PROPOSED SUPERMARKET AND RETAIL CENTRE

262 HAKONE ROAD, WOONGARRAH

RESOURCE AND WASTE MANAGEMENT PLAN

PROPOSED SUPERMARKET AND RETAIL CENTRE, 262 HAKONE ROAD, WOONGARRAH
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EXECUTIVE SUMMARY

SALT has been engaged by Fabcot Pty Ltd to prepare a Resource and Waste Management Plan (RWMP) for a proposed supermarket and commercial development located at 262 Hakone Road, Woongarrah.

SALT understands the proposal is for a Woolworths supermarket with direct to boot and a liquor retail outlet along with other specialty retail and e-commerce areas.

Waste generated from the supermarket areas (Woolworths and BWS) will be stored on-site within the proposed loading dock area. Waste would be collected by a private contractor, with the following arrangements:

- 2 x 3,000L garbage bins collected five times per week;
- 2 x 1,500L organics waste bins collected five times per week; and
- 1 x cardboard baler collected on an as required basis; and
- Baled plastics collected on an as required basis.

Waste collection vehicles would enter the subject site via the proposed entry from Gibraltor Road and travel safely in a forward motion towards the bin and equipment storage areas within the supermarket loading bay.

Vehicle operators would prop safely adjacent to the appropriate bin within the loading dock to perform bin transfer. The vehicle will return the required bin/equipment after emptying, before exiting the subject site onto Gibraltor Road.

Commercial waste generated from large format retail, e-commerce and other retail areas will be stored on site in the shared bin store located at the north of the site.

Waste would be collected by a private contractor, with the following arrangements:

- 2 x 1,500L garbage bins collected four times per week;
- 2 x 1,100L commingled recycling bins collected three times per week;
- 1 x 1,500L organics bin collected three times per week; and
- 2 x 3,000L cardboard bins collected four times per week.

Waste collection vehicles would enter the subject site via the proposed entry from Woongarrah Road and enter the loading bay in a forward motion to collect bins. Vehicles would exit the loading bay in a forward motion and exit the site via Woongarrah Road.

In the opinion of SALT, the enclosed Site Waste Minimisation and Management Plan would provide efficient waste management for the proposed development. This report must be read in detail prior to implementation of the waste management strategy.

CONTENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

SALT has been requested by Fabcot Pty Ltd to prepare a Resource and Waste Management Plan (RWMP) for a proposed supermarket and commercial development located at 262 Hakone Road, Woongarrah. This document is submitted as part of a modification application to the Department of Planning, Housing and Infrastructure (DPHI and superseded the previous waste management plan prepared by TPG dated June 2011 for the 2013 consent (MP10_0195).

This Resource and Waste Management Plan has been prepared based on industry best practice and in accordance with the Central Coast Council *DA Guidelines Resource and Waste Management Planning* (2022).

Generation rates have been adopted based on commercial waste generation rates enclosed in the EPA NSW Better Practice Waste Management Guidelines 2019 and the Central Coast Council *DA Guidelines Resource and Waste Management Planning* (2022) where appropriate.

In the circumstance that the development plans are amended, or new legal requirements are introduced, a revision of the enclosed RWMP may be required by the Responsible Authority. The developer would be responsible for engaging with a waste consultant or engineer to prepare the updated report accordingly.

2 INCLUDED IN THIS REPORT

Enclosed is the Resource and Waste Management Plan for the proposed development at 262 Hakone Road, Woongarrah. Included are details regarding:

- Land use;
- Waste generation;
- Waste systems;
- Bin quantity, size and colour;
- Collection frequency;
- Bin storage area;
- Signage;
- Waste collection;
- Responsibilities;
- Ventilation, washing and vermin-prevention;
- Noise reduction;
- DDA compliance;
- Supplier contact information; and
- Scaled waste management drawings.

3 LAND USE

Planning application number: to be allocated

Land Zone: Mixed Use 1

Land use type: Commercial

Number of levels: 2

Commercial Space:

- Retail facility with a total Gross Floor Area of 12,834m^2 comprising:
    - 7,618m^2 of retail floor space;
    - 840m^2 of commercial floor space;
    - 791m^2 of recreation facility (indoor) (gym);
    - 440m^2 of medical centre;
    - 2,408m^2 of e-commerce facilities;
    - 738m^2 for circulation space/ mall and amenities, toilets etc.

4 DEMOLITION AND CONSTRUCTION WASTE RESPONSIBILITIES

This Resource and Waste Management Plan is applicable and must be adhered to during the demolition (site preparation) and construction stages of the proposed development.

During site inductions for the construction and demolition phase, all contractors must be made aware of the waste management obligations, practices and legislative controls provided in this plan.

It is the responsibility of the appropriate Site Supervisor and relevant managing contractor that all waste disposal, load transfers and required assessments is adequately tracked and stored in a Waste Data File. Any associated receipt/invoices, waste classification documents and site validation certificates should be logged within this file accordingly.

All entries in the Waste Data File must include the following:

- Time and date;
- Description and size of waste;
- Waste facility used; and
- Vehicle registrations and company name.

4.1 WASTE CLASSIFICATION

All waste generated during the construction and demolition stages of the proposed development will be classified in accordance with *NSW EPA Waste Classification Guidelines 2014.*

Assessments should be routinely conducted of waste loads stored in skips or appropriate containers pre-disposal and off-site transfer to waste facilities, to ensure all materials can be accepted for disposal and recovery.

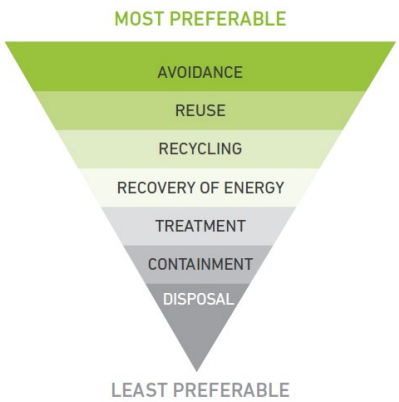
All waste classification assessments must follow the six-step procedure as outlined within the EPA guidelines mentioned above, with all waste classification data to be collected and recorded appropriately across the life of the development.

4.2 WASTE MANAGEMENT HIERARCHY

The NSW EPA waste management hierarchy has been adopted as the framework to guide the waste management practices of the proposed development, as depicted in Figure 1 below.

The waste hierarchy provides a reference on the order of approaches to achieve efficient resource use. The aspects of the hierarchy are applicable to the demolition and construction stages of this project. As a key objective for all employees and personnel, the avoidance of waste generation and reuse of materials will have priority over recycling, and recycling will have priority over disposal.

Figure 1 Waste Management Hierarchy



5 DEMOLITION AND CONSTRUCTION WASTE MANAGEMENT PLAN

5.1 DEMOLITION WASTE GENERATION AND MANAGEMENT

Based on a preliminary desktop assessment, it is noted that the development site is currently undeveloped, therefore demolition waste management does not apply to this site.

5.2 CONSTRUCTION WASTE GENERATION AND MANAGEMENT

Construction waste generation rates have been referenced from *The Hills Shire Council Development Control Plan* Appendix A (2012) due to no standard generation rate specified within in Central Coast Council *DA Guidelines Resource and Waste Management Planning* (2022), and other relevant documentation.

The construction waste generation rates for a Factory (per 1000m^2) have been applied as these are found to be the most suitable rates corresponding to the proposed use and development of the subject site. These generation rates are shown in Table 1 below.

