** to review and provide any feedback about the draft ACHMP (attached). As such, please provide any comments **by 15 May 2025**. In particular, there are sections in the ACHMP highlighted in grey which require RAP feedback to determine the final management option, this specifically refers to the long-term management of any salvaged Aboriginal objects (either a Care Agreement or Reburial of cultural materials).

Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: Alison Fenwick
Sent: Thursday, 17 April 2025 4:41 PM
Cc: Ryan Desic; Trigg, Bailey; Mathew Watson
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan
Attachments: 23355_R01_ACHMP_V1.pdf

Dear Registered Party,

Thank you for your continued involvement in Aboriginal consultation for the proposed University of Newcastle City Campus Student Accommodation Project. The attached draft Aboriginal Cultural Heritage Management Plan (ACHMP) is required in accordance with development consent that was granted for the project in March 2025. This plan incorporates the relevant management measures presented in the project Aboriginal Cultural Heritage Assessment Report (ACHA) (Umwelt 2024) submitted as part of the EIS, and conditions of consent relating to Aboriginal cultural heritage.

In accordance with the draft ACHMP, Project Registered Aboriginal Parties are being offered **28 days** to review and provide any feedback about the draft ACHMP (attached). As such, please provide any comments **by 15 May 2025**. In particular, there are sections in the ACHMP highlighted in grey which require RAP feedback to determine the final management option, this specifically refers to the long-term management of any salvaged Aboriginal objects (either a Care Agreement or Reburial of cultural materials).

Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

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Alison Fenwick

From: Alison Fenwick
Sent: Wednesday, 7 May 2025 12:29 PM
Cc: Ryan Desic; Trigg, Bailey; Watson, Mathew; Tim Adams
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

Dear Representatives,

This is a courtesy reminder that any comments, concerns or general feedback concerning the draft Aboriginal Cultural Heritage Management Plan (ACHMP) for the University of Newcastle City Campus Student Accommodation Project is due **by 15 May 2025.** In particular, there are sections in the ACHMP highlighted in grey which require RAP feedback to determine the final management option, this specifically refers to the long-term management of any salvaged Aboriginal objects (either a Care Agreement or Reburial of cultural materials).

Please reference the email sent on 17th April 2025, which contains a copy of the draft report for your review. If you have any issues accessing this attachment, please reach out.

Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: peterleven@y7mail.com
Sent: Wednesday, 14 May 2025 12:17 PM
To: Alison Fenwick
Cc: 'Tori Leven'
Subject: RE: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan
Attachments: ADTOAC response ACHMP UoN Student Accommodation Project.pdf

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ALLA, Alison

Please find attached ADTOAC's Response to the University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan.

If you require any additional information, please feel free to contact us at your convenience.

NGI NOA,

Tori Davis
Director
Awabakal Descendants Traditional Owners Aboriginal Corporation
Email: Tori.Leven1@gmail.com Mobile: 0423057820
PO Box 137 Budgewoi NSW 2262

Peter Leven
Managing Director
Awabakal Descendants Traditional Owners Aboriginal Corporation
Email: peterleven@y7mail.com Phone: 0243903740 Mobile: 0405149684
PO Box 137 Budgewoi NSW 2262

Confidentiality Notice: All of the content and any information within or attached to this email is private and confidential and only between Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC), and the addressee/s. Under no circumstance is this information to be copied, emailed, transmitted in any form, faxed, transferred to other departments or allowed to be used within or for reports or any other documents or applications or purposes. The information contained within this email and any attached documents is not to be supplied to or used by any other person/s other than the intended addressee/s subject to our explicit permission.

From: Alison Fenwick <afenwick@umwelt.com.au>
Sent: Thursday, 17 April 2025 4:41 PM
Cc: Ryan Desic <rdesic@umwelt.com.au>; Trigg, Bailey <Bailey.Trigg@app.com.au>; Mathew Watson <mathew.watson@app.com.au>
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

Dear Registered Party,

Thank you for your continued involvement in Aboriginal consultation for the proposed University of Newcastle City Campus Student Accommodation Project. The attached draft Aboriginal Cultural Heritage Management

Plan (ACHMP) is required in accordance with development consent that was granted for the project in March 2025. This plan incorporates the relevant management measures presented in the project Aboriginal Cultural Heritage Assessment Report (ACHA) (Umwelt 2024) submitted as part of the EIS, and conditions of consent relating to Aboriginal cultural heritage.

In accordance with the draft ACHMP, Project Registered Aboriginal Parties are being offered **28 days** to review and provide any feedback about the draft ACHMP (attached). As such, please provide any comments **by 15 May 2025**. In particular, there are sections in the ACHMP highlighted in grey which require RAP feedback to determine the final management option, this specifically refers to the long-term management of any salvaged Aboriginal objects (either a Care Agreement or Reburial of cultural materials).

Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

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Alison Fenwick

From: Alison Fenwick
Sent: Thursday, 15 May 2025 3:17 PM
To: Kerrie Brauer
Cc: Ryan Desic; 'Trigg, Bailey'; 'Mathew Watson'
Subject: RE: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

Hi Kerrie,

Great to hear from you and thank you for sending through your concerns.

The Acknowledgement of Country, as found in the draft report, is in reference to the wider University of Newcastle network and is not exclusive to the Newcastle area, or the Project Area. I have addressed these concerns with an appropriate representative and will to my best to make sure there is more clarity in the revised draft.

Kind regards,
Alison

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

From: Kerrie Brauer <kerrie@awabakal.com.au>
Sent: Tuesday, 13 May 2025 1:43 PM
To: Alison Fenwick <afenwick@umwelt.com.au>
Cc: Ryan Desic <rdesic@umwelt.com.au>; 'Trigg, Bailey' <Bailey.Trigg@app.com.au>; 'Mathew Watson' <mathew.watson@app.com.au>
Subject: RE: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

Hi Alison,

Thank you for your email.

We have read through the Draft Aboriginal Cultural Heritage Management Plan for the University of Newcastle City Campus Student Accommodation Project and would like to mention a few concerns.

With regards to the Acknowledgement of Country Our Elders are certain that the University of **Newcastle** sits within the Awabakal Region and are wondering why the document is saying that; … "*The University of Newcastle*

acknowledges the traditional custodians of the lands within our footprint areas: the Awabakal, Darkinjung, Biripai, Worimi, Wonnarua and Eora Nations", as this Project is within the Newcastle area ONLY.

Our Elders are most upset with this obvious disregard to the original inhabitance of the wider Newcastle Region by including others from different areas that have no connection to the Newcastle Cultural Region, and we will not make anymore comments regarding the Draft Aboriginal Cultural Heritage Management Plan until the Acknowledgement of Country is rectified.

Regards,
Kerrie Brauer

ATOAC
Kerrie Brauer | Director | Administration | Awabakal Traditional Owners Aboriginal Corporation
M: 04 12 86 63 57 | E: kerrie@awabakal.com.au | www.awabakal.com.au
PO Box 122 Rutherford NSW 2320 Australia

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From: Alison Fenwick [mailto:afenwick@umwelt.com.au]
Sent: Thursday, 17 April 2025 4:41 PM
Cc: Ryan Desic; Trigg, Bailey; Mathew Watson
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

Dear Registered Party,

Thank you for your continued involvement in Aboriginal consultation for the proposed University of Newcastle City Campus Student Accommodation Project. The attached draft Aboriginal Cultural Heritage Management Plan (ACHMP) is required in accordance with development consent that was granted for the project in March 2025. This plan incorporates the relevant management measures presented in the project Aboriginal Cultural Heritage Assessment Report (ACHA) (Umwelt 2024) submitted as part of the EIS, and conditions of consent relating to Aboriginal cultural heritage.

In accordance with the draft ACHMP, Project Registered Aboriginal Parties are being offered **28 days** to review and provide any feedback about the draft ACHMP (attached). As such, please provide any comments **by 15 May 2025**. In particular, there are sections in the ACHMP highlighted in grey which require RAP feedback to determine the final management option, this specifically refers to the long-term management of any salvaged Aboriginal objects (either a Care Agreement or Reburial of cultural materials).

Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: lilly carroll <didgengunawalclan@yahoo.com.au>
Sent: Thursday, 17 April 2025 4:47 PM
To: Alison Fenwick
Subject: Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

Hi Alison

No dramas from our end, we have worked previously with iMac, Group and sides with their draft

Cheers Paul

Sent from Yahoo Mail for iPhone

On Thursday, April 17, 2025, 4:41 pm, Alison Fenwick <afenwick@umwelt.com.au> wrote:

Dear Registered Party,

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Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

p. **1300 793 267**

m. **0407 654 665**

w. **www.umwelt.com.au**

Alison Fenwick

From: Leslie Atkinson <les.atkinson@hotmail.com>
Sent: Wednesday, 30 April 2025 3:08 PM
To: Alison Fenwick
Subject: Re: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*
yuamma Alison
I agree to the draft ACHMP ,, Les

From: Alison Fenwick <afenwick@umwelt.com.au>
Sent: Thursday, April 17, 2025 4:40 PM
Cc: Ryan Desic <rdesic@umwelt.com.au>; Trigg, Bailey <Bailey.Trigg@app.com.au>; Mathew Watson <mathew.watson@app.com.au>
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

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Thank you for your time, and we look forward to any feedback you wish to provide.

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: kevin.duncan@bigpond.com
Sent: Thursday, 8 May 2025 1:00 PM
To: Alison Fenwick
Subject: Re: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

Anigunya, Alison , As a Traditional Awaba person I protest strongly about the draft identifying Worimi as traditional owners to which they are certainly not they do not cross the river, my family is Biraban who was my Blood Uncle and his younger brother Kuttirun William Bird my Grandfather born and bred on the Mission which Lancelot Threlkeld established on Lake Awaba in 1826 at present day Belmont then later at Toronto. My Grandfather Kuttirun and Uncle Biraban left an amazing cultural legacy of our land and of our people , for one explaining to the Colonial Secretary of British Government in 1830s of the Awaba peoples boundaries when Threlkeld had taken Uncle Biraban with him at Parramatta to give evidence of the local peoples and their boundaries where the Mission was established. The Worimi were never mentioned as owners of Awaba lands the Worimi should be removed as owners of our traditional Awaba lands in the document as this is a straight out Lie and goes against everything of AwabaTraditional Lore and customs beliefs , How can another tribe claim ownership of another Mobs lands when we as the Awaba people are well known and written about as one of the very first Aboriginal people to have interaction with the colonists. I again strongly propose that Worimi be removed as traditional owners please the truth must not only reflect the truth but must be told.

With Respect ,
Kevin Duncan Awaba Peoples.

On ,Thu Apr 17 2025 16:40:59 GMT+1000 (Australian Eastern Standard Time), Alison Fenwick <afenwick@umwelt.com.au> wrote:
---------- Original Message ----------
Dear Registered Party,
Thank you for your continued involvement in Aboriginal consultation for the proposed University of Newcastle City Campus Student Accommodation Project. The attached draft Aboriginal Cultural Heritage Management Plan (ACHMP) is required in accordance with development consent that was granted for the project in March 2025. This plan incorporates the relevant management measures presented in the project Aboriginal Cultural Heritage Assessment Report (ACHA) (Umwelt 2024) submitted as part of the EIS, and conditions of consent relating to Aboriginal cultural heritage.
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Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: Ethan Trewlynn <ethan3trewlynn@gmail.com>
Sent: Tuesday, 22 April 2025 11:50 AM
To: Alison Fenwick
Cc: Ryan Desic; Trigg, Bailey; Mathew Watson
Subject: Re: 23355 - University of Newcastle City Campus Student Accommodation Project - DRAFT Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

Hi Alison,

I have the ACHMP and I'm happy with everything that I have read and for it to go ahead!

Kind regards,

Ethan

On Thu, 17 Apr 2025, 4:41 pm Alison Fenwick, <afenwick@umwelt.com.au> wrote:

> Dear Registered Party,
>
> Thank you for your continued involvement in Aboriginal consultation for the proposed University of Newcastle City Campus Student Accommodation Project. The attached draft Aboriginal Cultural Heritage Management Plan (ACHMP) is required in accordance with development consent that was granted for the project in March 2025. This plan incorporates the relevant management measures presented in the project Aboriginal Cultural Heritage Assessment Report (ACHA) (Umwelt 2024) submitted as part of the EIS, and conditions of consent relating to Aboriginal cultural heritage.
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>
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>
> **Alison Fenwick**
> Archaeologist
>
> p. **1300 793 267**
>
> m. **0407 654 665**
>
> w. **www.umwelt.com.au**

"From the Mountains to the Sea"
AWABAKAL
Descendants Traditional Owners
Aboriginal Corporation
ICN:4500 ABN:20402046601

PO BOX 137
BUDGEWOI
NSW 2262

Date: 14th May 2025

Attention: Alison Fenwick
Umwelt (Australia) Pty Limited
75 York Street
Teralba, NSW 2284

RE: Draft Aboriginal Cultural Heritage Management Plan (ACHMP) University of Newcastle City Campus Student Accommodation Project

ALLA Alison,

We are writing to notify you that the Awabakal Descendants Traditional Owners Aboriginal Corporation (ADTOAC) have reviewed the Draft Aboriginal Cultural Heritage Management Plan (ACHMP) for the University of Newcastle City Campus Student Accommodation Project

ADTOAC believe the report provided for review is comprehensive and agree in principal with the Draft.

Below I have put forward on behalf of ADTOAC our comments and recommendations for your consideration.

ADTOAC recommendation

5.5 Long Term Management of Aboriginal object

Recommendation
Any recovered Cultural material is to be reburied in a Culturally appropriate manner onsite following any scientific analysis.

ADTOAC appreciate the opportunity to review the Draft Aboriginal Cultural Heritage Management Plan (ACHMP) for the University of Newcastle City Campus Student Accommodation Project

If you require any further information or clarification regarding our comments or suggested recommendations please contact us at your convenience.

NGI NOA

Tori Davis – Director - Awabakal Descendants Traditional Owners Aboriginal Corporation
Email: Tori.Leven1@gmail.com Mobile: 0423057820
PO Box 137 Budgewoi NSW 2262

Peter Leven-Managing Director: Awabakal Descendants Traditional Owners Aboriginal Corporation
Email: peterleven@y7mail.com Phone: 0243903740 Mobile: 0405149684

Cultural Heritage Sites - Physical reminders of our Ancestors; once they are gone, they are gone forever and impossible to bring back!! THINK first and make WISE decisions last!!

23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

Summarize

Reply | Reply All | Forward

Thu 14/08/2025 10:10 AM

Alison Fenwick
To
Cc Ryan Desic; Mathew Watson; Bailey Trigg
Bcc peterleven@y7mail.com; ngurrugu74@outlook.com; Leanne Kirkman; Darleen Johnson; C McDougall; Thomas Dahlstrom; WIDESCOPE ; Worimi TOC; Carolyn .H; Brent Ellis; Kevin Duncan; Kerrie Brauer; Lower Hunter Aboriginal Incorporated; 'Tracey Howie'; Michael Smith

This is the most recent version, but you made changes to another copy. Click here to see the other versions.

23355_R15_ACHMP_Rev1_DRAFT1.pdf
16 MB

We are writing to inform you that the Aboriginal Cultural Heritage Management Plan (ACHMP) for the University of Newcastle Student Accommodation Project at Honeysuckle has undergone an update.

Background
Further geotechnical investigations identified a need for additional ground improvement works to structurally support the proposed development. The proposed method involves the use of *rigid inclusions* to enhance ground stability. These will be installed using a displacement auger, meaning the augered material will be retained underground rather than brought to the surface.

- Estimated depth: 7m below ground surface.
- Auger diameter: 350 mm
- Quantity: 144 auger locations within mapped Hunter River Shoreline (including buffer)
- Total potential impact footprint: 13.8 m2

Archaeological works under the project's ACHMP are currently underway. As these additional works are not covered under the current ACHMP, an update is required. The proposal is to offset the impact of the ground improvement works by expanding the scope for open-area excavation, without the strict requirement to excavate only where project ground-disturbing activities are proposed.

The updated report has been attached for your review, and to provide any feedback. All updated sections are provided as tracked changes, with corresponding comments where applicable, to help with the review process. Please provide any comments by **28th August 2025 (14 days).**

If you have any further questions or concerns, please don't hesitate to get in contact.

Kind regards,
Alison

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: Alison Fenwick
Sent: Monday, 25 August 2025 1:18 PM
Cc: Ryan Desic; Mathew Watson; Bailey Trigg
Subject: Reminder: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

Dear Representatives,

This is a courtesy reminder that any comments, concerns or general feedback concerning the updated Aboriginal Cultural Heritage Management Plan (ACHMP) for the University of Newcastle City Campus Student Accommodation Project is due by **28th August 2025 (3 days).**

Please reference the email sent on Thursday 14th August 2025, which contains a copy of the updated report for your review. If you have any issues accessing this attachment, please reach out.

Thank you for your time, and we look forward to any feedback you wish to provide.

Kind regards,
Alison

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

From: Alison Fenwick
Sent: Thursday, 14 August 2025 10:10 AM
Cc: Ryan Desic <rdesic@umwelt.com.au>; Mathew Watson <mathew.watson@app.com.au>; Bailey Trigg <bailey.trigg@app.com.au>
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

Dear Representatives,

We are writing to inform you that the Aboriginal Cultural Heritage Management Plan (ACHMP) for the University of Newcastle Student Accommodation Project at Honeysuckle has undergone an update.

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Kind regards,
Alison

Alison Fenwick
Archaeologist

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Alison Fenwick

From: Alison Fenwick
Sent: Thursday, 14 August 2025 10:10 AM
Cc: Ryan Desic; Mathew Watson; Bailey Trigg
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan
Attachments: 23355_R15_ACHMP_Rev1_DRAFT1.pdf

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Kind regards,
Alison

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From:	Carolyn .H <cazadirect@live.com>
Sent:	Monday, 18 August 2025 4:53 PM
To:	Alison Fenwick
Subject:	Re: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan
Attachments:	A1.PL.2026.pdf; A1.WC.2026.pdf

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

A1 INDIGENOUS SERVICES

Contact: **Carolyn Hickey**
Mobile: **0411650057**
Email: **Cazadirect@live.com**
Address: **73 Russell St, Emu Plains, NSW 2750**
ABN: **20 616 970 327**

Good afternoon,

I have reviewed the document and fully support the Information and Methodology.

I would like to be included in all meetings, reports, sharing of cultural information,

and fieldwork.

I have attached A1 Indigenous Services Insurances.

A1 INDIGENOUS SERVICES, Represents over 100 Indigenous Locals

I agree to my details being shared with OEH and the LALC. Please feel free to contact me using
the details provided above.

Kind regards,
Carolyn & Julie Hickey

A1 Indigenous Services is a 100% Indigenous-owned Australian company offering a range of services to the construction industry. Our mission is to commit to an innovative approach for a better future for Indigenous employment and community, while improving ways to close the gap in Aboriginal participation in the construction industry.

We are dedicated to building strength in Aboriginal communities and our Indigenous labour force.

A1 Indigenous Services is a member of the NSW Indigenous Chamber of Commerce (NSWICC). A business or enterprise carrying the NSWICC Assured logo has met national policy requirements as upheld by FACCI, ensuring that it is identified as a First Nations business owner or entrepreneur and that it demonstrates compliance with government and industry regulators.

From: Alison Fenwick <afenwick@umwelt.com.au>
Sent: Thursday, 14 August 2025 10:09 AM
Cc: Ryan Desic <rdesic@umwelt.com.au>; Mathew Watson <mathew.watson@app.com.au>; Bailey Trigg <bailey.trigg@app.com.au>
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

Dear Representatives,

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Kind regards,
Alison

Alison Fenwick
Archaeologist

p. **1300 793 267**
m. **0407 654 665**
w. **www.umwelt.com.au**

Alison Fenwick

From: Darleen Johnson <murrabidgeemullangari@yahoo.com.au>
Sent: Thursday, 14 August 2025 1:55 PM
To: Alison Fenwick
Subject: Re: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

Hi Alison
I have read the project information and ACHMP updated plan and endorse the recommendations.
Kind regards
Darleen
0490051102

On Thursday 14 August 2025 at 10:10:09 am AEST, Alison Fenwick <afenwick@umwelt.com.au> wrote:

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Kind regards,

Alison

Alison Fenwick
Archaeologist

p. **1300 793 267**

m. **0407 654 665**

w. **www.umwelt.com.au**

Alison Fenwick

From: Thomas Dahlstrom <gamila_roi@yahoo.com.au>
Sent: Monday, 25 August 2025 1:09 PM
To: Alison Fenwick
Subject: Re: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*

Thanks Alison

Sent from my iPhone

On 14 Aug 2025, at 10:10 am, Alison Fenwick <afenwick@umwelt.com.au> wrote:

Dear Representatives,

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Kind regards,
Alison

Alison Fenwick
Archaeologist

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m. **0407 654 665**
w. **www.umwelt.com.au**

<23355_R15_ACHMP_Rev1_DRAFT1.pdf>

Alison Fenwick

From: Worimi Yorta Yorta <worimitoc@hotmail.com>
Sent: Saturday, 16 August 2025 12:06 PM
To: Alison Fenwick
Cc: Ryan Desic; Mathew Watson; Bailey Trigg
Subject: Re: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

*This message originated from outside of Umwelt - **BE CAUTIOUS** opening any link or attachment.*
Guudji Alison,

I have shown the Worimi Elders the amendment to the project area and they agree and support the amendment.

Thanking you culturally,

Candy on behalf of

Worimi Sovereignty Committee

naarka ghurrungkee
mobile: 0412 475 362
mobile: 0413 832 385
email: worimitoc@hotmail.com
email: worimisovereignty@hotmail.com

Guudji Yiigu, We are the Worimi sovereigns, we acknowledge and pay our respects to the people of the Worimi who are the traditional owners of the land on which we live,
to their continuing connection to land, water, culture and tribe and pay our respects to our Elders past, present and to our future generations.

From: Alison Fenwick <afenwick@umwelt.com.au>
Sent: Thursday, 14 August 2025 10:09 AM
Cc: Ryan Desic <rdesic@umwelt.com.au>; Mathew Watson <mathew.watson@app.com.au>; Bailey Trigg <bailey.trigg@app.com.au>
Subject: 23355 - University of Newcastle City Campus Student Accommodation Project - Updated Aboriginal Cultural Heritage Management Plan

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Alison

Alison Fenwick
Archaeologist

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APPENDIX 3

Legislation and Obligations

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides protection for Aboriginal objects and places across NSW:

- An Aboriginal object is defined as: Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.
- An Aboriginal place is: *any place declared to be an Aboriginal place under section 84*. This is a very specific piece of legislation that provides process and management of Aboriginal sites of cultural, but not necessarily scientific, values. They are commonly, but not always associated with intangible values.
- Any place declared to be an Aboriginal place by the Minister for the Environment, under Section 84 of the Act.

Obligation to Avoid Harm

All employees, contractors, sub-contractors and visitors to the project have an obligation to avoid harming Aboriginal heritage unless engaged in an Aboriginal heritage management activity described in this plan.

The NPW Act defines "harm" to an object or place as any act or omission that:

- destroys, defaces or damages the object or place, or
- in relation to an object-moves the object from the land on which it had been situated, or
- is specified by the regulations, or
- causes or permits the object or place to be harmed in a manner referred to in paragraph (a), (b) or (c), but does not include any act or omission that:
- desecrates the object or place, or
- is trivial or negligible, or
- is excluded from this definition by the regulations.

Obligation to Protect and Implement Management Measures

Site personnel, contractors and subcontractors responsible for land management or construction have an obligation to protect Aboriginal heritage within their area or work responsibility. This extends to both cultural materials identified as part of earlier phases of the project, and any additional cultural materials identified during construction. Protection means active recognition of known Aboriginal heritage and active measure to avoid and/or suitably mitigate Aboriginal heritage.

This may include fencing, erosion control and modification of work plans to avoid impacts to Aboriginal heritage, as well as facilitating a process where work personnel are aware of the nearby heritage. Site personnel, contractors and subcontractors also have the responsibility to ensure that appropriate management measures have been employed prior to, or in association with, their activities which impact Aboriginal sites.

Statutory Reporting Requirements

Notifications to Heritage NSW are required in relation to discovery, impact and care of Aboriginal objects under the NPW Act. This will be the responsibility of the Site Manager.

