



WASTE MANAGEMENT PLAN

PROPOSED SHOP-TOP DEVELOPMENT

November 2023

Prepared for: 17 The Evans Trust

Lot 7 DP 14089
17 McDonald Place
Evans Head NSW

HMC2023.531.03

RE: Lot 7 DP 14089, 17 McDonald Place, Evans Head NSW.

HMC Environmental Consulting Pty Ltd is pleased to present our Waste Management Plan for the abovementioned development. We trust this report meets with your requirements. If you require further information, please contact HMC Environmental Consulting directly on the numbers provided.

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KEY CONTACTS

Company/Name	Contact Details	Phone Number/contacts	Available:
HMC Environmental Consulting	Mark Tunks	0408 279212	Business Hours
Richmond Valley Council	Evans Head Service Centre	02 6660 0365 After hours emergency 02 6660 0300	Mon- Fri 8.30am - 4.30pm Sat 9am – 12pm
Evans Head Transfer Station	Weighbridge Broadwater-Evans Head Road Evans Head NSW	02 6660 0309	8.30am-4.30pm Wed, Fri-Sun (excluding PH)
Nammoona Waste and Resource Recovery Facility	Weighbridge Dargaville Drive Casino	02 6662 6580	8.30am – 4.30pm Mon-Sun (excluding PH)
Richmond Waste	Tony Martin	(02) 6621 7431	Mon-Fri 9am-5pm
Project Manager	TBA	TBA	TBA
Maintenance Manager	TBA	TBA	TBA

ENVIRONMENTAL EMERGENCY RESPONSE CONTACTS

Organisation	Incident	Contact
Ambulance	Injury/Illness	000 land line 112 mobile
Fire Brigade – Emergencies	Fire Chemical/hazardous waste spill	000
NSW Environment Protection Agency	Pollution	1300 130 372
Richmond Valley Council	Pollution (Environmental Health)	02 6660 0365 After hours emergency 02 6660 0300

Abbreviations

ACM	Asbestos containing material
EPA	NSW Environmental Protection Authority
HMC	HMC Environmental Consulting Pty Ltd
MGB	Mobile Garbage Bin
OEH	NSW Office of Environment & Heritage
RVDCP	Richmond Valley Development Control Plan 2021
RVC	Richmond Valley Council
Site	Lot 7 DP 14089, 17 McDonald Place, Evans Head NSW
SMF	Synthetic Mineral Fibres
TBA	To be advised
WMP	Waste Management Plan
Proponent	17 The Evans Trust
Guidelines:	
NSW EPA, 2012	<i>Better Practice Guidelines for Waste Management in Commercial and Industrial Facilities</i>

1 INTRODUCTION

HMC Environmental Consulting (HMC) has been engaged by Newton Denny Chappelle on behalf of 17 The Evans Trust (proponent), to provide a Waste Management Plan (WMP) for a three-storey mixed use development on commercial land located Lot 7 DP 14089, 17 McDonald Place, Evans Head NSW. The proposed development would include the construction of a three-storey Shop-Top development including a ground floor cafe and two levels of residential units. There is currently a dilapidated vacant commercial structure which would be required to be demolished.

The WMP is to be used to assist in the management of waste storage and collection for the purpose of maximising reuse/recycling, improving the services and safety of the contractors, improving the amenity of the area, and to reduce costs of waste management.

1.1 PROJECT DESCRIPTION

Table 1 Project Summary

Address	17 McDonald Place, Evans Head NSW
Property Description	Lot 7 DP 14089
Existing buildings and other structures currently on the site	Single storey timber-framed commercial structure with timber floor and metal roof sheeting
Description of proposed development	<p>Proposed Shop-Top development – three-storey development including a ground floor cafe and two levels of residential apartments (10 units).</p> <p>Waste would be generated during the demolition, construction, and occupation stages of the development.</p> <p>The location of the site, its topographic features and relationship with adjoining development is shown on the map and aerial photograph in Appendix 1.</p>
<p>This development achieves the waste objectives set out in Richmond Valley DCP 2021. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as RVC, NSW EPA or Safework NSW.</p>	

1.2 AIM

The principal aim of managing this activity is to maximise resource recovery and minimise residual waste from demolition, construction and operation activities associated with the proposed mixed use development and facilitate effective ongoing waste management practices consistent with the principles of Ecologically Sustainable Development (ESD).

1.3 OBJECTIVES

1. To maximise resource recovery and minimise residual waste
2. To optimise adaptive reuse opportunities of existing structures during demolition
3. To maximise reuse and recycling of materials
4. To minimise waste generation
5. To ensure appropriate storage and collection of waste
6. To minimise the environmental impacts associated with waste management
7. To avoid illegal dumping
8. To promote improved project management.

2 STATUTES AND POLICY

2.1 RELEVANT LEGISLATION & GUIDELINES

Table 2 Environmental Legislation and Policy Specific to Waste Management

Legislation	Details	Approvals/Permits Required
<i>Waste Avoidance and Resource Recovery Act 2001</i>	Repeals the Waste Minimisation and Management Act and replaces a target of 60% reduction in waste to landfill with a process for the preparation of waste strategies which identify more specific targets and objectives for waste reduction.	Compliance must be achieved in relation to waste management during construction. Permits may be required for offsite disposal of hazardous or contaminated material.
<i>Contaminated Land Management Act 1997</i>	Provides for the investigation and remediation of contaminated land.	Specific approvals are not required however, construction works must comply.
<i>Environmentally Hazardous Chemicals Act 1985</i>	Provides for the control of the effect on the environment of chemicals and chemical waste. Scheduled chemicals would not be used in the proposed development.	
<i>Protection of the Environment Operations Act 1997</i>	This Act is the primary NSW environment protection legislation that covers air, noise, water, land, and waste management. It provides a framework to regulate and enforce pollution control in NSW. The Act identifies mechanisms for preventing environmental degradation including, pollution prevention, cleaner production, reduction in discharge levels likely to cause harm to the environment, recycling, and progressive environmental improvement. The proposed development would adhere to the requirements of this legislation.	
<i>Protection of the Environment Operations (Waste) Regulation 2014</i>	The Waste Regulation 2014 provides for contributions to be paid by occupiers of scheduled waste facilities for each tonne of waste received at the facility or generated in a particular area; exempts certain occupiers or types of waste from these contributions; and allows deductions to be claimed in relation to certain types of waste. It sets out provisions covering: <ul style="list-style-type: none"> ● record-keeping requirements, measurement of waste and monitoring for waste facilities ● tracking of certain waste ● reporting ● transportation of waste 	

	<ul style="list-style-type: none"> ● transportation and management of asbestos waste ● recycling of consumer packaging ● classification of waste containing immobilised contaminants ● miscellaneous topics.
<i>Richmond Valley Council – Policy 15.3 – Construction Site Waste Minimisation and Management – July 2015</i>	Identifies requirement for Waste Management Plan and the information to be provided within the WMP regarding waste storage and collection facilities and controls. Appendix I within the policy describes waste generation rates. This WMP has been prepared to meet the objectives of this Policy.
NSW Environment Protection Authority <i>Better Practice Guide for Waste Management and Recycling in Commercial and Industrial Facilities 2012</i>	Identifies installation and maintenance practices for services and infrastructure for waste handling and collection systems. The systems are aiming to achieve the best possible waste minimisation and resource recovery outcome. The waste management systems identified include effective, efficient, and safe systems for both their ease of use by residents and their ability to be serviced by collection crews.
<i>Construction and Demolition Waste Guide – Recycling and Reuse Across the Supply Chain Department of Sustainability, Environment, Water Population and Communities 2011</i>	The aim of this guide is to help develop effective markets for materials diverted or derived from the construction and demolition waste stream.

3 HAZARDOUS MATERIALS

The proposed demolition would include a single storey fibrous cement clad and weatherboard structure with metal roof sheeting. No detailed hazardous waste investigations have been completed on the development site, however, bonded asbestos containing material (ACM) has been identified in some of the external cladding during the Preliminary Site Investigation conducted by HMC (HMC.531.02), which would require removal by a Safework NSW Class B licensed contractor, along with an inspection of the remainder of the structure.

