commute
TRANSPORTATION CONSULTANTS

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Mr T Morgan
Tattico
PO Box 91562
Victoria Street
Auckland 1142

8 May 2025

Copy via email: **tom.morgan@tattico.co.nz**

Dear Tom

TRAFFIC ASSESSMENT REPORT – 147-153 EDGEWATER DRIVE, PAKURANGA: EXPANSION

Further to your instruction, we are pleased to provide this traffic assessment in respect to the proposed variation at 147-153 Edgewater Drive, Pakuranga for rest home apartments, and a variation to the proposed ground floor layout (11 additional carparking spaces proposed) and Building A basement carpark layout.

1 INTRODUCTION

This report addresses the transport and traffic aspects and effects of the proposed rest home apartment development and the expansion of the existing rest home basement carpark in the proposed Building A basement.

It is noted that the Proposed Plan Change 79 Council Decision version became public on 9 August 2024. This report includes an assessment on these proposed changes to the transport provisions of the Unitary Plan, and is provided within Attachment B. The decision has been appealed in full to the Environment Court and therefore PC79 is not operative.

This report assesses the transport-related matters of the proposal, including:

- A description of the site and its surrounding transport environment;
- A description of the key transport-related aspects of the proposed development;
- The expected volume of vehicle traffic likely to be generated by the development;
- The proposed parking arrangements and assessment against regulatory requirements;
- The proposed access arrangements and assessment against regulatory requirements; and
- The proposed servicing arrangements.

These and other matters are addressed in detail in this report. By way of summary, it is considered that the proposed development, as outlined in this report, is likely to have minimal adverse effects to the function, capacity, and safety of the surrounding transport network.

commute TRANSPORTATION CONSULTANTS
Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

2 ROAD ENVIRONMENT

2.1 SITE LOCATION

The site is located at 147-153 Edgewater Drive in Pakuranga. Figure 1 below shows the location of the site in relation to the surrounding area.

Figure 1: Site Location

Edgewater Drive (essentially a loop) runs along a south-north alignment connecting to Ti Rakau Drive at either end. Edgewater Drive provides for a single traffic lane either direction and on-street parking is permitted on both sides of the carriageway. Footpaths are provided on both sides of the road on Edgewater Drive, Susanne Place and Raewyn Place near the site, however no specific cycle facilities are available.

The site is zoned 'Residential – Mixed Housing Suburban Zone' in the Unitary Plan, as are the surrounding properties. Edgewater Drive, Susanne Place and Raewyn Place are not classified as an 'Arterial Road' in the Unitary Plan. The posted speed limit in the area is 30km/h.

2.2 TRAFFIC VOLUMES

Traffic volume data for Edgewater Drive was available from Auckland Transport traffic counts[1]. In March 2023 Edgewater Drive (between Snell Place and Mangos Place) had a 5-day Average Daily Traffic Count (ADT) of 2,103 vehicles per day (vpd) in both directions. The morning peak hour volume was 410 vehicles per hour (vph) and the evening peak hour volume was 262 vph

1 https://at.govt.nz/about-us/reports-publications/traffic-counts

commute TRANSPORTATION CONSULTANTS

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

2.3 PUBLIC TRANSPORT

A pair of bus stops are located some 350m (4 minute walking distance) from the site on Ti Rakau Drive providing services to the following routes:

- Route 70 (frequent service[2]) linking Botany, Pakuranga, Panmure, Ellerslie, Newmarket, City; and
- Route 352 (peak period service[3]) linking Panmure, Highbrook, East Tamaki and Manukau.

Figure 2 below shows the existing public transport services in the local area.

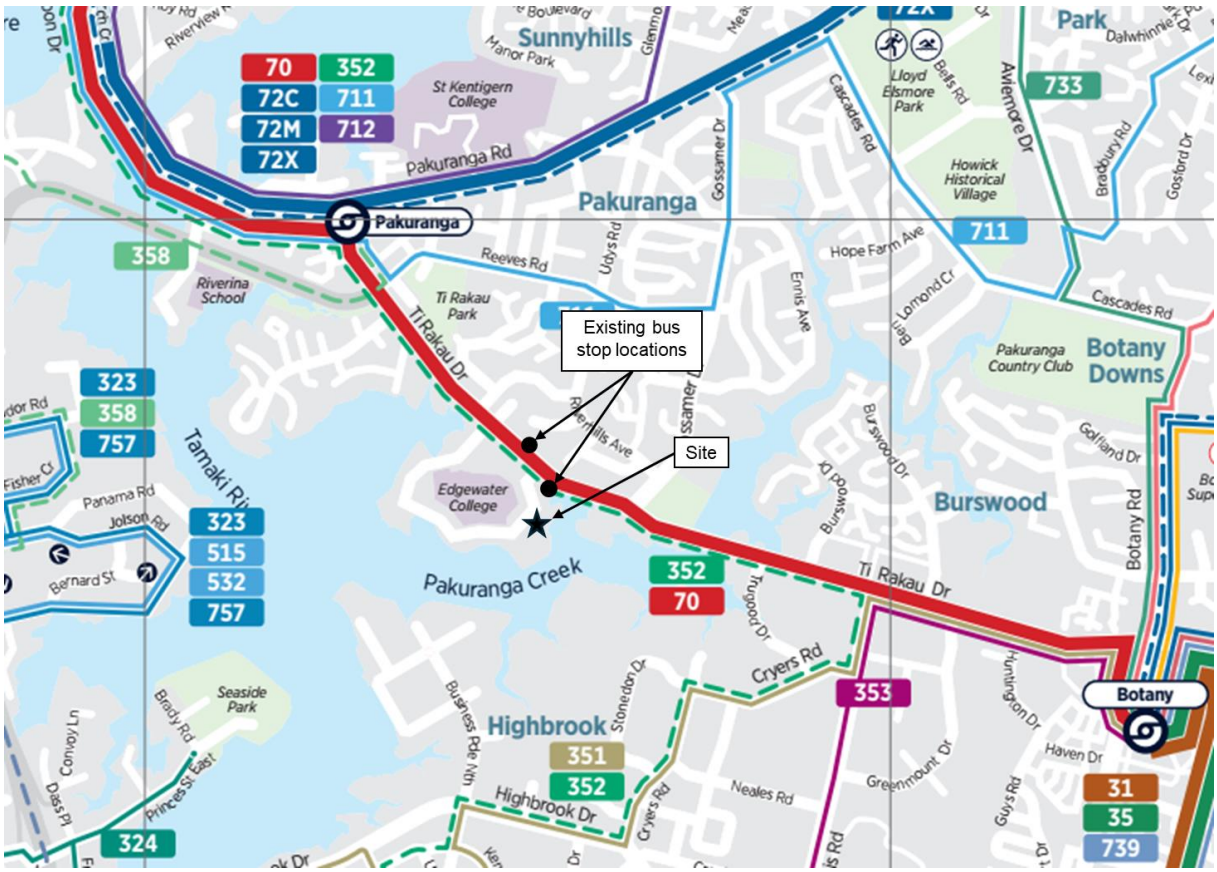


Figure 2: Existing public transport services near the site

It should be noted that the Pakuranga to Botany section of the Eastern Busway is currently under construction. Once complete the nearest pair of bus stops will be located some 550-600m (7-10 minute walking distance) from the site on Ti Rakau Drive.