Discovery of Aboriginal Objects

Under Section 89A of the NPW Act, it is a requirement that Heritage NSW is notified of the existence of Aboriginal objects as soon as practicable after they are first identified. This is done through the completion of the Heritage NSW Aboriginal Site Card which is submitted to the Registrar of AHIMS for inclusion on the Aboriginal site database. Information regarding AHIMS and site recording forms can be downloaded from Heritage NSW's website:

http://www.environment.nsw.gov.au/licences/DECCAHIMSSiteRecordingForm.htm.

Care Agreements

Under s85A of the NPW Act, Aboriginal objects remain the property, and under the protection of, the Crown until formal transfer to a person or persons of a class prescribed by the regulations occurs. A Care Agreement is not currently determined under this plan; however, may be pursued in the future if Aboriginal objects are identified to a level of significance that the RAPs wish to retain such objects (this would require an update to the ACHMP). Care Agreement application forms can be downloaded at:

https://www.environment.nsw.gov.au/topics/aboriginal-cultural-heritage/protect-and-manage/care-agreements.

Reporting Impact to Aboriginal Sites

An Aboriginal Site Impact Recording Form must be completed following impacts to AHIMS sites that are:

A result of test excavation carried out in accordance with the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW.

- Authorised by an Aboriginal Heritage Impact Permit (AHIP) issued by Heritage NSW.
- Undertaken for the purpose of complying with Secretary's environmental assessment requirements issued by DPE for:
    - State significant development (SSD),
    - State significant infrastructure (SSI), or
    - A major project, or
    - Authorised by a SSD/SSI approval under the EP&A Act.

Completed forms must be submitted to the AHIMS Registrar at ahims@environment.nsw.gov.au.

Aboriginal Site Impact Recording Forms can be downloaded at:
https://www.environment.nsw.gov.au/resources/cultureheritage/aboriginal-site-impact-recording-form-120558.pdf.

7.6 Maritime Specific Unexpected Finds Protocol

University of Newcastle

City Campus Accommodation Development:

Maritime Archaeological Unexpected Find Procedure

Report prepared for The University of Newcastle

August 2025

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2	02/05/2025	Final MA UFP	C. Lewczak	F. Leslie	30/08/2025
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Project Understanding

This maritime unexpected finds procedure (MUFP) has been provided to assist the University of Newcastle in identifying and managing maritime archaeological specific unexpected finds that may be encountered during construction of the University of Newcastle city accommodation at Honeysuckle.

This MUFP has been informed by the historical archaeological assessment (HAA) prepared by Umwelt for this this project and includes:

- Unexpected finds, stop work triggers and notification procedures; and,
- Recording examples.

Background

The University of Newcastle are proposing to construct new student accommodation at 16 Honeysuckle Drive, Newcastle (the project). The proposed new accommodation building will be located at Site B (Stage 1B in the approved concept masterplan) in the southwest corner of the University's City Campus. Site B has an overall area of 3, 341m2 and is legally described as Lot 2 in DP 1247375.

Umwelt was commissioned to prepare a Historical Archaeological Assessment (HAA) for the project in 2024 (Umwelt 2024a). The assessment noted that, prior to 1850, the northwest portion of the project area was located within the Newcastle Harbour (Umwelt 2024a:42). While maritime archaeological remains have been found during development elsewhere along the Honeysuckle precinct, including an Admiralty anchor and the wreck of the Paddle Steamer *Leo,* the report stated that:

> *'…prior to reclamation the northwest portion of the project area was entirely within the harbour and has no potential for any significant archaeological remains [sic]…' (Umwelt 2024a:42).*

A summary of the archaeological potential prepared by Umwelt concluded that:

> *Prior to reclamation the northwest portion of the project area was entirely within the harbour and has no potential for any significant archaeological remains.*
>
> *From the mid nineteenth century the project area has been associated with the railway, associated rail yards and reclamation activities.*
>
> *With the exception of the locomotive turntable (which is outside the proposed building footprint and will not be physically impacted; it will be retained in situ and interpreted) it is considered unlikely that any significant historical archaeological 'relics' will be exposed within the project area* (Umwelt 2024a:42).

As part of the response to submissions, Heritage NSW identified several key matters in relation to the development that they required further information. As part of the response, Umwelt acknowledged that:

> *Although there is potential for maritime heritage items to be exposed within the landfill reclamation areas of Honeysuckle, as a result of the limited nature (in area and depth) of proposed Project excavation activities and the location of the Project area closer to (and partially within) the former foreshore area rather than entirely within the deep reclaimed harbour area the potential for maritime heritage items to be exposed is considered to be low. (Umwelt 2024b:6)*.

Umwelt's response to the submission report added the following specific maritime archaeological recommendation to the project:

> *In the event that a potential maritime heritage item is exposed during proposed sub-surface works, work must cease, an appropriately qualified and experienced maritime archaeologist (as defined in the Australasian Institute for Maritime Archaeology Code of Ethics) consulted with to determine the appropriate management of the item in accordance with section 40 (Discovery of certain underwater cultural heritage must be notified) of the Underwater Cultural Heritage Act 2018 [sic] (Umwelt 2024b:6)*.

This MAUFP has been prepared to satisfy this recommendation.

Proposed Development

The following description of the proposed works are taken from the Umwelt HAA report.

Based on our understanding of the proposed development, there are four locations where bulk excavation works are proposed. These are:

- Services - the deepest excavation depth proposed comprise:
  - a localised stormwater connection in the northwest corner of Project area to 0.00 m AHD - likely located within reclamation fill; and
  - a localised sewer connection in the northwest corner of Project area to -1.2 m AHD – likely located within reclamation fill.
- Rainwater tank in northwestern portion of Project area - the deepest excavation depth proposed is 0.00 m AHD noting the tank is likely located within reclamation fill; and
- Lift pit (the deepest excavation depth proposed is 0.00 m AHD noting the pit is likely located close to the edge of the former foreshore rather than within deep reclamation fill.

Statutory Requirements

The project area for this development is located within reclamation fills within the Honeysuckle Precinct of Newcastle, NSW. As such, the primary legislation for the protection of maritime archaeological sites and articles, including shipwreck, wharves, seawalls, is the Heritage Act of NSW.

Heritage Act of New South Wales (NSW) 1977

The *Heritage Act 1977* (Heritage Act) is a statutory tool designed to conserve environmental heritage in NSW. It is used to regulate development impacts on the State's historical heritage assets. The Act defines a heritage item as '*a place, building, work, relic, moveable object or precinct'*.

To assist management of the State's heritage assets, the Act distinguishes between items of Local and State heritage significance.

> *'Local heritage significance', in relation to a place, building, work, relic, moveable object or precinct means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item'*
>
> *'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct means significance to the State in relation to the historical scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item'.*

As outlined in the following subsections, different parts of the Heritage Act are designed to protect and conserve heritage items.

Archaeological relics

Archaeological 'relics' are defined by the Heritage Act as:

> *'any deposit, artefact, object or material evidence that:*
>
> *(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
>
> *(b) is of State or local heritage significance'*

Part 6 Division 9 of the Heritage Act protects archaeological relics from being 'exposed, moved, damaged or destroyed' by the disturbance or excavation of land. This protection extends to the situation where a person has 'reasonable cause to suspect' that archaeological remains may be affected by the disturbance or excavation of the land. It applies to all land in NSW that is not included in the SHR.

Section 146 of the Act requires any person who is aware or believes that they have discovered or located a relic must notify the Heritage Council of NSW providing details of the location and other information required.

Protection of historic shipwrecks

Part 3C of the Heritage Act relates to the protection of shipwrecks within State waters. In NSW, an historic shipwreck means the remains of any ship that have been situated in State waters for 75 years or more, or that are the subject of a historic shipwrecks' protection order. Historic shipwrecks are protected under the Heritage Act and a Register of Shipwrecks is kept by the Heritage Council. It is noted that items not listed on the Register may still protected under the relic's provisions of the Heritage Act (see 'Relics').

The protection afforded under the Heritage Act also extends to articles associated with a shipwreck including articles that formed part of, or had been installed on, or carried in, the ship, or constructed or used by a person associated with the ship.

Part 3C of the Act applies to shipwrecks and associated articles within State waters that are not the subject of an IHO or included, or within an area included, on the SHR. Under the Act, it is an offence to "move, damage or destroy" a shipwreck in NSW unless in accordance with a permit.

The Heritage Council of NSW is required to maintain a Register of Shipwrecks. This register contains particulars of each historic shipwreck protected or afforded protection by the Minister.

The NSW Heritage Act also protects maritime archaeological remains associated with harbour development, including wharf, landings, seawalls and other similar infrastructure sites.

Maritime Archaeological Induction Requirements

Site Induction

All employees, contractors and sub-contractors involved in ground-disturbing activities will undergo a Maritime archaeological heritage induction. This induction will be conducted either by the maritime archaeologist, Principal Contractor, or their subcontractor (once appropriately trained to present the induction). In addition, visitors to the project and general contractors not involved in ground-disturbing activities will be made aware of their obligation to avoid impacts to maritime archaeological and/or heritage sites component of the general site induction. Records of these inductions will be kept by APP/its contractors.

The following points will be conveyed through site induction material:

- Potential maritime archaeological sites have been identified in the Project area and in the wider Newcastle context.
- Maritime archaeological relics may include items of State or local heritage significance, that are important to understand the historical or social history of the greater Newcastle or local area, and may have archaeological research potential.
- Any maritime archaeological relics assessed as having heritage significance are protected by law under the NSW Heritage Act 1977, and additional consultation and notification to Heritage NSW.
- The distinction between historical and maritime archaeological sites and objects can be difficult to determine. When in doubt, either the Project's Historical Archaeologist or Maritime Archaeologist should be contacted immediately, as they would be able to determine the technical specialise needed to assess the unexpected find.

Maritime Archaeological Unexpected Finds Procedure

The Procedure

The unexpected finds procedure is as follows

1. On discovery of a potential maritime archaeological find, or identified relic, the relevant Site Supervisor or Environmental Management representative must notify the Project's Environmental Manager. Photographs and a map showing the approximate position of where the potential found was encountered should be taken and passed on with the notification. Examples of how to take photographs and the types of materials that could be expected are provided in the following subsection.
2. If the find is believed to be a maritime archaeological heritage item, the notification must be provided to the Project's Maritime Archaeologist with all supporting information so the Maritime Archaeologist can determine its possible origins, age and associations.
3. The Project Maritime Archaeologist must be given time to assess the find and its heritage significance, and, if the object is likely a singular item or if there is potential for a larger deposit or site.
4. If the find is assessed as being a possible heritage item, work is to cease in the immediate area where the discovery of the object was found until further investigation can be made. Notification of the discovery of a shipwreck is required to be made to Heritage NSW under S.146 of the *Heritage Act, 1977.*
5. Heritage items that are identified should be left *in situ*. The Project's Maritime Archaeologist would attend site as soon as possible to make further recordings and recommendations based on their preliminary assessment of the item. Recommendations may include possible long-term conservation of the find and future storage or display, depending on its assessed heritage significance.

The Project Maritime Archaeologist would need to determine if the find is from a potential shipwreck or another underwater cultural heritage site, or, if the object is from a debris field or similar scatter. If part of a shipwreck is discovered, it would likely require some time to investigate, determine its location and provide mitigation measures. Individual finds may relate to potential dumped debris that has been transported into the area via natural coastal processes, and is likely to be less significant, and cause less of a delay.

Failure to follow the unexpected finds procedure may result in a breach of the *NSW Heritage Act 1977.* Penalties for breaches of this Act may apply.

Management of Salvaged Maritime Heritage Items

University of Newcastle is fully aware of the risks associated with unexpected finds of an archaeological nature within the project area, particularly if remains of maritime archaeological sites, including former wharves, jetties, shipwreck or shipwreck-related materials are uncovered, and are fully committed to ensuring all reasonable efforts are made to quickly and correctly manage all maritime archaeological unexpected finds, on advice from MTS Heritage and Heritage NSW.

Temporary Storage of Salvaged Relics

Transportable maritime archaeological relics salvaged under the provisions of this MUFP will be temporarily stored at either the Umwelt Archaeology Office at 69 York Street, Teralba, NSW, or the MTS Heritage Office at Unit 1A, 167-167 Macquarie Road, Springwood, NSW.

If items have come from wet or inundated deposits, the relics that have been recovered should be cleaned and consideration should be given to storing these items in wet hessian or similar material. This is to stop the object drying out and potentially disintegrating while an assessment the items significance is being determined.

It may be necessary for MTS Heritage to temporarily release relics to qualified consultants for the purposes of analysis and reporting, providing the consultant nominates the storage location, and the location is deemed safe and secure.

Larger items may need to be stored on site in a secure location away from construction works. Depending on the size of the item, either a secure lockup area, such as container or in a secure fenced off area. All analysis of the unexpected find would be undertaken on site with the item to remain in the secure location until advice from the Maritime Archaeologist and Heritage NSW has been sought.

Long-term Care and Conservation – *in situ*

In exceptional circumstances re-design of the proposed development to allow for the retention/*in situ* conservation and/or subsequent reinstatement of State significant heritage items may be required. Certain portions of the project area, or items/relics that have State significant values and exceptional levels of intactness, preservation and interpretive or research potential may be suitable for *in situ* conservation.

Decisions regarding possible *in situ* conservation and retention can only be made after detailed assessment of the unexpected find has been completed, including an understanding of its level of heritage significances, and after consultation with Heritage NSW and University of Newcastle regarding the potential for *in situ* conservation.

Long-term Care and Conservation – *ex situ*

Long-term care and conservation would only be considered to those relics that have been assessed as being of State significance, or have exceptional archaeological research potential. The conservation and storage of items is dependent on the type, specifically the material composition of the relics (such as timber, glass or ferrous material etc.). Specialised heritage conservation advice would be sourced from an experienced artefact specialist with maritime archaeological experience.

Long-term care and conservation would broadly follow the following process:

1. If the item has been identified as being of State Significance and determined to be an object that should be conserved (following the unexpected finds protocol and consultation with Heritage NSW), specialist heritage conservation advice would be sought immediately.

2. During the conservation process discussions regarding the potential for storage, public display and interpretation of the object(s) would commence.

3. If an object is to be put on displayed by the University of Newcastle, a Heritage Interpretation Plan, including ongoing care and conservation of the relic(s), would be prepared by a suitably qualified and experienced expert and submitted to Heritage NSW for approval. This would include ongoing requirements for the conservation of relic(s) on display.

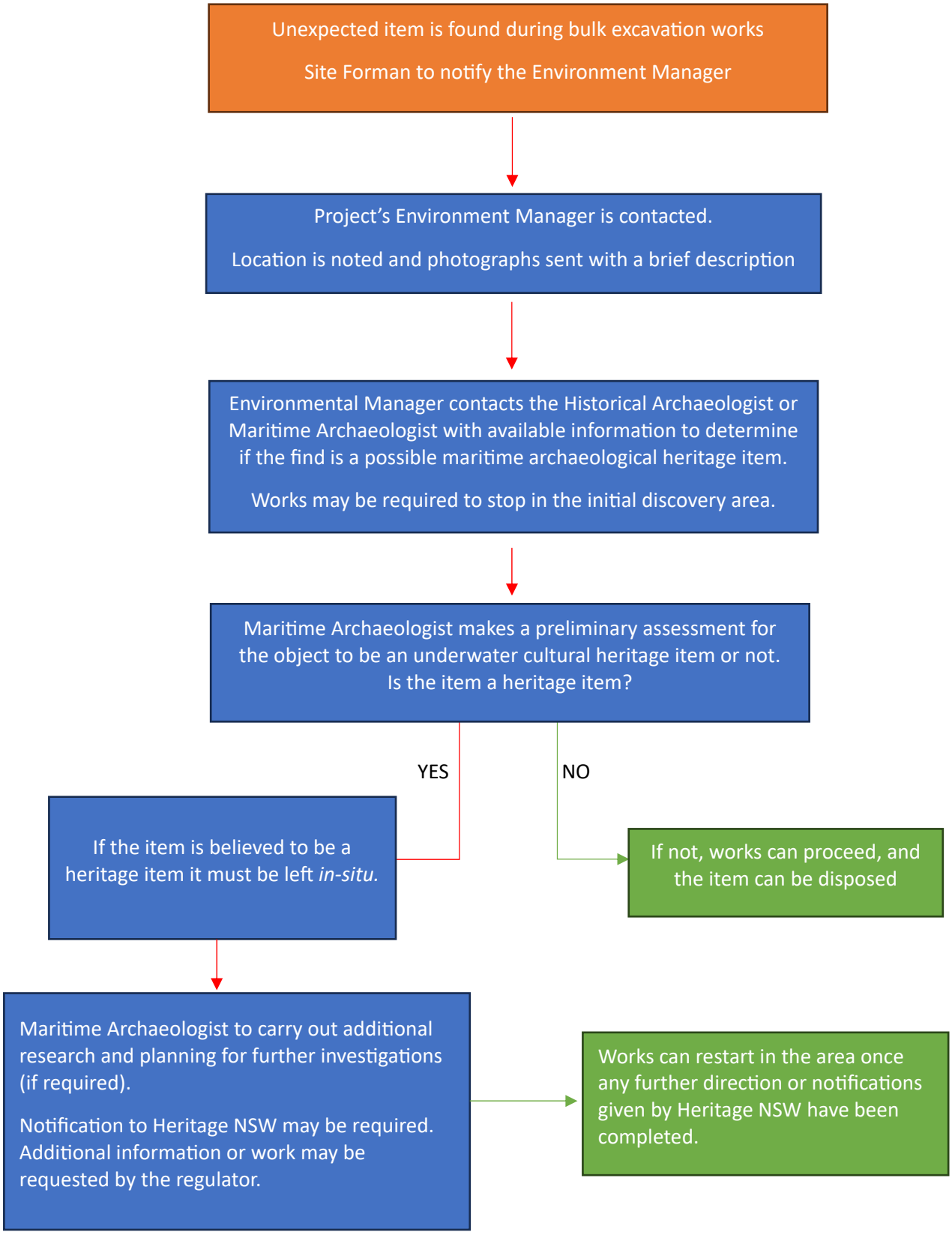

Figure 1: Maritime Unexpected Finds Protocol flowchart.

Photograph recording examples and possible material examples

DISCOVERY OF PREVIOUSLY UNIDENTIFIED HERITAGE OBJECTS DURING ACTIVITIES
EXAMPLE PHOTOGRAPHIC RECORDING GUIDE

1. SCALE IN EVERY PHOTO
   Scale can be
   - Tape Measure
   - Photo Scale.

2. PHOTOS FROM DIFFERENT ANGLES
   Flip the object over, or photograph the sandstone from side.

3. CLOSE UP OF DETAILS
   Including features, text and marks.
   Detailed photos can be taken in the site office at the end of the day.

4. PHOTOS MUST BE IN FOCUS
   Details need to be clear when zooming in.

5. OBJECTS CAN BE CLEANED
   Water can be used to gently remove dirt in order to highlight or reveal details.

6. OBJECTS MUST BE KEPT SOMEWHERE SAFE
   Objects can be put into zip lock bags or blocks can be stacked somewhere safe.

EXAMPLE OF TIMBER ITEMS

Examples of how to photograph unknown timber items.

Scale in every photograph.

The background of each photograph should be kept as clean as possible to see the item clearly.

EXAMPLE OF METAL ITEMS

Examples of how to take detailed photographs of metal items.

Photographs of the whole item should be taken before taking detailed photographs.

Scale should be present in every photograph and located close to the detail being shot.

Different angles of the same detail should be taken.

Multiple small objects can be photographed in one shot. Items should be spaced so each can be clearly seen.

The scale needs to be visible so accurate measurements can be taken from the photos.

Detailed photos should still be taken if objects have writing or other stamped features on them.

EXAMPLES OF GLASS ITEMS

How to photograph a whole bottle.

Scale kept straight on either below or to one side of the bottle.

How to photograph detail present on a glass bottle.

Scale kept straight and close to the detail being photographed.

How to photograph detail around the base of a glass bottle.

Scale is in line and kept straight.

How to photograph the detail on the base of a bottle.
The photo can be taken on an angle to help see the outline of embossing

Scale is level with the section of the bottle to be photographed and kept straights.

EXAMPLE OF MARITIME INFRASTRUCTURE ITEMS

How to photograph piles.

Scale should be placed horizontal to one side.

How to photograph misc maritime items within a trench.

If the trench is shallow - scale can be placed outside the trench.

If the trench is deep, the scale should be placed within the trench.

References

Umwelt (Australia) Pty Ltd, 2024a, *City Campus Student Accommodation – Historical Archaeological Assessment.* Report prepared for University of Newcastle.

Umwelt (Australia) Pty Ltd, 2024b, UON Student Accommodation Response to Submissions – European Heritage. Report prepared for University of Newcastle.

7.7 Construction Pedestrian and Traffic Management Plan

HANSENYUNCKEN

Construction Pedestrian and Traffic Management Plan

Project: University of Newcastle Student Accommodation
Job No: SN114

Rev: A – B August 2025

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Uncontrolled Document in Hard Copy
Copies shall not be made without the written permission of Hansen Yuncken Project Manager

Hansen Yuncken would like to acknowledge the AWABAKAL AND WORIMI people as the traditional custodians of the land where this project is located.

We honour elders; past, present and emerging whose knowledge and wisdom has and will ensure continuation of cultures and traditional practices.

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1 Introduction

1.1 Review & Approval

Refer to Project Management Plan Responsibility Matrix for traffic management responsibility, input and approval

Position	Name	Sign	Date
Review			
Site Safety Officer			
Site Manager			
Project Manager			
State HSE Manager			
Site Safety Officer			
Approval			
State Construction Manager			

1.2 Revision history

Rev.	Date	Description of amendments	Author	Checked
A-A	28 March 2025	Project Specific Updates	Matt Tuttle	
A-B	06 August 2025	Updated S2.13 Site and Traffic Plan	Tom Clark	

1.3 Definitions & Abbreviations

The following definitions and abbreviations have been used in this Traffic Management Plan. Further definitions and abbreviations are provided in referenced procedures and plans:

CORP	Hansen Yuncken Corporate
HSE	Health, Safety & Environment
HY	Hansen Yuncken Pty Ltd
PLN	HY Plan
PPE	Personal Protective Equipment
PR	Procedure
S/C	Subcontract(s) or Subcontractor(s) as the context requires

1.4 Legislation, Standards & Codes of Practice

Traffic shall be controlled in accordance with either of the following, depending on the contract or site conditions and requirements.

- **AS 1742.3** Manual for uniform traffic control devices, Part 3 – Traffic control devices for works on roads
- **SAA HB81.1 to HB81.6** Field guides for traffic control at works on roads. Part 1 to Part 6 cover various examples of work on different roads and under different conditions

2 Pedestrian and Traffic management Requirements

2.1 Signs

The purpose of road signing or work site protection is:

- to provide a safe work area to work within; and
- to safely move traffic through, around and past a work site with minimum inconvenience.

2.2 Traffic Controllers

Only competent persons who possess the relevant state certification shall be appointed as traffic controllers and when a traffic management plan is to be implemented they must possess the relevant competency to implement, and or audit and design the traffic management plans dependent on the competencies obtained.

2.3 Signage Placement or Modification

HY Site Manager is responsible to ensure that the placement of temporary signs and their location is placed as per Traffic Control Plan by a qualified Traffic Controller.

Any worker setting up temporary traffic control or modifying permanent traffic controls or directing traffic must have signed a SWMS which has been reviewed by Hansen Yuncken.

The traffic controllers must be wearing the required PPE for the activity which is required to be nominated in the SWMS.

Any existing signs that do not apply shall be covered as per the approved traffic management plan.

2.4 Pedestrian Paths

The site interfaces with footpaths along Worth Place and Wright Lane. Pedestrian traffic shall be maintained along the east side of Worth Place and north side of Wright Lane. Pedestrian Paths shall be safe and at least 1.2 metres wide

2.5 Maintenance of Existing Traffic Flow

Existing traffic flows shall be maintained and only modified for short periods when other alternatives have been exhausted. The site will take possession of Wright Lane to allow the construction zone and materials handling area. 24/7 access will be maintained to the Q-Building loading dock. Vehicles accessing the loading dock will be able to drive into the driveway and reverse out of the driveway and exit to the east along Wright Lane in a forward direction. There will be nil impact to existing traffic flow on Civic Lane during the construction works, except for a minor disruption for the installation and removal of the project approved hoarding.

