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Proposed Change of Use - Use of Industrial Building for Storage of Materials and Supplies, and Sale of Items

59 Myoora Road, Terrey Hills

Ref: 20137B
Date: July 2020
Issue: E

Table of Contents

List of Figures

List of Appendices

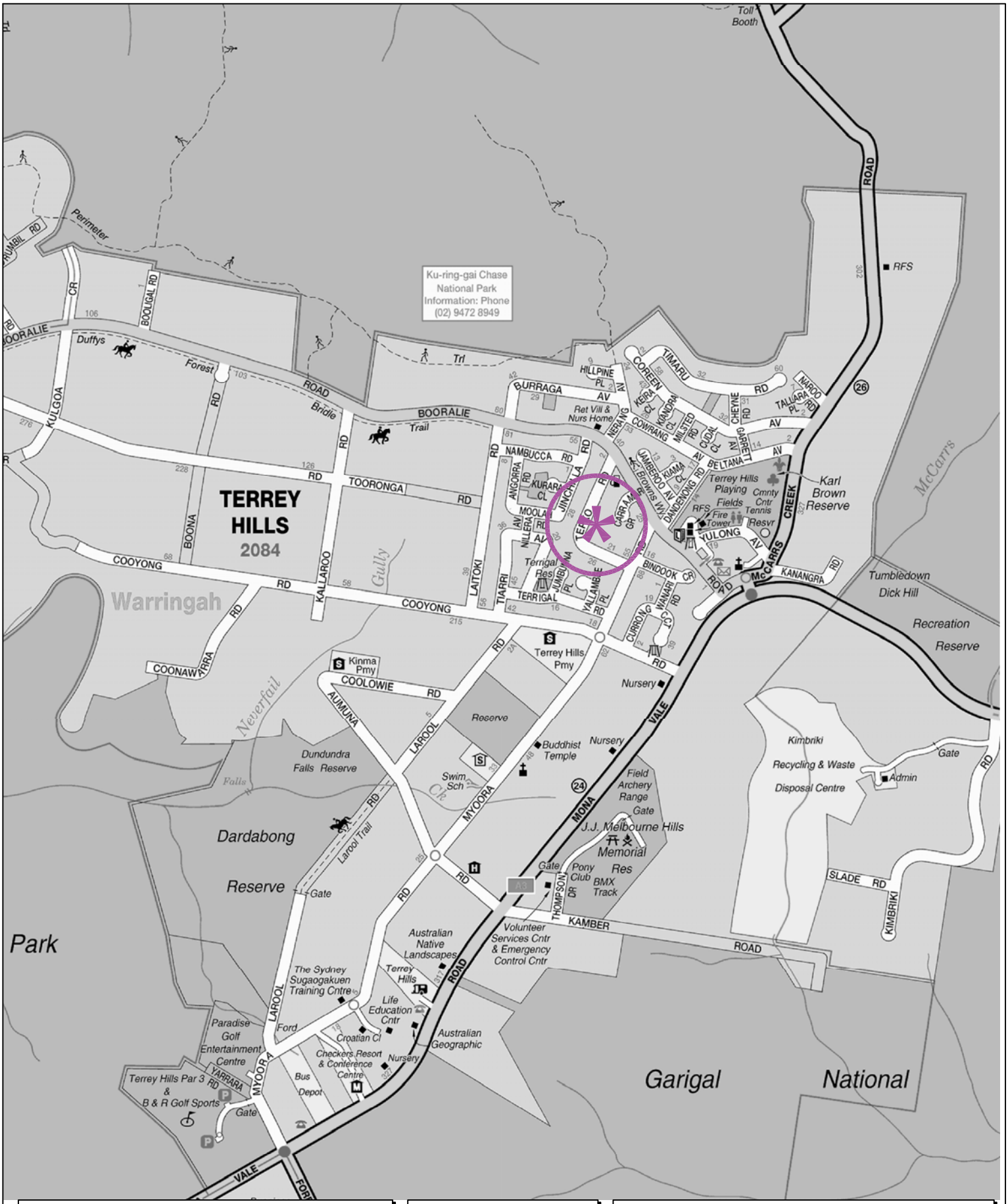
1.0 Introduction

This report has been prepared to accompany a Development Application (DA2020/0263) previously submitted to Northern Beaches Council for a proposed change of use of an industrial building to a premise for storage of building materials and builders and plumbers supplies (building supplies/steel concrete materials), and sale of items (Figure 1).

The site is appropriately proportioned, configured and located to accommodate the proposed change of use and all of its key functions. The proposed development is a permissible land use and supports Council's objectives for the accommodation and generation of jobs and services within the Northern Beaches region.

The purpose of this report is to:

- describe the site, the existing context and the proposed development scheme
- describe the road network serving the site and the prevailing traffic conditions
- describe the available public transport services
- assess the potential traffic implications
- assess the suitability of the envisaged vehicle access, internal circulation and servicing arrangements



LOCATION

FIG 1

2.0 Proposed Development

2.1 Site, Context and Existing Circumstances

The site (Figure 2) being Lot 4 within DP 547022 occupies a generally rectangular-shaped area of some 1,1612m^{2,} having a 30.5m frontage to the western side of Myoora Road. Two vehicle accesses are currently provided on the south-eastern and north-eastern sides of the site, providing connection to an on-grade carpark and building entrance adjoining the front of the existing industrial building. The site is centrally located within the Terrey Hills Light Industrial zone, with various other industrial uses surrounding the site. It is surrounded by similar nature light industrial/commercial uses to the south and west with residential pockets comprising largely single residences to the north and east. The site is currently occupied by a single-storey industrial building located towards the rear of the site and was tenanted by:

- Auto Mechanic
- Storage Unit
- Xcentric Ripper Australia (a concrete contractor).

Prior to the above tenancies, the site was occupied by Terrey Hills Horse Saddle.

2.2 Proposed Development

The proposal includes the change of use and minor fitout works at 59 Myoora Road, Terrey Hills to support the use of an existing industrial building to primarily cater to the sales of both building supplies/steel concrete materials and sheet materials.

The site will also be used as a premise for storage of building materials and builders and plumbers' supplies (building supplies/steel concrete materials), that will enable these products to be sold and distributed from the site for Hardware & General Supplies Limited. A separate application (DA2020/0264) has been submitted for the adjoining site (57 Myoora Road), to cater for the storage and distribution of sheet materials.

SITE

FIG 2

The relevant GFA breakdown for the proposed development is shown in the following:

- Customer/Sales Area 77.3m^2
- Storage 143.2m^2
- Office 22.7m^2

The existing north-eastern driveway off Myoora Road will be widened to accommodate truck access while the existing south-eastern driveway will be retained as part of the development.