Management of hazardous material is to occur prior to general demolition, and is to be in accordance with Safework NSW requirements, as detailed in Table 3. Demolition contractors generally have Safework NSW licensed personnel trained for the identification and removal of hazardous waste in demolition projects.

No opportunities for recycling and reuse are available for hazardous materials. Co-mingling of hazardous material is to be prevented. Separate receptacles to be provided and managed in accordance with Safework NSW and Safe Work Australia requirements.

The closest approved asbestos disposal facilities are the Nammoona Waste and Resource Recovery Facility.

Table 3 Management of Hazardous Materials

Type of Waste	Disposal at approved landfill facility Measures to include, but not limited to:
<p>Hazardous Material: Asbestos containing material (ACM) including fibro sheeting & vinyl tiles.</p>	<ul style="list-style-type: none"> ● Identified or suspected (ACM) is to be removed, prepared & disposed of by licensed asbestos handling contractor approved by Safework NSW. ● Asbestos material may be disposed at the Nammoona Waste and Resource Recovery Facility at Dargaville Drive, Casino. ● A minimum of 24 hours' notice must be given on 02 6662 6580, prior to the disposal of asbestos to allow Council's Landfill staff to manage the disposal of the asbestos at the facility.
<p>Hazardous Material: Lead including lead paint residue, and flashing.</p>	<ul style="list-style-type: none"> ● Use personal respirators according to AS/NZS 1715 and as per Synthetic Mineral Fibre removal in this table. ● Structures covered with lead-based paint should be removed intact, as far as possible. ● The safe work methods used in removal or demolition will determine how elaborate the containment system should be. ● Avoid power tools and any actions which create dust. However, if power tools need to be used, a higher level of containment must be used as opposed to when manual methods, such as scraping is used. ● All waste and debris collection and disposal procedures must be clearly stated in the Safe Work Methods Statement. ● Disposable suits and any vacuum bags/wet cloths to be appropriately bagged and disposed of as Hazardous Waste.
<p>Hazardous Material: Mercury i.e. fluorescent lights</p>	<ul style="list-style-type: none"> ● Remove fluorescent lights intact prior to mechanical demolition. ● Any removed lights to be appropriately bagged and disposed of as general waste in domestic quantities only. ● Personal Protective Equipment to be worn to minimise dust inhalation and eye/skin irritation. ● More information, including how and where fluorescent lights can be recycled, can be found at http://www.fluorocycle.org.au/ or http://www.environment.gov.au/settlements/waste/lamp-mercury.html. FluoroCycle is a voluntary program established by the Commonwealth Government and the Australian Lighting Council to help reduce the number of fluorescent lights going to landfill. ● SUEZ Environment provide a national fluorescent light collection and recycling service to dispose of used fluorescent tubes, HID and CFL light globes. ● Local Councils often have segregated areas available at their resource recovery centres for hazardous waste collection.
<p>Hazardous Material: Synthetic Mineral Fibre (SMF) e.g. fibrewool insulation</p>	<ul style="list-style-type: none"> ● Filter mask, goggles, gloves, and disposable coveralls. ● Dust control measure such as use of plastic screen &/or exhaust fan to be used if significant contamination present. ● Disposable suits and any removed insulation to be appropriately bagged and disposed of as general waste.

Hazardous Material: Refrigerants e.g. CFCs HFCs	<ul style="list-style-type: none">● All refrigerants should be recovered and either recycled, reclaimed, or returned to supplier, prior to disposal of unit.
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4 WASTE GENERATION

4.1 DEMOLITION STAGE

The existing single-storey fibrous cement clad dwelling (approx. 320m²) is the major structure that would require demolition.

Any services would be disconnected including power, gas and town water supply, and the connection point to the Council sewer would be cut and sealed to prevent groundwater, debris or other material entering Council sewer system.

Initially the Safework NSW licensed demolition contractor would inspect the structure for the presence of asbestos containing materials and other hazardous wastes. It appears a significant area of ACM is located on external cladding, and perhaps, internal linings/floor coverings. These would be removed prior to further demolition occurring.

Demolition would occur over a short period of time (1 week) to allow subsequent installation of erosion and sediment control prior to site stripping and earthworks for the proposed development.

Waste generation and management activities during the demolition stage would comprise:

- An initial inspection of the structures subject to demolition by a suitably qualified Occupational Hygienist, Safework NSW licenced contractor, or similar to assess hazardous materials including asbestos containing material, lead flashing and paint, synthetic mineral fibres, and refrigerants.
- Any identified hazardous materials to be removed by a Safework NSW licensed contractor prior to demolition to avoid co-mingling with general waste.
- Removal of existing commercial building and other structures following removal of any hazardous material.

Note: Discussions with resource recovery facilities indicate that a minimum 80% resource recovery is provided and may be up to 95% with significant heavy concrete and bricks. Nammoona Waste and Resource Recovery Facility also accepts co-mingled demolition waste with significant resource recovery and recycling rates achieved.

Separation of masonry, brick, concrete from other recyclables is encouraged, with significant savings on resource recovery costs.

Metal, including copper pipe, is also a profitable waste stream with recyclers providing significant returns. The following waste generation volumes have been estimated based on approximate calculations using floor areas and similar demolition sites.

Table 4 Demolition Stage – Waste Generation/Recycling Potential

Material Description	Estimated Volume/Area ⁽¹⁾	Potential Method of Recycling / Reuse
Asbestos Containing Material (bonded fibro)	To be determined on site by Safework NSW licensed contractor	Nil (Nammoona Waste and Resource Recovery Facility)
Electrical Lighting	<5m ³	<p>Preliminary discussions have confirmed that various resource recovery and recycling facilities are available from contractors operating in the RVC area including.</p> <ul style="list-style-type: none"> ● Nammoona Waste and Resource Recovery Facility ● Evans Heads Transfer Station ● Proskips ● A1 Skips ● Red Neds ● SUEZ Environmental. <p>Other demolition contractors would also have preferred resource recovery and recycling options.</p>
Electrical Cable		
Distribution Boards		
Switchboards		
Pipework PVC HPDE Pipe	<100 lineal m	
Tap ware	<2m ³	
Gutters	Approx. 150 lineal m	
Roof metal sheeting	<200m ²	
Timber Trusses & Roof Timber	<50m ³	
Timber Walls	<200m ²	
Concrete Slab Flooring	<50m ²	
Plasterboard/ Other	<40m ³	
Windows/ Doors	Doors 10-20 Windows 20-30	
Copper	<100 lineal m	
Floor coverings (carpet and tiles)	<200m ² (Assumes vinyl/ceramic tiles across building footprint)	
Fittings/fixtures/PC items	2 WC pans 2 basins 2 kitchen sinks 1 shower	

⁽¹⁾ Note: Volumes/areas are indicative only and are subject to change

4.2 CONSTRUCTION STAGE

The proposed development would include the construction of a three-storey Shop-Top development.

- Site stripping including removal of vegetative material and topsoil (topsoil stockpiled for use in landscaping).
- Earthworks including excavation for footings, services and lift well.
- Construction of the three-storey development including building shells, fitouts, additional carparking and landscaping.

The following typical waste generation figures have been provided based on similar construction sites. As discussed in the previous section, resource recovery centres indicate that 80-90% by volume (95% by weight) of construction waste is able to be recycled (see Table 3).