2.6 Site Access

Due to the restrictive existing traffic flow arrangements on Workshop Way, Settlement lane, Wright lane, and the 23 tonne weight limit on Settlement Lane, Hansen Yuncken have engaged with Newcastle City Council and have received approval in principal to apply for a Road Occupancy Licence for a portion of Worth Place footpath to allow for construction traffic to enter the construction zone on

Wright Lane from the east and exit Wright lane to the west by turning left onto Worth place. Hansen Yuncken will demolish the existing footpath on Worth Place, install a temporary driveway to NCC requirements and reinstate the footpath upon completion of the works. The negates the requirement to turn vehicles around on Wright lane and negates the requirement for traffic control for vehicles greater than 23 tonne to exit via Workshop Way, overall reducing the impact on local traffic.

Further, it is understood that Wright Lane is owned by the University of Newcastle and therefore, as confirmed by Newcastle City Council, no further Road Occupancy Licences are required.

Warning signs will be placed approximately 150m from the main entrance and exit to warn traffic and pedestrians the vehicles will be entering and exiting site.

The access points into the site are indicated on the attached Traffic Control Plan along with Traffic Control Devices which will be put in place for the duration of the project.

2.6.1 Entering Site

Construction traffic shall enter the site via Wright Lane from the east in a forward direction. Traffic controllers and spotters will be present to ensure safety coordination between entering construction traffic associated with this project and local traffic.

2.6.2 Exiting Site

All construction traffic shall exit the site via Wright Lane by turning right onto Worth place in a forward direction. Traffic controllers and spotters will be present to ensure safety coordination between exiting construction traffic associated with this project and local traffic.

2.6.3 On Site Traffic Management

All on site traffic management will be managed through the Daily Pre Start Meetings.

2.7 Traffic Management Report

During the operation of a Traffic Guidance Scheme, a daily Traffic Management Report shall be completed using the *Traffic Management Report Checklist* in Hammertech or equivalent report by the Traffic Management Subcontractor. The Subcontractors Traffic Management Report must be supplied to the Site Manager for future reference.

During the operation of a Traffic Guidance Scheme, daily routine tasks shall be undertaken in accordance with Appendix A of 1742.3;

- Before Work Starts.
- During Work Hours.
- Closing Down at the end of the day.
- After hours.

2.8 Special Deliveries

Any trucks that are long or wide loads will have specific traffic management in place to control traffic Wright Lane. These loads, depending on RTA requirements, may require support vehicles or police escorts.

2.9 Site Location

The site is located at 20 Civil Lane, Newcastle, NSW, 2300. Site B (Stage 1B in the approved concept masterplan) is located at the south western corner of the University's City Campus. Site B has an overall area of 3,341m2 and is legally described as Lot 2 in DP 1247375. Landscaping and public

domain works will be undertaken in a portion of Wright Lane and is legally described as Lot 5 in DP 1247375. Both Lot 2 and 5 in DP 1247375 are owned by the University of Newcastle.

Figure 1 – Site Location Map

2.10 Proposed Construction Hours

The construction activities associated with these works shall be carried out within the hours approved by the relevant authorities and SSDA conditions.

Based on proposed conditions for the project, these hours are as follows

- Monday to Friday 7:00am to 6:00pm
- Saturdays 8:00am to 1:00pm
- Sunday and Public Holidays No works to be undertaken without prior approval

Works may be undertaken outside these hours where:

- It is agreed in advance in writing from the Principle Authority.

2.11 Construction vehicle Movements and their gross vehicle mass

The proposed works are envisaged to be carried out using a mix of commercial vehicles, ranging from small to heavy rigid. It is understood that vehicles exceeding 12.5m in length will be required, including.

- Mobile cranes (20 tonne to 130 tonne crane)
- Articulated vehicles (6m to 19m long) for material deliveries

The number of vehicles movements will vary depending on the stage of works. Expect from 20 to 50 vehicle movements per day during peak structure and fitout stages. This will taper off to 20 per day as fitout works concludes.

2.12 Construction vehicle routes

The proposed construction vehicle routes are outlined in figure 2. These routes shall be communicated to construction staff during the induction process. As a general requirement however, all drivers and associated companies are responsible for adhering to the road rules and regulations.

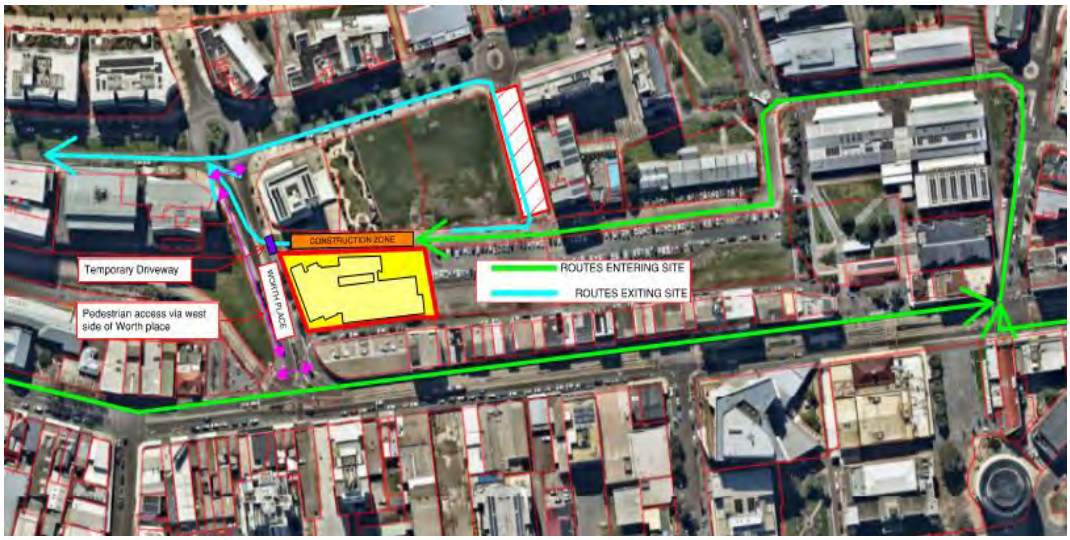

Figure 2 – Construction Vehicle Routes

2.13 Access arrangements and Traffic control measures for construction works

All construction traffic shall enter the site in a forward's direction via Wright lane from the east and exit site to the west by right turn onto Worth Place. Traffic controllers and spotters will be present to ensure safe coordination between entering and exiting construction traffic associated with this project and local pedestrian and vehicle traffic.

In relation to timings, vehicle egress from site will be managed by traffic controllers to minimise disruption to pedestrian, cyclists and vehicle traffic.

Class A Hoarding is proposed to be installed to minimise disruption to local network. Concrete barriers with Class A hoarding will be installed along Civic Lane and to the Construction Zone on Wright Lane, this will allow traffic flow and protection from vehicle impacts. The Class B Hoarding along Worth Place will allow pedestrian traffic to flow during construction.

Construction vehicle movements on site during construction. Refer to Figure 3 – Site and Traffic Management Plan.

Figure 3 – Site and Traffic Management Plan

2.14 Parking for Construction staff

The workforce will vary over the project lifespan, dependant on the requirements of each construction activity. The following figures are anticipated.

- Hansen Yuncken / Administration staff: 20
- Construction Workforce (typical) 100
- Construction Workforce (peak) 180

Hansen Yuncken propose to utilise the vacant University of Newcastle land on the corner of Honeysuckle Drive and Settlement lane for Construction Staff Parking, as was done for the Q Building Project. Refer to red shaded area in Figure 3 – Site and Traffic Management Plan.

During the project, staff and workforce where practically achievable will be asked to carpool or take public transport with light rail and bus stations in close proximity to site.

To support alternative travel, secure areas shall be made available within the compound for tradesman and staff to store equipment, making light travel via alternative modes viable.

2.15 Potential Impacts to general traffic cyclists, pedestrians, and bus services within the vicinity of the site from construction vehicles during construction of works

It is considered that as a general case, the hourly construction traffic volumes of this project will be low to medium and where practicable, will avoid peak hour periods. The construction traffic routes outlined in section 2.12 have been adopted as they create minimal impacts towards local businesses, cyclists,

pedestrians, bus service along the local network. In light of such, the general day-to-day operations is not anticipated to create significant construction impacts to the traffic (vehicle / pedestrian / cyclists / public transport) conditions on the network.

As noted in Section 2.6, Hansen Yuncken propose to install a temporary driveway to Worth Place to enable one-way construction vehicle traffic flow. The provision of this driveway will require the temporary diversion of pedestrians to the west side of Worth place. This work will be completed under Authority Approved Traffic Management Plans and Newcastle City Council permits. Refer to Figure 5 for disruptions.

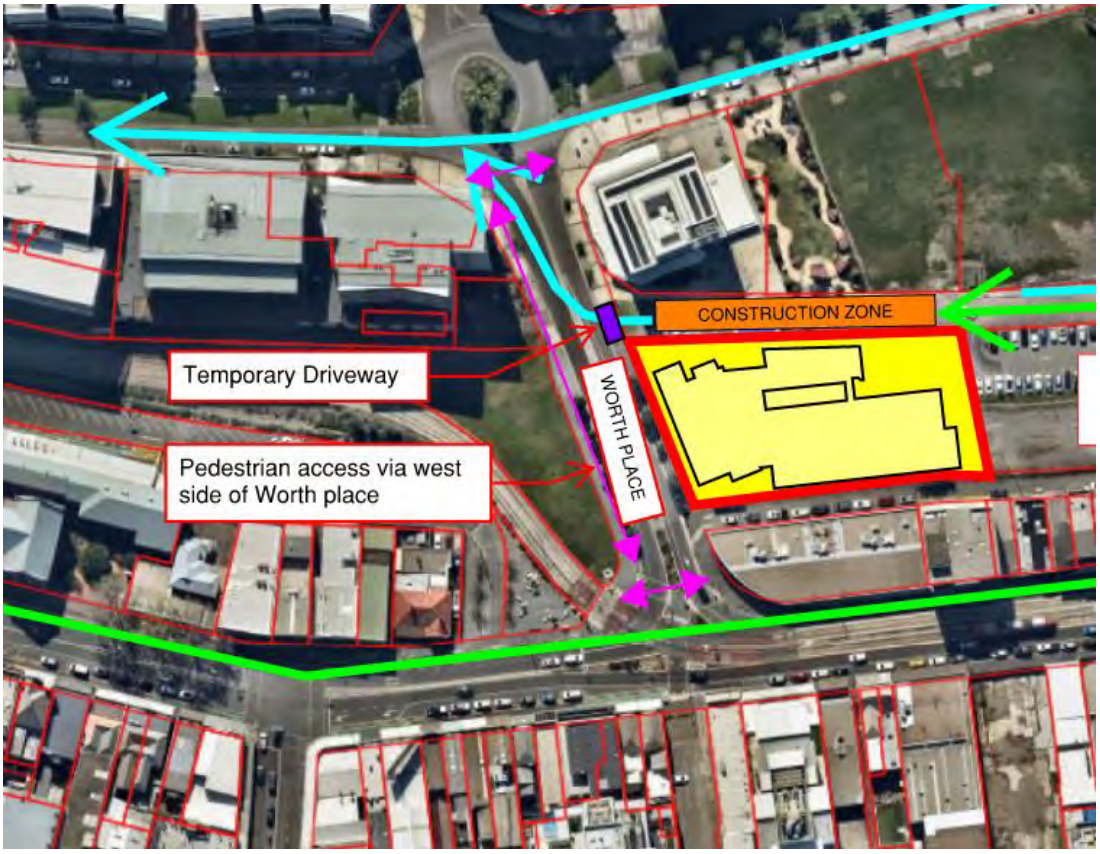

Figure 5 - Disruptions to local network during Worth Place temporary driveway construction

2.16 Cumulative construction impacts of other developments. Existing CPTMPs for developments within or around the development site.

Hansen Yuncken understands that there are numerous other construction projects currently occurring in the Newcastle CBD and hence our proposed CPTMP provides minimal disruption to the surrounding properties, infrastructure and network.

2.17 Proposed mitigation measures.

All construction activities excluding demolition, footpath works, and services diversions/ connections shall be wholly contained within the approved construction compounds, including but not limited to plant, vehicles, waste, site offices, amenities, and materials,

All hoarding and barriers installed outside the above three phases (demolition, footpath works and services diversions / connections) shall not impact pedestrians, public vehicle traffic and parking whilst maintaining worksite security. Minimal impact to pedestrians, vehicle and adjoining businesses is a key criterion in the methodology. Prior to any site establishment works, the hoarding arrangements will obtain approval from relevant certifying authority . Upon completion of any stage, the dismantling of any hoarding or road signage shall be done in accordance with local Authority such as Newcastle City Council and RMS.

7.8 Construction and Noise Vibration Management Plan

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University of Newcastle, City Campus Student Accomodation

Construction Noise and Vibration Management Plan

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Project ID	20250248.2
Document Title	Construction Noise and Vibration Management
Attention To	Hansen Yuncken Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
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1 INTRODUCTION

This report has been prepared to present a Construction Noise and Vibration Management Plan (CNVMP) for the University of Newcastle City Campus student accommodation, to be located at 20 Civic Lane, Newcastle NSW 2300.

This report has been prepared to address SSDA consent condition B39 of the project's development consent, provided below for reference. A comprehensive list of preliminary SSDA consent conditions that have been addressed as part of this report are presented in section 5.

> *"**Construction Noise and Vibration Management Sub-Plan***
> *B39. Prior to the commencement of any works, the Applicant must submit to the Certifier a Construction Noise and Vibration Management Sub Plan (CNVMP) for the development, prepared by a suitably qualified person, with measures to minimise environmental impacts and harm during construction of the development arising from construction noise and vibration, including, at a minimum, the following:*
>
> > *(a) identification of noise sources and sensitive receivers.*
> > *(b) quantification of the rating background noise level (RBL) for sensitive receivers;*
> > *(c) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (ICNG) (as may be updated or replaced from time to time)*
> > *(d) prediction and assessment of potential noise, ground-borne noise (as relevant) and vibration levels from the proposed construction methods expected at Sensitive Receiver premises against the objectives identified in the ICNG*
> > *(e) noise mitigation measures that can be implemented to reduce construction noise and vibration impacts, including:*
> >
> > > *(i) installation of acoustic barriers/enclosures; and*
> > > *(ii) alternative excavation methods:*
> >
> > *(f) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;*
> > *(g) measures to identify non-conformances with the requirements of the CNVMP, and procedures to implement corrective and preventative action and to respond to complaints;*
> > *(h) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity; and*
> > *(i) include a complaints management system that would be implemented for the duration of the development."*

2 SITE DESCRIPTION

The project site is located at 20 Civic Lane, Newcastle NSW 2300, being the University of Newcastle City Campus 9 storey student accommodation, with the following proposed -

- Ground Level retail and common spaces,
- 8 levels of student accommodation

Investigation with respect to the surrounding noise sensitive receivers to the project site has been carried out by ACOR as part of the development application noise and vibration impact assessment. The identified receivers have been reciprocated below:

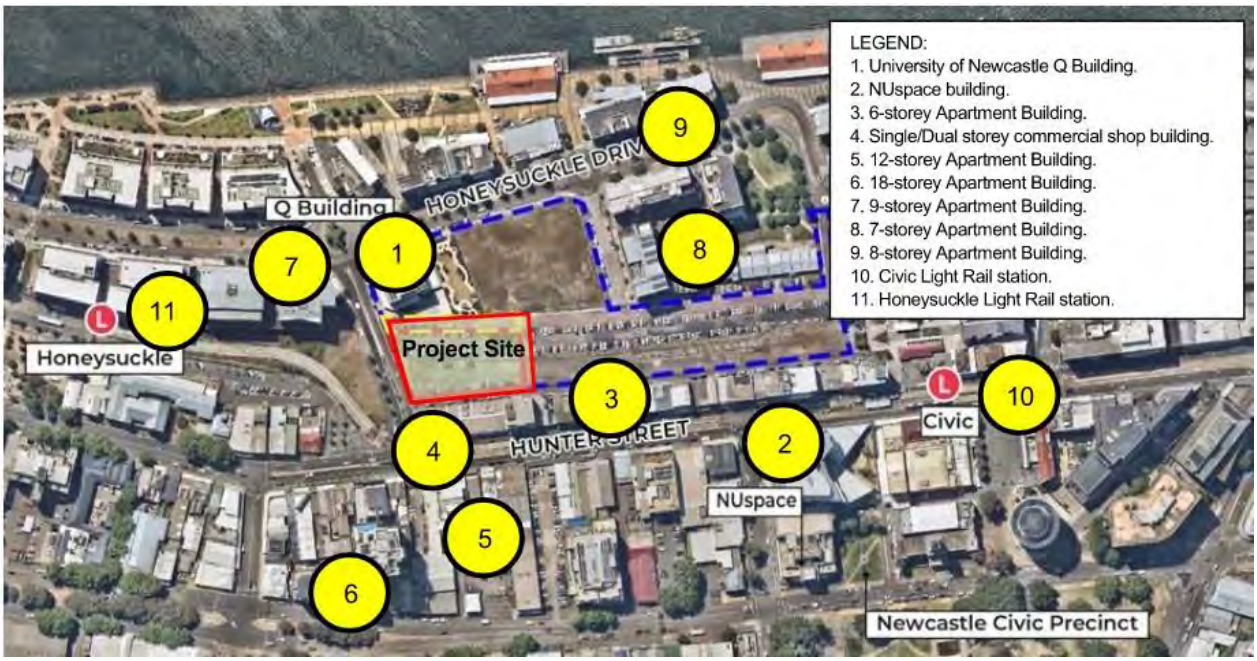


Figure 1 Sensitive Receivers (Source: ACOR NVIA)

3 PROPOSED CONSTRUCTION ACTIVITIES

This assessment is based upon the proposed construction activities associated with the early works and site establishment for the hospital extension, as well as the proposed works for the Temporary Helipad.

3.1 PROPOSED CONSTRUCTION STAGES

The information provided to this office of the primary noise producing activities associated with the site are as follows below:

- **Demolition Stage (Approx.. 1 Week):**
  - Use of excavators (Bucket attachment and hydraulic hammer attachment) to demolish the site.
  - Anticipated that up to 10 heavy vehicle movements may occur in a given day for material handling. Vehicle movements to occur along Wright Lane and into Worth Place.
  - It is not expected that material handling occurs for every day during the demolition stage.
- **Bulk Excavation (Approx. 5-6 Months):**
  - Will occur in stages
  - Initial earthworks for approximately 1 month.
  - Approximately 2 months of further excavation during inground services and slab construction
  - 2-3 months of external works towards the completion of the project
- **Piling Stage (Approx.. 5 weeks):**
  - Use of auger (CFA) piling rigs
  - Use of concrete trucks / boom. Anticipated that up to 10 concrete truck movements are expected in a given day. Vehicle movements to occur along Wright Lane and into Worth Place.
- **Structural and fit out works (Approx. 12 Months):**
  - Use of general hand tools and construction equipment, inclusive of grinders.
  - Use of electric tower crane.
  - Use of concrete trucks / boom. Anticipated that up to 10 concrete truck movements are expected in a given day. Vehicle movements to occur along Wright Lane and into Worth Place.
  - Trucks and articulated vehicles to move materials and components. Anticipated that up to 10 heavy vehicle movements may occur in a given day for deliveries.
  - It is not expected that material handling / concrete truck uses occur for every day during this stage.

4 HOURS OF WORK

Condition C6 of the preliminary project's SSDA development consent outlines the approved construction hours for works on site. The requirements of Condition C6 are reproduced below for reference.

> *"HOURS OF CONSTRUCTION*
>
> *C6. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:*
>
> *(a) between 7:00 am and 6:00 pm, Mondays to Fridays inclusive; and*
>
> *(b) between 8:00 am and 1:00 pm, Saturdays."*

Table 1 – Approved Hours of Work

Scope of Works	Approved Hours
All	Monday – Friday 7am – 6pm Saturday 8am – 1pm

5 PROJECT CONSENT REQUIREMENTS

Preliminary conditions have been provided to this office, and this document has summarised the proposed conditions of consent which pertain to the control of construction noise and vibration impacts below for reference (Ref: SSD-61618229):

> ***COMPLIANCE WITH ACOUSTIC ASSESSMENT***
>
> *B19. Prior to the commencement of above ground works, the Applicant must submit a Report to the Certifier from an acoustic Engineer demonstrating that the design of the development has incorporated all performance parameters, requirements, engineering assumptions and recommendations contained in the Noise and Vibration Assessment, prepared by ACOR Consultants and dated 17 June 2024."*
>
> *"**Construction Noise and Vibration Management Sub-Plan***
> *B39. Prior to the commencement of any works, the Applicant must submit to the Certifier a Construction Noise and Vibration Management Sub Plan (CNVMP) for the development, prepared by a suitably qualified person, with measures to minimise environmental impacts and harm during construction of the development arising from construction noise and vibration, including, at a minimum, the following:*
>
> > *(a) identification of noise sources and sensitive receivers.*
> > *(b) quantification of the rating background noise level (RBL) for sensitive receivers;*
> > *(c) describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (ICNG) (as may be updated or replaced from time to time)*
> > *(d) prediction and assessment of potential noise, ground-borne noise (as relevant) and vibration levels from the proposed construction methods expected at Sensitive Receiver premises against the objectives identified in the ICNG*
> > *(e) noise mitigation measures that can be implemented to reduce construction noise and vibration impacts, including:*

(i) installation of acoustic barriers/enclosures; and
(ii) alternative excavation methods:
(f) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;
(g) measures to identify non-conformances with the requirements of the CNVMP, and procedures to implement corrective and preventative action and to respond to complaints;
(h) procedures for notifying residents of construction activities that are likely to affect their noise and vibration amenity; and
(i) include a complaints management system that would be implemented for the duration of the development.

SITE NOTICE

C1. A site notice(s) shall be prominently displayed at the boundaries of the Site for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifier and Structural Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements:

(a) the notice is to be able to be read by the general public;

(b) the notice is to be rigid, durable and weatherproof and is to be displayed throughout the works period;

(c) the approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and

(d) the notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the Site is not permitted.

CONSTRUCTION NOISE AND VIBRATION MANAGEMENT

C12. The development must be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the CEMP and CNVMP.

Penalties

C13. If the noise from a construction activity is substantially tonal or impulsive in nature (as described in Chapter 4 of the NSW Industrial Noise Policy), 5 dB(A) must be added to the measured construction noise level when comparing the measured noise with the construction noise management levels.

Idling

Heavy vehicles and oversized vehicles must not queue or idle on Civic Lane or Worth Place outside of construction zones awaiting access to the site.

Respite Periods

C15. The Applicant must schedule intra-day 'respite periods' for construction activities predicted to result in noise levels in excess of the "highly noise affected" levels, including the addition of 5 dB to the predicted levels for those activities identified in the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers."

6 AMBIENT NOISE SURVEY

This assessment makes reference to the unattended noise monitoring previously collated at the project site by this office as is presented within the approved DA Acoustic Assessment. The following table summarises the results of the unattended noise monitoring.

Table 2 – Background Noise Monitoring (Ref: 20231239.1/0512A/R0/LL)

Monitor Location	Time Period	Measured Assessment Background Noise Level dB(A)L_{A90}
Newhaven Place	Day 7am-6pm	48

7 NOISE AND VIBRATION MANAGEMENT LEVELS

Noise and vibration management levels have been derived for the project with reference to the requirements of the consent conditions listed within Section 3 of this document.

7.1 NOISE MANAGAMENT LEVELS

7.1.1 EPA Interim Construction Noise Guideline

Given the scale of the proposed works, the "quantitative" assessment procedure, as outlined in the Interim Construction Noise Guideline (ICNG) will be used.

The quantitative assessment method requires:

- Determination of noise generation management levels (based on ambient noise monitoring).
- Prediction of operational noise levels at nearby development.
- If necessary, recommendation of noise controls strategies in the event that compliance with noise emission management levels is not possible.