The development proposes to have 4 staff at any one time comprising:

- site manager
- 3 general workers

The hours of operation are proposed to be:

- Monday to Friday: 7.00 am and 5.00 pm
- Saturday: 8.00 am to 4.00 pm
- Sundays and Public Holidays: Closed

The development proposes to convert the existing mesh boundary fencing to a more substantial security style fencing (a maximum height of 2.4m) with entrance gates to the property along the eastern site boundary where the main entrance gates are to be located across the driveways.

The site currently has an informal on-grade carpark which can accommodate 6 cars.

Details of the development are provided on the plans prepared by Hardware & General, which accompany the Application and are reproduced in part in Appendix A.

2.3 Hardware & General's Unique Business Model

It should be noted that Hardware & General's business model is unlike the other major players i.e. Bunnings, Mitre 10, Home Timber & Hardware etc. These major players

typically accommodate 70% Do It Yourself (DIY) customers and 30% tradespeople which involves a high number of customers driving to their stores and collecting their own goods. As such, these businesses require a significantly higher number of parking provision and fewer deliveries as compared to Hardware & General store.

Hardware & General's business model comprises 80% account sales to trades with the remaining 20% being non-account. It is also noted that 20% non-account sales include tradespeople.

With a unique business model, most of the Hardware & General's orders come in via phone, fax, emails, online order forms or by Company sales representatives. With the provision of free delivery service, they call out and see the tradespeople on their site, minimising their need to come to the store. The no delivery fee allows tradespeople to save a lot of time and money as well as have higher on-site productivity time instead of calling in to the store to collect their supplies.

2.4 Anticipated Traffic Movements

Based on the proposed hours of operation, the following traffic movements associated with the development are expected:

- 6 am - 7 am (Monday – Friday):
    - H&G staff access only
    - Loading of H&G trucks on-site
- 7 am - 5 pm (Monday – Friday):
    - Customer's vehicle arrival and departure
    - Supplier deliveries
    - H&G deliveries
- 5 pm - 6 pm (Monday – Friday):
    - Closed to customers

  - H&G staff access only
  - Periodically loading of H&G trucks on-site

- 7 am - 8 am (Saturday): H&G staff access only
- 8 am - 4 pm (Saturday):
  - Customer's vehicle arrival and departure
  - H&G deliveries

3.0 Road Network and Traffic Conditions

3.1 Road Network

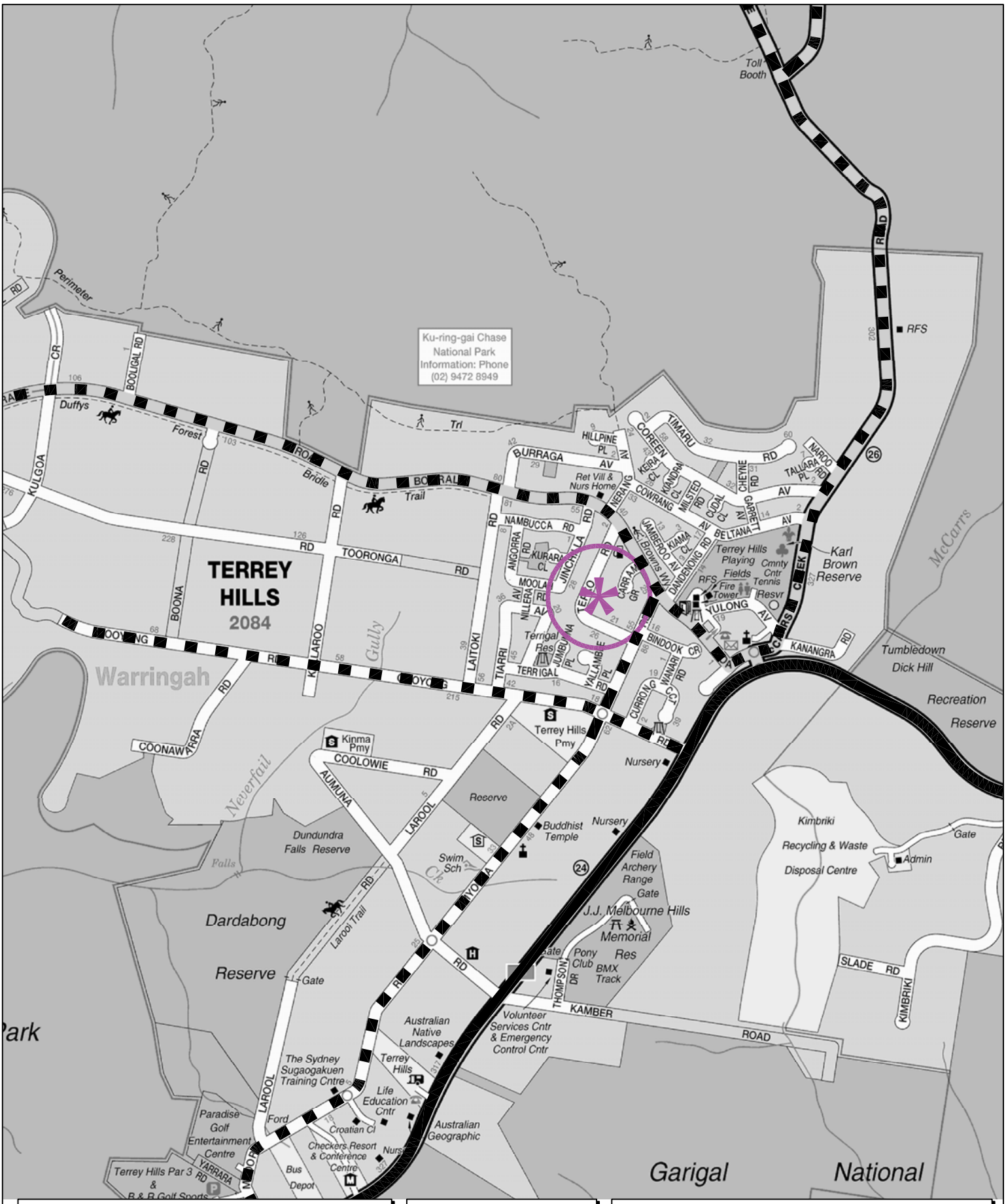
The existing road network serving the site (Figure 3) comprises:

- *Mona Vale Road* – a State Road and arterial route connecting between Pacific Highway at Gordon and Pittwater Road at Mona Vale
- *Forest Way* – a State Road and arterial route connecting between Mona Vale Road and Warringah Road
- *McCarrs Creek Road* – a State Road and major collector route linking between Terrey Hills and Church Point
- *Booralie Road* – a collector road providing access to Terrey Hills and Duffys Forest
- *Myoora Road* – a collector road connecting between Mona Vale Road at Forest Way and Booralie Road
- *Cooyong Road* – a minor collector road which runs to the west of Mona Vale Road
- *Tepko Road* – a local access road connecting between Booralie Road and Myoora Road

Myoora Road has a carriageway width of some 11m and carries one traffic lane and one parking lane in each direction in the vicinity of the site.