Table 5 Estimated Waste Generation – Construction

Type of Waste	Reuse	Recycling	Disposal	Method of Reuse/Recycling or Waste Depot
	<i>Estimated Volume or Weight</i>	<i>Estimated Volume or Weight</i>	<i>Estimated Volume or Weight</i>	
Excavated Material	TBC	-	TBC	Topsoil to be stripped and stockpiled for use in landscaping Waste classification of excavated material in accordance with the NSW EPA Waste Classification Guidelines would be required prior to removal off-site.
Timber Concrete Bricks/pavers Tiles Metal Glass Furniture Fixtures/fittings Floor coverings	Limited on construction sites.	80-90% construction and demolition waste recycled by resource recovery centres	10-20% Including site office general waste and packaging & debris/offcuts that cannot be recycled	<ul style="list-style-type: none"> ● Nammoona Waste and Resource Recovery Facility ● Evans Head Transfer Station
Packaging waste Green organics Containers (cans/glass/plastic) Paper/cardboard Residual waste		<100m ³	<40m ³	80-90% recycled/reused: <ul style="list-style-type: none"> ● Nammoona Waste and Resource Recovery Facility ● Evans Head Transfer Station

4.3 OCCUPATION STAGE

Waste generating activities during operation would comprise:

- Occupation of residential units (10 units).
- Occupation of ground floor cafe.

For the purposes of the proposed development, the waste will be sorted into general waste, recyclables, and organic waste. The generation rate is based on a conservative ultimate capacity including full occupation of all residential units and use of the café seven days a week, which in reality may not be the case.

Table 6 Estimated Waste Generation – Occupation

Location	Waste Generation Rates		Waste Generation Volume	
	General (L/Unit/Week)	Recycling (L/Unit/Week)	General (L/Week)	Recycling (L/Week)
Residential Units (10 Units)	80	40	800	400
	General (L/100m ² /Day)	Recycling (L/100m ² /Day)	General (L/Week)	Recycling (L/Week)
Restaurant (131.8m ² Floor Area)	100	120	923	1107

While organics is not a requirement under the current council DCP, there are opportunities to capture the organics/green waste stream. The provision of organic waste collection reduces the general waste to landfill. It is noted the State Government is currently implementing a future zero organic waste to landfill policy. Given the proposed inclusion of food and beverage tenancies, it is prudent that the organic waste stream is separated from the landfill waste and serviced appropriately.

5 WASTE STORAGE REQUIREMENTS

The following design storage volume recommendations have been based on the waste generation rates as detailed in the previous section and are provided to establish site suitability.

Adequate space is available within the site for the storage of waste during the construction, and operation stages. Refer to site plans in Appendices 3, 4 & 5.

5.1 DEMOLITION STAGE

Adequate space is available onsite to provide temporary waste storage and recyclable building waste storage during demolition stage of the development. Refer to site plans in Appendix 3.

During demolition, the site would be secured with safety fencing and demolition waste would be initially placed in waste streams in designated skip bins for transport to the resource recovery centre. Skip bins would be provided for:

- Hazardous waste
- Co-mingled waste
- General waste

Discussions with demolition contractors indicates that direct loading into transport vehicles does occur for both co-mingled demolition waste and waste is also sorted on site.

Direct loading of co-mingled building waste into transport trucks for delivery to the approved resource recovery and recycling centre would reduce the site waste storage and servicing requirements during demolition.

Hazardous waste to be separated and managed in accordance with Safework NSW requirements (e.g., no co-mingling, wetting, wrapping ACM).

Table 7 Recommended Waste Storage Receptacles –Demolition Stage

Waste Type	Required Service	Proposed Industrial Bin Size at Collection Point ⁽¹⁾
Recycling & General Waste Service	<ul style="list-style-type: none"> ● 1 x 6m³ skip bin for general waste (includes site office) ● 1 x 6m³ skip bin for co-mingled building waste to be sorted at facility ● 1 x 6m³ skip bin hazardous waste 	<ul style="list-style-type: none"> ● 1 x 6m³ skip bin serviced on demand for general waste ● 1 x 6m³ skip bin serviced on demand for co-mingled building waste ● 1 x 6m³ serviced on demand for hazardous waste

⁽¹⁾ Direct loading into transport vehicles for transport to landfill/resource recovery facility/recyclers would reduce required waste storage receptacles and servicing arrangements.

5.2 CONSTRUCTION STAGE

Adequate space is available onsite to provide temporary waste storage and recyclable building waste storage during construction stage of the development. Refer to site plan in Appendix 3.

Table 8 Recommended Waste Storage Bins - Construction

Waste Type	Required Service	Proposed Industrial Bin Size at Collection Point
Recycling & General Waste Service	<ul style="list-style-type: none"> ● 1 x 6m³ skip bin for general waste (includes site office) ● 1 x 6m³ skip bin for co-mingled building waste to be sorted at facility 	<ul style="list-style-type: none"> ● 1 x 6m³ skip bin serviced on demand for general waste. ● 1 x 6m³ skip bin serviced on demand for co-mingled building waste

5.3 OCCUPATION STAGE

Waste would be sorted within units, and the cafe. All waste will be transported and deposited into the appropriately signed bins in the waste storage area located in the ground floor carpark by the residents and tenants.

It is recommended that the waste management system be monitored in the initial stages to ensure that sufficient bins and servicing have been provided to handle the waste generated. The estimated waste storage is based on ultimate capacity. As per Richmond Valley Council's requirements, the residential and commercial waste streams have been separated.

The proposed arrangement will satisfy the waste requirements for the proposed development based on the waste generation rates as outlined in *RVC policy 15.3 – Construction Site Waste Minimisation and Management 2015* and within the NSW EPA. It is noted the State Government is currently implementing a future zero organic waste to landfill policy. The provision of organic waste collection would reduce the general waste to landfill.

Table 9 Recommended Waste Storage Bins - Occupation

Waste Type	Estimated Waste Generation	Proposed Receptacle Size at Collection Point*
General Waste	1700 L/Week	1 x 1.5m ³ bulk bin serviced weekly 1 x 240L MGB serviced weekly
Co-Mingled Recycled Waste	1500 L/Week	1 x 1.5m ³ bulk bin serviced weekly
Organic Waste	OPTIONAL (A café would generate food waste that requires additional servicing (or refrigeration) to minimise vermin and odour issues)	

Construction of the waste storage area would be generally in accordance with *RVC policy 15.3 – Construction Site Waste Minimisation and Management 2015*. A shared waste storage area has been proposed for the occupation waste due to the small development and property size. A single café has been proposed for commercial use, and with the limited amount of waste generated, can be incorporated into the servicing with the residential waste. The waste servicing would be closely monitored by a nominated maintenance person with feedback from all residents and staff. The waste storage area is located on the southwestern corner of the property and would be wheeled to the Elm Street frontage on the western boundary for servicing.

The storage area has been designed to ensure that all floor wastewater is collected and discharged into the sewer, with cold water supply provided for cleaning purposes.

Appendix 4 details the location of the waste storage areas.

6 BIN IDENTIFICATION AND SIGNAGE

6.1 SIGNAGE

All bins, collection facilities will be clearly marked with labels, colour coding, symbols, and words. Signs will be highly visible.

Signage should be consistent with those used at garbage storage areas. Signage should be clear in such that the residents and commercial tenants only use the correct designated receptacles.

7 EDUCATION & EVALUATION

7.1 INFORMATION & AWARENESS

It is good practice for all sub-contractors, project staff, residents, patrons, and visitors to be made aware of the aims and benefits of the waste minimisation program to encourage maximum participation.

During construction, the induction would include information on waste streams, waste storage receptacles and recycling.

Several strategies can be used to avoid mistakes when separating waste and recyclables and make sure bins and equipment are used correctly. These include:

- using clear signage with consistent design and colours in waste storage rooms and on bins (standard signage)
- ensuring the appointment of a waste supervisor responsible for the proper separation of waste, waste storage area and collection. The waste supervisor is to be also responsible for having the receptacles out for collection at the nominated collection point.

8 REVIEW & MONITORING

8.1 MONITORING OF WASTE MANAGEMENT

Waste monitoring is necessary to assess whether the strategies implemented have been effective in achieving the WMP's aims.

8.1.1 Demolition and Construction

Monitoring would be carried out on a weekly basis by the project Site Manager during demolition and construction.

The monitoring process would include:

- Site Manager to oversee waste collection activities to assess compliance with WMP.
- Waste volume monitoring carried out by the waste contractor during collection and servicing procedures.