Table 1 Estimate Waste Generation Rates for Construction Materials

Building Material	Waste Quantity (tonnes per 1000m^2)
Timber	0.25
Concrete	2.10
Bricks	1.65
Gyprock	0.45
Sand/Soil	4.80
Metal	0.60
Other	0.50

The estimated construction waste volumes for each material have been calculated based on the total gross floor area of the proposed development of 12,834m^2. The estimated volumes and management strategies for construction waste are presented in Table 2.

Table 2 Estimated Construction Waste Generation Volumes and Management Options

Type of Waste Generated	NSW EPA Waste Classification	Most to Least Favorable			Specify method of onsite reuse, contractor and recycling outlet and /or waste depot to be used
		Reuse Estimate Volume Weight (t)	Recycle Estimate Volume Weight (t)	Disposal Estimate Volume Weight (t)	
Timber	General Solid Waste (Non-Putrescible)		3.20		Delivered to the off-site recycler listed below. Chip remainder may be used in landscaping.
Concrete	General Solid Waste (Non-Putrescible)		26.86		To be used as hardstand during construction, then as base under pavements. Any unused concrete would be returned to batch plant for re-use.
Bricks	General Solid Waste (Non-Putrescible)		21.10		Clean and reuse lime mortar bricks for footings. Delivered to the off-site recycler listed below. Noted: it should not be mixed with other materials from construction

			and demolition waste and reinforced concrete.
Gyprock	General Solid Waste (Non-Putrescible)	5.76	Disposed of in a designated general waste skip. Should asbestos be present, the waste must be removed and disposed of in accordance with the requirements of Work Cover.
Sand/Soil	General Solid Waste (Non-Putrescible)	61.39	Delivered to the off-site recycler listed below.
Metal	General Solid Waste (Non-Putrescible)	7.67	Clean metal (i.e. without presence of other materials) will be delivered to the off-site recycler listed below. Any contaminated metal should be separated to be landfilled.
General waste (including residual waste and dust)	General Solid Waste (Non-Putrescible) Containing Putrescible Waste	TBC	Disposed into a general waste skip.
Other	Pre-classified General Solid Waste (Non-Putrescible)	6.40	Sorted accordingly based on recycling potential of each material

Note: *TBC has been used for totals of disposal/recyclable materials that will be determined once onsite works commence*

5.3 WASTE STORAGE AND COLLECTION REQUIREMENTS

Demolition and construction waste generated during the development of the site will be separated and recycled where possible. All recyclable material will be sorted and stored onsite in skip bins or appropriate waste containers.

Waste skips/containers are to be placed and enclosed within waste bays. Waste bays will be lined with sediment fencing or shade cloth, taking into account slope and drainage factors to avoid contamination of stormwater drains during weather events. Waste bays would be located in the same area as demolition and construction waste stockpiles. Figure 4 below proposes a suitable location for skip bin/waste container storage as a reference.

Stockpiles of demolition and construction waste shall not be stored along footpaths, public reserves and street gutters or in areas that would lead to contamination of stormwater and waterways.

In the circumstance an appropriate waste container cannot be supplied, due to timing of waste transfers and capacity limits at facilities, all stockpiles must be stored within the site boundary and must consider the factors mentioned above, to avoid the potential contamination of soil and stormwater flows.

The position of the designated waste bays onsite may change according to building works and the progression of the development. Access, visual amenity and work health and safety (WHS) requirements should always apply to the selection of waste storage area locations.

All waste storage bays onsite should:

- Be located in accessible areas for on-site movement, transfers and collection;
- Have an appropriate space allocated for the quantity of waste generated and separation of recyclable materials;
- Have space allowances for required on-site treatment facilities, such as compaction equipment if required;
- Have an acceptable level of weather protection and be enclosed if necessary;

- Be secured and lockable;
- Be well-ventilated and located nearby a sewer for drainage purposes; and
- Provided clear signage and labelling to ensure appropriate use.

5.4 BIN TYPE, QUANTITY AND DIMENSIONS

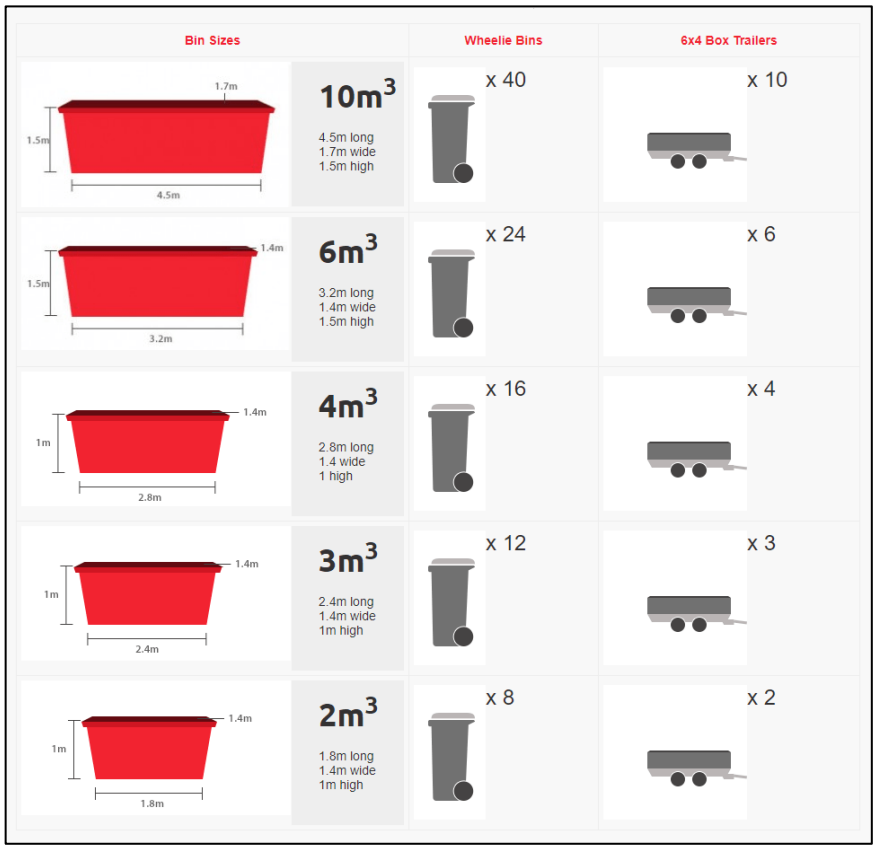
An appropriate size and number of waste containers should be provided for purpose of source separating each type of demolition and construction material generated on site. This is a standard to maximise the recovery of materials, while reducing the costs and diversion of waste disposed at landfill.

For the context of this development waste skips should be provided for the following:

- 1 or more general waste skip for products including sand and soil not classified as VENM, gyprock, treated timber, residual waste and dust, to be delivered to EBH Environmental, Wyong: 02 4388 3165;
- Recycling skips with one skip per material type for bricks, sandstone and concrete to be delivered to EBH Environmental, Wyong: 02 4388 3165;
- 1 recycling skip for clean metal to be delivered to Worldwide Metal Recyclers, Wyong: 0423 931 996;
- 1 organics waste skip for untreated timber and VENM that is not reused on site including garden vegetation and untreated timber, to be delivered to Cleanaway's Disposal Facility, Wyong: (02) 4305 4790;
- Additional recycling skips, as required for paper & cardboard, glass, plastics and others to be delivered to Cleanaway's Disposal Facility, Wyong: (02) 4305 4790 or a suitable recycling facility.