3.2 Traffic Controls

The existing traffic controls which have been applied to the roads in the vicinity of the site (Figure 4) include:



LEGEND

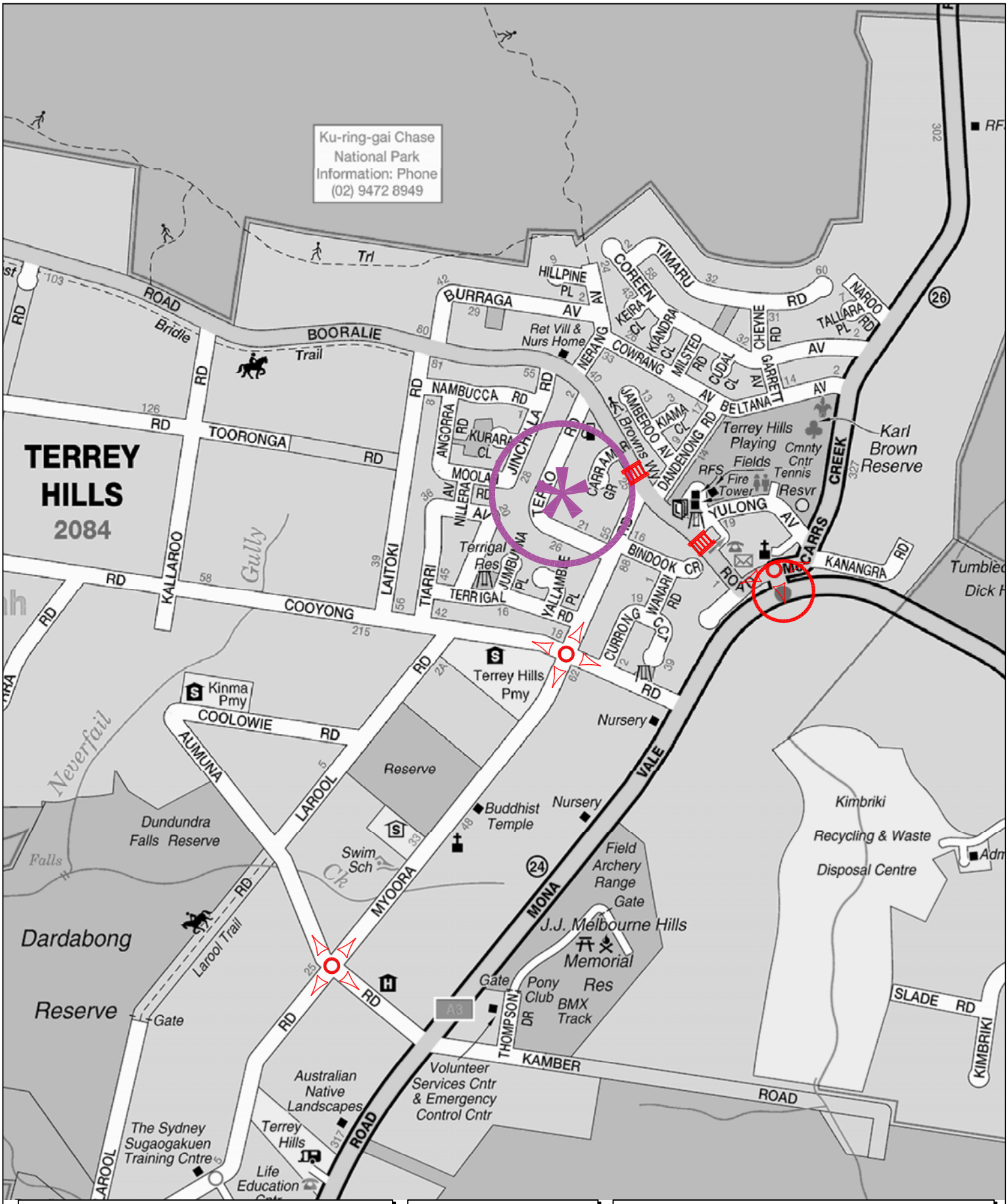
ARTERIAL

COLLECTOR

N

ROAD NETWORK

FIG 3



LEGEND

- TRAFFIC SIGNAL CONTROL
- ROUNDABOUT
- RESTRICTED TURNING MOVEMENT
- PEDESTRIAN CROSSING

TRAFFIC CONTROLS

FIG 4

- traffic signals at the Mona Vale Road, Forest Way and Myoora Road intersection which incorporate the prohibition of the right-turn movement from Mona Vale Road to Myoora Road
- the traffic signals at the Mona Vale Road and McCarrs Creek Road intersection
- the roundabout at the Booralie Road and McCarrs Creek Road intersection
- the roundabout at the Myoora Road and Cooyong Road intersection
- the bus stops on both sides of Myoora Road to the north and south of Cooyong Road
- the marked pedestrian crossings on Cooyong Road and Myoora Road near the intersections of those roads
- the 50kmph speed restriction on Myoora Road, Cooyong Road and Tepko Road with 40 kph school speed zone near the Primary School frontage

3.3 Traffic Conditions

An indication of the existing traffic conditions in the vicinity of the site is provided by data published by the RMS and site observation undertaken as part of this assessment. The data published by the RMS is expressed in terms of Annual Average Daily Traffic (AADT) and the most recently available data is summarised in the following:

Location	AADT
Mona Vale Road west of Forest Way	32,812

Traffic movements on Tepko Road were observed to be relatively minor during the AM and PM peak periods and because there were ample gaps in the traffic flows, vehicle access to/from driveways could occur with no undue difficulty.

3.4 Transport Services

There is a total of 7 bus routes servicing the vicinity of the site as follows:

Service	Destinations	Frequency
Route 196	Mona Vale to Gordon	20 min & 60 min
Route 197	Mona Vale to Macquarie University	30 min & 60 min
Route 260	Terrey Hills to North Sydney	20 min AM & PM
Route 270	Terrey Hills to City	30 min
Route L70	Terrey Hills to City	20 min AM
Route 271	Terrey Hills to City	30 min early & late
Route 284	Duffy Forest to Chatswood	2 AM & PM

The nearest bus stops are located 30m north-east of the site on Myoora Road.

Details of the bus services are provided in Appendix B.

4.0 Traffic

The unique elements of the proposed development involve:

- its primary function is to support and accommodate the patronage demands associated with an existing store at 2-4 Winbourne Road, Brookvale
- serve an existing customer base of nearby suburbs - Duffy Forest, Ingleside, Mona Vale, Warriewood, Elanora Heights, North Narrabeen, Bayview, Newport, Bigola Beach, etc.
- provide free deliveries of materials to the customer's site
- opens early outside of the morning peak period at 7.00 am on weekdays to accommodate the typical tradespersons' work hours.