8.1.2 Occupation

Ongoing regular monitoring would be undertaken by the body corporate, residents, tenants and waste contractors.

8.2 REVIEW OF WMP

This WMP will be reviewed and updated, if necessary, using the results of monitoring of the waste volume and type being generated during the development stages.

The review will also address and reflect:

- changes in the development management process.
- changes in design or sequence of development staging.
- changes in access to the Project Site.
- changes or requests directed by local or state authorities i.e., Richmond Valley Council, State Government Departments;
- changes in the environment.
- changes in generally accepted environmental management practices.
- changes in legislation,
- new risks to the environment or public health.
- any pollution or contamination events.

9 RECOMMENDATIONS

The waste storage and servicing recommendations, as detailed in this report, are summarised below:

Table 10 Summary of Waste Management Recommendations

Project Stage	Activity	Waste Storage/Servicing
Demolition	Stripping recycling building products Skip bins for: <ul style="list-style-type: none"> ● General waste ● Co-mingled demolition waste ● Hazardous Waste Recycling of building materials where possible	Site fenced & skip bins located for collection. <ul style="list-style-type: none"> ● 1 x 6m³ skip bin serviced on demand for general waste. ● 1 x 6m³ skip bin serviced on demand for co-mingled building waste. ● 1 x 6m³ serviced on demand for hazardous waste
Construction	Building Servicing/trenching Waste offcuts, packaging, excess materials, Site office	<ul style="list-style-type: none"> ● 1 x 6m³ skip bin serviced on demand for general waste. ● 1 x 6m³ skip bin serviced on demand for co-mingled building waste.
Occupation	Shop-Top Development: Residential Units (10 Units) Ground Floor Cafe	Waste sorting & storage areas in each unit and the café. <ul style="list-style-type: none"> ● General Waste – 1 x 1.5m³ bulk bin and 1 x 240L MGB serviced weekly. ● Recyclable Waste – 1 x 1.5m³ bulk bin serviced weekly. ● Organics – 2 x 240L MGBs for food waste from Café.

10 CONCLUSION

A review of the plans shows there is adequate area available on the site to provide suitable storage facilities for waste generated during the demolition, construction, and occupation stages of the proposed Shop-Top development.

Tables 3-7 in Section 5 of this report demonstrate that the expected waste storage and collection service is generally compliant with the waste storage volumes estimates within the *Policy 15.3 – Construction Site Waste Minimisation and Management (RVC 2015)*.

The proposed waste management arrangements within this report are considered adequate for the purposes of the demolition, construction and occupation associated with the proposed Shop-Top development of the existing commercial land located Lot 7 DP 14089, 17 McDonald Place, Evans Head NSW.

11 LIMITATIONS

The information within this document is and shall remain the property of HMC Environmental Consulting Pty Ltd.

This document was prepared for the sole use of client and the regulatory agencies that are directly involved in this project, the only intended beneficiaries of our work. No other party should rely on the information contained herein without the prior written consent of HMC Environmental Pty Ltd and client.

Your report is based on the assumption that the site conditions as revealed are indicative of actual conditions throughout an area. This assumption cannot be substantiated until project implementation has commenced and therefore your report recommendations can only be regarded as preliminary.

12 SIGNATURE

This report has been prepared by Mark Tunks, Principal of HMC Environmental Consulting Pty. Ltd. Note that HMC Environmental Consulting holds current Professional Indemnity Insurance to 4th August 2024.



Mark Tunks
Principal

3 November 2023
Completion Date

13 APPENDICES

See following pages.

APPENDIX 1 - LOCATION MAPS

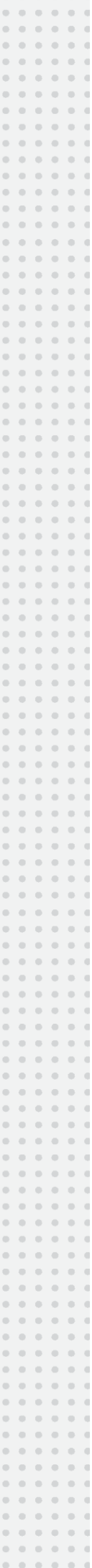




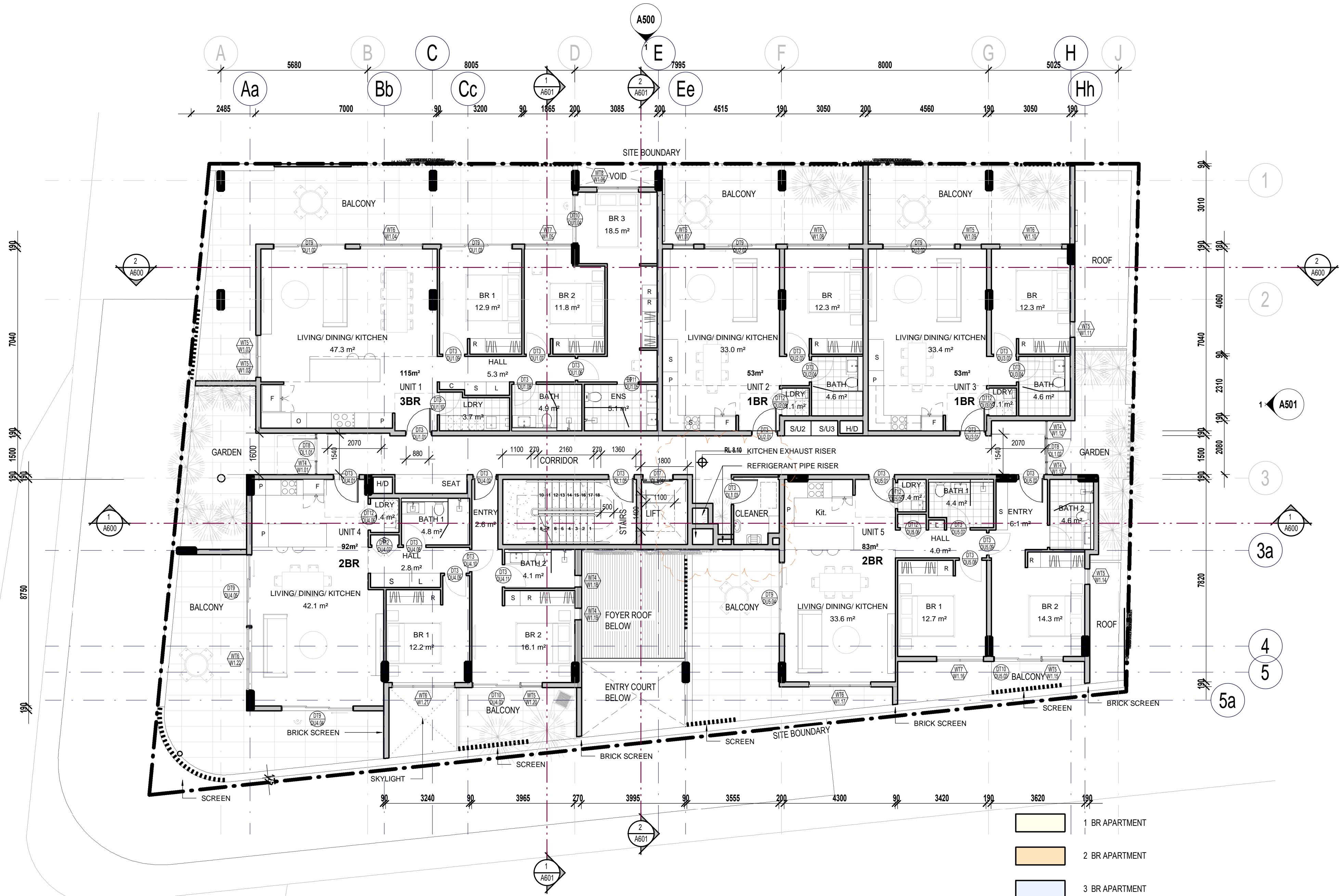
Figure 1 - Surrounding Area (Source: Nearmap 2023)