The proposed development is therefore adequately connected from a public transport perspective and is likely to encourage some movements by public transport (generally staff) services to and from the site.

2.4 ROAD SAFETY ASSESSMENT

An assessment of the road safety record has been undertaken using the NZTA CAS database. The crash search was undertaken for all reported crashes on Edgewater Drive within 250m of the site,

2 Operating at least every 15 minutes, 7am – 7pm, 7 days a week.
3 Operating weekdays only, during morning and afternoon peak

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

including the Edgewater Drive / Susanne Place and Raewyn Place / Edgewater Drive intersections for the five-year period from 2019 to 2023 and including all available data for 2024.

The crash history of the surrounding area identifies the following trends:

- Two crashes occurred on Edgewater Drive near the site, with no injuries. These crashes were a result of drivers hitting parking vehicles; and
- One crash occurred on Edgewater Drive approximately 200m away from the site, with no injuries. The crash occurred as a consequence of an inexperienced driver losing control of their vehicle.

A collision diagram of the surrounding area is included in Figure 3 below.

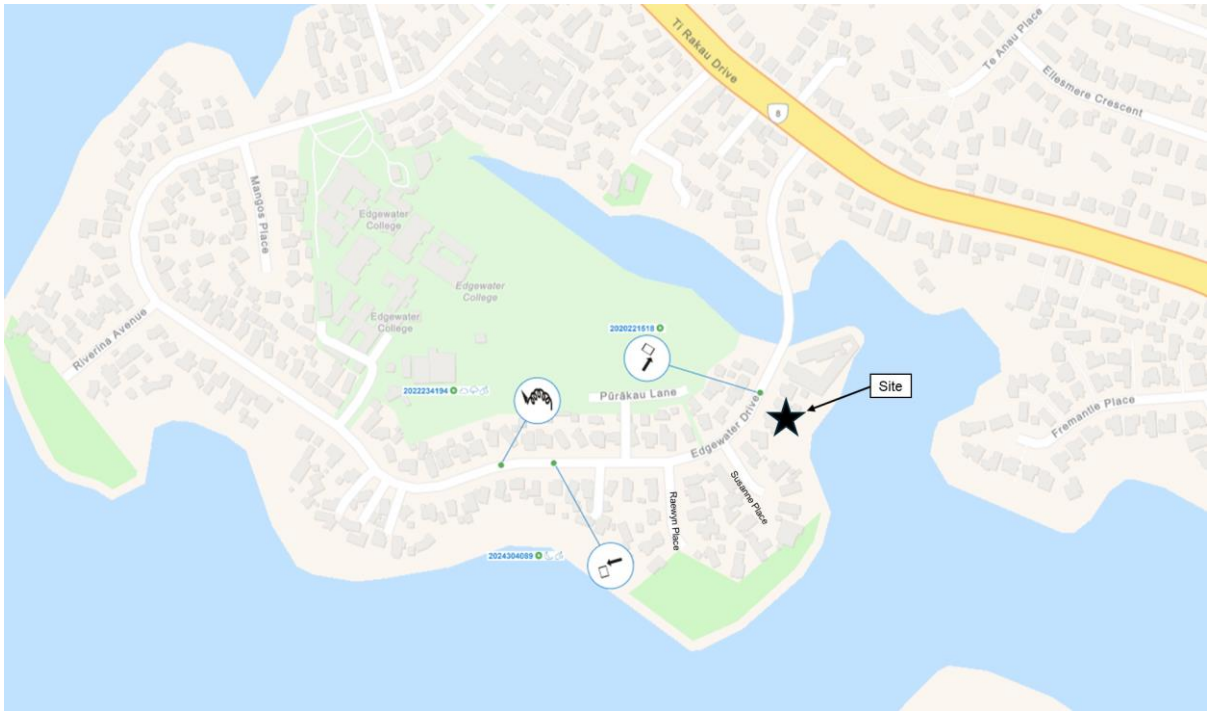


Figure 3: Collision diagram

Whilst three crashes occurred near the site, there is no history of accidents occurring relating specifically to movements into and out of the site. As such, the crash history does not indicate any significant safety concerns.

3 CONSENTED DEVELOPMENT

The consented development would include the demolition of all existing structures, and the construction of two three-storey building (Buildings A and B) as part of a Retirement Village (Integrated Housing Development).

Access would be via two new one-way 3.5m wide vehicle crossings which would provide entry to at-grade parking spaces with frontage onto Edgewater Drive as well as through the existing Ambrose Rose Manor basement serving additional parking spaces.

Figure 4 and Figure 5 below shows the consented development and parking.

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Figure 4: Consented development layout