7.1.1.1 Residential Receivers

EPA guidelines adopt differing strategies for noise control depending on the predicted noise level at the nearest residences:

- *"Noise affected" level*. Where construction noise is predicted to exceed the "noise effected" level at a nearby residence, the proponent should take reasonable/feasible work practices to ensure compliance with the "noise effected level". For residential properties, the "noise effected" level occurs when construction noise exceeds ambient levels by more than 10dB(A)$L_{eq(15min)}$.
- "*Highly noise affected level*". Where noise emissions are such that nearby properties are "highly noise effected", noise controls such as respite periods should be considered. For residential properties, the "highly noise effected" level occurs when construction noise exceeds 75dB(A)$L_{eq(15min)}$ at nearby residences.

7.1.1.2 Commercial Receivers

"The external noise levels should be assessed at the most-affected occupied point of the premises:

- *Offices and retail outlets – External $L_{Aeq(15\ min)}$ = 70 dB(A)."*

7.1.1.3 Education Receivers

"The internal noise levels should be assessed at the centre point of an occupied room…

- *Classrooms at schools and other educational institutions – Internal $L_{Aeq(15\ min)}$ = 45 dB(A)."*

7.1.2 Summarised Construction Noise Management Levels

A summary is presented within the table below.

Table 3 – Noise Management Levels

Receiver Type	Receiver (Nearest to project Site)	Noise Management Level dB(A) $L_{eq(15min)}$
Residential	3, 5, 6, 7, 8	*Noise Affected Level* - 58 *Highly Noise Affected Level* – 75
Commercial	4	*Noise Affected Level* - 70
Educational	1,2	*Noise Affected Level - 45 (Internal)*

7.2 CONSTRUCTION VIBRATION REQUIREMENTS

Vibration control requirements for the nearest sensitive receivers will be based on the following documents:

- DIN 4150, *'Vibration in Buildings (1999-02).'*
- EPA *"Assessing Vibration: A technical guideline."*

7.2.1 DIN 4150

German Standard DIN 4150-3 (1999-02) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (1999-02) are presented in the table below.

It is noted that the peak velocity is the absolute value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

Table 4 – DIN 4150-3 (1999-02) Safe Limits for Building Vibration

TYPE OF STRUCTURE		PEAK PARTICLE VELOCITY (mms^{-1})			
		At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
		< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1	Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

7.2.2 Assessing Amenity

Table 2.2 of EPA "Assessing Vibration: A technical guideline" specified the following vibration goal for human comfort:

Table 5 – Preferred and Maximum Weighted RMS Values for Vibration Acceleration (m/s^2) 1-80 Hz

Location	Assessment Period	Preferred Values Z-axis	Preferred Values X & Y-axis	Maximum Values Z-axis	Maximum Values X & Y-axis
Continuous Vibration					
Critical Areas	Day time	0.005	0.0036	0.010	0.0072
Residences	Day time	0.010	0.0071	0.020	0.014
Office	Day time	0.020	0.014	0.040	0.028
Impulsive Vibration					
Critical Areas	Day time	0.005	0.0036	0.010	0.0072
Residence	Day time	0.3	0.21	0.6	0.42
Office	Day time	0.64	0.46	1.28	0.92

Acceptable values for intermittent vibration shall comply with the requirements in Table 2.4 of EPA "Assessing Vibration: A technical guideline" detailed as below.

Table 6 - Acceptable Vibration Dose Values for Intermittent Vibration ($m/s^{1.75}$)

Location	Day time preferred value	Day time maximum value
Critical Areas	0.10	0.20
Residences	0.20	0.40
Office	0.40	0.80

7.2.3 Summarised Recommended Vibration Limits

The summarised vibration criteria are presented in the table below.

Table 7 – Recommended Vibration Limits

Receiver	Recommended Vibration Limits
Residential	DIN 4150 Curve 2
Commercial	DIN 4150 Curve 1
Educational	

8 ACTIVITIES TO BE CONDUCTED AND THE ASSOCIATED NOISE SOURCES

Noise impacts will be determined from primary processes and equipment. The sound power levels of these activities are presented below.

Table 8 - Sound Power Levels of the Proposed Equipment

Stage	Equipment/Process	Sound Power Level dB(A)	Operational Load (% of 15-min period)
Demolition	Excavator with Bucket Attachment	105	75
	Articulated Truck Movement	105	Assumed 1 in worst 15-minute period
Excavation Stage	Excavator with Bucket Attachment	105	75
	Articulated Truck Movement	105	Assumed 1 in worst 15-minute period
Piling Stage	CFA Piling Rig	112	100
	Concrete Trucks	108	Assumed 1 in worst 15-minute period
	Concrete Pumps	108	100
Construction and Fit Out Stage	Electric Tower Crane	95	25
	Power Drill	95	50
	Articulated Truck Movement	105	Assumed 1 in worst 15-minute period
	Concrete Trucks	108	Assumed 1 in worst 15-minute period
	Concrete Pumps	108	100
	General Hand Tools	95	100
	Angle Grinder*	105	50
	Generator	103	100
	Excavator with Bucket Attachment	105	75

**A tonality correction factor of 5dB(A) has been applied in line with the requirements of EPA documentation.*

The noise levels presented in the above table are derived from the following sources, namely:

- Table A1 of Australian Standard 2436-2010.
- Data held by this office from other similar studies.

9 NOISE EMISSION ASSESSMENT

Stages listed within Section 3 of this document have been modelled to investigate the potential environmental impacts associated within the proposed works for the project.

SoundPlan Environmental Noise Modelling Software has been used to predict the impact of airborne noise from the construction works within the above scenarios on surrounding noise sensitive receivers, and this is detailed within the following section.

9.1 PREDICTED NOISE EMISSIONS

An assessment of the principal sources of noise emissions has been undertaken to identify the activities that may produce noise and/or vibration impacts so that appropriate ameliorative measures can be formulated. SoundPlan noise modelling has been conducted based on information provided to this office of construction methodology and activities likely to be undertaken and presents the cumulative predicted external noise levels to the nearest surrounding receivers.

Noise levels from construction works have been predicted at the nearby development and assessed against EPA the "Noise Management Level", as identified in section 6.

With regard to the noise level generated at the nearest receivers, noise levels will vary depending where on the construction site the work in undertaken. To address this, a range of predicted noise levels is provided. Predicted noise levels are presented below.

The predicted noise levels are based on the assumption that the recommendations in section 9 have implemented/observed.

9.2 SOUNDPLAN MODELLING

Noise levels have been predicted at the receiver locations using SoundPlan™ 8.0 modelling software implementing the ISO 9613-2:1996 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation" noise propagation standard.

Noise enhancing meteorological effects have been adopted as recommended by the NPfI, noting that the ISO 9613 modelling approach assumes that all receivers are 'downwind' (i.e., that noise enhancing wind and temperature inversion conditions are in effect at all times).

Ground absorption was conservatively calculated with a ground factor of 0 for all areas except for localised lawns and greenery with a ground factor of 0.6 as recommended in *Engineering Noise Control* (Bies & Hanson).

In line with Factsheet C of the NPfI, penalties for annoying noise characteristics should be applied at the receiver, where applicable. Based on the predicted noise levels, no penalty should be applied (either for tonality, intermittency, or otherwise).

Figure's 2 through 6, in conjunction with the façade noise levels provided within Appendix A of this document, present the results of the SoundPlan Noise modelling, and they are summarised in Table 9 below.

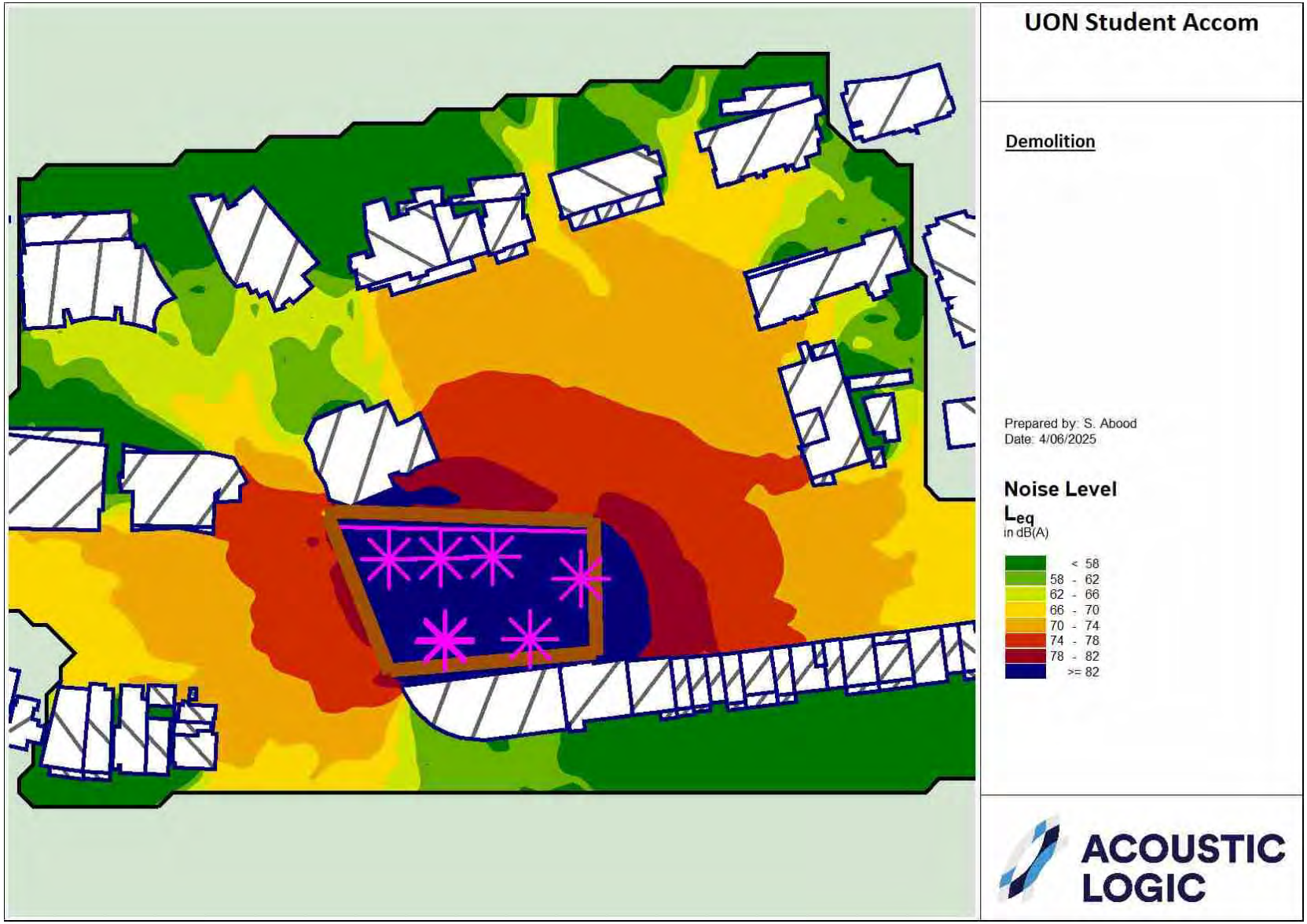


Figure 2 – Demolition Works

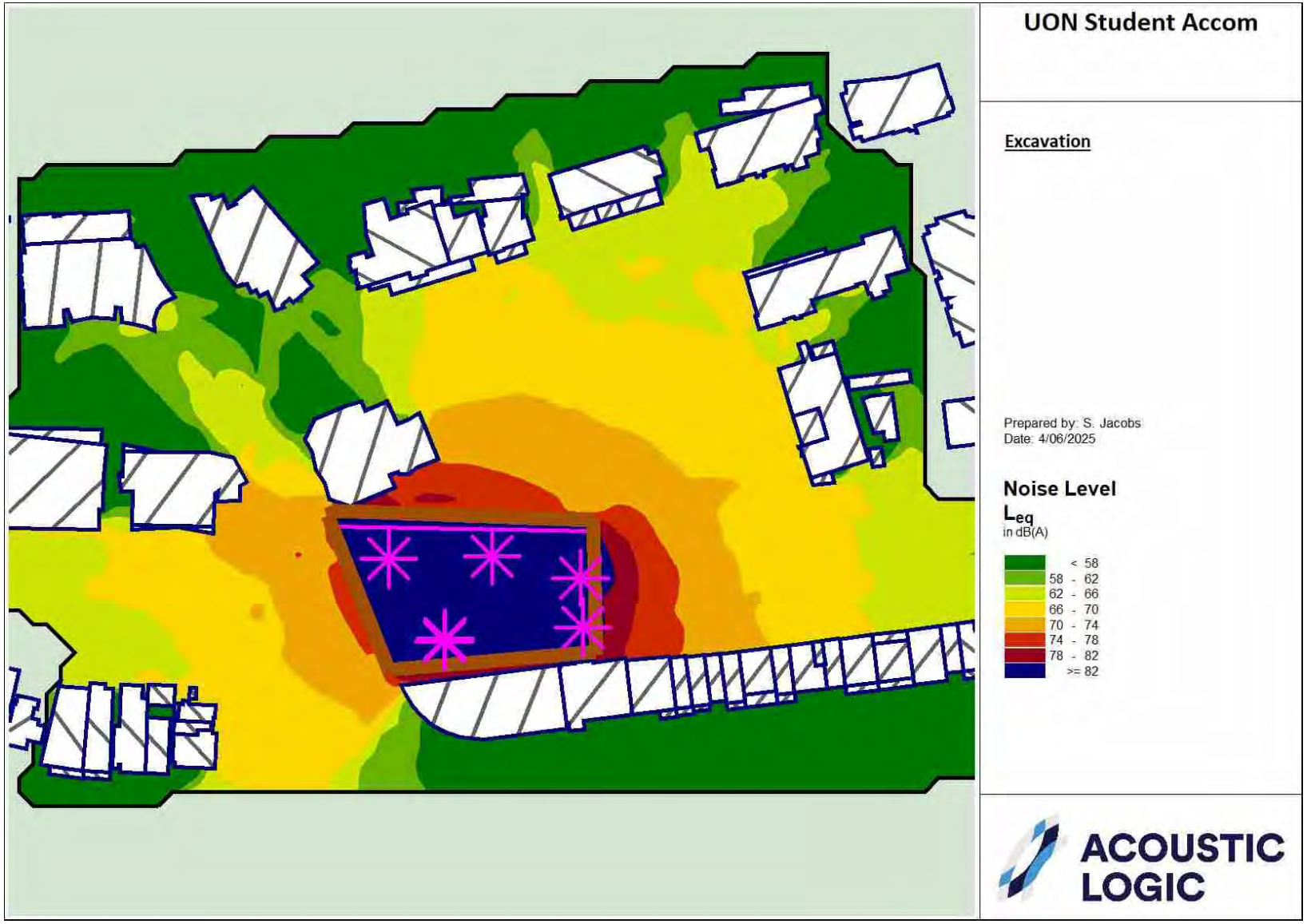


Figure 3 – Excavation Works

Figure 4 – Piling Works

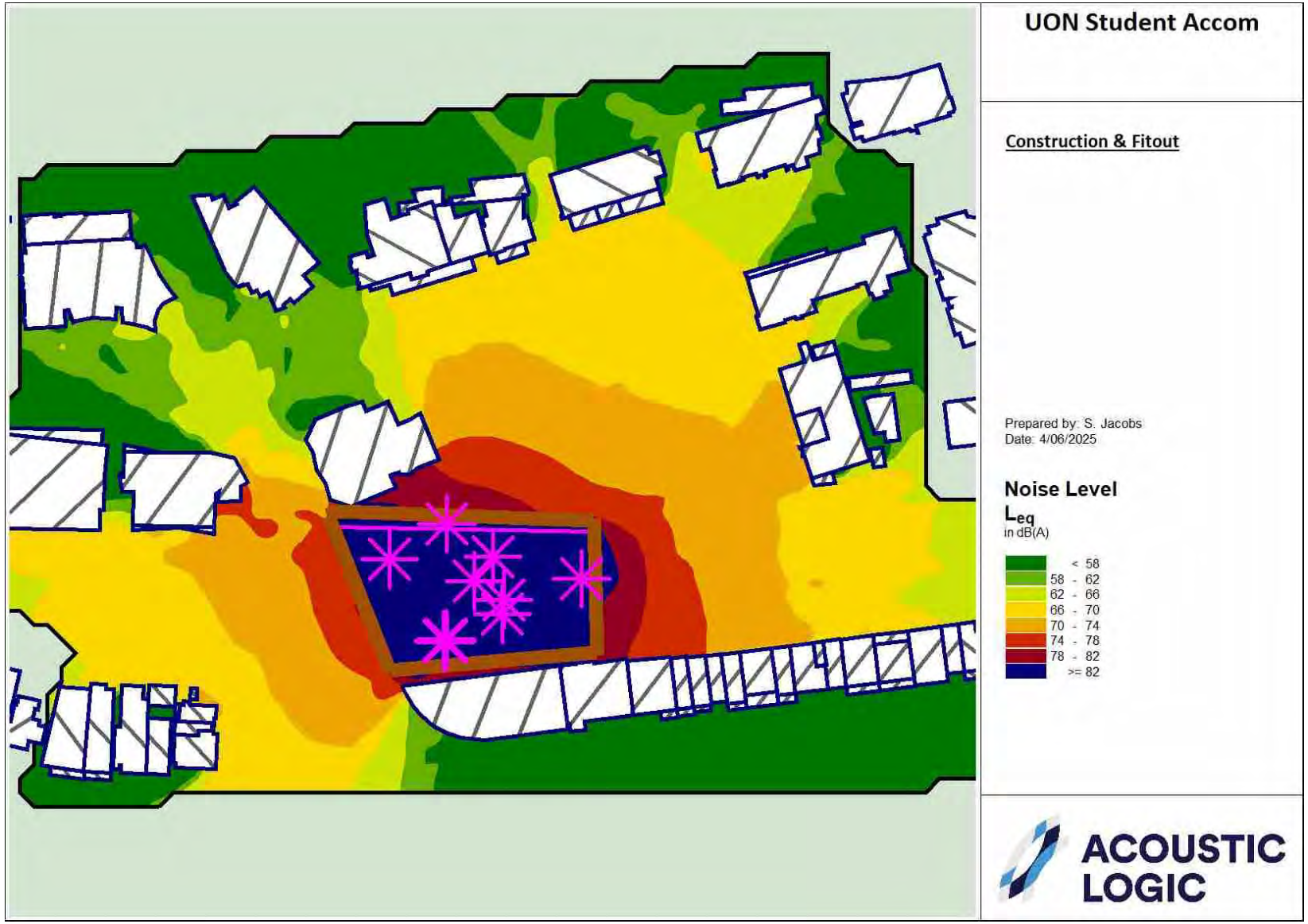


Figure 5 – Structural Works

The predicted external and internal noise levels at nearest sensitive receivers are presented in the table below. Note that a façade correction of 30dB(A) has been applied for the respective internal noise levels for the various spaces, given that the façades of each receiver are fixed.

Table 9 –Predicted External Noise Levels at Nearest Sensitive Receivers

Receiver	Demolition Predicted External Noise Level dB(A) $L_{eq(15min)}$	Excavation Predicted External Noise Level dB(A) $L_{eq(15min)}$	Piling Predicted External Noise Level dB(A) $L_{eq(15min)}$	Construction and Fitout Predicted External Noise Level dB(A) $L_{eq(15min)}$	Affected Noise Level / Highly Affected Noise Level dB(A) $L_{eq(15min)}$	Comment
E1	<30-43	<30-45	<30-43	<30-45	45 (Internal)/NA	May approach internal noise management level during when working on closest boundary, see section 10 for recommendations. Works on further boundaries expected to comply.
E2	<30	<30	<30	<30		Expected to meet internal Noise management levels at all times
R3	45-76	45-76	45-77	47-75	58 / 75	Potential to exceed Highly Affected Noise Management Level when working on closest boundary only, see Section 10 for recommendations. Works on further boundaries expected to comply.
C4	42-76	45-76	45-77	47-78	70/NA	Potential to exceed project noise management levels

						when working on closest boundary, refer to section 10 for recommendations. Works on further boundaries expected to comply.
R5	38-67	40-68	42-67	43-70	58 / 75	Potential to exceed Noise Management Level when working on closest boundaries, see Section 10 for recommendations. Works on further boundaries expected to comply.
R7	38-67	40-68	42-67	43-70		
R8	34-60	37-63	42-61	41-65		

10 AMELIORATIVE MEASURES

The following recommendations are made to mitigate the noise impacts of construction activity to surrounding sensitive receivers.

10.1 SITE SPECIFIC RECOMMENDATIONS

10.1.1 Barriers

Non-perforated barriers are to be installed on the boundaries of the site. The following hoarding is to be installed

- Civic Lane (South Boundary): Concrete barrier base with fence system attached to the top of concrete base, system to extend across entirety of southern boundary. Height of southern hoarding to be 2 to 2.4m. Fence system is to be non-perforated, through 18mm plywood sheeting.
- Worth Place (West Boundary): Majority to be B-class hoarding lined with 18mm plywood, with approximate height of 3m. Remainder of boundary to be A-class hoarding of 2.4m height lined with18mm plywood.
- Wright Lane (North Boundary): A-class hoarding of 2.4m height lined with 18mm plywood.
- Eastern Boundary: 1.8m fencing, to be lined with non-perforated 18mm plywood.

It is noted that within the Acor development application a recommendation of hoarding that should be approximately 3m high and minimum density of 15 kg/m^3 is specified. Differences between the above hoarding and that nominated by Acor in the development application noise impact assessment has been assessed by this office in the course of the modelling conducted above. The following is noted with respect to acoustic barriers around a site –

- The level of attenuation provided by a noise barrier is dependent on the extent of which line of sight can be blocked by the barrier.
- If the receiver is totally shielded from the noise source reductions of up to 15 dB(A) can be affected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8 dB(A) may be achieved. Where no line of sight is obstructed by the barrier, generally no noise reduction will occur.
- All surrounding residential receivers are multistorey and significantly higher than the top of the proposed 3m barrier.
- Therefore, the installation of the barrier will only provide a significant level of attenuation to receivers located on the ground floor of the building, and the reduction observed at levels above the ground floor will exponentially decrease up the building.
- Implementation of a barrier which is reduced in height, such as that proposed above, will provide a similar level of attenuation to receivers on the ground floor as that proposed within the NVIA, and similarly, this would also be true for receivers travelling up the building.
- Additionally, the barriers proposed within the NVIA are nominated at the extent of the boundary of the project site. The intention of this recommendation is to provide screening from the works, as opposed to fully encasing the works from adjacent receivers.
- Hence, the insertion loss of the barrier is only required to be 10dB(A) above the resultant barrier attenuation at a given receiver, as to not have an impact on the performance of the barrier.
- The materials nominated for the construction of the proposed barrier within the NVIA greatly exceed this performance requirement and hence can be reduced.

- The 18mm plywood barriers proposed within the above are expected to achieve an equivalent performance to the 25mm plywood nominated within the NVIA. Hence, the reduced thickness of material is considered acoustically acceptable.

On the basis of the above, the changes nominated within the proposed hoarding construction is considered to be acoustically acceptable in line with the requirements of the NVIA.

10.1.2 Site Notice

- In accordance with Condition C1 a site notice(s) shall be prominently displayed at the boundaries of the Site for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifier and Structural Engineer. The notice(s) is to satisfy all but not be limited to, the following requirements:
    - The notice is to be able to be read by the general public;
    - The notice is to be rigid, durable and weatherproof and is to be displayed throughout the works period;
    - The approved hours of work, the name of the site/project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/noise complaint are to be displayed on the site notice; and
    - The notice(s) is to be mounted at eye level on the perimeter hoardings/fencing and is to state that unauthorised entry to the Site is not permitted.
- Hours of Work:
    - In line with the requirements of development consent, works are to Occur Monday-Friday 7am-6pm and 8am-1pm on Saturday.

10.1.3 Respite Periods

As per condition C15, respite periods are to be used where plant may result in exceedances of the highly noise affected level to receivers, inclusive of the addition of 5dB to predicted levels to tonal/impulsive plant as per condition C13.

It is recommended, based on the requirements of this condition, that works which are above the Highly Noise Affected Management level are only carried out in continuous blocks, not exceeding 4 hours each, with a minimum respite period of one hour between each block. 'Continuous' includes any period during which there is less than a 1-hour respite between ceasing and recommencing any of the work.

Based on the proposed plant to be used at the project site, it is likely that operation of the following plant would likely require respite periods when working within the nominated distances of residential receivers surrounding the project site:

- CFA Piling Rig - Within 25 metres of residential receiver (R3).
- Trucks with tonal reverse beacons operating on project site – Within 10 metres of residential receiver (R3).
- Concrete Trucks or pumps – Within 10 metres of residential receivers (R3).
- Excavators - Within 10 metres of residential receivers (R3).