The size of waste containers and skip bins should be appropriate to the nature of waste generated and the available storage area. The following options shown in Figure 2 below would be acceptable:

Figure 2 Skip Bin Size Dimensions



5.5 WASTE SIGNAGE AND SAFTEY

As a standard, signage should be applied in all waste storage areas, with waste containers to be appropriately labelled and colour coded to identify the correct waste type to be disposed into each bin.

All signage installed should use EPA standards as a reference shown in Figure 3 below. All skip bins should be clearly visible, provided safe paths of travel and must not be overfilled to prevent the risk of injury and relevant environmental impacts.

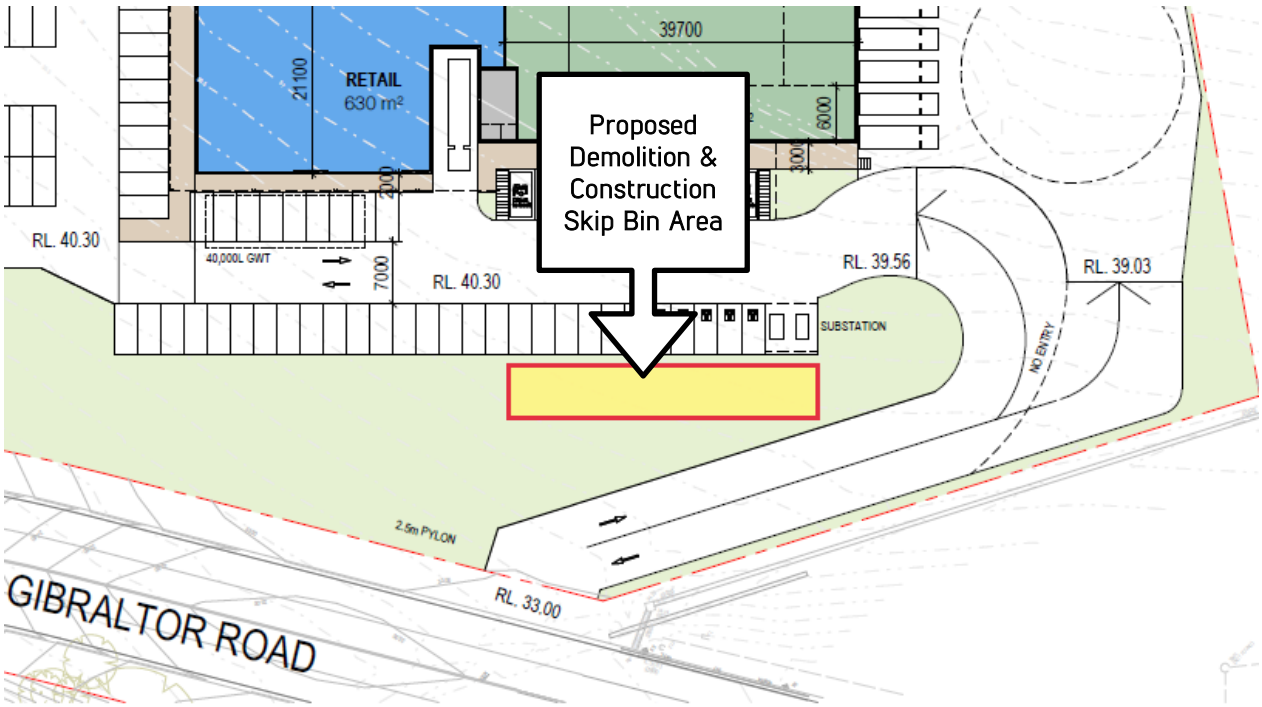
Figure 3 NSW EPA Signage

5.6 BIN LOCATION AND STORAGE AREA

Outlined in Figure 4 below is the proposed location of waste storage bays to place relevant containers to segregate and source separate waste materials generated by onsite demolition and construction practices.

Proposed locations of waste storage areas may be subject to change depending on the ongoing waste volume generated onsite and capacity limits. With consideration to the effectiveness of the location in meeting litter and stormwater pollution prevention mentioned in section 7.3 below, and in achieving an adequate level of source separation. Any adjustments should be made at the discretion of a site supervisor or the appropriate managing contractor.

Figure 4 Proposed Bin Storage Area



6 CONSTRUCTION AND DEMOLITION SITE MANAGEMENT

6.1 ASBESTOS, AND OTHER HAZARDOUS/CONTAMINATED WASTE

The construction and demolition phases of the development may involve the removal of contaminated/hazardous materials including asbestos. All hazardous/contaminated materials will be removed by qualified contractors and disposed at licensed facilities.

All hazardous/contaminated waste removal, transport and disposal must comply with the requirements found in the SafeWork NSW Code of Practice, EPA guidelines and council requirements.

Any disposal and off-site transfer of classified hazardous waste and contaminated materials must be recorded in the Waste Data File and or tracked in accordance with Part 4 of the *Protection of the Environment Operations (Waste) Regulation 2014*.

If hazardous waste and contaminated materials are located on-site during the stages of demolition, excavation, and construction, the Site Supervisor is to immediately stop all works and contact a qualified hazardous/contaminated waste contractor prior continuing all on-site works.

The following mitigation measures will apply in the event hazardous and contaminated waste is uncovered;

- Storing (if required) and covering contaminated materials with an industrial approved and graded HDPE liner and placed in an area that is protected from severe weather events;
- Segregating all classified hazardous and contaminated waste from general waste, recycling, and other specified skip bin areas;
- Ensuring vehicles are securely covered when transporting and loading contaminated materials to prevent windblown emissions and potential spillage; and
- Decontamination of equipment and containers that have stored hazardous materials to prevent the spread of contamination.

6.2 LIQUID WASTE MANAGEMENT AND HANDLING

All liquid waste located and classified onsite during the construction and demolition stages of the proposed development must be handled appropriately in accordance with NSW EPA guidelines that include *Hazardous Waste Storage and Processing: Guidance for the Liquid Waste Industry 2016*.

In the event that liquid waste is identified and present (e.g. in the form of spills) it is the responsibility of the Site Supervisor and relevant managers to provide an immediate response to prevent any necessary environmental impacts.

The following actions in such circumstances should include;

- Containing the identified spill/liquid waste distribution area;
- Reporting all incidents directly to relevant authorities;
- Logging incidents internally to assist with conducting any onsite investigations; and
- Introducing precautionary actions to lessen the risk of similar incidents occurring in the future.

If the management and handling of liquid waste is part of regular practice to complete the demolition and construction stages of the proposed site. It is the responsibility of the managing contractor adheres to the EPA guidelines and best practice standards regarding storage, segregation, disposal and routine monitoring.

6.3 LITTER MANAGEMENT AND STORMWATER POLLUTION PREVENTION

All staff and relevant managers employed in the demolition and construction stages. Must be aware of the practices applied to mitigate the potential litter and stormwater pollution that can occur through on-site works.

The Site Supervisor and or an appointed Staff would be responsible in ensuring the following to mitigate the dispersion of litter and stormwater pollution on site:

- Establishing appropriate barriers and fencing to trap coarse sediment at points where stormwater can flow and run-off into gutters, drains and waterways;
- Ensuring adjacent streets and gutters are regularly swept and not hosed. Relocating and removing accidental spills of soil and other material immediately;

- Maintaining kerbside vegetation in a healthy state and not using nature strips or footpaths for parking or stockpiling waste. If unavoidable contact the relevant council for permission;
- Ensuring wash water and waste concrete, paint and other solutions used on site is contained within the site boundary. The same is to be applied when cleaning equipment;
- Covering any appropriate waste containers and skip bins after daily onsite works to minimize windblown litter and to protect waste storage area during the event of inclement weather;
- Ensuring all waste loads transported off-site is kept enclosed to avoid airborne litter being generated; and
- Ensuring all staff are not disposing waste materials outside of site boundaries and dedicated waste storage provided onsite.