Figure 2 - Site Boundary (Source: Nearmap 2023)

APPENDIX 2 - SITE PLAN PROPOSED DEVELOPMENT





- 1 BR APARTMENT
- 2 BR APARTMENT
- 3 BR APARTMENT

No.	DESCRIPTION	DATE	NOTES
G	Update	28.08.23	
H	RLs	13.09.23	
I	Update	22.09.23	
J	Update	5.10.23	

DATE
 28.08.23
 13.09.23
 22.09.23
 5.10.23

NOTES

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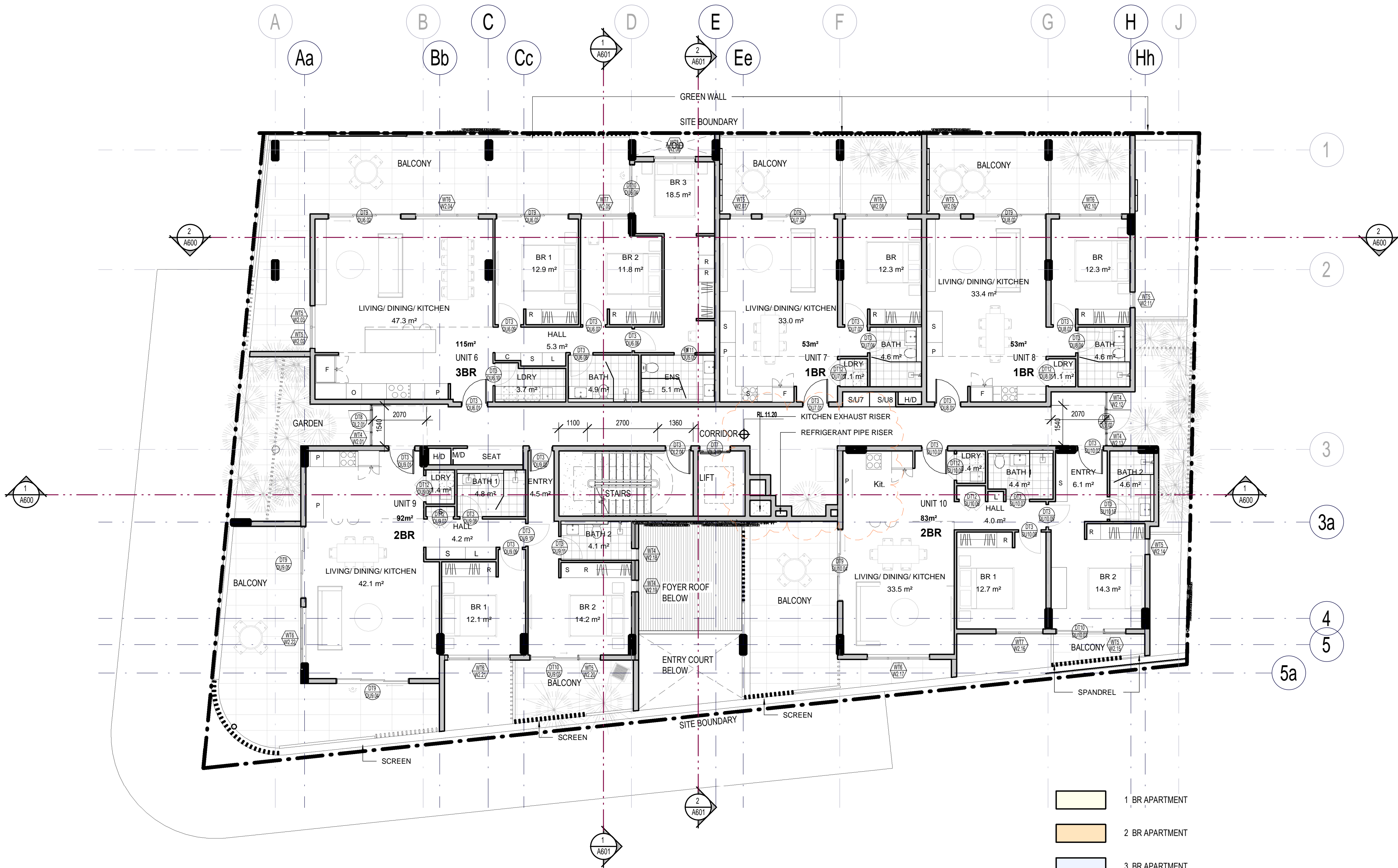
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 A.B.N. 35 160 523 660
 Trading as: Barker Architects C
NOMINATED ARCHITECT:
 Luke Barker 8910

LEVEL ONE
 2205 Multi Use Development
 17 McDonald Place Evans Head

sheet no. A201
 scale @A2: As indicated
 date:
 drawn: HS
 revision: J

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 www.barkerarchitects.com.au





- 1 BR APARTMENT
- 2 BR APARTMENT
- 3 BR APARTMENT

No.	DESCRIPTION	DATE	NOTES
F	RLs	13.09.23	
G	Update	22.09.23	
H	Update	5.10.23	
I	Update	16.10.23	

DATE	NOTES
13.09.23	
22.09.23	
5.10.23	
16.10.23	

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 Luke Barker 8910

LEVEL TWO
 2205 Multi Use Development
 17 McDonald Place Evans Head

sheet no. A202
 scale @A2: As indicated
 date:
 drawn: LB
 revision: I

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APPENDIX 3 - TEMPORARY WASTE STORAGE AREA - DEMOLITION




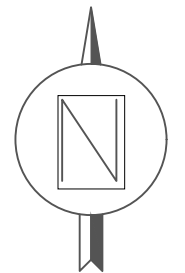
WASTE MANAGEMENT PLAN

TEMPORARY WASTE STORAGE AREA DURING DEMOLITION

 Proposed Demolition Area

 HMC Sampling Locations with Identified ACM

 HMC Sampling Locations with ACM not detected



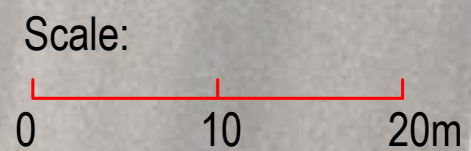
Lot 7 DP 14089
17 McDonald Place
Evans Head NSW

HMC2023.531.03
Date: September 2023
VERSION: 05/09/2023
DRAWN: MF
BASE: Nearmap 2023

PROPOSED LAYOUT OF WASTE STORAGE AREA IS GENERAL ONLY AND IS TO BE CONFIRMED ON SITE BY SITE MANAGER



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Waste Storage Area:

-  1 x 6m³ Skip bin (Hazardous waste)
-  1 x 6m³ Skip bin (Co-mingled recyclables)
-  1 x 6m³ Skip bin (General waste)