Based on the above, the projected traffic generation outcomes for patrons are estimated based on the *daily* customer and staff visitation data at the Brookvale store as follows:

- Supplier trucks – up to 1 vehicle per day
- Hardware & General vehicles – up to 4 trucks and 2 utes per day
- Call in Customers: up to 4 vehicles per day
- Potential new customers: up to 8 vehicles per day
- Staff: up to 4 vehicles per day

The traffic generated by the development during the morning and afternoon peak periods will be predominantly related to patron arrivals and departures.

To provide a conservative assessment, it is assumed the following traffic movements will arrive and depart during the peak periods:

- 30% of patron
- 25% of truck/ute

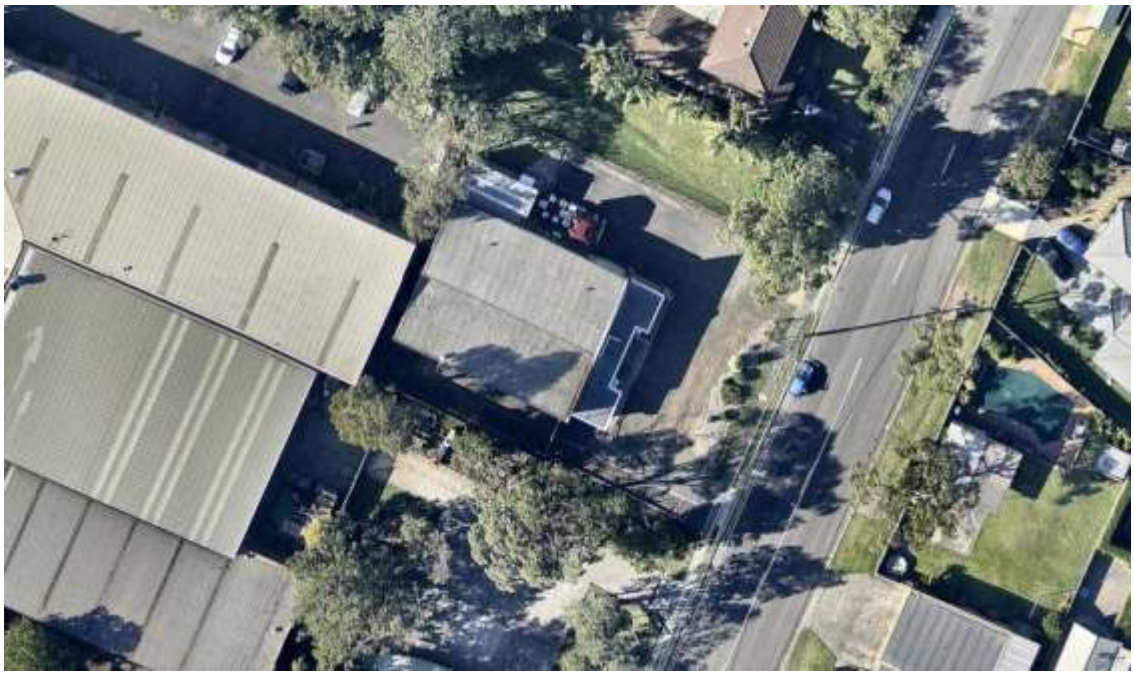
Based on the above, the following *weekday peak hour* traffic generation is projected:

- 4 customer vehicles: 8 vehicle trips per hour
- 2 trucks/utes: 4 vehicle trips per hour

Total: 12 vehicle trips per hour

Traffic movements of this magnitude will be minor and equivalent to 1 vehicle trip every 5 minutes every minute during the peak hours. It is therefore apparent that the proposal will not result in any unacceptable traffic capacity, safety, or related environmental consequences in the context of the surrounding traffic operations.

Moreover, the use of Myoora Road by vehicles (including trucks) accessing the industrial uses, which abut them is entirely appropriate and consistent with their functional role in the road network. In addition, the site has traditionally operated with visitation by up to 16m truck. See the following figure.



Overall, the proposed development presents an improved and safer design via the widening of the north-eastern driveway to accommodate the truck turning for forward in and out movements and the provision of formal parking spaces for disabled person, customers and trucks.

5.0 Access, Internal Circulation and Servicing

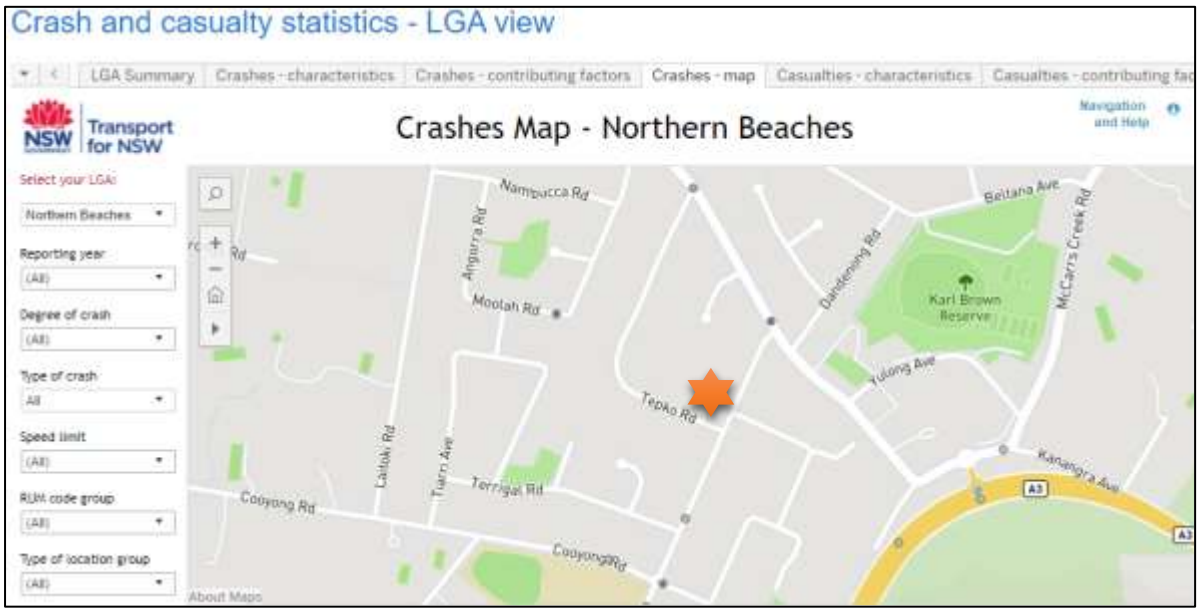
5.1 Access

Vehicles that will access the site include B99 cars, utes, vans and 10.7m rigid flat tray delivery trucks.

The existing 4.3m-wide driveway will be widened to 5.5m to accommodate the turning path of a 10.7m truck entering and exiting the site.

The turning path assessment provided in Appendix C confirms that satisfactory provision will be available for access and manoeuvring for the truck to enter and exit the site in a forward direction.