Any additional high sound power plant operating externally and within 10 metres of sensitive residential receivers should be assessed for potential to result in highly noise affected levels at sensitive residential receivers with appropriate respite periods implemented.

10.1.4 Other

- Vehicle Noise - Trucks should turn off their engines during idling to reduce impacts on nearby receivers (unless truck ignition needs to remain on during concrete pumping). Minimise truck reversing. Plant and equipment should be off when not in use.
- Deliveries should be scheduled during less sensitive time periods (After 9am) wherever practical.
- When selecting construction equipment to be used on the project, the noise levels of plant and equipment should be considered, whereby equipment selected has an equivalent or lower sound power level than the modelled sound power levels of equipment maintained within this report.
- A conscientious effort should be made to avoid works near the nearest sensitive receivers wherever feasible. Compounding various high generating activities simultaneously near receivers should be avoided where possible.
- Unnecessary shouting should be avoided on site, and appropriate signage should be installed to remind workers of their responsibility to reduce noise impacts where feasible. Loud music from radios and stereos should not be permitted.
- Materials should be placed gently and not thrown to avoid making crashing noises.
- During the fit-out stage and where practical and safe to do so, handheld construction equipment should be used within the building shell to minimise noise impacts on adjacent receivers.
- Non-tonal reversing beepers should be implemented on all construction equipment and mobile plant used regularly on site.
- In the event of a complaint, noise management procedure identified in Section 12 of this report are to be followed. Notwithstanding above, general management techniques and acoustic treatments are included below which may be implemented on a case-by-case basis to reduce noise emissions to surrounding receivers.

10.2 ASSESSMENT OF VIBRATION

10.2.1 Vibration Producing Activities

Proposed activities that have the potential to produce significant ground vibration include:

- Demolition.
- Excavation Work.
- Rolling activities.

10.2.2 Safeguards to Protect Sensitive Structures

It is impossible to predict the vibrations induced by the excavation operations on site at potentially affected receivers. This is because vibration levels are principally proportional to the energy impact which is unknown, the nature of the terrain in the area (type of soil), drop weight, height etc.

10.2.3 Vibration Monitoring

Monitoring works to be undertaken to the extent nominated within the project's geotechnical assessment. Supplementary to this, AL also recommends that if complaints regarding vibration impacts from construction activity arise at other nearby sensitive receivers, vibration monitoring be conducted to manage construction vibration levels at said receiver. Any vibration monitor is to have SMS notification capability to enable contractor to be immediately informed when 75% of the vibration criteria has been measured.

10.2.4 Downloading of Vibration Monitor Data

Downloading of the vibration monitor data will be conducted on a regular basis. In the event of exceedance of the vibration criteria, downloading of the vibration monitor data will be conducted more frequently. Results obtained from the vibration monitor will be presented in a graph format and will be forwarded to the client for review. It is proposed that reports are provided fortnightly with any exceedances in the vibration criteria reported as detailed in this report.

10.2.5 Presentation of Vibration Monitor Results

A fortnightly report will be submitted to the client via email summarising the vibration events. The vibration exceedance of criteria is recorded, and the report shall be submitted within 24 hours. Complete results of the continuous vibration logging will be presented in fortnight reports including graphs of the collected data.

10.2.5.1 Equipment

Vibration monitoring at receiver facades or site boundaries are to be conducted using Texcel ETM type monitors with externally mounted tri-axial geophones.

The monitors are to be set to send an SMS message when alert levels have been reached/exceeded at the location of the geophone.

10.2.5.2 Vibration Monitoring Alerts

The following personnel will receive alarms in the event that the nominated vibration trigger levels are exceeded at the site:

1. Acoustic consultant/advisor.
2. Project site foreman.
3. Project Manager.

10.3 GENERAL RECOMMENDATIONS

Other noise management practices which may be adopted are discussed below. In addition, notification, reporting and complaints handling procedures should be adopted as recommended in later sections of this report.

10.3.1 Silencing Devices

Where construction process or appliances are noisy, the use of silencing devices may be possible. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

10.3.2 Material Handling

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

10.3.3 Treatment of Specific Equipment

In certain cases, it may be possible to specially treat a piece of equipment to reduce the sound levels emitted. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

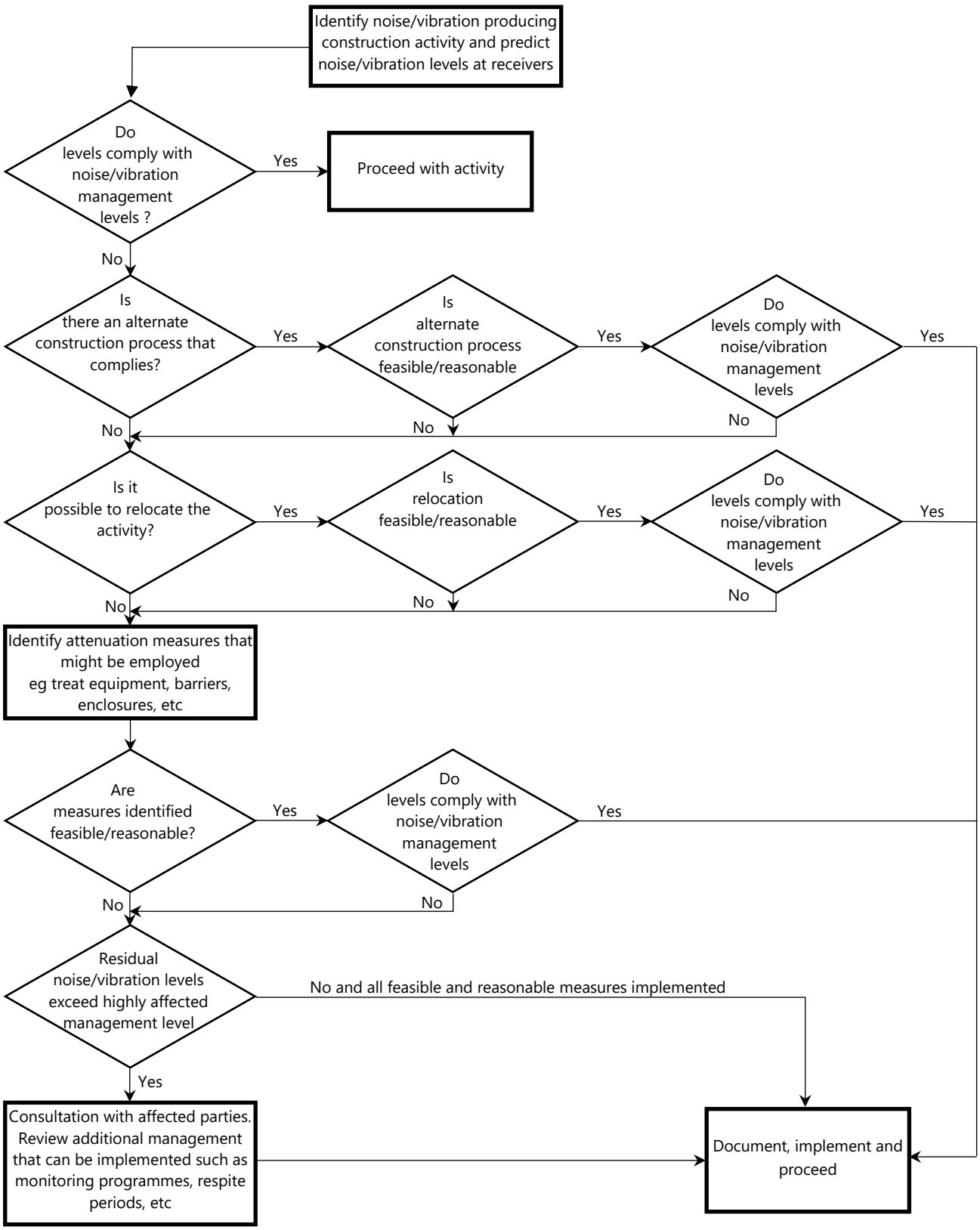
10.3.4 Establishment of Site Practices

This involves the formulation of work practices to reduce noise generation. This includes locating fixed plant items as far as possible from residents as well as rotating plant and equipment to provide respite to receivers. Construction vehicles accessing the site should not queue in residential streets and should only use the designated construction vehicle routes. Loading of these vehicles should occur as far as possible from any sensitive receiver.

11 ASSESSMENT METHODOLOGY AND MITIGATION METHODS

The flow chart that follows illustrates the process to be followed to minimise the impact associated with these activities.

Noise sources with the potential to exceed the criteria set out in Section 7 have been identified and discussed in section 8.



12 COMMUNITY INTERACTION AND COMPLAINTS HANDLING

12.1 ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES

In order for any construction noise management programme to work effectively, continuous communication is required between; all parties which may be potentially impacted upon, the builder and the regulatory authority. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.

The objective in undertaking a consultation process is to:

- Inform and educate the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Ensure that concerned individuals or groups are aware of and have access to the Site Complaints Register which will be used to address any construction noise related problems should they arise.

To ensure that this process is effective, regular scheduled meetings may be required for a finite period, until all issues have been addressed and the evidence of successful implementation is embraced by all parties.

An additional step in this process is to produce a newsletter informing nearby residents of upcoming activities that are likely to generate higher noise/vibration levels.

12.2 DEALING WITH COMPLAINTS

Should ongoing complaints of excessive noise, vibration or dust occur, immediate measures shall be undertaken to investigate the complaint, the cause of the exceedances and identify the required changes to work practices. In the case of exceedances of the vibration and dust limits, all work potentially producing vibration or dust shall cease until the exceedance is investigated. The effectiveness of any changes shall be verified before continuing. Documentation and training of site staff shall occur to ensure the practices that produced the exceedances are not repeated.

If a noise complaint is received the complaint should be recorded on a Noise Complaint Form. The complaint form should list:

- The name and address of the complainant (if provided).
- The time and date the complaint was received.
- The nature of the complaint and the time and date the noise was heard.
- The name of the employee who received the complaint.
- Actions taken to investigate the complaint, and a summary of the results of the investigation.
- Required remedial action, if required.
- Validation of the remedial action.
- If necessary, setup vibration monitoring at the location representing the nearest affected vibration receiver, with alarm device which can inform the project manager on site if the vibration exceedance happened.
- Summary of feedback to the complainant.

A permanent register of complaints should be held.

All complaints received should be fully investigated and reported to management. The complainant should also be notified of the results and actions arising from the investigation.

The investigation of a complaint shall involve where applicable:

- Noise measurements at the affected receiver.
- An investigation of the activities occurring at the time of the incident.
- Inspection of the activity to determine whether any undue noise is being emitted by equipment; and
- Whether work practices were being carried out either within established guidelines or outside these guidelines.

Where an item of plant is found to be emitting excessive noise, the cause is to be rectified as soon as possible. Where work practices within established guidelines are found to result in excessive noise being generated then the guidelines should be modified so as to reduce noise emissions to acceptable levels. Where guidelines are not being followed, the additional training and counselling of employees should be carried out.

Measurement or other methods shall validate the results of any corrective actions arising from a complaint where applicable.

13 CONTINGENCY PLANS

Where non-compliances or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process
2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.
3. Implement additional acoustic treatment in the form of localised barriers, silencers etc where practical.
4. Selecting alternative equipment/processes where practical
5. If necessary, setup noise and vibration monitoring devices at locations representing the nearest noise/vibration and dust affected receivers and provide data for each complain time period. Analysis is required to determine suitable mitigation measures.

Complaints associated with noise and vibration generated by site activities shall be recorded on a Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager to the general public and their contact telephone number.

14 CONCLUSION

This report presents a Construction Noise and Vibration Management Plan for the proposed construction activities to be undertaken for the University of Newcastle City Campus student accommodation. This report has been prepared with reference to condition B39 and other relevant consent conditions (Ref: SSD-61618229). Specifically, the following has been undertaken –

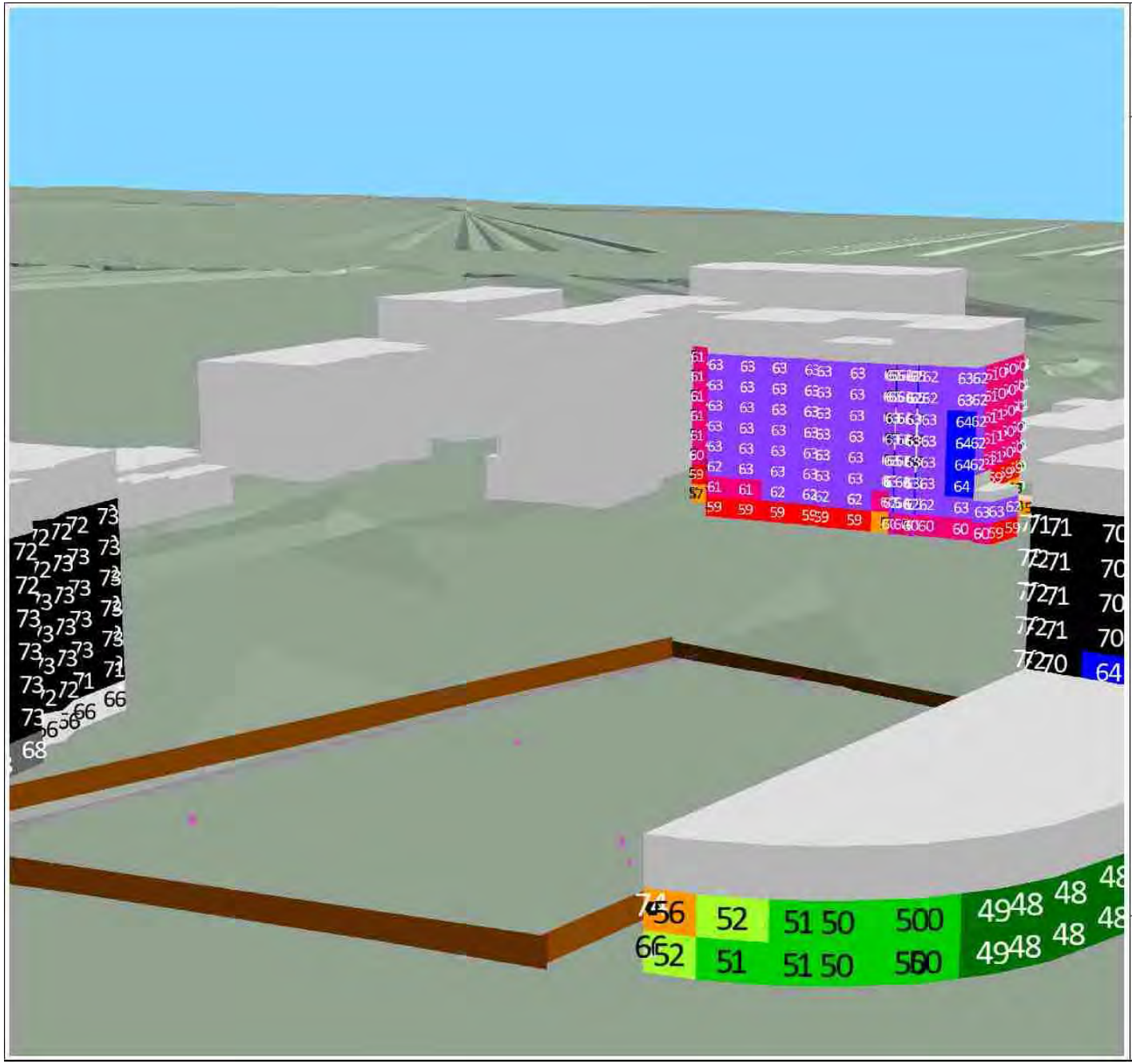
- Identification of noise sources and sensitive receivers (see section 2),
- Quantified background noise levels for sensitive receivers (see section 6),
- Reviewed the requirements of the ICNG (see section 7)
- Completed predictions and assessments of potential noise, ground-borne noise (as relevant) and vibration levels from the proposed construction methods expected at sensitive receivers against the objectives identified in the ICNG (see section 9),
- Reviewed noise mitigation measures that can be implemented to reduce construction noise and vibration (see section 10),
- Determined procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (ICNG) (see section 9.2),
- Determined noise mitigation measures that can be implemented to reduce construction noise and vibration impacts (see section 10) and,
- Noted measures that should be taken to identify non-conformances with the requirements of the CNVMP, procedures to implement corrective and preventative action and a complaints management system (See section 11, 12 and 13).

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

Acoustic Logic Pty Ltd
Scott Jacobs

APPENDIX A – ENVIRONMENTAL NOISE MODELLING RESULTS



UoN Student Accomodation

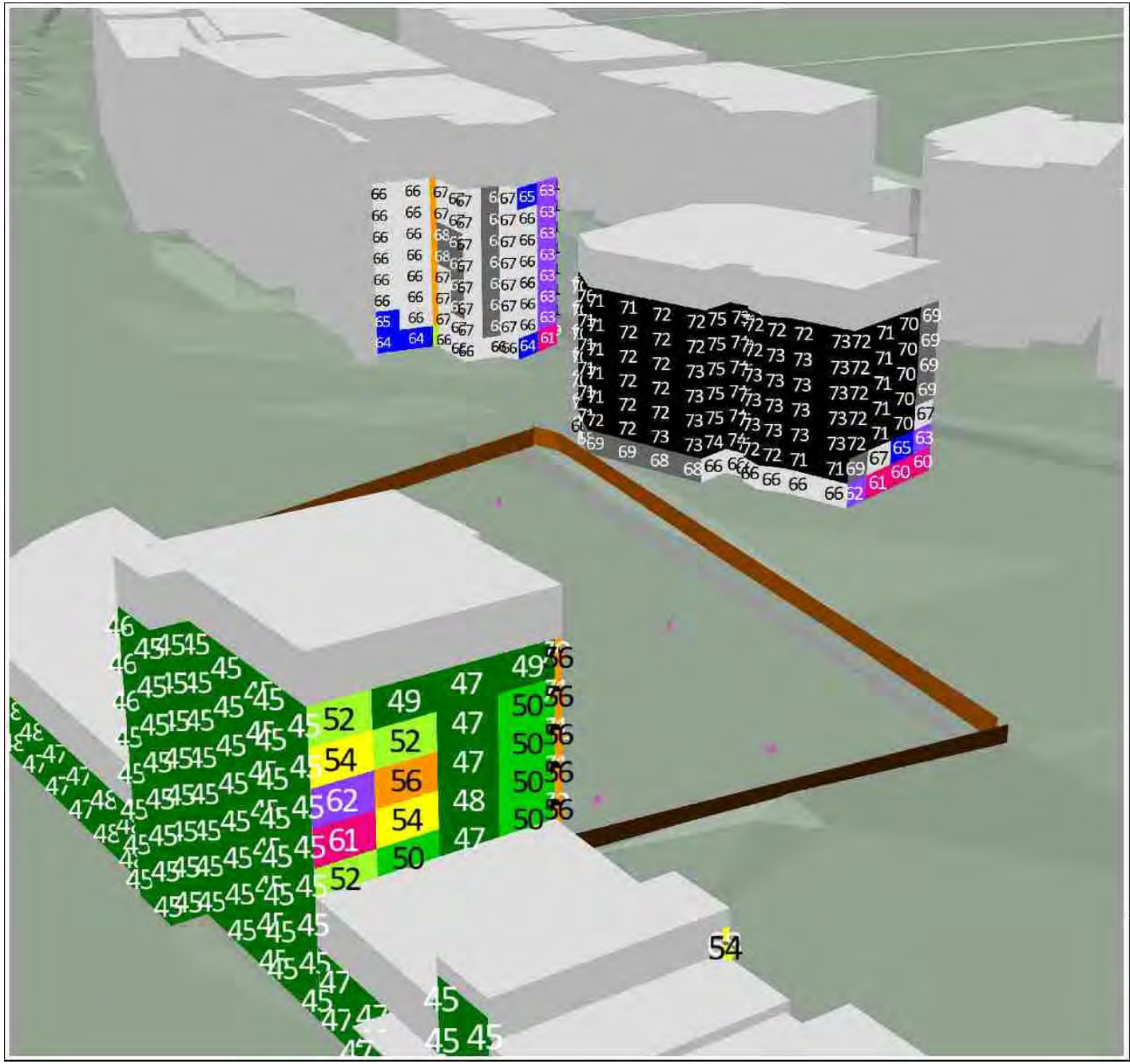
Demolition

Prepared by: S.Jacobs
Date: 5/06/2025

Noise Level
L_{eq}
in dB(A)

- < 50
- 50 - 52
- 52 - 54
- 54 - 56
- 56 - 58
- 58 - 60
- 60 - 62
- 62 - 64
- 64 - 66
- 66 - 68
- 68 - 70
- >= 70

ACOUSTIC LOGIC



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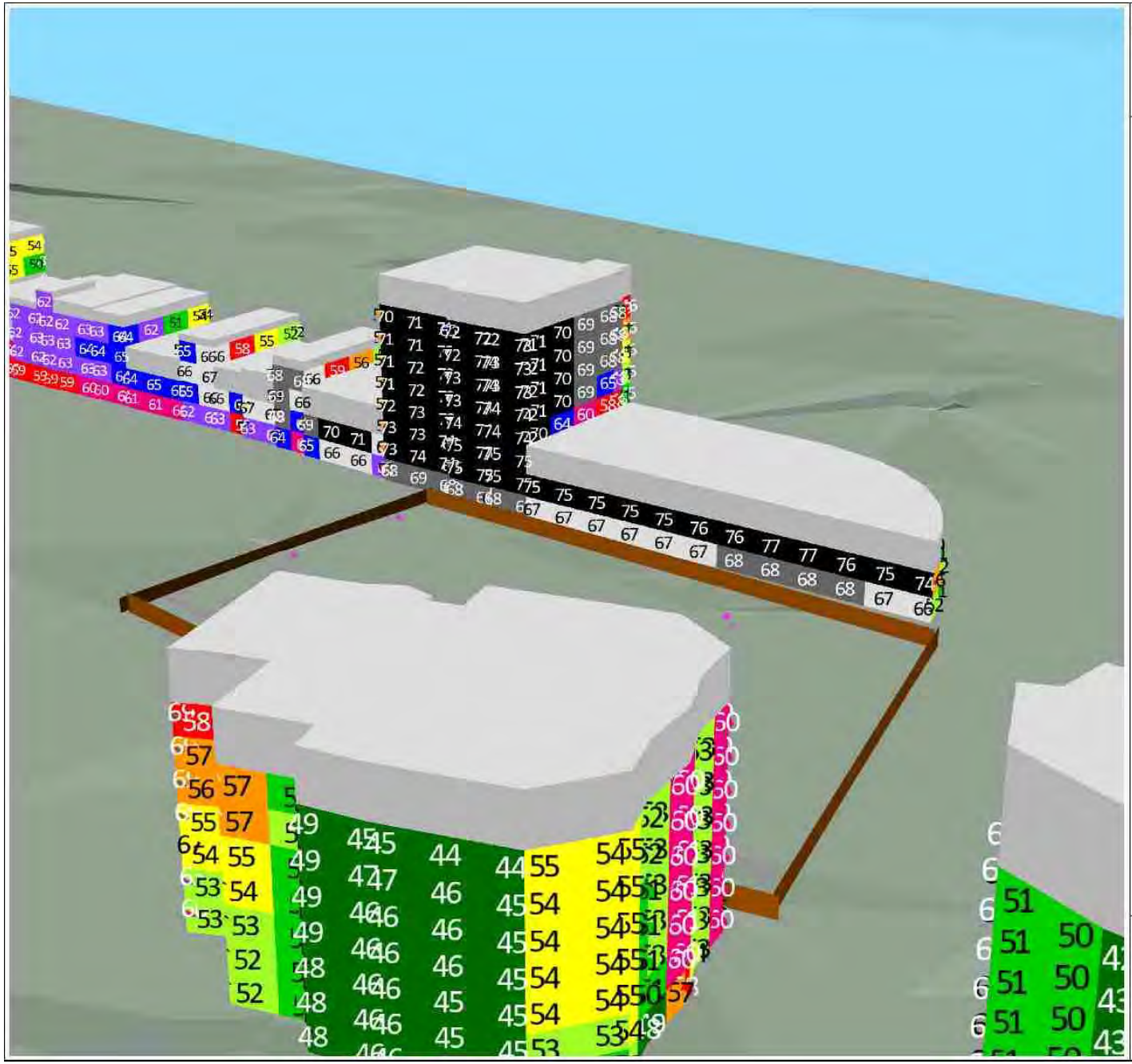