APPENDIX 4 - TEMPORARY WASTE STORAGE AREA - CONSTRUCTION



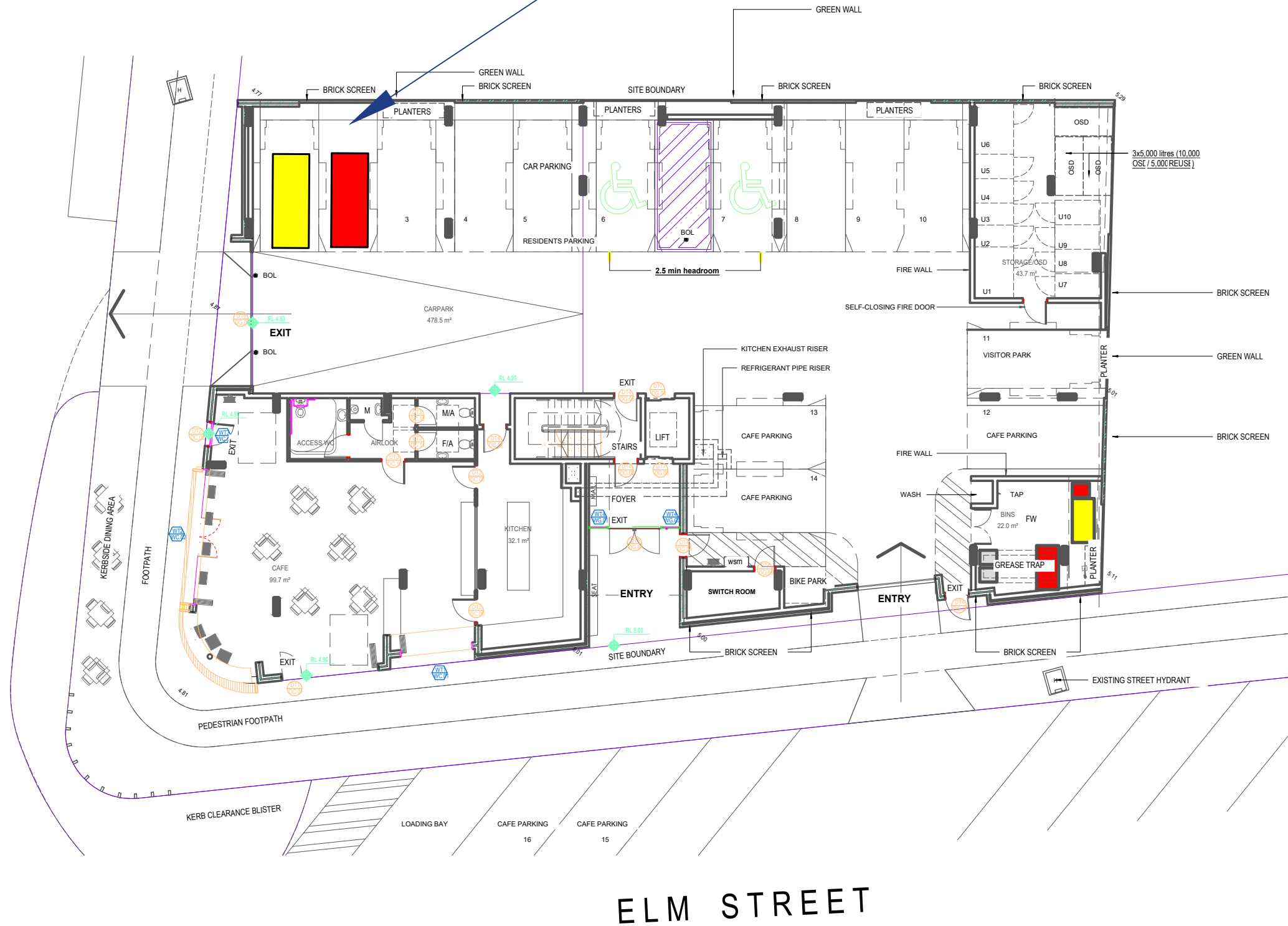
**WASTE
MANAGEMENT
PLAN**

**TEMPORARY WASTE
STORAGE AREA
DURING
CONSTRUCTION**

Waste Storage Area:

- 1 x 6m³ Skip bin
(Co-mingled recyclables)
- 1 x 6m³ Skip bin
(General waste)

MCDONALD PLACE



Lot 7 DP 14089
17 McDonald Place
Evans Head NSW

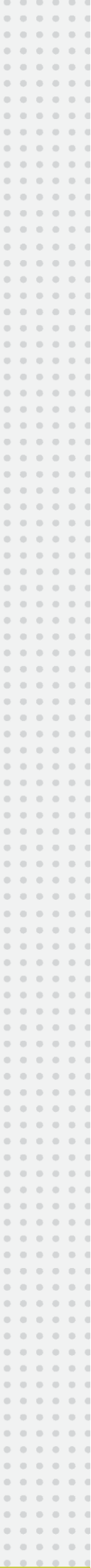
HMC2023.531.03
Date: October 2023
VERSION: 24/10/2023
DRAWN: MF
BASE: Barker Architects
- Ground Floor Plan

**PROPOSED LAYOUT
OF WASTE STORAGE
AREA IS GENERAL
ONLY AND IS TO BE
CONFIRMED ON SITE
BY SITE MANAGER**



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APPENDIX 5 - WASTE STORAGE AREA - OCCUPATION



WASTE MANAGEMENT PLAN

WASTE STORAGE AREA DURING OCCUPATION

Construction of the waste storage area would be generally in accordance with the Richmond Valley DCP. The waste storage area is to be of weatherproof construction and easy to clean, with provision of cold water supply and wastewater discharged to sewer.

Lot 7 DP 14089
17 McDonald Place
Evans Head NSW

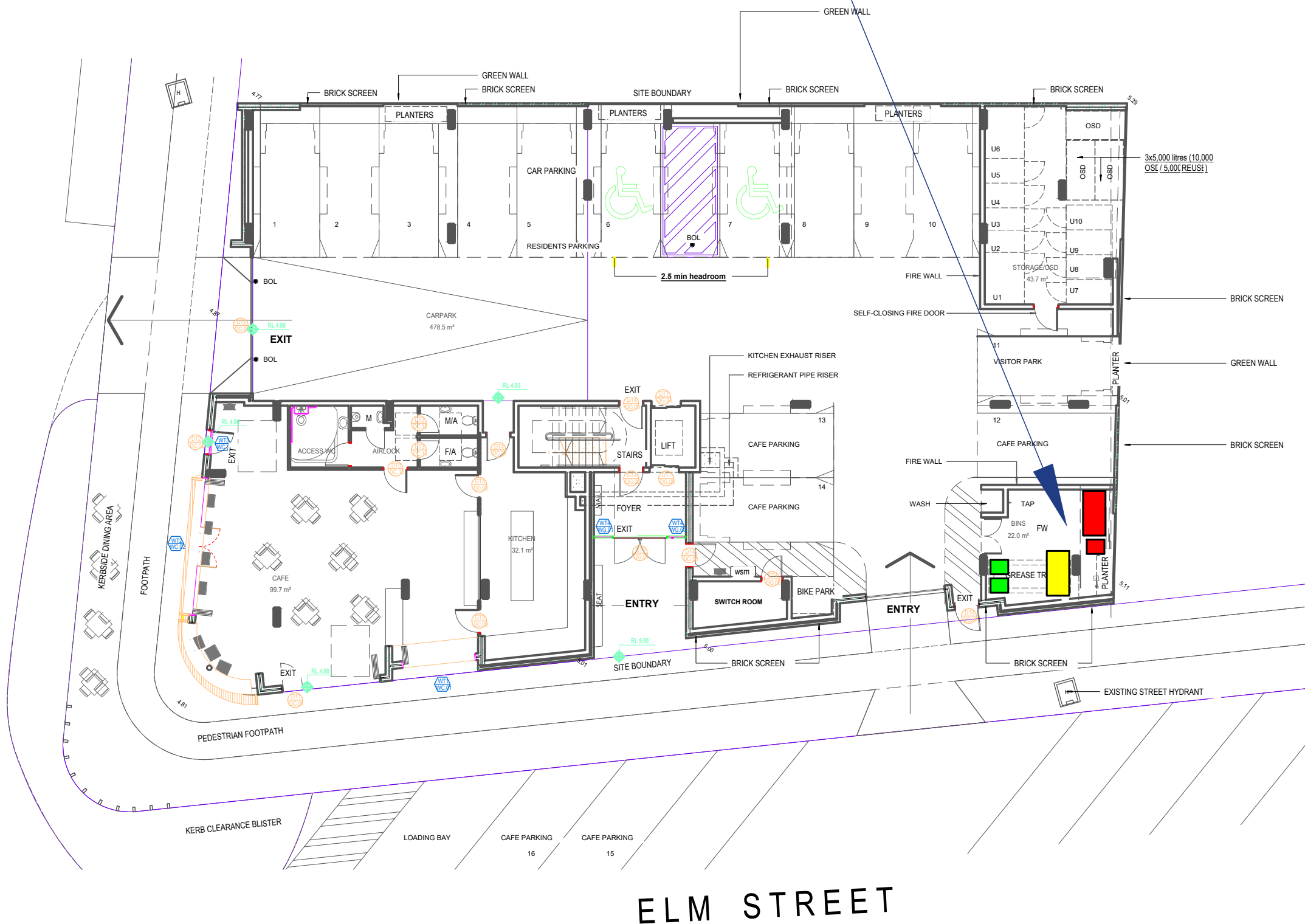
HMC2023.531.03
Date: October 2023
VERSION: 24/10/2023
DRAWN: MF
BASE: Barker Architects
- Ground Floor Plan