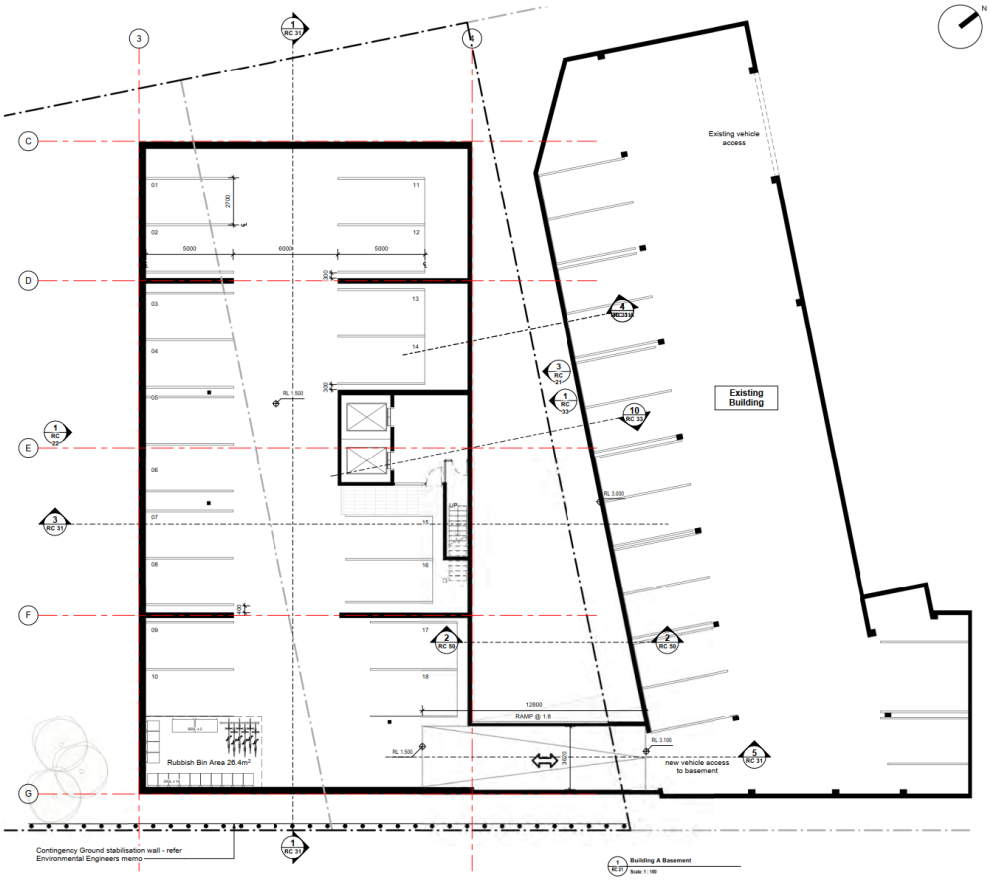


Figure 5: Consented basement parking

commute TRANSPORTATION CONSULTANTS

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

4 PROPOSED DEVELOPMENT

The client wishes to apply for a new resource consent for Buildings A and B to each be six-stories in height. The proposal seeks to provide a total of 51 residential units (24 residential units in Buildings A and 27 residentials units in Building B) supported by 50 parking spaces (including two mobility space). There will be a total of 31 parking spaces on the ground floor and 19 carparking spaces in the Building A basement.

Access to the site will be via two one-way crossings with frontage onto Edgewater Drive and via the existing basement at the hospital / rest home.

Figure 6 below shows the proposed development and parking.

Figure 6: Proposed development layout

5 TRAFFIC EFFECTS

5.1 CONSETNED

The consented development was predicted to generate an additional 47-94 vehicle movements on a typical day and 4-8 vehicle movements in the peak hour.

Rule E27.6.1 “Trip generation” of the Unitary Plan sets out trip generation limits as to when resource consent for a restricted discretionary activity is required. This limit is 100 vehicle movements per hour (for activities not specified in Table E27.6.1.1). The proposal is likely to generate 4-8 peak hour trips, so is approximately 4-8% of the level required before the Unitary Plan requires any particular restricted discretionary consent for traffic generation.

5.2 PROPOSED

The proposed development is seeking consent for 51 one, two or three-bedroom residential units.

The peak hour trip generation of the development has been estimated based on the Transport for New South Wales (TfNSW) *Guide to Transport Impact Assessment Version 1.1* (TfNSW Guide). As noted on page 3 of the document, *“This Guide supersedes the GTGD 2002 and TDT 2013/04a on 4*

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

November 2024. This Guide applies to TIAs commenced and development applications lodged on or after 4 November 2024."

For "housing for seniors" the TfNSW Guide suggests PM peak hour vehicle trip generation rates of 0.17 – 0.23 trips per dwelling and a daily vehicle trip rate of 1.8 – 2.39 trips per dwelling.

The proposed development is therefore anticipated to generate 9 – 12 vehicles movements in the PM peak hour and 92 – 122 vehicles movements on a typical day.

5.3 EFFECTS

Rule E27.6.1 "Trip generation" of the Unitary Plan sets out trip generation limits as to when resource consent for a restricted discretionary activity is required. This limit is 100 vehicle movements per hour (for activities not specified in Table E27.6.1.1). The proposal is likely to generate 9 – 12 peak hour trips and therefore below the Unitary Plan threshold. It is considered that this minimal level of traffic generation can be accommodated within the local network. No traffic modelling has therefore been undertaken

Regardless, the site is well served by public transport with nearby bus stops currently within 350m of the site and in the future 550-600m of the site.

6 PARKING

6.1 NUMBER OF PARKING SPACES (E27.6.2)

A total of 50 parking spaces (including 2 mobility spaces) will be provided to support the development as shown in Figure 6 above and Figure 7 below. Table E27.6.2.4 of the Unitary Plan sets out the parking requirement for various activities. For retirement villages and supported residential care, the following requirement is set out:

- *'minimum rate has been deleted; and*
- *'No maximum rate'.*

The Unitary Plan therefore has no minimum or maximum parking spaces. As such, the proposed development complies with the above requirement.

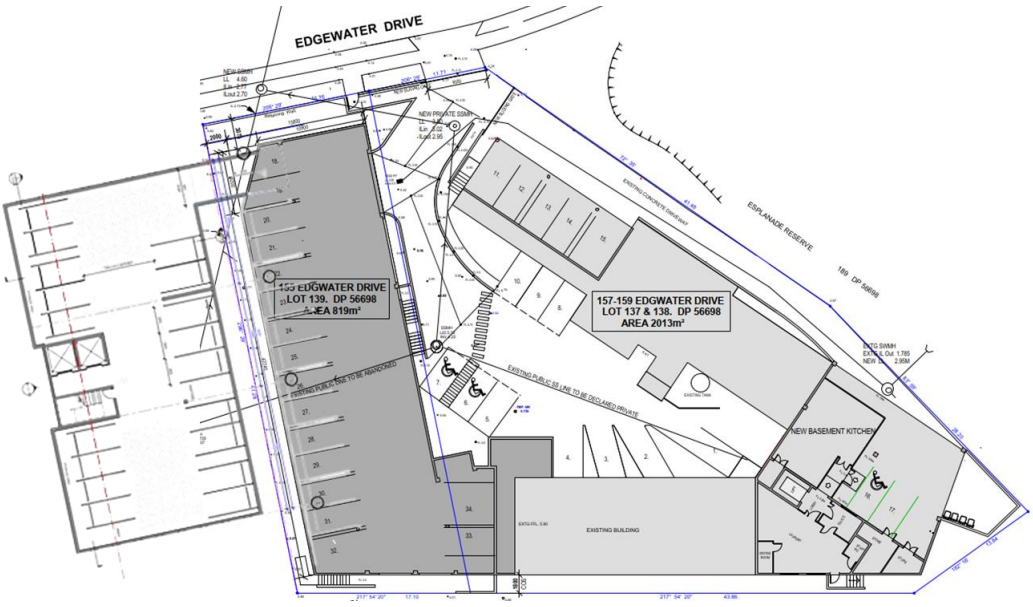


Figure 7: Proposed basement parking layout

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

6.2 BICYCLE PARKING (E27.6.2)

Rule E27.6.2.5 of the Unitary Plan sets out the cycle parking requirement for various activities. Short stay spaces are intended for the use of visitors to the site and long stay spaces are required to be provided in a secure location generally not open to the public and where the cycle does not need to be carried up or down stairs. Long stay spaces are for employees and residents of the development.