6.4 SITE DISTURBANCE AND UNECESSARY EXCAVATION AVOIDANCE

As a requirement for the demolition and construction stages to prevent soil disturbance and unnecessary excavation works, all excavated and cut and fill activities performed onsite should work towards retaining and reusing all excavated material, provided no contamination is present.

The following measures should be applied to minimize site disturbance and to prevent unnecessary excavation activities;

- Design measures into the planning of demolition and construction works to avoid excessive cut and fill and unnecessary clearing of vegetation;
- Provide clear markings and boundaries to ensure areas are only cleared for the purposes of conducting building works;
- Dispose all natural (virgin) excavated material to a license landfill site and recycling facility;
- Conduct quality testing of fill material prior being accepted for disposal. If cut and fill material is contaminated refer to section 7.1 above and relevant EPA guidelines for the appropriate disposal and handling procedures;
- Restrict heavy vehicles and equipment to designated areas and routes onsite; and
- Preserve existing site drainage patterns.

6.5 TRAINING

All staff, managers, and appropriate supervisors employed during the stages of construction and demolition must be made aware of and be provided formal training to the site-specific waste management procedures of the proposed development.

As a standard, toolbox and pre-start meetings will be undertaken as a part of general site induction and will be refreshed periodically. Training and induction material provided should contain the following;

- Legal obligations and guidelines;
- Emergency management and response procedures;
- Waste storage areas and specific containers used for waste separation;
- Litter prevention practices on and off site;
- Applicable waste reduction and avoidance practices;
- Hazardous/contaminated waste management response;
- Environmental and legislative implications of poor waste management behaviors; and
- Responsibility, duties and reporting lines outlined (including appointing personnel responsible for waste management and individual responsibilities)

6.6 MONITORING AND COMPLIANCE

All relevant documents relating to volumes of waste disposed and transferred to the appropriate facility are to be maintained. Any dockets verifying recycling/disposal, waste testing/assessment reports, validation certificates must be adequately stored and presented to the EPA and relevant Council when required.

Inspections of waste storage areas should be routinely conducted. With maintaining an inspection log and checklist to be used for reporting purposes. Inspections will be used to identify and correct issues waste management practices onsite.

Audits are to be performed by the relevant demolition and construction contractor to monitor the effectiveness of recycling/reuse initiatives and waste separation practices. Audits that indicate procedures and compliance not met as mentioned within the waste management plan should be rectified immediately, through the provision of additional staff training or adjustment to waste signage.

All environmental incidents require an immediate response to minimise the potential impacts. An incident register must be maintained across demolition and construction stages and should include the contact details of the 24-hour NSW EPA response unit.

7 ONGOING WASTE MANAGEMENT PLAN

7.1 WASTE GENERATION

Waste generation rates are shown in Table 3 and Table 4. Calculations are based on a 7 day per week operation for all spaces.

Generation rates applied to the supermarket have been based on previous waste audit and composition data conducted by SALT, from existing Woolworths facilities. These rates incorporated are considered appropriate in providing a daily/weekly generation rate and estimated waste volumes that are specific to the operational requirements of Woolworths supermarket sites and the appropriate waste streams required.

Generation rates for all other areas have been based on commercial waste generation rates enclosed in the EPA NSW Better Practice Waste Management Guidelines (2019). These rates are considered appropriate for this development type located in the specified municipality.

Generation rates for food organics across café, kiosk and applicable spaces have been calculated based on the waste composition data from *Reducing business waste industry fact sheet: Cafés and Restaurants* (2017), which details the volume general waste generated by cafés, restaurant and food retail premises across NSW has a composition of at least 50% (or more) food and organic waste present. The rate has been reduced accordingly to reflect the composition and separation of organic recyclables from applicable spaces. Cardboard is assumed to be collected separately from the retail spaces and is assumed to account for 80% by volume of the comingled recycling stream based on typical retail rates. The comingled recycling rates have been reduced accordingly.

Any common spaces within the proposed site including travel and lobby spaces have not been included in these calculations as any waste generated in these areas is generated in service of the commercial areas and therefore incorporated into the below rates.

Table 3 Waste Generation Rates (Woolworths and BWS)

Use	Garbage (L/m²/week)	Cardboard (L/m²/week)	Organics (L/m²/week)
Woolworths Supermarket & BWS	7.07L	15.21L	3.44L

Table 4 Waste Generation Rates (Commercial, Café and Retail)

Use	Garbage (L/100m²/week)	Commingled Recycling (L/100m²/week)	Organics (L/100m²/week)	Cardboard (L/100m²/week)
Large format retail / E-comm (chain stores)	5	4	0	16
General retail (non-food)	20	20	0	80
Food retail (café)	60	20	60	80
Commercial/Gym (Office)	10	10	0	0

A waste generation assessment for supermarket areas and additional commercial spaces is provided in Table 5 and Table 6 below.

Table 5 Waste Generation Assessment (Supermarket)

Use	Area	Waste Per Week		
		Garbage	Organics	Cardboard
Woolworths Supermarket & BWS	3957.7m²	27,978L	13,614L	60,195L
Total Waste Generated per Week*		**27,978L**	**13,614L**	**60,195L**

Table 6 Waste Generation Assessment (Commercial, Café and Retail)

Use	Area	Waste Per Week			
		Garbage	Commingled Recycling	Organics	Cardboard
Large format retail	1,193	418	334	0	1336

General retail	1,695	2,372	2,372	0	9,489
E-comm	2,408	843	674	0	2,697
Gym	791	554	554	0	0
Commercial	840	588	588	0	0
Medical	440	616	62	0	247
Pharmacy	350	489	489	0	1,957
Food retail	878	3,689	1,230	3,689	4,918
Total Waste Generated per Week		**9,569**	**6,303**	**3,689**	**20,644**

7.2 WASTE SYSTEMS

Waste would be sorted on-site by staff and cleaners as appropriate into the following streams:

- Garbage (General Waste);
- Commingled Recycling;
- Food Organics; and
- Cardboard Recycling (Baler).

7.2.1 BIN STATIONS

Based on Method *Westpac NZ Case Study*, the use of bin stations throughout their office spaces have reduced waste to landfill by 40%. The case study discusses the significance of accountability in ensuring diversion of waste from landfill. It is therefore recommended that bin stations are provided throughout all commercial, office and public spaces.

Each bin station should be equipped with one bin for each waste stream. This would encourage the user to make a conscious decision before depositing their waste product into a specific bin and encourage appropriate segregation especially when bins are placed within an area open to public view.

An example bin station with vertical signage is shown in Figure 5. The vertical signage is recommended to be implemented at each bin station to educate the users on the appropriate separation methods. This would allow for maximum diversion of waste from landfill and recovery of the respective waste streams to be achieved.

Figure 5 Example Bin Station with vertical signage

7.2.2 GARBAGE (GENERAL WASTE)

All supermarket areas (Woolworths and BWS) would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 700 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Café spaces would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 60 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Other retail would be furnished with plastic lined bins for the temporary holding of garbage waste, to have minimum cumulative capacity of 20 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff, cleaners and building management would dispose of waste from these bins directly into the appropriate bin located within the loading dock or ground level bin room (refer to Appendix 1).