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Demolition

Prepared by: S.Jacobs
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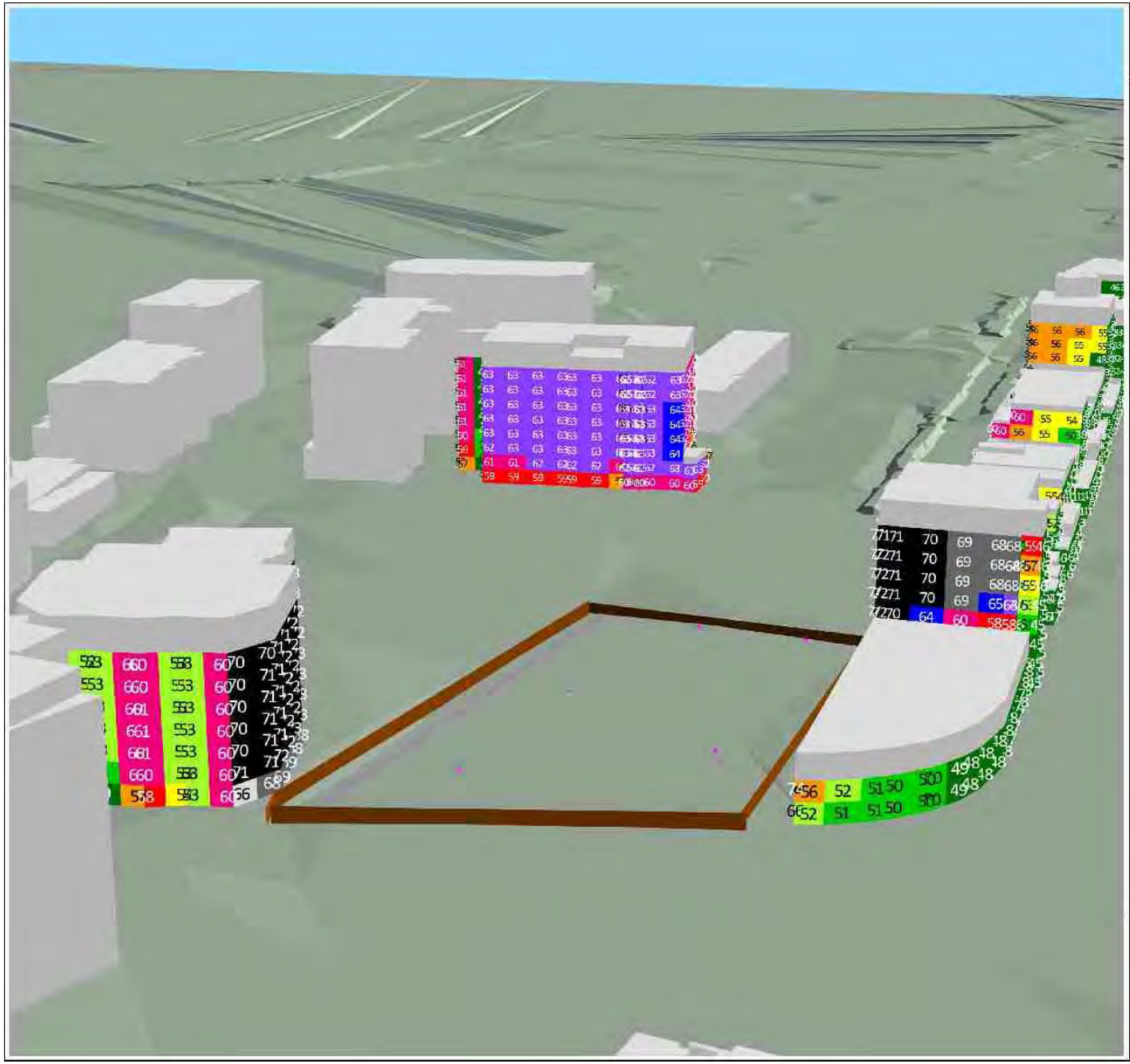
ACOUSTIC LOGIC



UoN Student Accom

Excavation

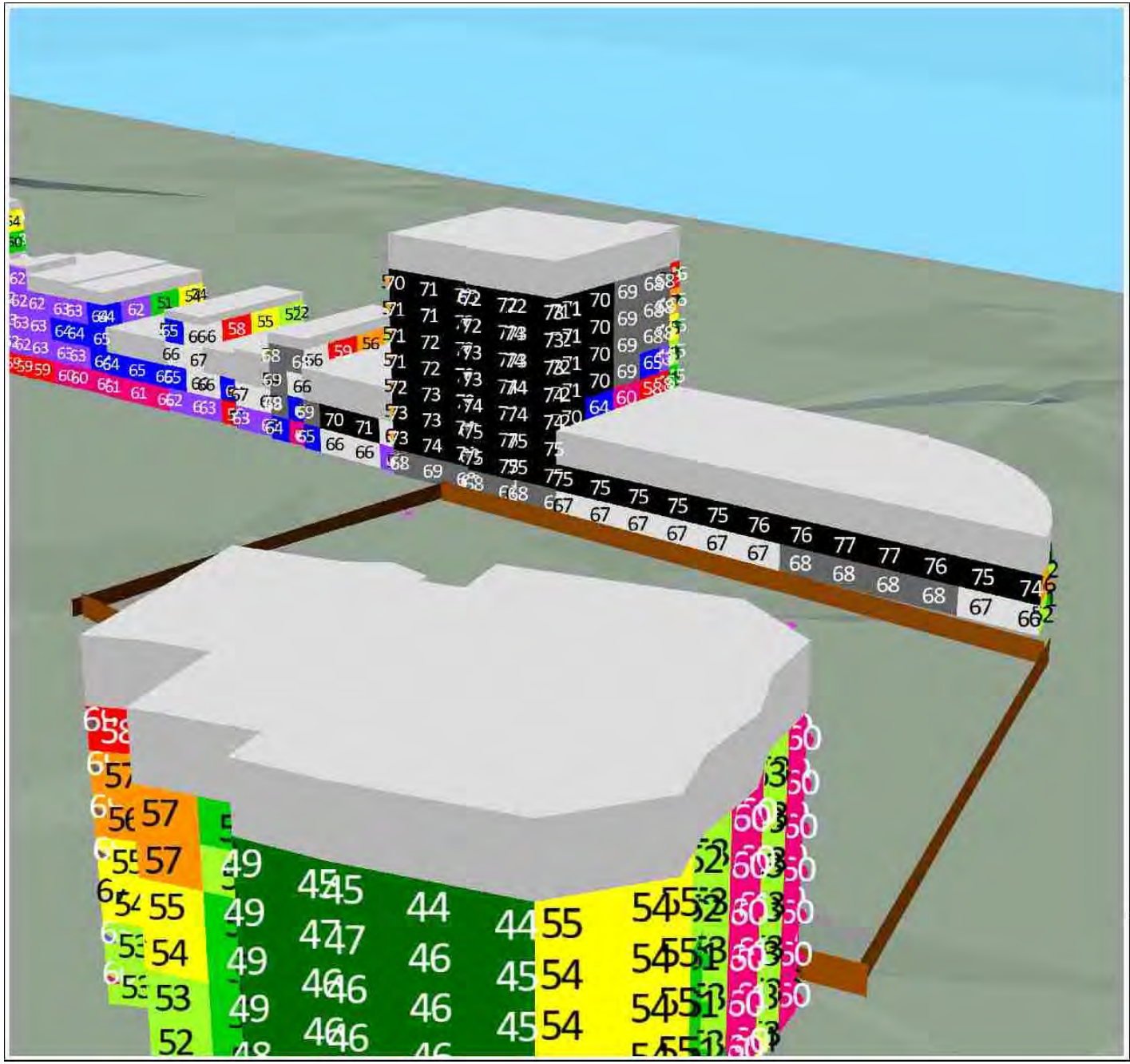
Prepared by: L. Abood
Date: 5/06/2025

Noise Level

L_{eq}
in dB(A)

- < 50
- 50 - 52
- 52 - 54
- 54 - 56
- 56 - 58
- 58 - 60
- 60 - 62
- 62 - 64
- 64 - 66
- 66 - 68
- 68 - 70
- >= 70

ACOUSTIC LOGIC



UoN Student Accom

Excavation

Prepared by: L. Abood
Date: 5/06/2025

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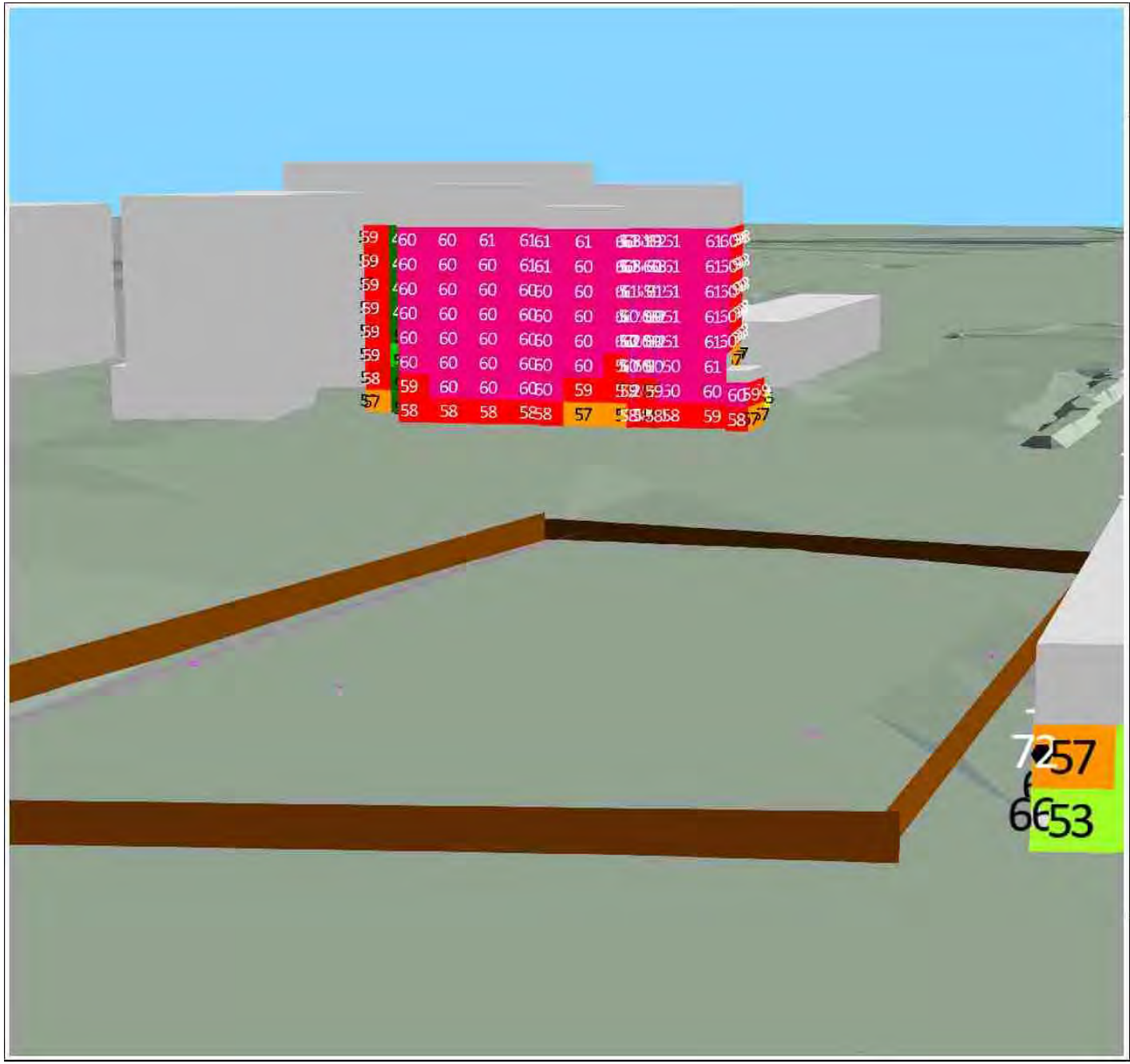


UoN Student Accomodation

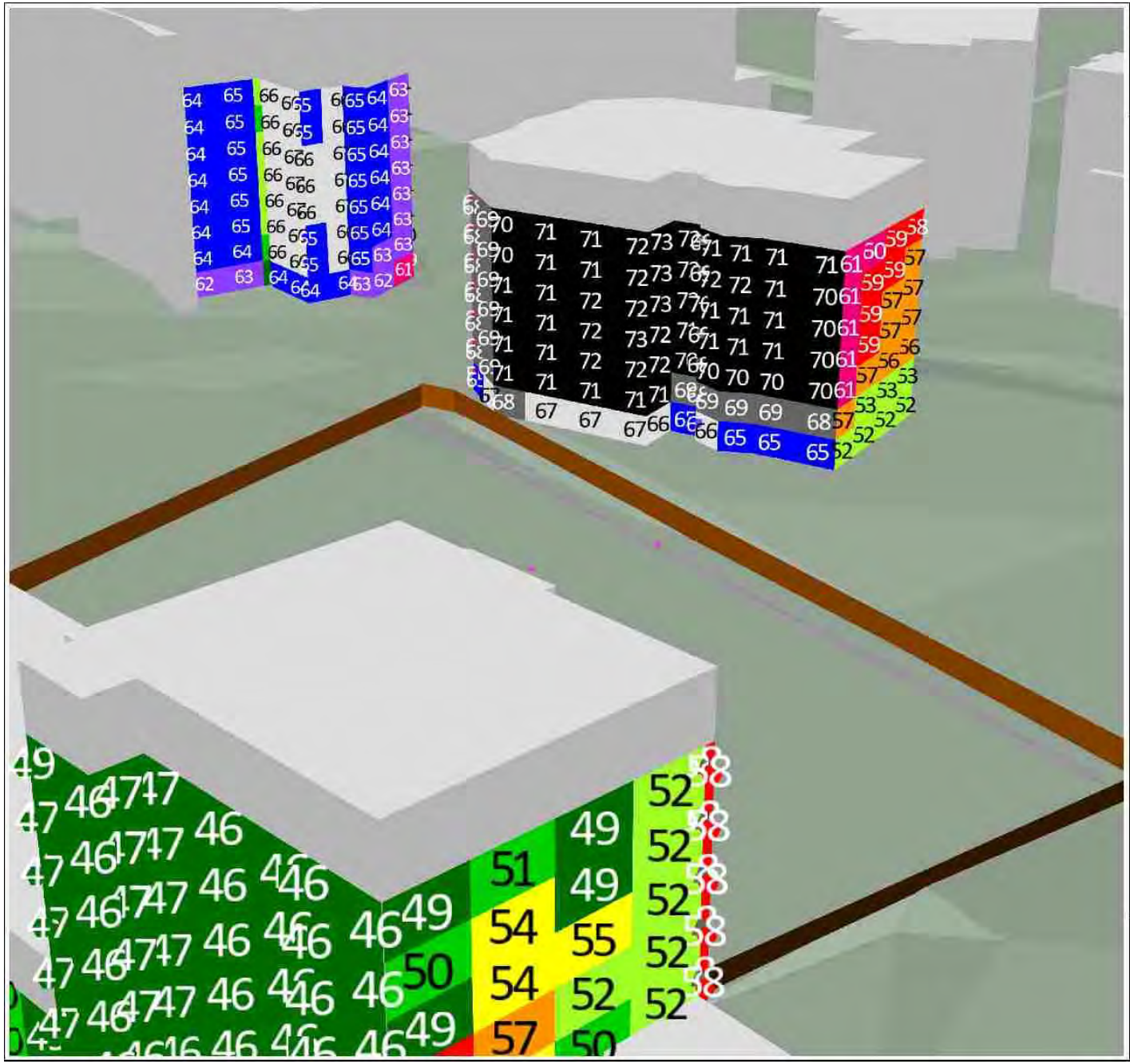
Piling

Prepared by: S.Jacobs
Date: 5/06/2025

Noise Level
L_{eq}
in dB(A)

- < 50
- 50 - 52
- 52 - 54
- 54 - 56
- 56 - 58
- 58 - 60
- 60 - 62
- 62 - 64
- 64 - 66
- 66 - 68
- 68 - 70
- >= 70

ACOUSTIC LOGIC



UoN Student Accomodation

Piling

Prepared by: S.Jacobs
Date: 5/06/2025

Noise Level
L_{eq}
in dB(A)

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ACOUSTIC LOGIC

UoN Student Accomodation

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Prepared by: S.Jacobs
Date: 5/06/2025

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- 66 - 68
- 68 - 70
- >= 70

ACOUSTIC LOGIC

UoN Student Accomodation

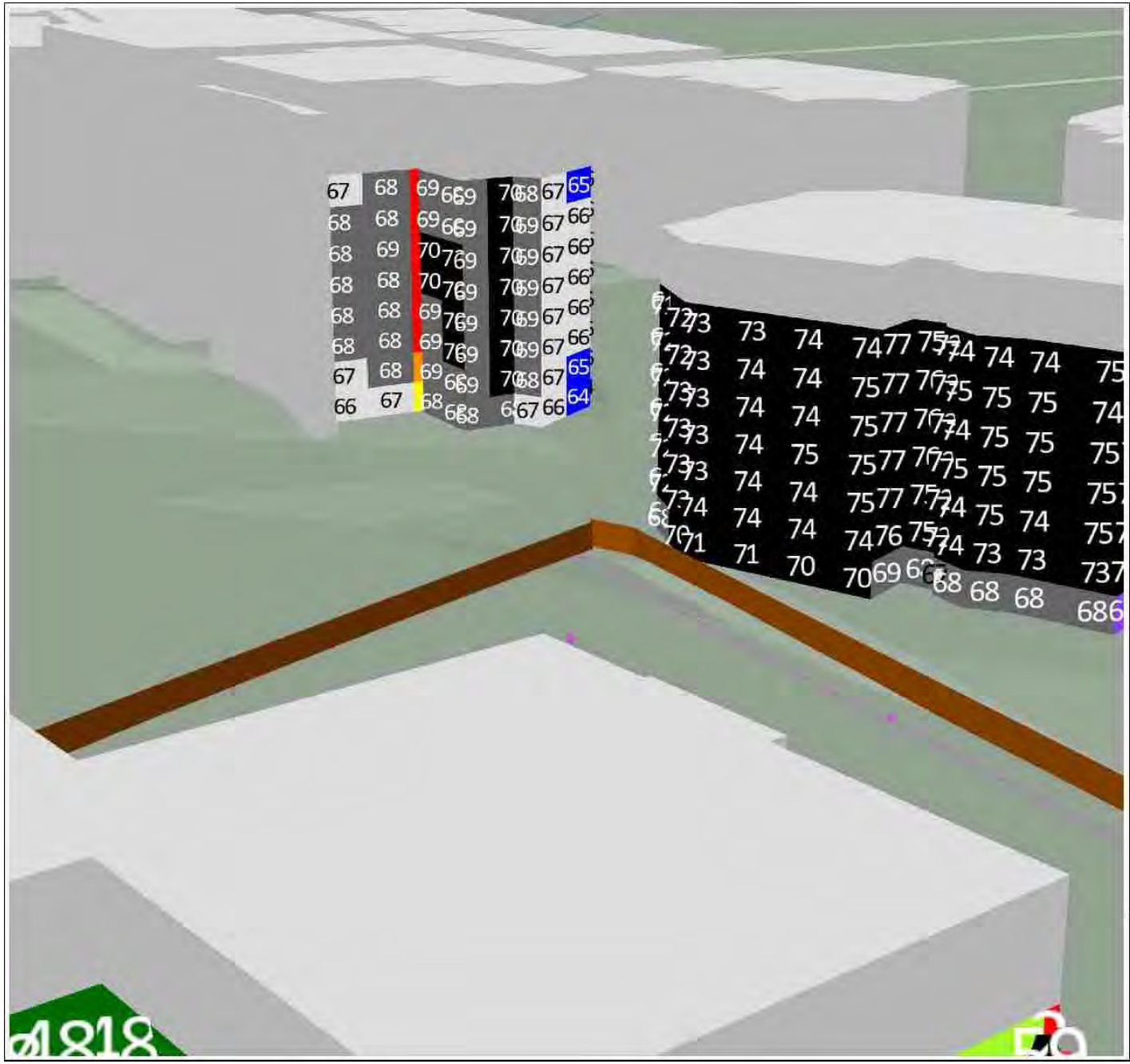
Construction

Prepared by: S.Jacobs
Date: 5/06/2025

Noise Level
L_{eq}
in dB(A)

- < 50
- 50 - 52
- 52 - 54
- 54 - 56
- 56 - 58
- 58 - 60
- 60 - 62
- 62 - 64
- 64 - 66
- 66 - 68
- 68 - 70
- >= 70

ACOUSTIC LOGIC



UoN Student Accomodation

Construction

Prepared by: S.Jacobs
Date: 5/06/2025

Noise Level
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in dB(A)

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	>= 70

ACOUSTIC LOGIC

UoN Student Accomodation

Construction

Prepared by: S.Jacobs
Date: 4/06/2025

Noise Level
L_{eq}
in dB(A)

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- 52 - 54
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- 56 - 58
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- 60 - 62
- 62 - 64
- 64 - 66
- 66 - 68
- 68 - 70
- >= 70

ACOUSTIC LOGIC

7.9 Construction Waste Management Plan

HANSENYUNCKEN

Waste Management Plan

Project: Universite of Newcastle Student Accommodation

Job No: SN114

Rev: A-C – August 2025

—

Uncontrolled Document in Hard Copy

Copies shall not be made without the written permission of Hansen Yuncken Project Manager

Hansen Yuncken would like to acknowledge the AWABAKAL AND WORIMI people as the traditional custodians of the land where this project is located.

We honour elders; past, present and emerging whose knowledge and wisdom has and will ensure continuation of cultures and traditional practices.

HANSENYUNCKEN

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1 Document Information

1.1 Review and Approval

Position	Name	Sign	Date
Review			
Project Manager	Matt Tuttle		
Site Manager	Tim Johnston		
Site Supervisor	Luke Hughes		
Site Supervisor			
Senior Contracts Administrator	Divan Lubbe		
Project Engineer	Ben Styles		
Site Engineer	Reuben		
Approval			
Regional Manager	Patrick McAlister		
HSE Manager	Chris Layzell		

1.2 Document Control

Revision	Description	Issued by	Issue date
A-A	Draft Issue	MT	07/04/2025
A-B	Construction Issue	MT	15/07/2025
A-C	Construction Issue	TC	06/08/2025

2 Definitions

The following definitions and abbreviations have been used in this Waste Management Plan. Further definitions and abbreviations are provided in referenced procedures and plans.

EPA	Environmental Protection Authority
HY	Hansen Yuncken
WMP	Waste Management Plan (this document)

3 Commitment & Policy

3.1 Purpose

To manage the construction waste including the re – use, recycle and dispose of all excavated material and other wastes generated on construction site.

This Plan has been prepared in accordance with the Contract requirements.

This plan applies to the lawful disposal of construction materials on “The Project” development during the construction period.

3.2 Scope of Works

The University of Newcastle is developing the next stage of its city presence comprising of a student accommodation building along Honeysuckle Drive as a part of the University Concept Plan. The development presents an opportunity to expand the University’s student accommodation offering within the City Campus and provide the amenity and experience that students are seeking from a university.

The key objective of the proposed development is to establish a contemporary and sustainable building to provide student accommodation that offers a high-level of residential amenity and cultural safety within the University’s City Campus.

This project represents the next step in delivering the vision for the University’s City Campus established under Concept Plan (SSD-9262), which was approved by the Minister for Planning and Public Spaces on 21 May 2020. The Concept Plan establishes:

i. seven (7) building envelopes across the University’s City Campus, to be used for academic and ancillary uses, and student accommodation;
ii. ii. the maximum building envelope, gross floor area and preferred land use to facilitate the redevelopment of the Site; and
iii. iii. a design excellence framework to guide future development within the building envelopes and achieve design excellence.

A request for Industry Secretary’s Environmental Assessment Requirements (SEARs) was sought on 18 August 2023 and SEARs were issued on 31 August 2023 in respect of SSD-61618229.