For Residential care homes, the Unitary Plan requires the following:

- *'1 space plus 1 space per 30 units / apartments for short-stay'; and*
- *'1 per 10 FTE employees for secure (long-stay) spaces'.*

Table 1 outlines the Unitary Plan cycle parking requirement.

Table 1: Required cycle parking rates

Activity	Unitary Plan cycle parking requirement (minimum)		No. spaces required	
	Short stay (visitor)	Secure (long stay)	Short stay	Long stay
46 residential units	*'1 space plus 1 space per 30 units / apartments'*	*'1 per 10 FTE employees'*	3	1

The Unitary Plan requires 3 short stay and 1 long stay spaces to support the development. As such, cycle parks should be provided in accordance with the Unitary Plan, and it is considered that there are a number of areas where this can be readily accommodated. A condition requiring such cycle spaces to be shown in the building consent plans is recommended.

6.3 LOADING AND SERVICING (E27.6.2)

Table E27.6.2.7 of the Unitary Plan outlines the loading space requirements for various activities. The proposed development is best represented by "All other activities, except for activities within rural zones" for greater than 5,000m^2 up to 20,000m^2 GFA. As such, the Unitary Plan requires one dedicated loading space.

Waste management will be controlled by the placement of up to 4 x 660ltr Wheelie Bins located in the basement for rubbish and recycling collection. Ambridge Rose Manor currently holds a contracted service with Waste Management Ltd to collect 660ltr waste bins 3 times a week. Waste Management Ltd confirm that a pickup service is available 7 days a week if desired. The bins will be towed for collection at specific days/times by a Compact Electric Tug or a similar bin towing device.

6.4 PARKING DIMENSIONS (E27.6.3)

Table E27.6.3.1.1 of the Unitary Plan sets out the minimum car parking space and manoeuvring dimensions. For the 60 degree and 90 degree parking spaces, the following requirement is set out:

For a 60 degree parking space that is 2.5m wide (regular user), the Unitary Plan requires:

- *'5.2m depth of parking space; and*
- *'4.1m manoeuvring space'.*

For a 90 degree parking space that is 2.4m wide (regular user), the Unitary Plan requires:

- *'5.0m depth of parking space'; and*
- *'7.1m manoeuvring space'.*

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

For a 90 degree parking space that is 2.6m wide (regular user), the Unitary Plan requires:

- *'5.0m depth of parking space'; and*
- *'6.3m manoeuvring space'.*

All basement and ground floor spaces meet these requirements. It is noted that the entry to the basement area is one-way (via 3.6m wide 1 in 10 ramp). As such it is recommended the one-way section be controlled by a traffic signal operation with priority given to entry vehicles. Vehicles tracking has been undertaken for some key spaces and is attached as Attachment A.

6.5 FORMATION AND GRADIENT (E27.6.3)

With respect to parking areas, the gradient for the surface of any parking space must not exceed 1:20 (5%) and the gradient for manoeuvring areas must not exceed 1:8 (12.5%).

The maximum grade of the parking spaces are proposed to be no greater than 1:20 and therefore the parking space grade complies with the Unitary Plan.

6.6 ACCESSIBLE PARKING

A total of 2 accessible parking are provided to support the development. These are located on the ground floor parking area as shown in Figure 6 above.

Further, vertical clearance for accessible parking spaces is outlined in Section E27.6.3.5 of the Unitary Plan. This requires 2.5m headroom where access and/or parking for accessible parking for people with disabilities is provided. As the accessible parking spaces are located on the ground floor, this requirement is met.

6.7 LIGHTING

Lighting is required where there are 10 or more parking spaces which are likely to be used during the hours of darkness. The parking and manoeuvring areas and associated pedestrian routes will be designed and lit in accordance with the rules in Section E24 Lighting.

7 ACCESS

7.1 CONSENTED

Access has been consented to be provided via two new one-way 3.5m wide vehicle crossings which would provide entry to the at-grade parking spaces with frontage onto Edgewater Drive as well as through the existing Ambrose Rose Manor basement serving additional parking spaces under Building A. The entry to the basement area is one-way (via 3.6m wide, 11m long, 1 in 8 ramp). As such it has been consented that the one-way section be controlled by a traffic signal operation with priority given to entry vehicles.

7.2 PROPOSED

It is proposed to provide two one-way vehicle crossings on Edgewater Drive as shown in Figure 8 below. This is unchanged from the consented proposal. Access to the Building A basement carpark will be through the existing rest home.

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

Figure 8: Proposed access locations

The vehicle crossings have been assessed against the relevant Unitary Plan rules in the sections below.

7.2.1 ACCESS WIDTH (E27.6.4.3)

Table E27.6.4.3.2 (T151) of the Unitary Plan specifies the minimum and maximum widths for vehicle crossings for various zones. For residential zones, the Unitary Plan requirements for a vehicle crossing serving 10 or more car parking spaces are as follows:

- Minimum width of crossing at site boundary – 5.5m;
- Maximum width of crossing at site boundary – 6.0m, and
- Minimum formed access width – 5.5m (providing for two-way movements).

The proposed vehicle crossings are 3.5m wide at the site boundary. As such they do not comply with the Unitary Plan. It is however noted that the unitary Plan does not provide for the situation proposed whereby the entry and exit driveways are separated. Given the driveways are one-way and vehicle tracking (Attachment A) shows the driveway designs are correctly sized, the access widths are considered appropriate.

The proposed vehicle crossings will be designed in accordance with AT TDM Standard VX0104 Rev B.

7.2.2 VEHICLE ACCESS RESTRICTION (E27.6.4.1)

The Unitary Plan outlines where Vehicle Access Restrictions apply. Specifically, vehicle crossings must not be constructed or used to provide vehicle access across that part of a site boundary, which:

a) is located within 10m of any intersection as measured from the property boundary;
b) is subject to the following types of Vehicle Access Restriction as identified on the planning maps in the zones listed in Table E27.6.4.1.1;
c) has frontage to an arterial road as identified on the planning maps; or
d) is located closer than 30 m from a railway level crossing limit line.

The proposed residential development complies with a, b, c and d associated with Rule E27.6.4.1 therefore no vehicle access restrictions apply.

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

7.2.3 CROSSING SEPARATION AND NUMBER OF VEHICLE CROSSINGS (E27.6.4.2)

Table E27.6.4.2.1 specifies that one crossing per 50m of frontage applies to that part of a site subject to a Vehicle Access Restriction, and one crossing per 25m of frontage (or part thereof) applies to 'all other sites' not subject to a Vehicle Access Restriction or within specific geographic locations in the central area. The site has a frontage of approximately 65m on Edgewater Drive and is therefore permitted to provide two crossings. As such, the proposal for two crossings on this frontage meets the Unitary Plan standard.