7.2.3 COMMINGLED RECYCLING

Café spaces would be furnished with plastic lined bins for the temporary holding of comingled recycling, to have minimum cumulative capacity of 20 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Other retail would be furnished with plastic lined bins for the temporary holding of comingled recycling, to have minimum cumulative capacity of 4 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff and cleaners would dispose of waste from these bins directly into the appropriate bin located within the ground level bin room (refer to Appendix 1).

Recycling generation and the management of daily volumes generated (predominantly cardboard) within supermarket areas is discussed in section 7.2.5 below.

7.2.4 ORGANIC WASTE

All supermarket areas (Woolworths and BWS) would be furnished with plastic lined bins for the temporary holding of organic waste, to have minimum cumulative capacity of 300 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Café spaces would be furnished with plastic lined bins for the temporary holding of organic waste, to have minimum cumulative capacity of 60 litres per 100m^2 of floor area. This capacity is based on the transfer of waste to the bin room occurring once per day.

Staff, cleaners and building management would dispose of waste from these bins directly into the appropriate bin located within the loading dock or ground level bin room (refer to Appendix 1).

Organics waste is to be disposed of loosely or in compostable bags that have been approved by the waste contractor.

7.2.5 CARDBOARD

Due to the volume of cardboard recyclables generated across supermarket retailers, daily volumes of cardboard recyclables would be separated and broken down by staff/cleaners, before being deposited directly into the onsite compactor located within the supermarket loading dock area. All cardboard material would be baled and collected as required, based on weekly capacity rates of the appropriate baler system.

Cardboard from retail spaces will be collected and taken to the ground level bin room for disposal into the appropriate bin.

7.2.6 PLASTICS SEPERATION/RECYCLING (SUPERMARKET)

Plastic volumes and material generated per the daily operation of supermarket spaces would be separated onsite by staff/cleaners, before being deposited into the provided plastics baler bin located within the located within the supermarket waste services and loading bay area, as shown in Appendix 1.

Baled plastics would be collected required and arranged by the appropriate building management or directed staff. Routine collection schedules would be established once capacity limits are known once site is operational.

7.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY

The bin quantity, size and the frequency of collection are shown below in Table 7 to Table 9 below.

Supermarket and separate commercial waste collections shall be coordinated and timed appropriately to reduce truck movements in the area.

The weight of paper and cardboard is calculated using a waste conversion factor of 0.1 kilograms/litres which is adapted from the Government of South Australia *Zero Waste SA; Solid Waste and Recycling Reporting Template*.

Table 7 Bin Size and Collection Frequency (Woolworths & BWS)

Waste Stream	Collections per Week	Bin Size/ Equipment Type	No. Bins/Bales	Weekly/Equipment Capacity	Weekly Volume
General Waste	5	3,000L	2	30,000L	27,978L
Organics Recycling	5	1,500L	2	15,000L	13,613L
Compactor (Carboard)	As required	Wastech Auger Compactor: 21m^3	-	63,000L	60,195L
Baler (Plastics)	As required	Wastech X25 Baler: 350kg/bale	TBC*	-	TBC*
**Volumes and weekly capacities to be determined once site is operational*					

Table 8 Bin Size and Collection Frequency (Retail, F&B and E-comm)

Waste Stream	Collections per Week	Bin Size	No. Bins	Weekly Capacity	Weekly Volume
General Waste	4	1,500L	2	12,000L	9,569L
Commingled Recycling	3	1,100L	2	6,600L	6,303L
Organics Recycling	3	1,500L	1	4,500L	3,689L
Cardboard	4	3,000L	2	24,000	20,644L#

#Exceedance (<1%) is considered to be negligible due to conservative nature of waste generation rates used.

Table 9 Typical Waste Bin and Equipment Dimensions

Capacity (L)	Width (mm)	Depth (mm)	Height (mm)	Area (m^2)
Compactor	2480	6681	2480	16.56
Baler	1760	1255	1995	2.20
Bale(s)	1200	800	1100	0.96
4,500	2020	1800	1800	3.63
3,000	2020	1450	1460	2.93
660	1260	780	1330	0.98
240	585	730	1060	0.43
Note: The above dimensions are based on SULO's flat lid bin specifications				

7.4 BIN COLOUR AND SUPPLIER

All bins would be provided by private supplier. The below bin colours are specified by Australian Standard AS4123.7-2006, however due the private nature of the collection, these are only recommendations and are not mandatory:

- Garbage (general waste) shall have red lids with dark green or black body;
- Recycling shall have yellow lids with dark green or black body;
- Organics shall have green lids with dark green or black body; and
- Cardboard shall have a lid colour to distinguish it from other waste streams.

Note, private contractors often supply bins for collection.

7.5 WASTE STORAGE AREA

Tables 10 and 11 demonstrate the cumulative space requirements and provision of waste areas of the proposed development.

Please refer to scaled drawing shown in Appendix 1.

Table 10 Waste Area Space Requirements (Woolworths and BWS)

Stream	Space Required (including circulation)	Space Provided (Proposed Loading Dock)
General Waste	9.79m²	41.2m²
Organics Recycling	5.87m²	
Baler (Cardboard)	9.91m²	
TOTAL	**25.57m²**	**41.2m²**

Table 11 Shared Waste Area Space Requirements (Café and Commercial Tenancies)

Stream	Space Required (including circulation)	Space Provided
General Waste	6.87m²	31.0m²
Commingled Recycling	5.79m²	
Organics Recycling	3.93m²	
Cardboard	11.79 m²	
TOTAL	**28.38m²**	**31.0m²**

Note: Supermarket (Woolworths and BWS) waste would be stored separately from all commercial waste, with a separate ground level waste area provided.

Waste management would be overseen by the respective building management.

7.6 WASTE COLLECTION

Supermarket waste (Woolworths and BWS) would be collected by a private contractor with the following requirements:

- 2 x 3,000L garbage bins collected five times per week;
- 2 x 1,500L organics recycling bins collected five times per week; and
- 1 x Cardboard compactor collected on an as required basis; and
- Baled plastics collected on an as required basis.

All waste bins would be stored onsite in the bin room provided within the supermarket loading bay area.

Commercial waste (retail, F&B and E-comm) would be collected by a private contractor with the following requirements:

- 2 x 1,500L garbage bins collected four times per week;
- 2 x 1,100L commingled recycling bins collected three times per week;
- 1 x 1,500L organics bins collected three times per week; and
- 2 x 3,000L cardboard bins collected four times per week.

All waste bins would be stored onsite within the shared bin room located at the rear of the northern loading dock.

All waste collections would occur between 7am to 8pm on Mondays to Fridays and between 8am to 8pm on Saturdays, Sundays and public holidays, in accordance with EPA NSW *Protection of the Environment Operations (Noise Control) Regulation* 2017. This is to ensure minimal noise impacts to the neighboring properties.

7.6.1 SUPERMARKET WASTE COLLECTIONS

Waste collections (general waste and organics) would be serviced via a heavy rigid (HRV) front-lift collection vehicle.

Cardboard and plastic recycling (baled) would be collected separately via the collection vehicle as utilised by the private contractor, with collections performed as required per operational capacities of the baler press system located onsite, as shown in Appendix 1.

Waste collection vehicles would enter the subject site via the site entry at Gibraltor Road, to travel safely in a forward motion towards the bin and equipment storage areas within the supermarket loading bay.

Vehicle operators for front-lift collections, would prop safely and in-line with the required waste stream in the loading bay area to perform a front-lift bin transfer and return upon emptying.

Collection vehicles would exit in a forward direction, exiting the subject site towards Gibraltor Road via the driveway, as demonstrated in the swept paths provided in Appendix 2.