Crash data for roads around the site has been obtained from TfNSW Centre for Road Safety – Crash and Casualty statistics LGA view. The data relates to the five-year period to December 2018. During this period, no crashes were recorded in the vicinity of the site. The data indicates that there are no vehicle and pedestrian hazards/risks at the surrounding local roads of Tepko Road and Myoora Road in the vicinity of the site including the existing driveway.



The access gate will remain open during the operation hours to ensure that vehicles will not queue across the footpath and onto Myoora Road while waiting to enter the site.

The open style fencing and gate designs allow a relatively unobstructed view for exiting drivers to pedestrians on the footpath along the western side of Myoora Road and entering vehicles.

5.2 Internal Circulation

The existing on-grade car parking and truck parking footprint will be retained as part of the proposed development. The following modifications will be made to the existing carpark to accommodate truck turning paths and compliance with DCP car parking and AS2890.1 and 6 requirements:

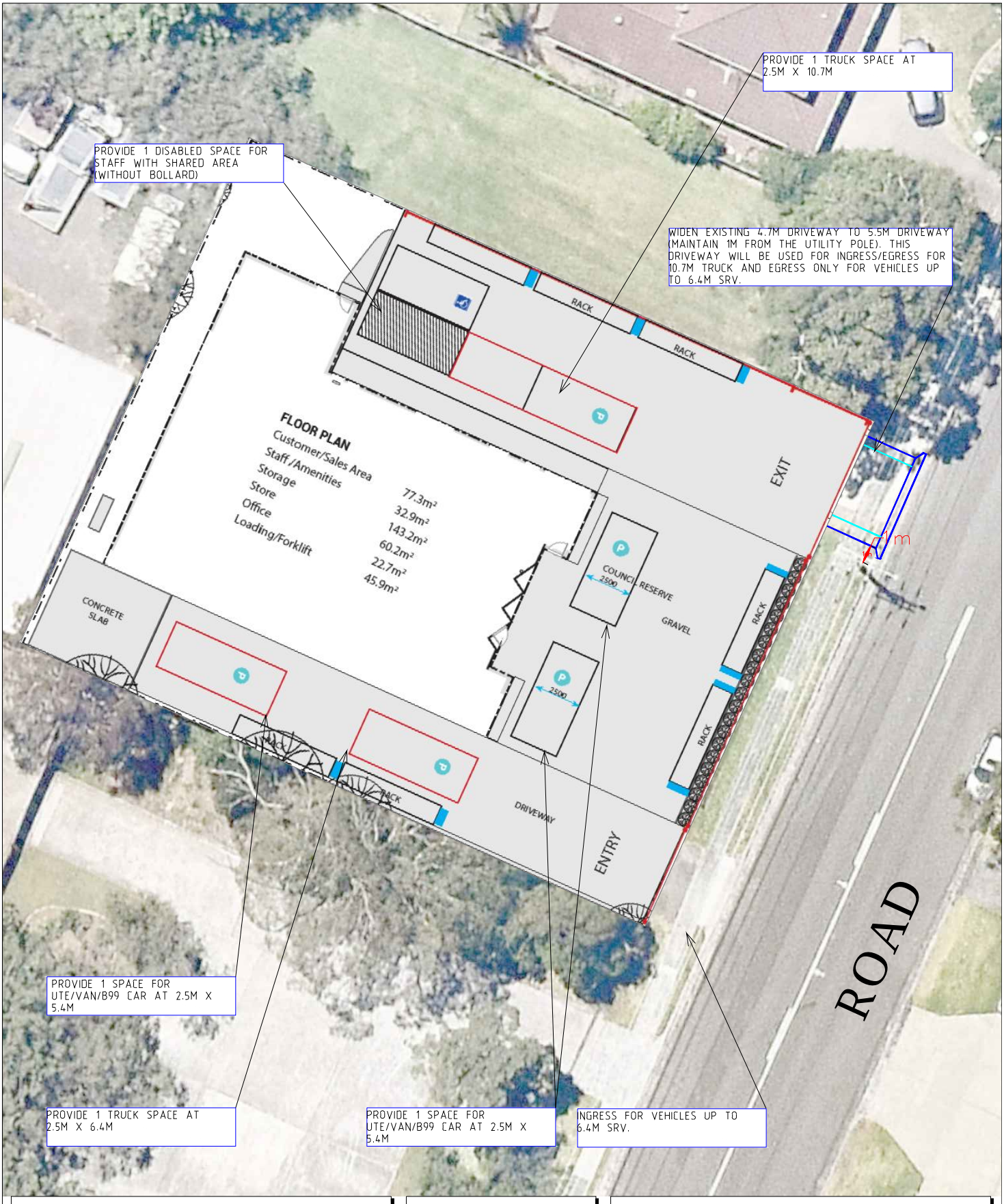
- Provide 1 truck space to accommodate up to 6.4m small rigid vehicle (SRV)
- Provide 1 truck space to accommodate up to 10.7m truck
- Provide 1 disabled space with 1 shared area
- Provide 2 spaces for utes/vans/B99 cars

The proposed parking arrangement which can accommodate up to 4 cars (including 1 disabled space) and 2 trucks is shown on figure overleaf.

The truck will reverse into the truck parking space via the on-grade car parking aisle and depart from the site in a forward direction.

5.3 Servicing

Deliveries and refuse removal (by private waste contractor) will occur on-site outside of the peak periods. Other servicing of the proposed development related to courier activity, maintenance, etc. which only involve small vehicles such as van, utes, etc. can rely on the available visitor spaces.



N

PROPOSED CAR PARKING MODIFICATIONS

A loading management plan will be in place to appropriately manage the truck space so that a vehicle arriving is not presented with a scenario where the service space is occupied.

In the rare event, if another truck arrives at the site while the truck space is occupied, the on-site manager/worker will assist the truck driver to temporarily park within the parking aisle to the north of the 10.7m truck space. This will ensure that access in and out of the remaining parking spaces are not obstructed.

6.0 Parking

Council's (Warringah) DCP specifies the following parking criteria in relation to the proposed development elements:

Shop	1 space per 16.4 m^2 GLFA
Distribution Centre	1.3 spaces per 100 m^2 GFA

Application of these criteria to the proposed development would indicate the following:

Customer/Sales area	77.3 m^2	4.7 spaces
Storage/office	165.9 m^2	2.2 spaces
Total:		**6.9 (7) spaces**

The development proposes a total of 6 parking spaces. Given the nature of the business, 2 of these spaces can accommodate one small rigid vehicle and one 10.7m rigid vehicle. 1 space will be designated for the proposed development will be suitable for disabled driver in accordance with BCA requirements.

While the proposed car parking space of 6 spaces is slightly short of Council's DCP requirement of 7 spaces, the remaining car parking demand of 1 space (for staff) can be accommodated within the carpark of 57 Myoora Road site.