Table E27.6.4.2.1 also specifies that the minimum separation distances between vehicle crossings are 6m where crossings serve the same site, and 2m where they serve adjacent sites (however this can be combined to one crossing if it is 6m in width or less). The two crossings on the same site are separated by approximately 30m. With regards to 'adjacent sites', the nearest crossing is approximately 40m to the north. The vehicle crossing provisions therefore satisfy Unitary Plan requirements.

7.2.4 GRADIENT OF ACCESS (E27.6.4.4)

Rule E27.6.4.4.1 of the Unitary Plan outlines the requirement for the gradient of vehicle access. As such, the gradient of the access must not be steeper than 1 in 5 (20 per cent) for residential activities. To avoid the underside of the car striking the ground, access with a change in gradient exceeding 1 in 8 (greater than 12.5 per cent change) at a summit, or 1 in 6.7 (15 per cent change) at a sag must include transition sections to achieve adequate ground clearance. Typically, a transition section requires a minimum length of 2m.

The vehicle access is also required to include a platform at the property boundary so vehicles can safely stop and check for pedestrians and other vehicles prior to exiting. This platform must have a minimum length of 4m for residential activities and a gradient no steeper than 1 in 20 (5 per cent).

The gradient of the accesses are:

- Entry driveway: The gradient of the entry driveway is 7.0% (1:14) raising up to a summit followed by a 6.5% (1:15) grade down to a level entry.
- Exit driveway: The gradient of the exit driveway is 9.6% (1:10) raising up to a summit followed by a 11.4% (1:8.5) grade down at the site boundary.

Being a one-way driveway, a flat platform at the entry driveway is not required as a vehicle does not need to stop within the site to giveway to pedestrians or vehicles, therefore the gradients are considered acceptable for the entry. The entry gradient therefore complies with the Unitary Plan. However, to comply with the Unitary Plan the exit driveway must have a minimum 4m platform with a gradient no greater than 5% to allow vehicles to safely stop for pedestrians or vehicles on Edgewater Drive.

7.2.5 SIGHT DISTANCE

The RTS-6 Guidelines for Visibility at Driveways document (RTS-6 Guide) indicates that for high volume driveways accessing onto a 'Local Road' with a 30km/h operating speed, the required sight distance is 30m[4].

[4] Note that the lowest operating speed in the guide is 40km/h, which has been used for the purposes of this assessment.

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

The available sight distance on Edgewater Drive is in excess of 30m in each direction and therefore complies with RTS-06. This is shown in Photograph 1 and Photograph 2 below.

Photograph 1: Sight distance looking south along Edgewater Drive

Photograph 2: Sight distance looking north along Edgewater Drive

commute TRANSPORTATION CONSULTANTS

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

8 CONCLUSIONS

Based on our assessment of the proposed variation to the development at 147-153 Edgewater Drive, Pakuranga, we conclude the following:

- The variation in the proposal for extra units and parking spaces proposes to use the same consented access arrangement;
- The development is expected to generate up to 122 trips per day. This level of trips is able to be accommodated by the existing road network.
- No traffic safety issues have been identified which could adversely affect the road network in the vicinity of the proposed development;
- The proposed vehicle crossings are 3.5m wide at the site boundary and while not complying with the Unitary Plan are considered appropriate (as they are one-way and the Unitary Plan has no provision for this arrangement);
- All the car parking space dimensions comply with the Unitary Plan;
- No parking spaces are required by the Unitary Plan;
- The proposed pedestrian access to Buildings A and B includes vertically separated 2m wide pedestrian footpaths;
- As per the PC79 requirements outlined in Attachment B, the proposal includes 2 accessible parking spaces;
- All accessible parking spaces are located on the ground floor in areas where a minimum of 2.5m of vertical clearance can be provided;
- One loading zone is provided on the site.

The following is recommended:

- Minor widening at the north east corner of the ground floor accessway to accommodate vehicle tracking for a 6.3m long delivery van;
- A minimum 4m long platform with a gradient no greater than 5% is provided at the exit driveway to allow vehicles to safely stop for pedestrians or vehicles on Edgewater Drive;
- The Building A basement carpark be controlled by traffic signal operation with priority given to entry vehicles. Vehicle tracking for this is shown in Attachment A.

Overall, the proposed variation is considered acceptable and there are no traffic planning reasons to preclude acceptance of the proposal as currently intended.