Building management and directed staff would ensure that waste vehicle operators are able to access the required bins and or equipment during collections.

7.6.2 COMMERCIAL WASTE COLLECTIONS

Waste collections would occur via either a heavy rigid (HRV) front-lift or a standard medium rigid (MRV) collection vehicle.

Waste collection vehicles would enter the subject via Woongarrah Road vehicle entrance to travel and prop safely at the bin storage area located within the ground level loading bay, as shown in Appendix 2.

Vehicle operators would ferry waste bins from the bin store and return upon emptying to perform collections, before exiting the subject site onto Woongarrah Road, as demonstrated in the swept paths analysis shown in Appendix 4 below.

Building management and the appropriate staff would ensure that waste vehicle operators are able to access the bin enclosure during scheduled collections.

8 RESPONSIBILITIES

Building management and respective commercial tenants would be responsible for overseeing waste management within the development. Responsibilities would include:

- Providing a copy of the endorsed Waste Management Plan to the building operators, management, and appropriate personnel;
- All signages and waste education materials should be based on the latest available information from Sustainability Victoria. Sustainability Victoria's guidelines on waste management in multi-unit developments are available here for reference: https://www.sustainability.vic.gov.au/recycling-and-reducing-waste/for-developers-of-residential-commercial-and-industrial-buildings/multi-unit-developments.
- Providing commercial tenants and staff with an information package which would include the following information:
  (a) A copy of this Waste Management Plan which includes information on waste storage areas and management methods onsite;
  (b) Methods and techniques for waste reduction and minimisation (i.e. having better purchasing practices of food, avoiding single use items where possible, utilising reusable bags and containers etc.);
  (c) Information regarding bin collection days and requirements;
  (d) Staff members' responsibilities with regard to bin usage, storage, and collection
- Ensure that all bins throughout the site and the bin room are equipped with appropriate signages to guide users on appropriate segregation methods for their waste and recyclables;
- Inspecting waste stores;
- Reviewing contamination within bins;
- Providing staff/cleaners with a training session on the appropriate and safe utilisation methods of the baler and compactor and providing them with a user manual; and

- Providing staff/cleaners with a training session on the appropriate and safe utilisation methods of the baler and compactor and providing them with a user manual;
- Investigating incidents of inappropriate waste storage (or aggregation).

Building management and commercial tenants would ensure anyone found responsible for inappropriate waste disposal would be appropriately educated and made aware of correct waste disposal techniques.

It is recommended that building management conducts a waste audit if waste is found to be inappropriately deposited by users or if the bin capacities need to be reviewed.

9 SIGNAGE

Waste storage areas and bins would be clearly marked and signed with the industry standard signage approved by NSW EPA or equivalent. The typical NSW EPA signage is illustrated in Figure 6..

Figure 6 NSW EPA Signage

10 SUSTAINABILITY ACTION PLAN AND INITIATIVES

The importance of restructuring the institutional waste management methods in developments is becoming more apparent as we experience the adverse impacts of increasing waste volumes and declining recycling rates. Developments such as the proposed subject site can contribute towards the prevention and reduction of nationwide waste generation volumes as well as to promote a local circular economy system.

Building management should encourage users by demonstrating a commitment towards waste avoidance and minimisation initiatives. The waste hierarchy as should be considered and observed in order of preference (refer to Figure 1 above).

In addition to the waste management strategy detailed in the enclosed report, building management can establish landfill diversion and recycling targets and conduct periodic waste audits to monitor contamination levels in recycling and organics bins. The results of the audit could be shared with commercial tenants to encourage them to continue or to improve their waste separation efforts. The audit may also be beneficial from a cost perspective as it would inform building management of opportunities to reduce bin numbers or collection frequencies.

Building management, commercial tenants and staff should be inducted on on-site waste management practices and on the development's sustainability action plan via the provision of a handbook or in-person training, as deemed necessary. Commercial tenancies should be encouraged to minimise single use packaging and promote re-use by providing opportunities to consumers to utilise their own reusable containers or bags.

11 WASTE AREA DESIGN REQUIREMENTS

11.1 VENTILATION

Ventilation would be provided in accordance with Australian Standard AS1668. Rooftop exhaust fans would be implemented within each chute system to ensure proper chute ventilation is provided.

The waste room will be equipped with tight fitting doors and impervious flooring. Any openings within the waste room will be fitted with vermin-proof mesh.

11.2 LITTER MANAGEMENT, WASHING AND STORMWATER POLLUTION PREVENTION

An appropriately drained wash down area would be provided within the bin room in which each bin is to be washed regularly by building management. Bin washing areas or bin wash bays must discharge to a litter trap. Bin wash areas should not discharge into stormwater drainage.

Alternatively, a third-party bin washing service can be engaged to perform this service. Bin washing suppliers must retain all waste water to within their washing apparatus so as to not impact on the drainage provisions of the site.

Building management and cleaners would be responsible in ensuring the following to prevent or minimise the dispersion of litter throughout the site:

- Prevent overfilling of bins by ensuring bin lids are closed at all times;
- Require waste contractor to remove any spillage that may occur during waste collections; and
- Ensure anyone found responsible for inappropriate waste disposal or dumping would be appropriately educated and made aware of correct waste disposal techniques.

11.3 NOISE REDUCTION

All waste areas would meet EPA, BCA and AS2107 acoustic requirements as appropriate within operational hours assigned to minimise acoustic impact on surrounding premises.

EPA NSW *Protection of the Environment Operations (Noise Control) Regulation* 2017 have been stipulated in the waste collection section above.

Waste contractors should also abide by the following regulations to ensure minimal noise impacts to the neighboring properties:

- Compaction only to be carried while on the move;
- Bottles should not be broken up at the point of collection
- Routes that service entirely residential areas should be altered to reduce early morning disturbances; and
- Noisy verbal communication between operators should be avoided where possible.

11.4 DDA COMPLIANCE

All waste areas to be accessed by commercial staff would comply with AS1428.1:2009.

12 RISK AND HAZARD ANALYSIS

Table 12 shows the potential risks, severity and suggested control methods that could be considered to avoid the risks from occurring during waste collections.

Note that this is a preliminary risk assessment and does not replace the need for the building management and collection contractors to complete their respective OHS assessment for waste collections.

The information provided below have been adopted from WorkCover NSW *Collection of Domestic Waste: Code of Practice*. The severity of each risk has been determined based on the risk rating table enclosed in Department of the Environment *Environmental Management Plan Guidelines* 2014.