The State Significant Development Application SSD-61618229 was submitted to the Department Planning, Housing and Infrastructure in respect of the Works on 9 August 2024 and an approval is expected in early 2025.

The works subject of this RFT include a 9-story building, including ground floor, offering of 445 beds, 150 sqm retail space and 82 bike storage facilities to establish a significant student accommodation offering in the Newcastle City.

3.3 Objectives

The objectives of this plan correspond with those set out in the Contract

- Waste minimisation and resource recovery –
  - To avoid waste through design and ordering correct material quantities.
  - To encourage improved environmental outcomes through increased source separation of materials.
  - To ensure more efficient management of waste and recyclable materials.

  - To maximise reuse and recycling of building construction materials, household generated waste and industrial commercial waste.
  - ensures that at least 80% (by weight) of waste generated during construction is re-used or recycled
- Access – to ensure waste systems are easy to use and that collection vehicles are able to access buildings to remove waste safely and easily;
- Safety – to ensure safe practices for storage, handling and collection of waste and recycling;
- Pollution prevention – to prevent stormwater pollution that may occur as a result of poor waste storage and management practices;
- Ecologically Sustainable Development (ESD) – to promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;
- Hygiene – to ensure health and amenity for residents, visitors and workers in the City Of Newcastle; and
- Noise minimisation – to minimise noise during use by residents and collection of waste and recyclables.

4 Construction Waste

During construction it is anticipated that a variety of waste will be generated consistent with project scope and size. The major waste streams to be expected from the project are:

- Excavation:
  - General Spoil/Fill – landfill
  - Contaminated Fill
- Construction:
  - Concrete – Recyclable
  - Plastics – Recyclable
  - Timber – Recyclable
  - Glass – Recyclable
  - Metal – Recyclable
  - Tiles – Recyclable
  - General Waste – landfill

Hansen Yuncken's goal for building waste management is primarily the reduction of waste generated during construction activities. Waste reduction is the responsibility of all trades on site, as it relates to materials procurement, handling, storage and use. Waste generated during construction will be reused (where possible), recycled or disposed to landfill.

The waste management strategy is to be read in conjunction with the Environmental Management Plan (EMP). The EMP contains the requirements for expected and unexpected finds and tasks to assist in correct waste disposal such as material classification testing, monitoring and tracking and hazardous material management.

4.1 General Waste Management Strategies

Waste management activities are to be in accordance with:

- "Hansen Yuncken" Project Environmental Management plan

The main goal in construction will be to reduce the total volume of waste produced, which is to be achieved by effective materials procurement, management and supply.

"Hansen Yuncken" shall focus on minimising waste by implementing the following:

4.1.1 Reducing Organic Waste

Organic waste consists of the following:

- Pruning and clippings
- Vegetation clearance
- Tree trunks and large branches from land clearance
- Weeds, leaf litter, mulch

To counter the amount of organic waste that will be encountered, it shall be chipped, mulched, composted and reused on site or sent to an off-site compost facility wherever possible.

4.1.2 Reducing solid waste

Solid waste consists of the following:

- Packaging from site materials
- Excess materials, unused products
- Soil from excavations
- Sediment retained in sediment traps

To counter the amount of solid waste that will be encountered, HY shall endeavour to:

- Buy materials with minimum packaging.
- Not over-order.
- Stockpile and reuse it on site.
- Recycle it off site or return to the supplier

4.1.3 Reducing liquid waste

Liquid waste can consist of the following:

- Site clean up
- Wash down areas
- Brick/tile /concrete cutting waste
- Dust control waste

To counter liquid waste, HY shall only discharge clean water into the stormwater. Where possible HY shall avoid generating any dirty water and when encountered, shall attempt to use such grey water for irrigation or as a means of suppressing dust.

HY shall also ensure that any waste stored for reuse, recycling or disposal cannot be washed or blown away.

4.1.4 Waste Minimisation

Major subcontractors will be encouraged to submit waste minimisation details including the following:

- Practical measures associated with their works to prevent waste entering the site
- Waste resulting from their work which can be recycled are to be actively managed as part of their waste reduction plan
- Alternative products containing recycled materials that could be utilised in their works which conform and meet the design specification
- Ordering the right quantities of materials and prefabrication of materials where possible
- Minimising site disturbance and to limit unnecessary excavation
- Careful sourcing separation of off-cuts to facilitate re-use, resale or efficient recycling

In order to reduce waste on site during the construction stage, all HY personnel and sub-contractors will be instructed to perform the following:

- Order materials to size
- Don't over-order
- Order pre-cut or prefabricated materials (where appropriate)
- Reduce packaging at source—buy materials with minimal packaging
- Separate reusable or recyclable materials from waste
- No rubbish is to be buried or burned on sit
- A designated concrete wash down area will be established on site for concrete trucks and pumps. Such an area will be adequately signed and designed so that any excess drainage from the area will be contained within the site boundaries
- Bins to be inspected regularly

4.1.5 Site Bin System

A site waste bin system will be achieved through the use of sealed bins for putrescible waste, separate portable bins for recyclable materials and non-recyclable waste materials.

Additional bins will be provided where practicable to further separate waste between different recyclable materials.

Materials collected for recycling include:

- Glass
- Concrete, bricks and tiles
- Timber
- Aluminium
- Steel and other metals
- Plastic
- Plasterboard
- Paper, cardboard

The subcontractors will be responsible for the daily cleaning of their respective work areas and for placing all their waste in the nominated waste bins.

4.1.6 Packaging

All suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives. Bulk handling and reusable transport containers will be encouraged.

4.1.7 Waste Quantities:

The quantity of potential waste material is estimated by:

- Quantifying materials for the project
- Applying waste margins allowed in ordering materials
- Copying these amounts of waste into the waste management plan.

Normal waste percentages applicable to our work include:

- Timber 5 - 7%
- Plasterboard 5 - 15%
- Concrete 3%
- Bricks / Blocks 5%
- Tiles 5 – 10%

Conversion to volume of waste materials:

- Timber 0.5 tonne per m^3
- Concrete 2.4 tonne per m^3
- Bricks / Blocks 1.0 tonne per m^3
- Tiles 0.75 tonne per m^3
- Steel 2- 4 tonne per m^3

4.1.8 Waste Management

Waste will be separated and / or stored onsite for re-use and recycling – where applicable.

Site operations will ensure minimal waste creation and maximum reuse and recycling by:

- Staff training
- Employment of a specialised waste Management contractor
- Recycled materials used in construction
- Waste management requirements stipulated in sub-contracts
- On-going checks by site supervisors
- Separate area or bins set aside for sorted waste
- Clear signage of waste areas.

4.1.9 Training and Consultation

Waste minimisation will be part of the site environmental awareness program that will be incorporated into the site induction program.

The responsibility to ensure that waste materials go into the correct bins will be with everyone on site.

4.1.10 Measure of Performance

A waste management contractor shall be involved in the project to ensure effective planning for waste management.

The Waste Management Contractor will coordinate waste recycling, measurement, recovery and disposal. HY shall ensure 80% or more (by mass) of all construction waste generated on this project is reused or recycled.

4.1.11 Monitoring

The Waste Management Contractor will be responsible for providing monthly reports to the Site Manager. These reports will measure the number and size of bins, waste type in each bin, total tonnage / cubic metres generated and total tonnage / cubic metres recycled.

Waste reports will be collated and uploaded onto the project sharepoint folder. Cumulative summaries of generated waste and recycling statistics are readily available and auditable.

Regular project audits shall be conducted to ensure their compliance with this plan, standards, and the contract.
Corrective Actions

Where a subcontractor has caused a bin to be contaminated unduly, the Site Manager will be advised, by a non-conformance report procedure. All corrective actions taken by the subcontractor shall be monitored and recorded against the non-conformance procedure, all of which shall be at the cost of the offending subcontractor.

4.1.12 Disposal

Dispose of waste to landfill will be as a last resort only. Landfill sites or waste transfer stations will require correct handling for dusty or hazardous waste and offer discounts for sorted wastes such as brick, metal and timber.

Records of disposals shall be kept on site. Any disposal of waste that is deemed hazardous shall be disposed of by approved EPA hazardous disposal unit

4.1.13 Client Requirements

The Contractor must:

- monitor and record the volume of waste and methods and locations of its disposal; and
- submit a progress report every two months to the Principal's Authorised Person and a summary report (in the form of a Waste Recycling and Purchasing Report available on the NSW Government ProcurePoint website) as a condition precedent to Completion of all of the Works, on the implementation of waste management measures in respect of the Works, including:
  - the:
    - total quantity of material purchased;
    - quantity purchased with recycled content;
    - total quantity of waste generated;
    - total quantity recycled;
    - total quantity disposed of; and
    - methods and locations of disposal; and
- waste disposal certificates confirming the lawful disposal of all waste.

4.1.14 SSD Project Specific Requirements

- Any vehicle used to transport waste or excavation spoil from the site is covered before leaving the premises:
- The wheels of any vehicle, trailer or mobilised plant leaving the site are cleaned of debris prior to leaving the premises; and
- Transport of waste material within the site and from the site:
    - The Hansen Yuncken Construction Pedestrian and Traffic Management Plan details the transport routes to and from site. Refer to Site Layout Plan for overview of traffic routes and site establishment.

Figure 1: Site Layout Plan

- Hansen Yuncken will retain waste transport details for the life of the project to demonstrate compliance with the Protection of the Environment Operations Act 1997;
- The name and address of each licensed facility that will receive waste from the site is provided in Section 5.

5 Waste Management Details

Waste Management Details					
Materials On-Site			**Destination**		
			Reuse & Recycling		**Disposal**
Type of Materials	Est. Vol. (m3) Total incl. Waste	Est. Wt. (t) Total incl. Waste	ON-SITE Specify proposed reuse or on site recycling methods	OFF-SITE Specify contractor and recycling outlet	Specify contractor and landfill site
Excavated Materials	2,000	3,600	TBC following classification	TBC following classification	TBC following classification
Garden Organics/Topsoil	150	240	TBC following classification	TBC following classification	TBC following classification
Concrete	4,400	10,560	Extra Conc to be used as blinding, temp access etc.	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Steel Reinforcement	400	3,000	Temp works	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Timber	4	2	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Plasterboard	11,800	5,900	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor

Waste Management Details					
Materials On-Site			**Destination**		
			Reuse & Recycling		**Disposal**
Type of Materials	Est. Vol. (m3) Total incl. Waste	Est. Wt. (t) Total incl. Waste	ON-SITE Specify proposed reuse or on site recycling methods	OFF-SITE Specify contractor and recycling outlet	Specify contractor and landfill site
Structural Steel	>	>1	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Aluminium	>1	>1	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Steel Pipework	>1	>1	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Copper	>1	>1	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Metals - Other	3	4	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor
Ceramic Tiles	2	1	N/A	TBC following engagement of waste contractor	TBC following engagement of waste contractor

7.10 Construction Soil and Water Management Plan

Tom Clark

From: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Sent: Monday, 11 August 2025 1:07 PM
To: Tom Clark; Kane Sinclair
Cc: Emma Gearing; Geof Mansfield
Subject: UON Student Accommodation - Construction Soil and Water Management Plan - CN Consultation
Attachments: NL242432_CIR02 (2) – CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN.pdf

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Dear Tom and Kane

Thank you for your email and providing the Construction Soil and Water Management Plan (CSWMP - as attached). City of Newcastle (CN) notes that Condition B41 requires the applicants to Consult with Council.

As majority of the building works are proposed within the private UoN property, thus CN has no objections to the proposal.

CN expects that the applicants, their consultants, and contractors will ensure and be responsible, that, at all times, the Sediment and Soil erosion aspects will be appropriately managed, and the environment will not be impacted. It is also highly suggested that the applicants and their contractors keep all necessary records of on-going management and monitoring, as per Item 2.9 of the CSWMP, as these maybe required in case of any environment breaches.

I hope this email assists.

Please contact me for further information.

Thanking you

Raj

Rajnesh Prakash | Senior Development Officer (Engineering)
City of Newcastle | Planning & Environment
Planning & Development | City Wide Development Assessment
E: rprakash@ncc.nsw.gov.au | T: +61249742137 | M: +61478486327

City of Newcastle acknowledges the Traditional Custodians of the land of the Newcastle LGA, the Awabakal and Worimi peoples.

From: Tom Clark <TClark@hansenyuncken.com.au>
Sent: Monday, 11 August 2025 8:17 AM
To: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>; Kane Sinclair <KSinclair@northrop.com.au>
Cc: Emma Gearing <EGearing@northrop.com.au>
Subject: RE: UON Student Accommodation - Construction Soil and Water Management Plan

Hi Raj,

Can you please pass on the contact details for the Environmental team so we can obtain their response. Currently the Certifier will not close out this item until a response is provided by Council confirming they are satisfied. This is holding up the provision of our Construction Certificate so a prompt response would be greatly appreciated.

Thanks

Tom Clark
Regional NSW Design Manager

HANSENYUNCKEN

Hansen Yuncken Pty Ltd
12/125 Bull St, Newcastle NSW 2300
tclark@hansenyuncken.com.au
T 02 4908 6300 M 0438 890 150
hansenyuncken.com.au
We acknowledge the Traditional Custodians of the land on which we work. We pay our respects to Elders, past, present and emerging

---

From: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Sent: Wednesday, 6 August 2025 9:08 AM
To: Tom Clark <TClark@hansenyuncken.com.au>; Kane Sinclair <KSinclair@northrop.com.au>
Cc: Emma Gearing <EGearing@northrop.com.au>
Subject: RE: UON Student Accommodation - Construction Soil and Water Management Plan

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Hi Yom

I have contacted my Environment team again and they will reach out to you soon.

An officer has been allocated to review the documents.

Thanks

Raj

Rajnesh Prakash | Senior Development Officer (Engineering)
City of Newcastle | Planning & Environment
Planning & Development | City Wide Development Assessment
E: rprakash@ncc.nsw.gov.au | T: +61249742137 | M: +61478486327

City of Newcastle acknowledges the Traditional Custodians of the land of the Newcastle LGA, the Awabakal and Worimi peoples.

From: Tom Clark <TClark@hansenyuncken.com.au>
Sent: Tuesday, August 5, 2025 3:50 PM

To: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>; Kane Sinclair <KSinclair@northrop.com.au>
Cc: Emma Gearing <EGearing@northrop.com.au>
Subject: RE: UON Student Accommodation - Construction Soil and Water Management Plan

Hi Raj,

The Certifier is seeking response back from the Council.

Could you please follow up the Environmental team for the acknowledgement the plan has been received?

Tom Clark
Regional NSW Design Manager

HANSENYUNCKEN

Hansen Yuncken Pty Ltd
12/125 Bull St, Newcastle NSW 2300
tclark@hansenyuncken.com.au
T 02 4908 6300 M 0438 890 150
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___We acknowledge the Traditional Custodians of the land on which we work. We pay our respects to Elders, past, present and emerging___

From: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Sent: Friday, 1 August 2025 2:03 PM
To: Kane Sinclair <KSinclair@northrop.com.au>
Cc: Tom Clark <TClark@hansenyuncken.com.au>; Emma Gearing <EGearing@northrop.com.au>
Subject: RE: UON Student Accommodation - Construction Soil and Water Management Plan

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Hi Kane

Thank you for your email and submission of the SWMP.

Your submission has been handed over to our Environmental team for review and they will contact you in due course.

Thanking you

Raj

Rajnesh Prakash | Senior Development Officer (Engineering)
City of Newcastle | Planning & Environment
Planning & Development | City Wide Development Assessment
E: rprakash@ncc.nsw.gov.au | T: +61249742137 | M: +61478486327

City of Newcastle acknowledges the Traditional Custodians of the land of the Newcastle LGA, the Awabakal and Worimi peoples.

From: Kane Sinclair <KSinclair@northrop.com.au>
Sent: Tuesday, July 29, 2025 9:42 AM
To: Rajnesh Prakash <rprakash@ncc.nsw.gov.au>
Cc: Tom Clark <tclark@hansenyuncken.com.au>; Emma Gearing <EGearing@northrop.com.au>
Subject: UON Student Accommodation - Construction Soil and Water Management Plan

Morning Raj

Trust you are keeping well.

Condition B41 of the SSDA, outlined below, requires preparation of a Construction Soil and Water Management Plan in consultation with Council. Attached is the current version of the plan, can Council please advise if they have any comments ?

CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN SUB-PLAN

B41. Prior to the commencement of any works, the Applicant must submit to the Certifier a Construction Soil and Water Management Sub-Plan (CSWMP) for the development. The CSWMP must be prepared by a suitably qualified expert, in Consultation with Council and include, at a minimum, the following information:

(a) describe all erosion and sediment controls to be implemented during construction

(b) details of measures to be implemented to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site.

(c) provide a plan of how all construction works will be managed in a wet-weather event (i.e. storage of equipment, stabilisation of the site);

(d) detail all off-site flows from the site during construction; and

(e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI.

Regards

NORTHROP

Brisbane · Coffs Harbour · Newcastle
Central Coast · Sydney · Parramatta
Wollongong · Canberra · Melbourne

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Kane Sinclair
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NORTHROP

CONSTRUCTION SOIL AND WATER MANAGEMENT SUB-PLAN

The University of Newcastle City Campus Student Accommodation

Prepared for The University of Newcastle

NORTHROP.COM.AU

Document Information

PROJECT NUMBER:	242432
PROJECT NAME:	The University of Newcastle City Campus Student Accommodation
REPORT TITLE:	Construction Soil and Water Management Sub-Plan
CLIENT:	The University of Newcastle
REVISION:	2
STATUS:	For Review
REVISION DATE:	23 July 2025
AUTHOR:	Emma Gearing
VERIFIER:	Kane Sinclair

REVISION	REVIEWER	APPROVER	DATE	COMMENT
1	Kane Sinclair	Emma Gearing	22.07.2025	
2	Kane Sinclair	Emma Gearing	23.07.2025	

Northrop Consulting Engineers Pty Ltd

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1 Background

Northrop Consulting Engineers have been engaged by Hansen Yuncken Pty Ltd on behalf of The University of Newcastle to undertake the civil engineering design and prepare a Construction Soil and Water Management Plan (CSWMP) for the proposed University of Newcastle City Precinct Student Accommodation at 20 Civic Lane, Newcastle NSW 2300, herein known as 'the subject site'.

The development proposes:

- Demolition of a portion of Wright Lane car park within the lot boundary.
- Demolition of the existing electrical substation building located in the south-western corner of the site adjacent to Civic Lane.
- Site bulk excavation works including site filling as required to meet minimum finished floor level requirements as nominated in the Torrent Consulting Flood Impact and Risk Assessment Report (Ref: R.T2639.001.02 Rev 02).
- Maintaining and exhibiting the historically significant rail turntable located adjacent Wright Lane as part of the proposed design.
- Construction of a nine-storey mixed-use student accommodation building, featuring:
  - An internal ground floor courtyard;
  - Retail ground floor tenancies;
  - A Level 1 communal external terrace; and
  - An additional plant roof level.

This report has been prepared to address Item B41 of the Development Consent SSD-61618229, dated 6 June 2025. The consent condition B41 Construction Soil and Water Management Plan Sub-Plan:

Prior to the commencement of any works, the Applicant must submit to the Certifier a Construction Soil and Water Management Sub-Plan (CSWMP) for the development. The CSWMP must be prepared by a suitably qualified expert, in consultation with Council and include, at a minimum, the following information:

a) Describe all erosion and sediment controls to be implemented during construction;
b) Details of measures to be implemented to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;
c) Provide a plan of how all construction works will be managed in a wet-weather event (i.e. storage of equipment, stabilisation of the site);
d) Detail all off-site flows from the site during construction; and
e) Describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI.

1.1. Existing Site

The site (Lot 2 & 5 DP1247375), which covers approximately 0.333ha, is currently utilised as a commuter carpark managed by the City of Newcastle (Con) and is bounded by Wright Lane to the north, Civic Lane to the south, and Worth Place to the west.

The northern half of the site generally grades towards Wright Lane in the north at approximately 2%, whilst the southern portion of the site is generally flat and directs flows towards Worth Place on the east and Civic Lane to the south. A single stormwater pit exists within the southern portion of the site, with its outlet location unknown.

An aerial image of the area is shown in Figure 1 below, with the site location outlined in red.

Figure 1. Subject Site (Source: NearMaps)

1.2. The Development

The development forms Stage 1B of the University's City Campus Masterplan and includes a nine-storey building (exclusive of the plant roof level) known as Building B, to provide campus student accommodation and ground floor retail. The proposed development is located to the south of the existing University of Newcastle (UoN) Q Building, and has pedestrian access to each façade, with the main entrance off the northern facade opposite Q Building. Vehicle access to the site will be via Civic Lane, with a driveway layback off Civic Lane accessing an internal loading dock.

B Building will facilitate:

- Ground floor student facilities, staff facilities, and retail spaces.
- Levels 1 to 8 consisting of student accommodation to house 445 beds.
- Outdoor communal spaces spread over the ground floor street level, ground floor building level and the Level 1 podium area.
- Landscaping and associated public domain works.

In accordance with the Torrent Consulting Flood Impact and Risk Assessment Report, the development shall have a minimum habitable finished floor level (FFL) of RL2.90m AHD to achieve minimum flooding freeboard requirements, inclusive of the main switch room. The back of house areas off Civic Lane inclusive of the bike store, loading dock and fire pump room are proposed to have lower FFLs to allow pedestrian and vehicle access off from the street level.

1.3. Off-site Stormwater Flows

Analysis of LiDAR information, site survey and the 'Flood Impact and Risk Assessment Report' (Ref: R.T2639.001.02) prepared by Torrent Consulting (July 2024) was performed to identify potential flows from off the site that could enter the site disturbance area during large storm events. The existing site and surrounding areas generally grade to the north. During the 1% AEP storm event and above, an overland flow path is identified in the Honeysuckle Redevelopment Area Flood Study along the southern and eastern sides of the subject site, which is based on the post-developed scenario i.e. once bulk earthworks operations have been complete on-site. The flow path provides connectivity between Worth Place and Wright Lane, via Civic Lane and is nominated as being approximately 10m wide and grading from RL 2.40m AHD to RL 2.20m AHD. The flood certificate from City of Newcastle estimates the 1% AEP flood level to be 2.42m AHD, based on this floodwater is anticipated locally on the northern, southern and eastern boundaries of the site only, following bulk earthworks operations. Prior to filling operations being undertaken, the site will be impacted for a greater extent in large storm events.

2 Soil and Water Management

Northrop Consulting Engineers have prepared an Erosion and Sediment Control Plan in accordance with the guidelines set out in Landcom's 'Managing Urban Stormwater: Soils and Construction' ('The Blue Book'). The plan, C_CCSA_DRW_10201, included in APPENDIX A – Erosion and Sediment Control Plan, is to provide guidance on the management of soil and water during the development's construction and should be read in conjunction with this report.

The Contractor shall be responsible for adequately managing site stormwater runoff with the aim of preventing erosion and deposition, specifically within waterways or stormwater drains. The general principles for management are to eliminate, isolate, minimise or control erosion, and therefore minimise the potential for sediment deposition to have an effect on downstream environments.

The first step to ensure that the sediment and erosion control strategy is successfully adopted is awareness. It is therefore vital that all site personnel, including engineers, foreman, leading hands, site managers, labours, machinery operators and administration personnel, are aware of the sediment and erosion control plan. To achieve this site-wide awareness, the contractor shall undertake sediment and erosion control awareness and education as part of the site induction or general induction for all personnel.

All work is to be carried out in accordance with relevant ordinances and regulations; note in particular the requirements of the 'Blue Book' ('Managing Urban Stormwater – Soils and Construction,' Landcom, 2004). The Contractor shall be responsible for adequately implementing the measures to comply with all relevant legislation.