PROPOSED LAYOUT OF WASTE STORAGE AREA IS GENERAL ONLY AND IS TO BE CONFIRMED ON SITE BY SITE MANAGER

Proposed Waste Storage Area:

- 1 x 1.5m³ Bulk bin & 1 x 240L MGB (General - serviced weekly)
- 1 x 1.5m³ Bulk bin (Recycled Waste - serviced weekly)
- 2 x 240L MGBs (Organic Waste - serviced weekly)

MCDONALD PLACE



ELM STREET

APPENDIX 5 - TYPICAL BIN SIZES (PROSKIPS)

CONTAINER SPECIFICATIONS

Plastic (polyethelene)

Capacity	120L	240L	660L	1100L
Height	0.92m	1.075m	1.235m	1.485m
Width	0.54m	0.58m	1.36m	1.36m
Length	0.62m	0.715m	0.765m	1.07m
Weight	9.5kg	13.5kg	45kg	65kg

**Availability of the complete suite of bin sizes varies across states. Sizes are approximate measurements and may vary by location.*



Figure 3 Typical Rear Lift Collection Receptacle Sizes (SUEZ Environment)

BIN SIZES

2m³ Skip Bin

Height: 0.86m
Length: 1.8m
Width: 1.4m

4m³ Skip Bin

Height: 1m
Length: 3.1m
Width: 1.75m

7m³ Skip Bin

Height: 1.2m
Length: 4.1m
Width: 1.85m

Safe working load: 2 tonne Safe working load: 4 tonne Safe working load: 7 tonne



10m³ Skip Bin

Height: 1.6m
Length: 4.5m
Width: 1.85m

16m Hook Lift

Height: 1.2m
Length: 6m
Width: 2m

Safe working load: 10 tonne Safe working load: 13 tonne



*16m bins have an opening at one end of the skip for easy access
e.g. wheelbarrows, labourers etc.

Figure 4 Typical Skip Bin Sizes (ProSkips)

APPENDIX 6 - PROSKIPS CONSTRUCTION RESOURCE RECOVERY

Environmental Policy

Proskips is one of the Gold Coasts leading waste management and recycling companies. We specialise in construction and demolition waste. The company is locally owned and operates it's own waste transfer station. As a responsible corporate citizen we have chosen to work closely with the Environmental protection agency to adopt it's best business practice methods of dealing with all our C&D waste.

The EPA classify all waste transfer stations with a capacity of 20,000t or more a year to be an ERA-82 (environmentally relevant activity) and as such are required to be licensed by the EPA. Proskips engaged a national environmental planning agency "Planit Consulting" to lodge both the development application to the Gold Coast City Council and the ERA-82 (waste transfer station) to the EPA

The reason we have chosen to go to the expense and time of operating our own waste transfer station is one of economics, which at the same time is good for the environment. We have taken what we believe are the best methods from both European and Australia companies to develop our methods of dealing with C&D waste.

Our goal is to recycle 95% of all waste that comes into the transfer station, with only 5% going to landfill. The break up of our waste is as follows:-

- 20% Concrete and Hardcore
- 20% Wood
- 20% Soil
- 10% Green waste
- 10% Metal
- 10% Plastic
- 4% Cardboard & Paper
- 3% Gyprock
- 3% Other

Recycling Methods

Concrete: All concrete and hardcore is crushed through an impact crusher and screened to several small aggregates and roadbase and is sold back to the building industry for drainage, walls, under slabs etc.

Wood/Green waste: The wood is transported to Rocky Point power station which is then used to generate power for the sugar mill with the excess power being sold to the national grid.

Soil: The soil is screen through a 10mm trommel and sold to landscape gardeners and builders.



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Email:
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ABN:
89 114 580 308

Metal: The metal is separated into copper, aluminium, heavy gauge steel and pig metal then sold to One Steel to be melted down.

Cardboard: All cardboard is transported to Amcor recycling at Molendinar.

Gyprock: The gyprock is transported to Marlyn Compost at Jacobs Well where it is grinded down and added to garden soil and mulches.

Plastic: Landfill

Other: Landfill

This has been a brief outline of our recycling practices, as you can see when using the services of Pro Skips you can be confident of an environmentally conscious business.

These methods of collecting and recycling C&D waste will be adopted for all Constructions jobs on the Gold Coast. I have read through all the criteria for the Green Star rating system, where they are looking for 80% recycling by weight. We can easily achieve this for you as we currently recycle 80-90% by volume – in real terms this would amount to 95% recycling by weight as the only waste we send to landfill is very light after we have taken sand, soil, metal & concrete out of the equation.

To comply with the green star rating system we can give you a monthly environmental report to show the breakdown of waste generated from each job and percentage of waste recycled.

I trust this meets with your approval and assuring you of our best attention at all times

Yours sincerely

John Sheerin
Director

APPENDIX 7 - PHOTOGRAPHIC LOG

Photo No. 1	Date
	23/08/2023

Description:
View south-east towards existing dilapidated building.



Photo No. 2	Date
	23/08/2023

Description:
View north towards existing dilapidated building.



Photo No. 3	Date 23/08/2023	
<p>Description: Sample of external cladding confirmed as asbestos (ACM4).</p>		

Photo No. 4	Date 23/08/2023	
<p>Description: Sample of ACM near southern verandah confirmed by laboratory as asbestos (ACM3)</p>		

Photo No. 5	Date 23/08/2023	
<p>Description: Sample of ACM near eastern side of building confirmed by laboratory as asbestos (ACM5).</p>		

APPENDIX 8 - LABORATORY CERTIFICATES





CERTIFICATE OF ANALYSIS

Work Order	: EB2326214	Page	: 1 of 5
Client	: HMC ENVIRONMENTAL	Laboratory	: Environmental Division Brisbane
Contact	: MARK TUNKS	Contact	: Customer Services EB
Address	: SUITE 29, LEVEL 2 75-77 WHARF STREET TWEED HEADS 2485	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: 07 5536 8863	Telephone	: +61-7-3243 7222
Project	: McDonald Place EVANS HEAD	Date Samples Received	: 25-Aug-2023 11:20
Order number	: 2023.531	Date Analysis Commenced	: 25-Aug-2023
C-O-C number	: ----	Issue Date	: 04-Sep-2023 15:21
Sampler	: MARK TUNKS		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 11		
No. of samples analysed	: 11		



Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Descriptive Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Beatriz Llarinas	Senior Chemist - Inorganics	Brisbane Inorganics, Stafford, QLD
Beatriz Llarinas	Senior Chemist - Inorganics	Brisbane Soil Preparation, Stafford, QLD
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Tim Kuo	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC

right solutions. right partner.