Table 12 Potential Risks and Control Methods During Waste Collections

Area	Risk	Severity	Suggested controls
Waste collection	Incidents during waste collection vehicle ingress or egress movements	Medium	Vehicle operators would be trained in ensuring the following Tailgate is closed after clearing waste area Move vehicle slowly when tailgate or body is raised Clear waste from tailgate seal and from rear of machine before departure from the subject site Ensure tailgate is locked after unloading operation Vehicle operators should not exit the vehicle body unless engine is switched off, ignition key is removed, safety prop is in position and the vehicle body is well ventilated. Regular safety checks and inspection of vehicles should be conducted.
	Incidents during manual handling of bins	High	Vehicle should meet relevant Australian Design Rules. Ensure that vehicles with low bowl height are used to avoid lifting of bins above shoulder height. Vehicle operator should be clear of the equipment before activation of packing or tipping controls.
	Slip and trip hazards in moving into and out of the vehicle	Medium	Maintain sufficient and frequent communication between driver and runner. The hose should not be used as handholds when mounting or dismounting.
	Slips and trips while transporting bins	Low	As the car parking area is at the same grade with that of the waste storage area, there are no hazards presented from the presence of slopes or steps. The car parking and waste storage area would also be well lit at all times to ensure good visibility to staff/vehicle operators. However, to ensure that any other potential risks are mitigated, frequent communication should be maintained between the driver and runner and the runner should only transfer one bin at a time.
Surrounding traffic	Conflict with other vehicle operators and commercial tenants within the car park during collection	Medium	Ensure that collection is to occur only at off-peak hours, managed via contract with the waste operator. The collection area should also be well-lit to allow for better visibility of oncoming traffic and pedestrians.
Pedestrians	Conflict with pedestrians and staff moving in the vicinity of the collection zones.	High	Loading areas and tenancies to be designed to mitigate any thoroughfare for pedestrians/customers. Any staff that are required to access the loading areas must be appropriately inducted and wear safety vests.
Waste bins	Type of wastes handled – risk associated in contact with unknown hazardous substances or sharp objects	Medium	Staff, building management and commerical tenants should be educated on safe disposal of hazardous substances and sharp objects. Waste vehicle operators should be trained and informed on safe handling of unknown substances. Operators could be provided with PPE to avoid infections and to assist in handling of waste bins.
Waste Bins	Overflowing bins affecting the transport of bins to the waste collection vehicle or presenting as a trip hazard.	Low	The recommended number of bins enclosed in this SWMMP provides sufficient capacities for the volumes generated for all waste streams hence there would be a low likelihood of this occurring.

13 SUPPLIER CONTACT INFORMATION

Table 13 provides a list of equipment specified by this Resource and Waste Management Plan.

Below is a complimentary listing of contractors and equipment suppliers. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be, a complete list of available suppliers.

SALT does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 13 High Level Purchasing Schedule

Item	Quantity	Supplier	Notes
3,000L Bins	4	Private Supplier*	2 x 3,000L general waste bins; 2 x 3,000L cardboard bins
1,500L Bins	5		3 x 1,500L FOGO bins: 2 x 1,500L general waste bins
1,100L Bin	2		2 x 1,100L recycling bins
Baler System	1		1 x Baler system – refer to Appendix 3 for an example of suitable baling equipment.
Bin Station(s)	As required		Internal and external bin stations. Each bin station will contain one bin per waste stream.

*Private waste collection contractors often supply their own bins for collection.

13.1 EQUIPMENT SUPPLIERS

13.1.1 CARDBOARD BALER

- Veolia Environmental Services – 132 955
- Mil-tek Waste Solutions – 02 4350 8500
- Waste Initiatives – 1800 441 100
- Wastech – 1800 957 973

13.2 WASTE COLLECTORS

13.2.1 GARBAGE, RECYCLING AND ORGANICS

- Cleanaway – 13 13 39
- BINGO Industries – 1300 424 646
- JJ Richards –1300 971 325
- VISY Waste Management – 03 9369 7447
- Veolia Environmental Services – 132 955
- Remondis – 13 73 73
- Wanless – 1300 926 537

13.3 BIN WASHING SERVICES

- OZ Bin Cleaning – 1300 651 165
- All Pressure Cleaning Calcorp Services – 1888 225 267
- Wanless – 1300 926 537

14 PURPOSE AND LIMITATIONS

This Resource and Waste Management Plan has been prepared to form a part of the DA modification application. It supersedes the waste management report prepared previously for the development application. The report is prepared to:

- Demonstrate that an effective waste management system is compatible with the design of the development. An effective waste management system comprises of a system that is hygienic, clean, tidy, minimises waste being landfilled and maximises recycling and resource recovery;
- Ensure stakeholders are well informed of the design, roles and responsibilities required to implement the system;
- Provide supporting scaled drawings to confirm that the final design and construction is compliant with the report;
- Define the relevant stakeholders involved in ensuring the implementation of the waste management system; and
- Ensure tenants are not disadvantaged in access to recycling and other sustainable waste management options.

The following should be noted regarding the enclosed information:

- The waste generation volumes provided are estimates based on the best available waste generation rates. The actual waste volumes generated on-site may differ slightly from that estimated as it would depend on the occupancy rate of the development and tenant type (i.e. families or renters);
- The equipment specifications and any information provided regarding the recommended equipment are provided for reference purposes only and should not be relied upon for procurement. SALT recommends that the developer attains the latest specifications of the required equipment and service provisions from the respective contractor(s) prior to engaging them or purchasing the relevant equipment.
- The report should be updated if the development plans are amended or if new legal requirements are introduced.

APPENDIX 1 DESIGN DRAWINGS

GFA - PROPOSED - GF

GFA SCHEDULE	
Ground Floor	
WOOLWORTHS	3,803.3 m²
RETAIL	1,225.4 m²
PHARMACY	349.5 m²
MEDICAL	440.2 m²
MALL	580.6 m²
LARGE FORMAT RETAIL	1,192.9 m²
F&B	878.3 m²
E-COM	2,407.8 m²
DTB	14.1 m²
COMMERCIAL	172.8 m²
BWS	154.4 m²
BOH	18.4 m²
AMENITIES	138.5 m²
	11,376.2 m²
Level 1	
GYM	791.4 m²
COMMERCIAL	666.8 m²
	1,458.1 m²
Grand total	12,834.4 m²

Clarke Hopkins Clarke
www.chc.com.au | studio@chc.com.au | 03 9419 4340
NSW Nominated Architect: Jordan Curran (10259)