With trucks arriving typically outside the peak periods, the 10.7m rigid vehicle space can accommodate up to 2 cars as required.

As such, it is assessed that the proposed parking provision and arrangement will be suitable and appropriate to the needs of the business operation.

7.0 Conclusion

The proposed 'Hardware & General' store at 59 Myoora Road, Terrey Hills, will continue to support the local employment needs and serve an existing hardware, building and plumbing supplies market that has been established since 1960.

The traffic, transport and parking assessment provided in this report indicate that the development will:

* not present any unsatisfactory traffic capacity, safety or related environmental implications

* incorporate a suitable and appropriate parking provision

* incorporate suitable vehicle access, internal circulation and servicing arrangements

* make appropriate provision for pedestrians and disabled driver

Appendix A

Architectural Plans

COUNCIL RESERVE

ACCOUSTIC WALL
3.5M HIGH
REDUCING TO
1.8M IN HEIGHT

9,400

38,100

28,500

4500

RACK

RACK

WIDEN EXISTING
DRIVEWAY TO
5.5M WIDE

EXIT

8,400

1M FROM POLE

SCREEN PLANTING

FLOOR PLAN

Customer/Sales Area	77.3m²
Staff /Amenities	32.9m²
Storage	143.2m²
Store	60.2m²
Office	22.7m²
Loading/Forklift	45.9m²

COUNCIL RESERVE

2500

GRAVEL

RACK

RACK

FOOTPATH

16,080

30,480

MYOORA ROAD

DP1101971

INSTALL OPEN FEEL, PRESSED
SPEAR, BLACK METAL FENCE
WITH ELECTRIC SLIDE OPENING
GATE.
36.575M X 2.4M

6,000

CONCRETE
SLAB

DRIVEWAY

ENTRY

RACK

RACK

DP530175

DP547022
SITE AREA
1161.3M2

Hardware & General Supplies Limited
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59 MYOORA ROAD, TERREY HILLS
CHANGE OF USE
SCALE @ A2: 1:100 DATE: DECEMBER 2019
PAGE: 2 OF 6 TITLE: SITE PLAN

COUNCIL RESERVE

ACCOUSTIC WALL
3.5M HIGH
REDUCING TO
1.8M IN HEIGHT

4500

EXIT

5x7.5 mtrs

3400

3100

4000

STORE

STORE

27.2m2

REMOVE EXISTING
OFFICE WALL

7200

6300

3100

3600

Cut & Bend

STORAGE

OFFICE
22.68M2

REPLACE EXISTING
WINDOW WITH
OPENING DOORS

RACK

A

A

15000

METER
ROOM

STORAGE

TRUCK PARK
3.5 X 9.4

FORKLIFT
5.4 X 2.4M

RACK

4000

STORE
11.2M2

3600

2300

6600

13000

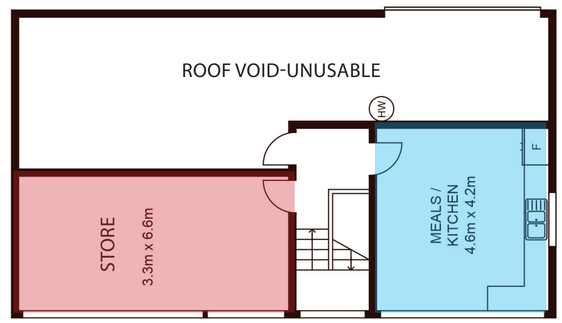
3100

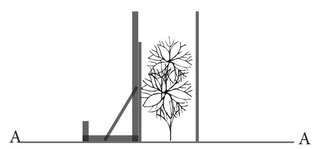
ENTRY

FLOOR PLAN

Customer/Sales Area	77.3m^2
Staff /Amenities	32.9m^2
Storage	143.2m^2
Store	60.2m^2
Office	22.7m^2
Loading/Forklift	45.9m^2

MEZZANINE OFFICES/LUNCHROOM





SECTION VIEW A-A

2.4M BLACK PRESSED METAL FENCE

SCREEN PLANTING BETWEEN RACK & FENCE

PRODUCT RACKING BACKED WITH COLOURBOND DARK COLOUR PROFILE FENCE

ANGLE LOAD RACKING ON FOOTINGS TO ENGINEERED SPECIFICATIONS

Hardware & General Supplies Limited
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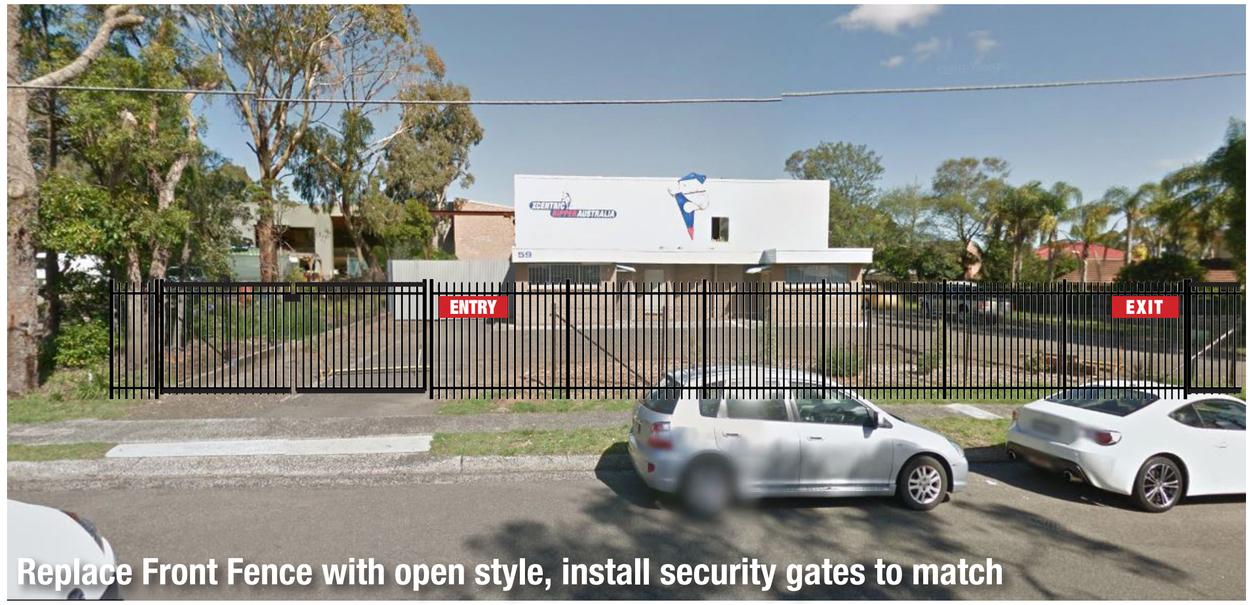
59 MYOORA ROAD, TERREY HILLS
CHANGE OF USE
SCALE @ A2: 1:100 DATE: DECEMBER 2019
PAGE: 9 OF 6 TITLE: RACKING PLAN