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EA200: Asbestos Identification Samples were analysed by Polarised Light Microscopy including dispersion staining.
- **EA200B conducted by ALS Melbourne, NATA accreditation no. 825, site no 13778**
- **EA200 Legend**
- EA200 'Am' Amosite (brown asbestos)
- EA200 'Cr' Crocidolite (blue asbestos)
- EA200 'Ch' Chrysotile (white asbestos)
- EA200: 'UMF' Unknown Mineral Fibres. "-" indicates fibres detected may or may not be asbestos fibres. Confirmation by alternative techniques is recommended.
- EA200: Analysis of asbestos from swabs and tapes is not covered under the current scope of NATA accreditation.
- EA200: N/A - Not Applicable



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	EHL1	EHL2	EHL3	EHL4	EHDUP
Sampling date / time				23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00	
Compound	CAS Number	LOR	Unit	EB2326214-001	EB2326214-002	EB2326214-003	EB2326214-004	EB2326214-005	
				Result	Result	Result	Result	Result	
EA055: Moisture Content (Dried @ 105-110°C)									
Moisture Content	----	0.1	%	6.9	4.8	3.0	8.0	6.8	
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.1	mg/kg	332	99.5	552	266	284	



Analytical Results

Sub-Matrix: SOLID (Matrix: SOLID)				Sample ID	ACM1	ACM2	ACM3	ACM4	ACM5
Sampling date / time				23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00	23-Aug-2023 00:00
Compound	CAS Number	LOR	Unit	EB2326214-007	EB2326214-008	EB2326214-009	EB2326214-010	EB2326214-011	
				Result	Result	Result	Result	Result	
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples									
Asbestos Detected	1332-21-4	0.1	g/kg	No	No	Yes	Yes	Yes	
Asbestos Type	1332-21-4	-	--	-	-	Ch + Am	Ch + Am	Ch + Am + Cr	
Asbestos (Trace)	1332-21-4	-	-	No	No	N/A	N/A	N/A	
Sample weight (dry)	----	0.01	g	28.9	80.1	66.2	56.3	120	
Synthetic Mineral Fibre	----	-	-	No	No	No	No	No	
Organic Fibre	----	-	-	Yes	Yes	Yes	Yes	Yes	
APPROVED IDENTIFIER:	----	-	--	T. KUO	T. KUO	T. KUO	T. KUO	T. KUO	



QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EB2326214	Page	: 1 of 4
Client	: HMC ENVIRONMENTAL	Laboratory	: Environmental Division Brisbane
Contact	: MARK TUNKS	Telephone	: +61-7-3243 7222
Project	: McDonald Place EVANS HEAD	Date Samples Received	: 25-Aug-2023
Site	: ----	Issue Date	: 04-Sep-2023
Sampler	: MARK TUNKS	No. of samples received	: 11
Order number	: 2023.531	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers exist - please see following pages for full details.



Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type Method	Count		Rate (%)		Quality Control Specification
	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP) Total Metals by ICP-MS - Suite A	1	16	6.25	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results. This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein. Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters. Holding times for **VOC in soils** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) EHL1, EHL3, EHDUP	EHL2, EHL4, 23-Aug-2023	----	----	----	25-Aug-2023	06-Sep-2023	✓
EG020T: Total Metals by ICP-MS							
Soil Glass Jar - Unpreserved (EG020X-T) EHL1, EHL3, EHDUP	EHL2, EHL4, 23-Aug-2023	26-Aug-2023	19-Feb-2024	✓	31-Aug-2023	19-Feb-2024	✓

Matrix: **SOLID**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples							
Snap Lock Bag - ACM/Asbestos Grab Bag (EA200) ACM1, ACM3, ACM5	ACM2, ACM4, 23-Aug-2023	----	----	----	30-Aug-2023	19-Feb-2024	✓

Matrix: **WATER**

Evaluation: * = Holding time breach ; ✓ = Within holding time.

Method Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T) EHRS1	23-Aug-2023	26-Aug-2023	19-Feb-2024	✓	29-Aug-2023	19-Feb-2024	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	15	13.33	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite X	EG020X-T	1	5	20.00	10.00	✔	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Total Metals by ICP-MS - Suite X	EG020X-T	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Total Metals by ICP-MS - Suite X	EG020X-T	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Total Metals by ICP-MS - Suite X	EG020X-T	1	5	20.00	5.00	✔	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type	Method	Count		Rate (%)			Quality Control Specification
		QC	Regular	Actual	Expected	Evaluation	
Analytical Methods							
Laboratory Duplicates (DUP)							
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	6.25	10.00	✖	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Total Metals by ICP-MS - Suite A	EG020A-T	1	16	6.25	5.00	✔	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-MS - Suite X	EG020X-T	SOIL	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Asbestos Identification in Bulk Solids	EA200	SOLID	In house: Referenced to AS 4964 Method for the qualitative identification of asbestos in bulk samples. Analysis by Polarised Light Microscopy including dispersion staining
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	EHRS1	----	----	----	----
				Sampling date / time	23-Aug-2023 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EB2326214-006	-----	-----	-----	-----
					Result	----	----	----	----
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L		<0.001	---	---	---	---

Analytical Results

Descriptive Results

Sub-Matrix: SOLID		
Method: Compound	Sample ID - Sampling date / time	Analytical Results
EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples		
EA200: Description	ACM1 - 23-Aug-2023 00:00	Grey fragment with attached organic matter and paint approx 85 x 65 x 5mm.
EA200: Description	ACM2 - 23-Aug-2023 00:00	Organic sheeting fragment with attached paint approx 120 x 110 x 5mm.
EA200: Description	ACM3 - 23-Aug-2023 00:00	Asbestos sheeting fragment with attached organic matter approx 140 x 130 x 5mm.
EA200: Description	ACM4 - 23-Aug-2023 00:00	Grey fragment with asbestos fibres, attached organic matter and paint approx 100 x 80 x 5mm.
EA200: Description	ACM5 - 23-Aug-2023 00:00	Brown fragments with asbestos fibres, attached organic and soil matter approx 50 x 40 x 5mm.

Inter-Laboratory Testing

Analysis conducted by ALS Melbourne, NATA accreditation no. 825, site no. 13778 (Chemistry).

(SOLID) EA200: AS 4964 - 2004 Identification of Asbestos in bulk samples



QUALITY CONTROL REPORT

Work Order	: EB2326214	Page	: 1 of 3
Client	: HMC ENVIRONMENTAL	Laboratory	: Environmental Division Brisbane
Contact	: MARK TUNKS	Contact	: Customer Services EB
Address	: SUITE 29, LEVEL 2 75-77 WHARF STREET TWEED HEADS 2485	Address	: 2 Byth Street Stafford QLD Australia 4053
Telephone	: 07 5536 8863	Telephone	: +61-7-3243 7222
Project	: McDonald Place EVANS HEAD	Date Samples Received	: 25-Aug-2023
Order number	: 2023.531	Date Analysis Commenced	: 25-Aug-2023
C-O-C number	: ----	Issue Date	: 04-Sep-2023
Sampler	: MARK TUNKS		
Site	: ----		
Quote number	: EN/222		
No. of samples received	: 11		
No. of samples analysed	: 11		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
Beatriz Llarinas	Senior Chemist - Inorganics	Brisbane Inorganics, Stafford, QLD
Beatriz Llarinas	Senior Chemist - Inorganics	Brisbane Soil Preparation, Stafford, QLD
Kim McCabe	Senior Inorganic Chemist	Brisbane Inorganics, Stafford, QLD
Tim Kuo	Approved Asbestos Identifier	Melbourne Asbestos, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 5258844)									
EB2325965-001	Anonymous	EA055: Moisture Content	----	0.1	%	0.3	0.4	0.0	No Limit
EB2326214-001	EHL1	EA055: Moisture Content	----	0.1	%	6.9	7.0	0.0	0% - 20%
EG020T: Total Metals by ICP-MS (QC Lot: 5258842)									
EB2326214-001	EHL1	EG020X-T: Lead	7439-92-1	0.1	mg/kg	332	314	5.5	0% - 20%

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020T: Total Metals by ICP-MS (QC Lot: 5260393)									
EB2325963-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)
Method: Compound	CAS Number	LOR	Unit				LCS	Low
EG020T: Total Metals by ICP-MS (QCLot: 5258842)								
EG020X-T: Lead	7439-92-1	0.1	mg/kg	<0.1	47.89 mg/kg	107	85.0	117

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Result	Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)
Method: Compound	CAS Number	LOR	Unit				LCS	Low
EG020T: Total Metals by ICP-MS (QCLot: 5260393)								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	102	89.0	112

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number		MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5258842)							
EB2326214-002	EHL2	EG020X-T: Lead	7439-92-1	250 mg/kg	95.9	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number		MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 5260393)							
EB2326237-001	Anonymous	EG020A-T: Lead	7439-92-1	1 mg/L	106	70.0	130