Job No. 20230057

WOOLWORTHS WARNERVALE

262 HAKONE ROAD, WOONGARRAH

Scale 1:500 @ A1
Scale 1:1000 @ A3
0 15m

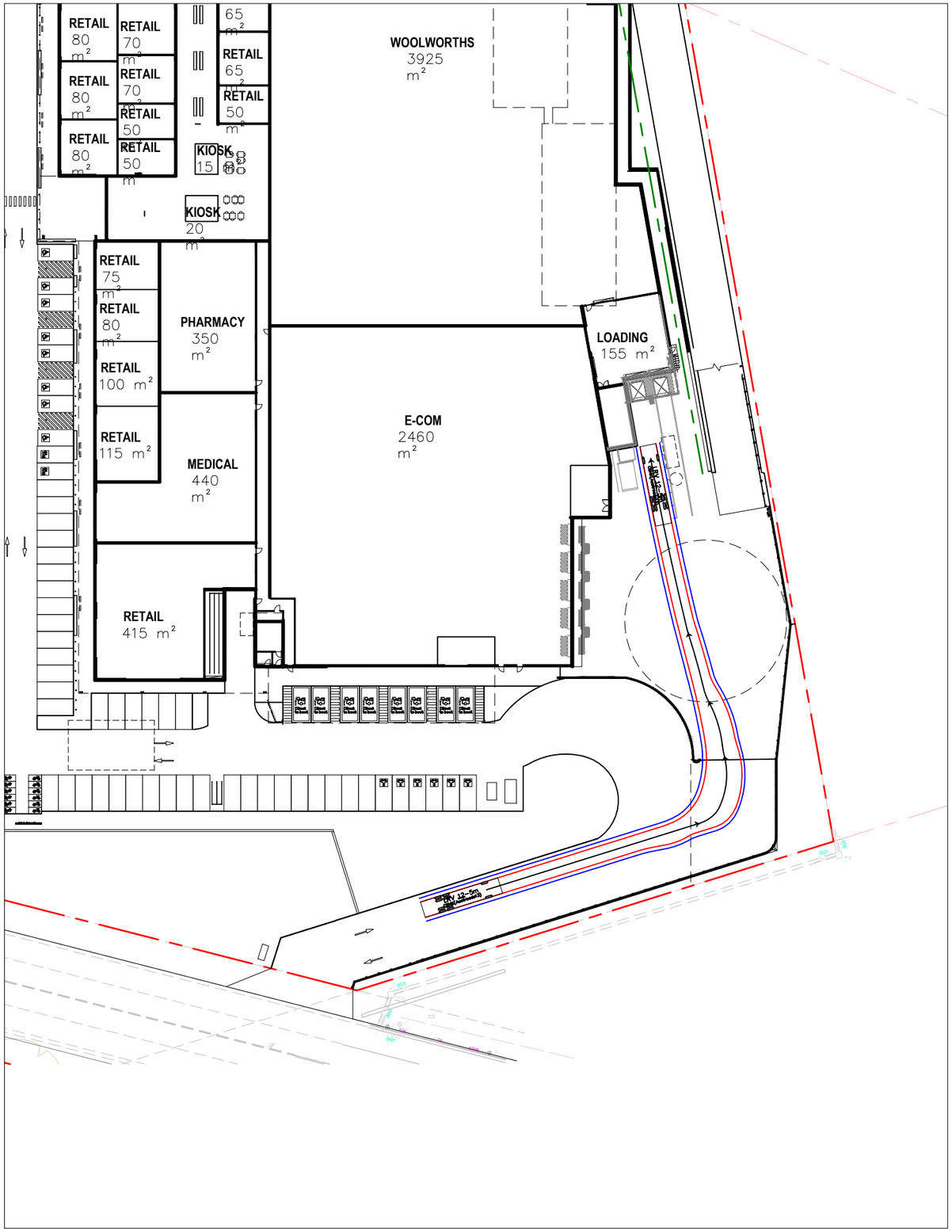
DRAFT

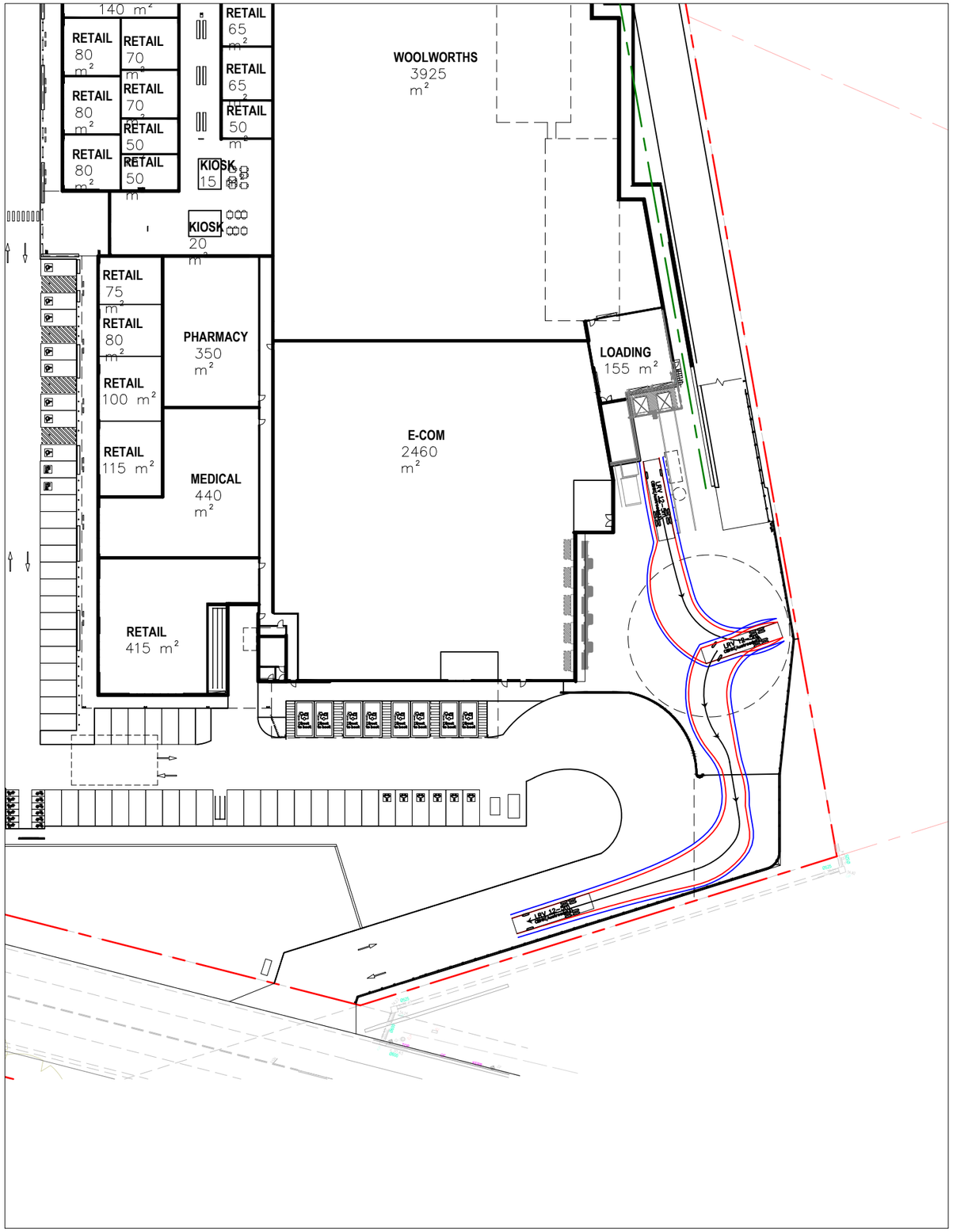
GROUND FLOOR

18.03.2025

DA2.3 P6

APPENDIX 2 SWEPT PATH ANALYSIS (PREPARED BY OTHERS)





NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS. THIS PLAN SHOULD NOT BE USED FOR COMPLIANCE CERTIFICATION OR FOR CONSTRUCTION.

Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

12.5m LARGE RIGID VEHICLE SWEPT PATHS (WASTE COLLECTION)

DRAWN BY CBRK Pty Ltd_mc Ref: 12232 17.06.2024

A7

APPENDIX 3 BALER EXAMPLE SPECIFICATIONS

Vertical balers

X-series
X50

HEAVY DUTY COMPRESSION

The X50 is designed for users, who demand a high quality machine with focus on reliability, superior press force, and a safe, functional working environment for the operator.

It has a large filling opening and a fast cycle time, making the daily operation as rational as possible.

1 Compact your waste and eject the finished bale. 2 Remove and store the bale until collection. 3 The bale is ejected by a safe two-hand operation. 4 The cross cylinders ensure stable compression and a low overall height.

CE

Technical specifications	
Press force (t)	50
Power supply	3x400V 50Hz 32A
Motor (kW)	5.5
Noise level (dB)	71
Cycle time (sec)	23
Dimensions LxWxH (mm)	1950 x 1400 x 2580
Weight (kg)	2590
Filling opening WxH (mm)	1090 x 600
Filling height (mm)	1250
Chamber height (mm)	1710
Stroke (mm)	1210
Bale size WxDxH (mm)	1200 x 800 x 1100
Bale weight cardboard (kg)	400-450
Bale weight plastic (kg)	450-550

- **Effective operation**
  Due to a fast cycle time
- **Easy installation**
  With a low overall height
- **Safe and steady opening of door**
  Operated by a strong threaded spindle

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