Building Sign approx 15x1.2mtrs

Repaint Building, Install Signage to Awning



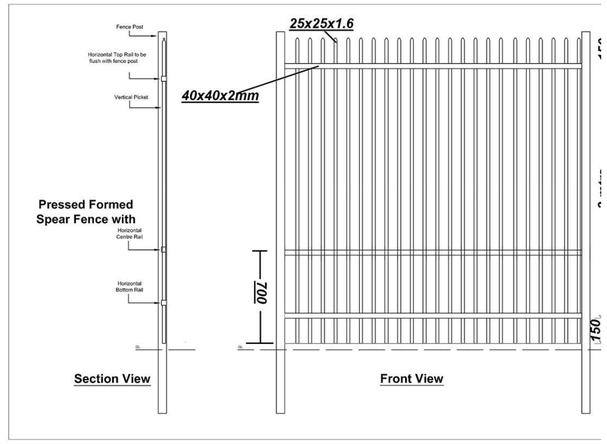
2400

Replace Front Fence with open style, install security gates to match

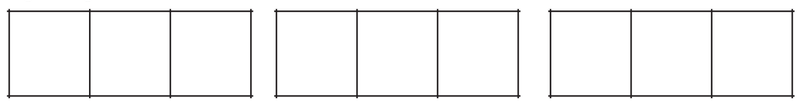
Colours

Building Colour: Dulux Teahouse Grey
Signs: Hardware & General Red on Alupanel, white lettering

Fencing 30m, including gates to 6m
Profile: Black Pressed Form Spear
Gates: Internal Slide -electric



Lightweight framework between columns



1200

15000

3600

400

3600

400

1200

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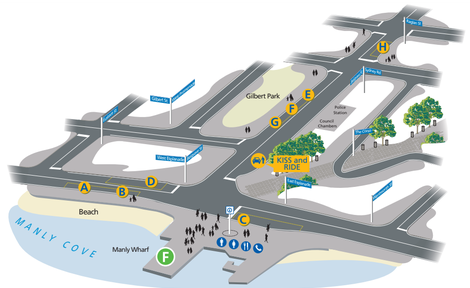
59 MYOORA ROAD, TERREY HILLS
CHANGE OF USE
SCALE @ A2: 1:100 DATE: DECEMBER 2019
PAGE: 6 OF 6 TITLE: SIGNAGE PLAN

Appendix B

Bus Services

Manly Wharf
Service Information

▶ Departure Guide



Stand A	Stand B	Stand C	Stand D	Stand E	Stand F	Stand G	Stand H
132 171x	143 144	136 139 135 to Warringah Mall.	135 to North Head.	170x	142 150x	146 158 159 169 199 151 to Mona Vale.	151 to City.

Services continue on Palm Beach Map

Elanora Heights
Narrabeen
Narrabeen Lakes
North Narrabeen Beach
Narrabeen Beach
Wheeler Heights
Collaroy Plateau
Collaroy Beach
Fishermans Beach
Long Reef Beach
Oxford Falls
Cromer Heights
Cromer
Narraweena
Dee Why Lagoon Wildlife Refuge
Dee Why Beach
Dee Why
Beacon Hill
Dee Why Beach
Northern Beaches Hospital
Frenchs Forest
Skyline Shops
East Killara
Garigal National Park
Wingala
North Curl Curl
Warringah Mall
Allambie Heights
Brookvale
Curl Curl Lagoon
Curl Curl
South Curl Curl
Killara
Forestville
House with No Steps
Killarney Heights
Manly Vale
Lin of NSW Water Research Laboratory
North Manly
Freshwater
Freshwater Beach
East Lindfield
Roseville
Roseville Chase
Lindfield
Queenscliff
Queenscliff Beach
North Steyne Beach
Castle Cove
Fairlight
Route 139 Street Legend
1. Bridge Rd
2. Pavilion St
3. Greycliffe St
North Willoughby
Chatswood Interchange
Chatswood Station
North Willoughby
Middle Cove
Seaforth
Balgowlah
Manly
Willoughby Depot
Castlecrag
Castlecrag
Middle Harbour
The Bluff
The Spit
Beauty Point
Northbridge
Chatswood
Artarmon
Naremburn
Northbridge
Clontarf
Balgowlah Heights
Manly Wharf
Dobroyd Head
North Harbour
Lane Cove
St Leonards
Crows Nest
Crows Nest
Cammeray
Spit Junction
Balmoral Hts
Balmoral
Grotto Point
North Head
Neutral Bay
Cremorne
Spit Junction
Mosman
Mosman Junction
Middle Head
North Sydney
Neutral Bay Wharf
Clifton Gardens
Mosman Wharf
Taronga Zoo
Chowder Bay
Kirribilli
Cremorne Point
Taronga Zoo Wharf
Port Jackson
McMahons Point
Milsons Point
Mosman Sth Wharf
Cremorne Wharf
Joins Sydney CBD Inset above

Passengers Please Note: Other bus services operate in this area and may not be shown on this map. Please refer to the Western Region Guide for a comprehensive listing of these other services.

Miller Street Buses: 168 151 202 208 228; 172 154x 203 209 229; 150x 188 207 227 230

Direct Freeway Buses: 165x 170x 178x 188x 206 248; 166x 171x 179x 192x 215 270; 168x 175x 180 190x 244 272; 169 176x 180x 201 245 340; 172 177x 183x 204 246; 170 178x 189x 205 247

Pittwater Road Services: 151 165 182x; 154x 185x 190x; 160x 188 199; 183x 188x; B1 B-line

Pittwater Road Services: 151 180 185x 190x; 154x 180x 188 199; 155 183x 188x; 160x 185 189x; B1 B-line

Burnt Bridge Creek Deviation: 166x 178x 154x; 176x 179x 190x; 177x 180x; 165x 185x 189x; 183x 188x; B1 B-line

The Spit Bridge Services: 166x 178; 168 178x; 169x 172x; 171x 180; 178x 180; 172x 179; 248 173; B1 B-line

Ferry Wharf Legend: A Neutral Bay; B Kurraba Point; C North Sydney; D Kirribilli; E Cremorne Point; F Old Cremorne; G Mosman Bay; H South Mosman; J Taronga Zoo; K Milsons Point; L McMahons Point

N

0 kilometres 1 approximate distance

Legend
- Police Station
- Park and Ride
- Hospital
- Shopping Centres
- Metro Station
- Railway Station
- Light Rail Stop
- Educational Institutions
- Sporting Facility
- Place of Interest
- Bus Route
- Bus Route Terminus

As at 3 May 2020
Cartography by TransitGraphics

State Transit
Northern Beaches & Lower North Shore

Sydney CBD
Bus Service Inset

Joins Main Map

Sydney Harbour

Circular Quay
Wynyard (Carrington St)
Wynyard (Jamison St)
Wynyard (York St)
Wynyard (Clarence St)
Queen Victoria Building
Town Hall
Sydney
City (Gresham St)