Yours sincerely

Commute Transportation Consultants

Matan Aharon

Senior Transport Consultant

Matan@commute.kiwi

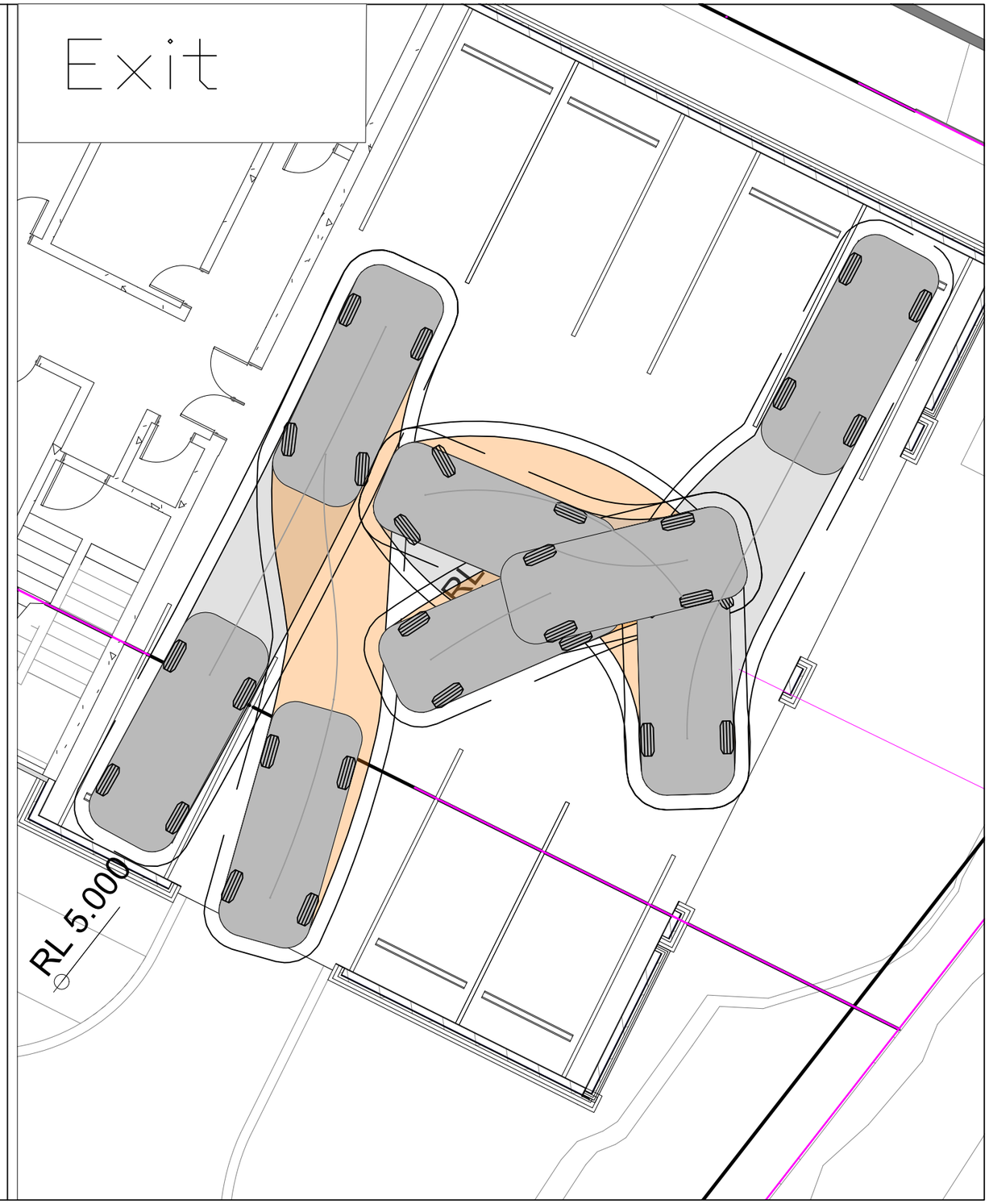
Leo Hills

Director

Leo@commute.kiwi

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

ATTACHMENT A – VEHICLE TRACKING



Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003117

Client:

Project:
147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title:
Vehicle Tracking
85th Percentile Vehicle Tracking Entry/Exit

Date:
17/04/25

Scale @ A3:
1:100

Revision:
A

commute TRANSPORTATION CONSULTANTS

Figure:
A1

Entry

Exit

RL 4.950

RL 5.000

4.89

0.91

2.85

BLOCK B

AT Design Vehicles - 4.9m - 85th Car

Metres

Width : 1.88
Track : 1.8
Lock to Lock Time : 4.0
Steering Angle : 33.5

Revision notes:		
Rev:	Date:	Notes:

Drawn by: HA, J003117

Client:

Project: 147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title: Vehicle Tracking
85th Percentile Vehicle Tracking Entry/Exit

Date: 17/04/25

Scale @ A3: 1:100

Revision: A

commute TRANSPORTATION CONSULTANTS

Figure: A2

Entry

Exit

RL 5.100

RL 5.100

4.89

0.91

2.85

AT Design Vehicles - 4.9m - 85th Car

Metres

Width : 1.88
Track : 1.86
Lock to Lock Time : 4.0
Steering Angle : 33.6

Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003117

Client:

Project:
147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title:
Vehicle Tracking
85th Percentile Vehicle Tracking Entry/Exit

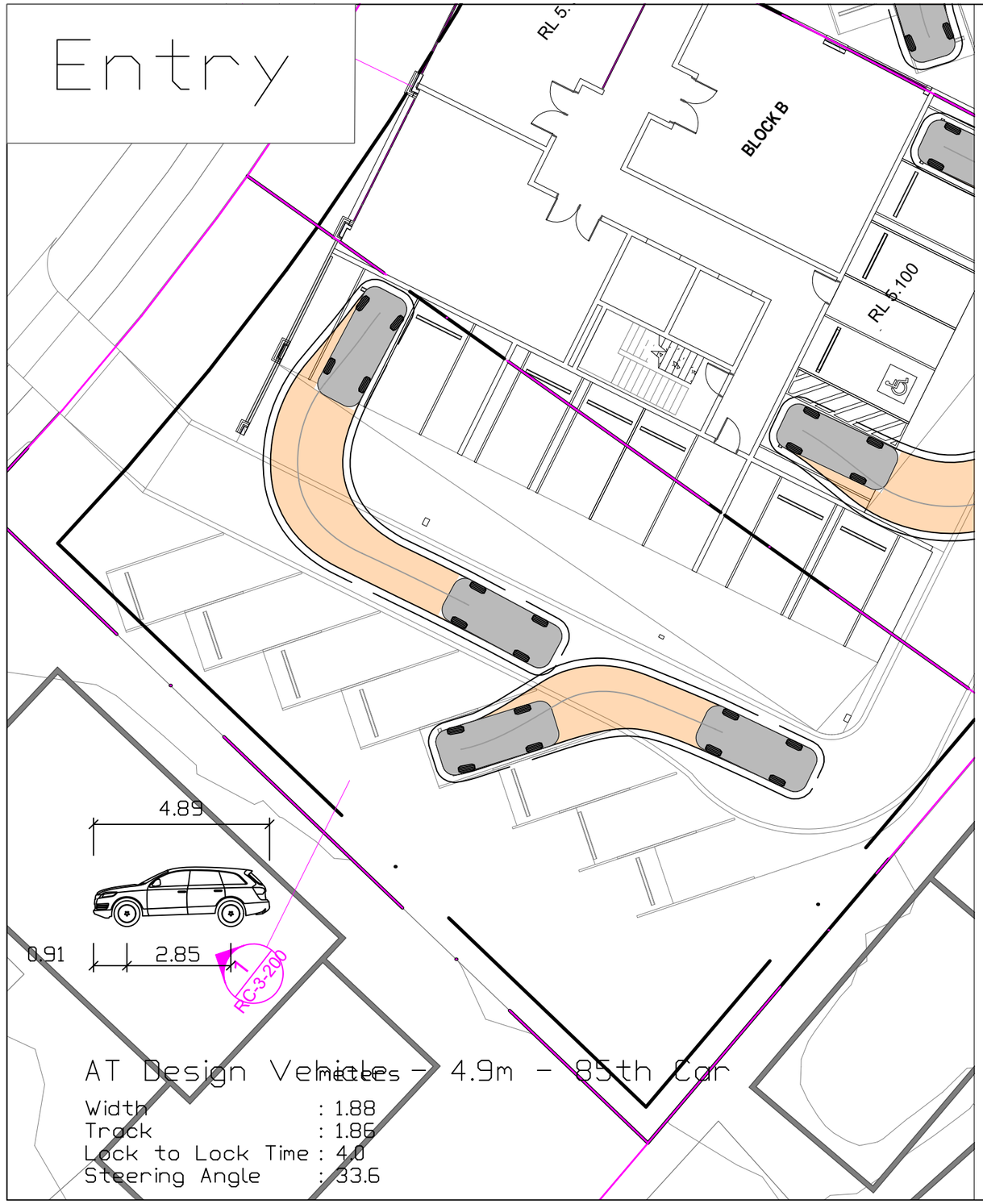
Date:
17/04/25

Scale @ A3:
1:100

Revision:
A

commute TRANSPORTATION CONSULTANTS

Figure:
A3



Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003117

Client:

Project:
147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title:
Vehicle Tracking
85th Percentile Vehicle Tracking Entry/Exit

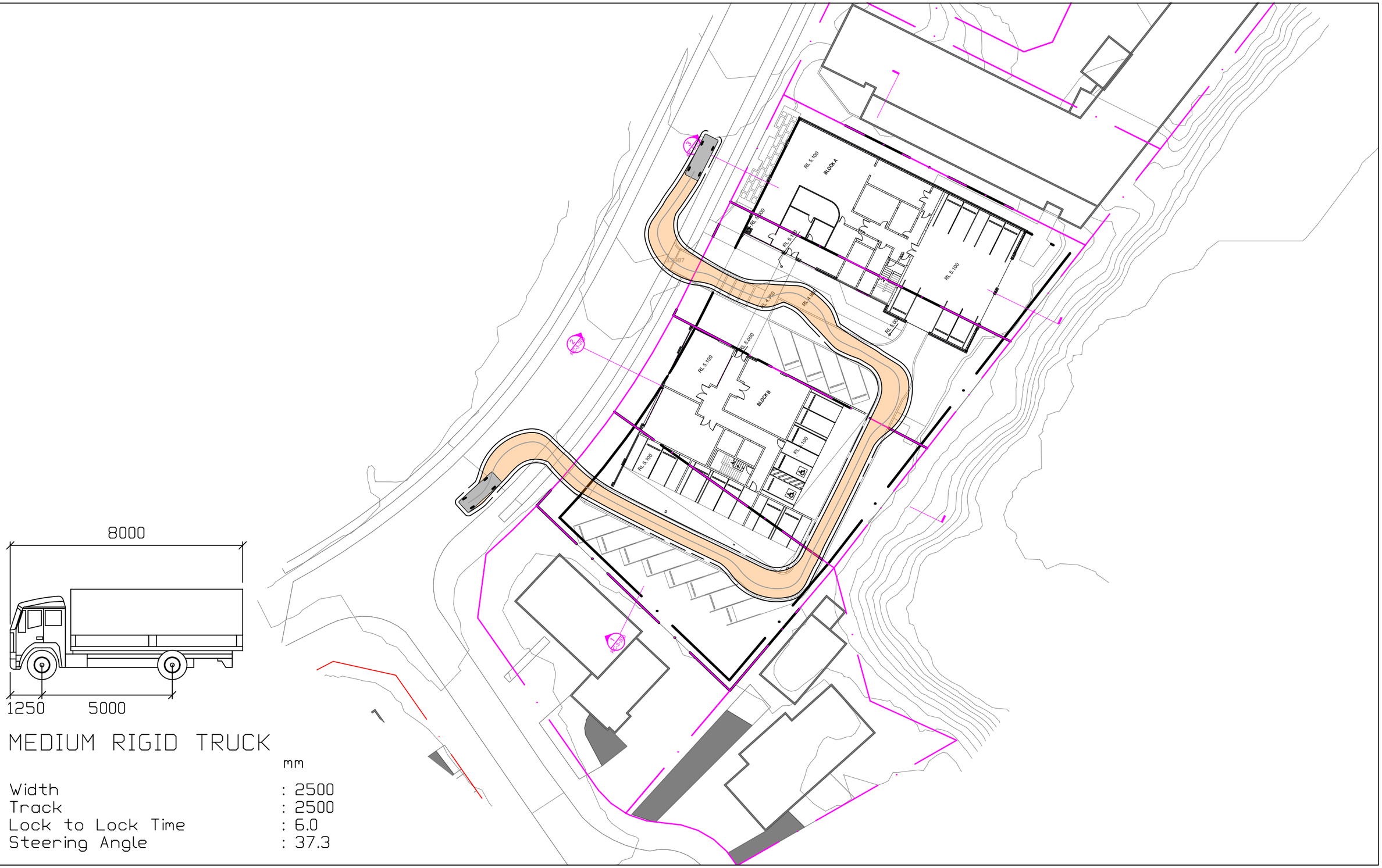
Date:
17/04/25

Scale @ A3:
1:200

Revision:
A

commute TRANSPORTATION CONSULTANTS

Figure:
A4



MEDIUM RIGID TRUCK

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 37.3

Revision notes:

Rev:	Date:	Notes:

Drawn by: HA
J003117

Client:

Project: 147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title: Vehicle Tracking
6.3m Van Tracking

Date: 17/04/25

Scale @ A3: 1:500

Revision: A

commute TRANSPORTATION CONSULTANTS

Figure: B1

Revision notes:

Rev:	Date:	Notes:

Drawn by: HA
J003117

Client:

Project: 147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title: Vehicle Tracking
85th Internal Tracking