2.1. Erosion and Sediment Controls

The key erosion and sediment controls are shown in the 'Erosion and Sediment Control Plan' C_CCSA_DRW_10201 in APPENDIX A – Erosion and Sediment Control Plan. These controls are:

- **Perimeter sediment control fence**: approximately 250m in length, to be installed along the site perimeter, to prevent sediment-laden runoff leaving the disturbed area.
- **Stockpile sediment control fences**: to be installed two metres downslope of all stockpiles to trap sediment runoff and prevent material being displaced from the stockpile location. Construct and maintain all material stockpiles in accordance with detail SD4-1 of the 'blue book'.
- **Earth banks**: a temporary diversion mound is to be installed around all stockpiles to ensure soil and/or materials are not affected by upstream stormwater. Diversion mounds are also to be installed when storm events equal to or above the 1-year ARI are expected.
- **Pit inlet filters**: to be installed around all new and existing grated inlet pits in accordance with the typical detail of the 'blue book' to prevent sediment entering stormwater pits.
- **Stabilised site access**: a 'rumble strip' or 'shakedown' is to be installed at site access points to minimise sediment carried off-site by vehicles. Manually remove (by means other than washing into stormwater drains) sediment tracked offsite on the adjacent roads. The Contractor will monitor, and maintain as necessary, a sweep clean process of the pavement surface adjacent to the ingress and egress to the site on a daily basis.

The Contractor's Site Manager shall be responsible for keeping a detailed written record of all erosion and sediment controls on site during the construction period. This record shall be updated daily and shall contain details on the condition of controls and any/ all maintenance, cleaning and breaches. This record shall be kept on site at all times and shall be made available for inspection by an authorised person during normal working hours.

Sediment and Erosion Control measures shall be installed prior to the commencement of construction and regularly maintained in accordance with the Engineering drawings and specifications.

In addition to the above, it is the contractor's responsibility to ensure equipment, materials and plant are safely stored for all rainfall events. If rainfall is expected, these items should be stored away from any steep surfaces and potential stormwater streams. Loose items (hand tools, tool bits, nails etc.) should be stored appropriately to ensure they aren't covered or swept away during rainfall events. All stockpiles and site sheds are to be located in elevated areas of the site, preferably above the 1% AEP flood level of 2.42m AHD and away from the overland flow paths adjoining the site.

Contractors should also take necessary action to maintain soil stability during rainfall events. Any batter slopes should be constructed in accordance with Geotechnical Engineer's recommendations, including any temporary stabilisation, to minimise the risk of slope failure during and post wet weather events.

2.2. Groundwater Management and Surface Water Management

As presented in the Geotechnical Report prepared by Tetra Tech Coffey, dated 14 May 2021 (Ref: 754-NTLEN274023.R06), the water table was encountered at depths of 1.6m to 2.7m below the ground surface. Groundwater levels are affected by factors such as climatic conditions such as rainfall, soil permeability, and site drainage features and will therefore vary with time.

The predominant component of the fill material was sand, therefore inflow into excavations greater than 1.6m should be expected. The vast majority of the construction is expected to occur above the groundwater table, however The lowest/deepest proposed excavation depths on-site which are associated with the construction of the on-site detention tank, crane/lift hoist pads and the lift pit, are more than 1.6m below existing levels, as such it is anticipated to locally encounter groundwater during construction. The preferred construction methodology shall employ a displacement method where practical to remove the need for dewatering. Should groundwater be encountered, groundwater ingress may be reduced by sheet piling into low-permeability layers to allow for dewatering of the area, if required, subject to further geotechnical advice. Dewatering of the surrounding area, if required, may cause settlement on adjacent properties. If dewatering is required, a detailed groundwater extraction plan should be commissioned to assess the potential for causing settlement on adjacent properties and for managing the disposal of water.

Furthermore, ponding may occur during rain events in excavations and pumping of any ponded water may be necessary (upon approval from the Superintendent).All water pumped or otherwise removed from excavations must be filtered to achieve suspended solids/non-filterable residue levels complying with the Australian Water Quality guidelines for Fresh and Marine Waters. In their absence, the water should comply with the following characteristics as a minimum:

- pH between 6.5-6.8;
- Total Suspended Solids (TSS) less than 50mg/L; and
- Electrical Conductivity of 200µs/cm (0.2ms/cm) or less than or equal to background levels.

2.3. Estimation of Soil Loss

The annual soil loss was previously estimated using the Revised Universal Soil Loss Equation (RUSLE) Method in accordance with Appendix A of the 'Blue Book.' It was determined that the annual soil loss is expected to be less than 150 m^3, and therefore in accordance with Section 6.3.2(d) of the 'Blue Book', the construction of a sediment basin can be considered unnecessary.

For the purposes of these calculations, and in accordance with the erodibility data provided in the NSW Department of Planning and Environment Soil Landscape Report for the 'Hamilton (hm)' soil landscape, three scenarios were considered:

- **Scenario 1:** Soil *'hm1'* – Type F, 'K' = 0.015
- **Scenario 2:** Soil *'hm2'* – Type F, 'K' = 0.016
- **Scenario 3:** Soil *'hm3'* – Type F, 'K' = 0.009

The RUSLE Method calculations are presented below:

Table 1. Subject Site Soil Loss Calculations (RUSLE Method)

SOIL LOSS CALCULATIONS (RUSLE METHOD)				
Quantity	**Scenarios**			**Remarks**
	1	2	3	
Site Area				
Total catchment area (ha)	0.333			
Disturbed catchment area (ha)	0.341			
Soil Analysis				
Soil Texture Group	F			'Hamilton (hm)' soil landscape report (via NSW DPE eSpade tool)
Rainfall Data				
Design rainfall depth (days)	5			'Blue Book', Sections 6.3.4(d) and (e)
Design rainfall depth (percentile)	80			'Blue Book', Sections 6.3.4 (f) and (g)
5 day, 85th-percentile rainfall (mm)	30.5			'Blue Book', Section 6.3.4 (h)
2-year, 6-hour storm intensity (mm/hr)	10.9			BOM AR&R 1987 IFDs
RUSLE Factors				
Rainfall erosivity (R-factor)	2590			Automatic calculation from above data
Soil erodibility (K-factor)	0.015	0.016	0.009	'Blue Book', Appendices A, B and C
Slope length (m)	26			
Slope gradient (%)	2.0			
Length/gradient (LS-factor)	0.26			
Erosion control practice (P-factor)	1.3			
Ground cover (C-factor)	1.0			
Calculations				
Soil loss (t/ha/year)	13	14	8	
Soil loss class	1	1	1	'Blue Book', Section 4.4.2(b)
Soil loss (m^3/ha/year)	10	11	6	

'Worst-case' soil loss for disturbed site area = 11 [m^3/ha/year] × 0.341 [ha] = 3.75 [m^3/year] < 150 [m^3/year]

Sediment basin not required as total site soil loss does not exceed 150 m^3 / year.

2.4. Controls for Large Storm Events

For the purpose of this report, large storm events are defined as events equal to or larger than the 1 in 1-year ARI event. For this site, the 1 in 1-year ARI storm event is equivalent to 27.5mm within an hour, 85.2mm within 24 hours, or 120mm within 72 hours (BOM Design Rainfall Data System, 2016). It is the Contractor's responsibility to monitor weather reports daily to identify any upcoming large storm events and install the below-mentioned controls prior to the rainfall event beginning.

The Contractor shall install and maintain all proposed control measures and ensure that the site runoff flow, as outlined in Table 2, are suitably captured and managed within the site, for all storm events. Note the flows are inclusive of the site only and exclude any external flows that may traverse the perimeter of the site.

Table 2. Site Runoff Flows

ARI	PRE-DEVELOPED SITE FLOW (L/S)
1 (1EY)	53
5 (0.2EY)	112
20 (5% AEP) – MINOR EVENT	165
100 (1% AEP) – MAJOR EVENT	247

If a large storm event is expected, the contractor shall:

- - Confirm the integrity of all controls shown in the Erosion and Sediment Control Plan in APPENDIX A – Erosion and Sediment Control Plan. Ensure all measures are placed firmly in the ground and do not become up-routed by floodwaters
- To prevent any surface flow entering from the northern, southern and eastern site boundaries, sandbags or diversion mounds should be installed at site access points to direct water away from the disturbance area.
- Trenching and excavations below the 1% AEP flood level to be temporarily filled.
- Ensure equipment, materials and plant are safely stored away from any steep surfaces and potential stormwater streams. Loose items (hand tools, tool bits, nails etc.) should be stored appropriately to ensure they aren't covered or swept away during rainfall events.
- Ensure all stockpiles and site sheds are located in elevated areas of the site, preferably above the 1% AEP flood level of 2.42m AHD and away from the overland flow paths adjoining the site.

If clean upstream water is found to be entering the site during smaller rainfall events, the contractor is to provide permanent diversion mounds around the site perimeter (with the approval of relevant Council authorities).

2.5. Implementation Schedule

We note the general implementation sequence for sediment control measure is as follows:

1. Install sediment and erosion controls (e.g., stabilised site access, sediment fences, etc).
2. Construct civil/building infrastructure, noting:
    a. Side cast to high side of trenching.
    b. Installing or shifting sediment control measures to suit sequencing of individual work areas (e.g., additional sediment fencing, pit inlet protection, stockpile stabilisation, rock check dams, etc).
    c. Regular monitoring shall be required and rectification of any damage, breaches or sediment filled measures.
3. Progressively stabilise surfaces not being worked on using final landscaping or temporary measures, including vegetation establishment / management.
4. Remove sediment controls once the site is stabilised (at least 85% surface coverage).

2.6. Dust Management

To ensure that dust generation is eliminated or reduced where possible and practical, all site operations shall be undertaken with consideration given to their potential to produce dust. A management strategy of *'avoid > minimise > control'* shall be implemented.

The Contractor shall instigate measures to minimise and control the generation of dust from the site. These measures shall include, but not be limited to:

- Program works around periods of significant and adverse meteorological conditions.
- Install wind fences around stockpiles with significant amounts of fine particulates.
- Maintain vegetation across the site where possible; otherwise, establish vegetation or seal disturbed site areas as soon as practical.
- Provide water trucks or sprinkling devices during construction as required to suppress dust, specifically for site vehicular traffic or dumping and filling operations.

2.7. Management of Acid Sulfate Soils

Acid sulfate soils have not been identified in the site in the Geotechnical Report prepared by Tetra Tech Coffey, dated 14 May 2021 (Ref: 754-NTLEN274023.R06). Should acid sulfate soils be encountered during construction, contingency controls and management procedures are to be carried out in accordance with a suitably prepared Acid Sulphate Soil Management Plan.

2.8. Management of Fill Importation and Offsite Disposal of Soil

Only virgin excavated natural material (VENM), excavated natural material (ENM) or other material approved in writing by the NSW Environmental Protection Agency (EPA), is brought onto the site. Accurate records of the volume and type of fill to be used must be kept. The records must be available to the NSW Department of Planning & Environment and Certifying Authority upon request.

Any excavated material to be removed from the site is to be assessed, classified, transported and disposed of in accordance with the NSW Environmental Protection Authority's Waste Classification Guidelines 'Part 1: Classifying Waste'.

2.9. Ongoing Management of Controls

The Erosion and Sediment Control Plan, including the associated erosion and sediment control notes and details, is included in APPENDIX A – Erosion and Sediment Control Plan. The Contractor must adhere to all details, notes and specifications provided in the Plan and should ensure the controls specified are maintained throughout construction. Inspections of all controls must occur daily and after any rainfall events, and maintenance of controls should be implemented immediately after any defect is detected. Maintenance activities include, but are not limited to:

- Removal of sediment build-up around sediment fence, diversion mounds and pit inlet filters.
- Ensure the minimum dimensions specified in the Erosion and Sediment Control Details are maintained.
- Remove any build-up of sediment around the stabilised site access.
- Replace any broken sediment fence, including sections with tears or holes.
- Ensure stockpile heights do not exceed 2m or as specified by a relevant Council Authority.
- Ensure stockpile material is maintained within the designated stockpile area.
- Inspect earth batters to ensure maximum grades (as specified by the Geotechnical Engineer) are not exceeded. The Contractor is to seek advice from the Geotechnical Engineer if batter slopes or excavations require stabilisation.
- Ensure no sediment is entering stormwater pits. If required, remove sediment and ensure pit inlet filters are installed correctly.
- Following rainfall, the Contractor must inspect the site to ensure no significant scouring is occurring and ensure no sediment-laden runoff is exiting the site area.

- The Contractor is to implement additional erosion and sediment controls if required (upon approval from the relevant Council Authority).

2.10. Plan Management and Updates

Please note that this plan is prepared as a guide. It is expected that the Contractor will regularly review the effectiveness of this plan and amend or adapt as needed as the site develops and changes to comply with all relevant legislation. Ultimately, it is the Contractors responsibility to ensure compliance with relevant standards and guidelines.

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APPENDIX A – Erosion and Sediment Control Plan

LEGEND

- SITE BOUNDARY LINE
- EXTERNAL BOUNDARY LINE
- SEDIMENT FENCE
- GEOTEXTILE INLET FILTER
- DIVERSION DRAIN (CLEAN) EARTH BANK
- INDICATIVE MAJOR OVERLAND FLOW PATH IN POST DEVELOPED SCENARIO
- STABILISED SITE ACCESS
- STOCKPILES
- INDICATIVE EXTENT OF DISTURBANCE
- EXISTING CONTOURS (0.1m INTERVAL)
- SANDBAG OR MESH AND GRAVEL INLET FILTER

NOTES

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES MUST BE APPROPRIATE FOR THE SEDIMENT TYPE(S) OF THE SOILS ON-SITE, IN ACCORDANCE WITH THE 'BLUE BOOK' (MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION: LANDCOM, 2004), OR OTHER CURRENT RECOGNISED INDUSTRY STANDARDS FOR EROSION AND SEDIMENT CONTROL FOR AUSTRALIAN CONDITIONS. THIS INCLUDES SEDIMENT TRAPS AND LINING OF CHANNELS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING A DETAILED WRITTEN RECORD OF ALL EROSION AND SEDIMENT CONTROLS ON-SITE DURING THE CONSTRUCTION PERIOD. THIS RECORD SHALL BE UPDATED ON A DAILY BASIS AND SHALL CONTAIN DETAILS ON THE CONDITION OF CONTROLS AND ANY/ALL MAINTENANCE, CLEANING AND BREACHES. THIS RECORD SHALL BE KEPT ON-SITE AT ALL TIMES AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE PRINCIPAL CERTIFYING AUTHORITY AND THE SUPERINTENDENT DURING NORMAL WORKING HOURS.
3. INSTALL SEDIMENT PROTECTION FILTERS ON ALL NEW AND EXISTING STORMWATER INLET PITS IN ACCORDANCE WITH EITHER THE MESH AND GRAVEL INLET FILTER DETAIL SD6-11 OR THE GEOTEXTILE INLET FILTER DETAIL SD6-12 OF THE 'BLUE BOOK'.
4. ESTABLISH ALL REQUIRED SEDIMENT FENCES IN ACCORDANCE WITH DETAIL SD6-8 OF THE 'BLUE BOOK'.
5. INSTALL SEDIMENT FENCING, OR OTHER SEDIMENT CONTROL DEVICES, AROUND INDIVIDUAL BUILDING ZONES/AREAS AS REQUIRED AND AS DIRECTED BY THE SUPERINTENDENT OR APPROPRIATE COUNCIL OFFICER.
6. ALL TRENCHES INCLUDING ALL SERVICE TRENCHES AND SWALE EXCAVATION SHALL BE SIDE-CAST TO THE HIGH SIDE AND CLOSED AT THE END OF EACH DAYS WORK.
7. THE CONTRACTOR SHALL ENSURE THAT ALL VEGETATION (TREE, SHRUB AND GROUND COVER) WHICH IS TO BE RETAINED SHALL BE PROTECTED DURING THE DURATION OF CONSTRUCTION.
8. ALL VEGETATION TO BE REMOVED SHALL BE MULCHED ON-SITE AND SPREAD/STOCKPILED AS DIRECTED BY THE SUPERINTENDENT.
9. STRIP TOPSOIL IN AREAS DESIGNATED FOR STRIPPING AND STOCKPILE FOR RE-USE AS REQUIRED. ANY SURPLUS MATERIAL SHALL BE SPREAD ON-SITE AS DIRECTED BY THE SUPERINTENDENT OR REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH EPA GUIDELINES.
10. CONSTRUCT AND MAINTAIN ALL MATERIAL STOCKPILES IN ACCORDANCE WITH DETAIL SD4-1 OF THE 'BLUE BOOK' (INCLUDING CUT-OFF SWALES TO THE HIGH SIDE AND SEDIMENT FENCES TO THE LOW SIDE).
11. ENSURE STOCKPILES DO NOT EXCEED 2.0m HIGH. PROVIDE WIND AND RAIN EROSION PROTECTION AS REQUIRED IN ACCORDANCE WITH THE 'BLUE BOOK'.
12. PROVIDE WATER TRUCKS OR SPRINKLER DEVICES DURING CONSTRUCTION AS REQUIRED TO SUPPRESS DUST.
13. ONCE CUT/FILL OPERATIONS HAVE BEEN FINALIZED ALL DISTURBED AREAS THAT ARE NOT BEING WORKED ON SHALL BE RE-VEGETATED AS SOON AS IS PRACTICAL.
14. CONTRACTOR TO CHECK WEATHER FORECASTS AND ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE PRIOR TO PREDICTED EXTREME RAINFALL EVENTS. TRENCHING AND EXCAVATIONS BELOW THE 1% AEP LEVEL TO BE TEMPORARILY FILLED IF AN EXTREME FLOOD EVENT IS PREDICTED. SIMILARLY, ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE FIRMLY IN PLACE TO ENSURE THEY DO NOT BECOME UP-ROUTED BY FLOODWATERS. WHERE POSSIBLE, EQUIPMENT AND STORAGE SHEDS TO BE LOCATED ABOVE 1% AEP FLOOD LEVEL OR RELOCATED IF EXTREME RAINFALL EVENT IS PREDICTED.

SEDIMENT BASIN SIZING CALCULATION

THE SITE IS LOCATED WITHIN THE HAMILTON LANDSCAPE AND PRIMARILY CONSISTS OF FILL OVERLYING SANDS AND ESTUARINE SOILS (CLAYS) FOLLOWED BY TRANSITIONAL MARINE DEPOSITS (AS PER THE SITE SPECIFIC GEOTECHNICAL INVESTIGATION), WHICH HAS THE FOLLOWING PROPERTIES (IN ACCORDANCE WITH TABLE C13 OF THE 'BLUE BOOK'):

SITE PARAMETERS	
CONSTRAINT	VALUE
SEDIMENT TYPE	F (DISPERSIBLE SOILS)
SOIL HYDROLOGY GROUP	A
K = SOIL ERODIBILITY (K-FACTOR)	0.016
R = RAINFALL EROSIVITY (R-FACTOR)	2590
S = 2 YEAR, 6 HOUR STORM INTENSITY	10.9
LS = SLOPE LENGTH / GRADIENT	0.26 (25m SLOPE @ 2% GRADE)
P = EROSION CONTROL PRACTICE (P-FACTOR)	1.3 (TYPICAL)
C = GROUND COVER (C-FACTOR)	1.0 (TYPICAL FOR STRIPPED SITE)
SOIL LOSS (RUSLE METHOD) (tonnes/ha/yr)	14
EROSION HAZARD (TABLE 4.2 BLUE BOOK)	VERY LOW

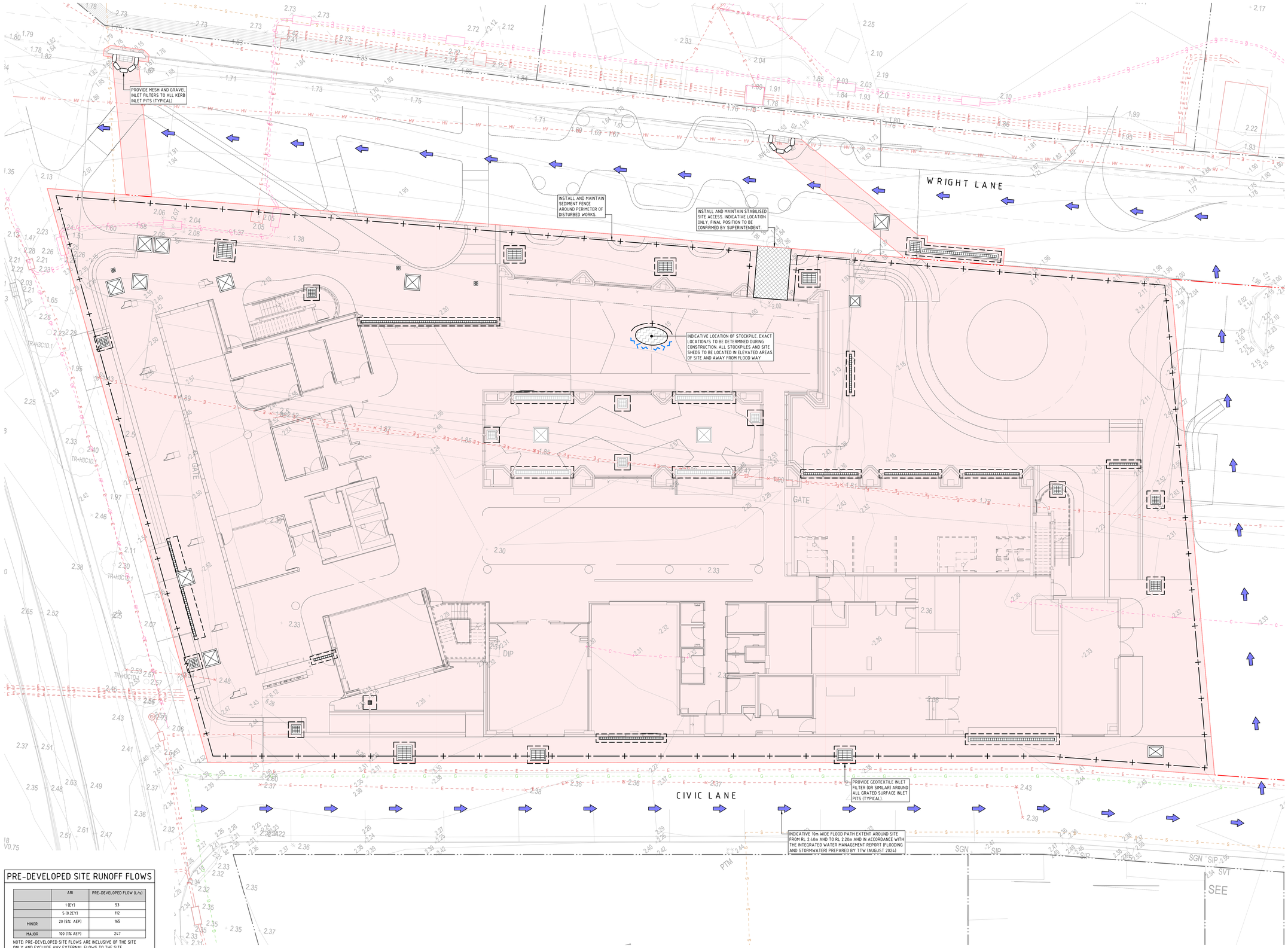
SEDIMENT BASIN SIZING		
CONSTRAINT	VALUE	UNITS
CV = VOLUMETRIC RUNOFF COEFFICIENT	0.5	
R = 5 DAY, 80TH PERCENTILE RAINFALL	30.5	mm
A = CATCHMENT AREA	0.333	ha
SETTLING ZONE VOLUME (10xCVxRxA)	50.8	m^3
SOIL LOSS (CALC ABOVE)	11	m^3/ha/yr
A2 = DISTURBED CATCHMENT AREA	0.341	ha
SEDIMENT STORAGE VOLUME (0.1TxSOIL LOSSxA2)	1	m^3

NOTE: THE AVERAGE SOIL LOSS FROM THE AREA OF DISTURBANCE IS LESS THAN 150m^3 PER YEAR AND THE SITE SPECIFIC GEOTECHNICAL REPORT DOES NOT INDICATE THE PRESENCE OF DISPERSIBLE MATERIAL, THEREFORE BUILDING A SEDIMENT BASIN IS UNNECESSARY IN ACCORDANCE WITH THE BLUE BOOK SECTION 6.3.2 (D).

PRE-DEVELOPED SITE RUNOFF FLOWS

	ARI	PRE-DEVELOPED FLOW (L/s)
MINOR	1 (1EY)	53
	5 (0.2EY)	112
	20 (5% AEP)	165
MAJOR	100 (1% AEP)	247

NOTE: PRE-DEVELOPED SITE FLOWS ARE INCLUSIVE OF THE SITE ONLY AND EXCLUDE ANY EXTERNAL FLOWS TO THE SITE INCLUDING FLOOD PATH INUNDATION.



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