151 180 190x 246; 166x 180x 243 247; 176x 183x 244 249; 177x 185x 245; 178 188; 178x 189x; 179x 189x; B1 B-line

165x; 170x; 168x 169x 171x 272; 169 170 175x

Late Night Services: 151 188

1 Sydney Opera House; 2 Government House; 3 GPO Clock and Cenotaph; 4 State Library of NSW; 5 NSW Parliament House; 6 Sydney Hospital; 7 St Marys Cathedral; 8 Supreme Courts; 9 Great Synagogue; 10 ANZAC War Memorial; 11 Queen Victoria Building; 12 Sydney Town Hall; 13 St Andrews Cathedral; 14 Hte Street Mall; 15 Australian Museum; 16 Darling Harbour Entertainment Centre; 17 The Domain; 18 King Street Wharf

TASMAN SEA

Pittwater
Palm Beach
Whale Beach
Stokes Point
Careel Bay
Careel Head Rd
Avalon
Bilgola Plateau
Bilgola
Scotland Island
Church Point
Ku-ring-gai National Park
McCarrs Creek
Newport
Mona Vale
Bayview
Bayview Garden Village
Elanora Heights
North Narrabeen

Palm Beach: 190x 199; B1 B-line

Careel Head Rd: 190x 199 188x; B1 B-line

Avalon: 191 188 192 189x; 188 189x 188x 190x 199

Barrenjoey Road Services: 188 189x 199; 188x 190x

Mona Vale: 151 180x 154x 182 156 185; B1 B-line

Pittwater Road Services: 151 188 190x; 154x 188x 199; 155x 189x; B1 B-line

State Transit Services do not operate in this area.

Please call 131 500 for information.

Services continue on Main Map

Appendix C

Turning Path Assessment

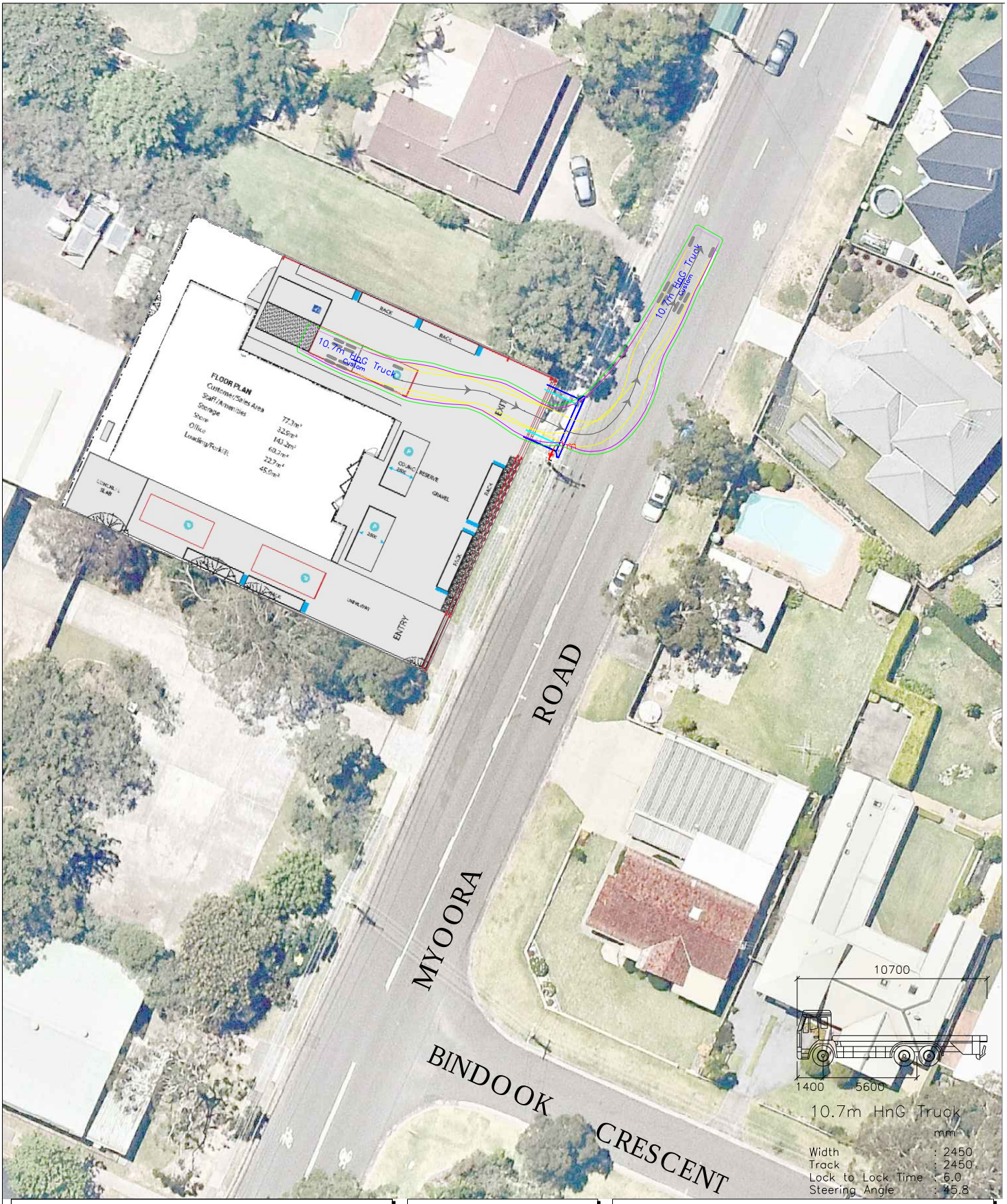
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTURN PRO10 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A 10.7M TRUCK ENTERING THE SITE VIA THE NORTH-EASTERN DRIVEWAY

SP 1



LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTURN PRO10 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A 10.7M TRUCK EXITING THE SITE VIA THE NORTH-EASTERN DRIVEWAY

SP 2

LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTURN PRO10 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A 6.4M TRUCK ENTERING THE SITE VIA THE SOUTH-EASTERN DRIVEWAY

SP 3

LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTURN PRO10 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A 6.4M TRUCK EXITING THE SITE VIA THE NORTH-EASTERN DRIVEWAY

SP 4

LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTURN PRO10 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A B99 CAR ENTERING VIA THE SOUTH-EASTERN DRIVEWAY AND EXITING THE SITE VIA THE NORTH-EASTERN DRIVEWAY

SP 5

LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTURN PRO10 in conjunction with AutoCAD 2018. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

N

SWEPT PATH ANALYSIS OF A B99 CAR ENTERING VIA THE SOUTH-EASTERN DRIVEWAY AND EXITING THE SITE VIA THE NORTH-EASTERN DRIVEWAY

SP 6