Date: 17/04/25

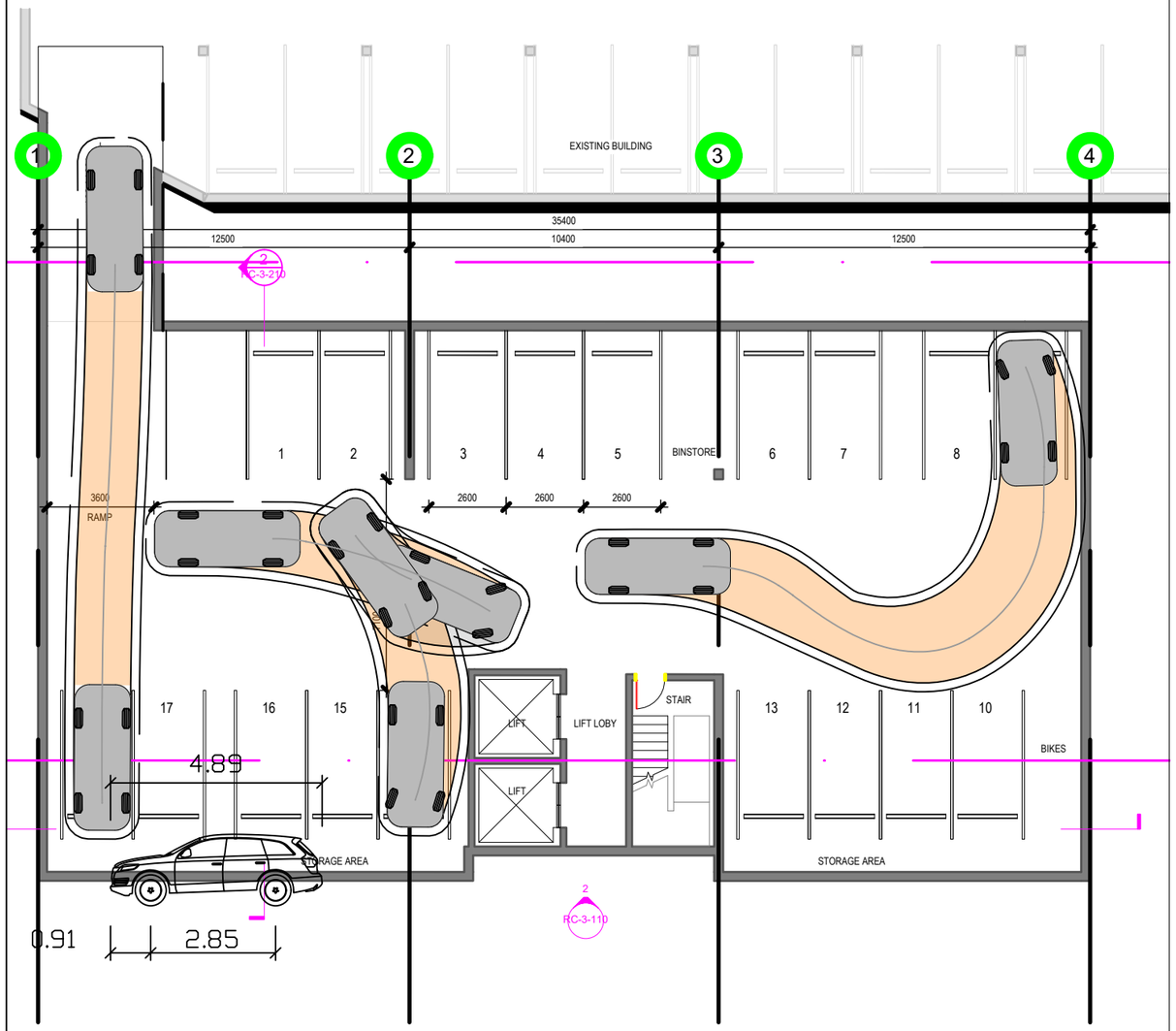
Scale @ A3: 1:500

Revision: A

commute TRANSPORTATION CONSULTANTS

Figure: C1

Entry

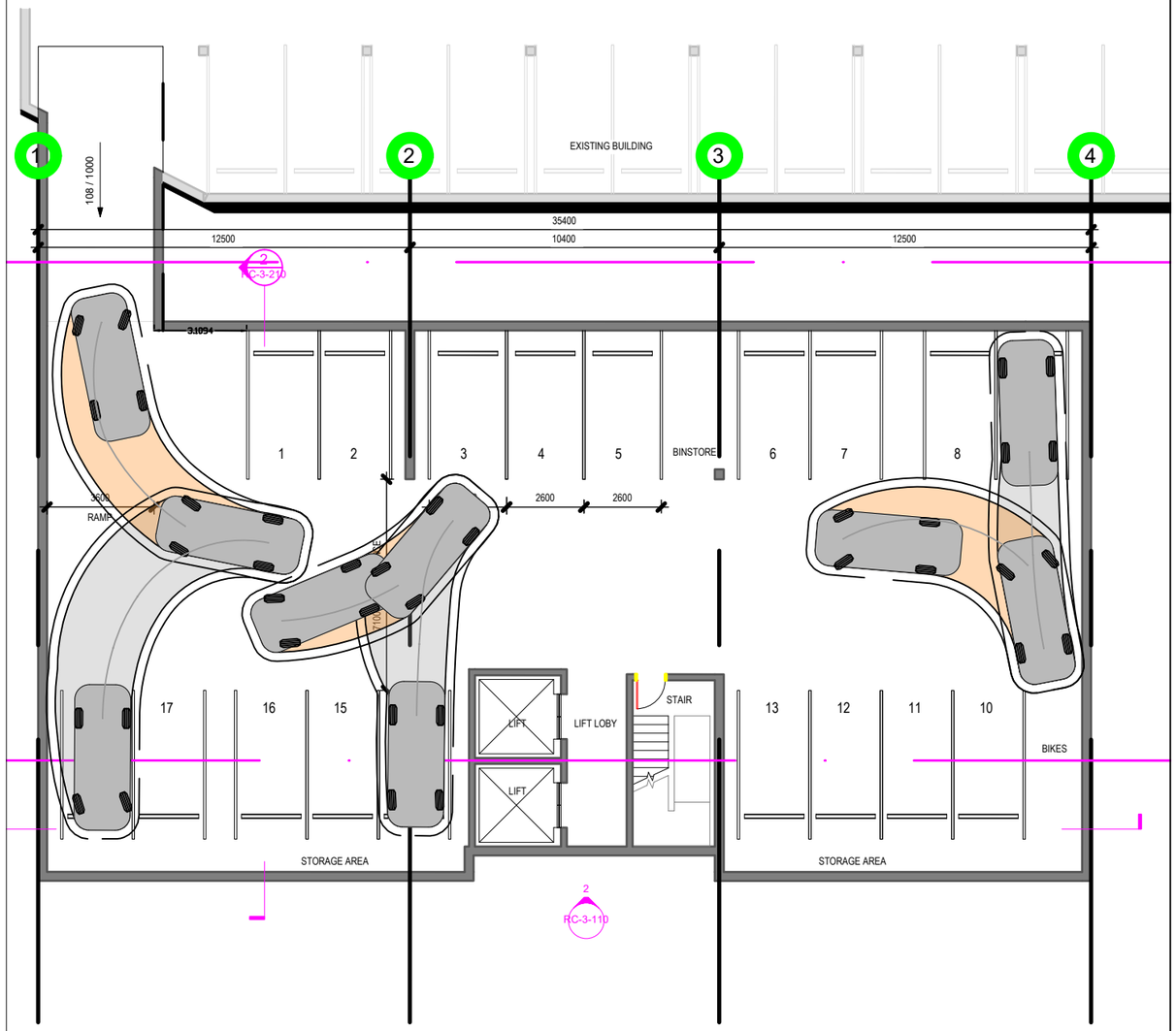


AT Design Vehicle - 4.9m - 85th Car

Metres

Width : 1.88
Track : 1.86
Lock to Lock Time : 4.0
Steering Angle : 33.6

Exit



Revision notes:

Rev:	Date:	Notes:

Drawn by:
HA
J003117

Client:

Project:
147-153 Edgewater Drive Pakuranga
Proposed Residential Development

Drawing Title:
Vehicle Tracking
85th Percentile Vehicle Tracking Entry/Exit Basement

Date:
17/04/25

Scale @ A3:
1:200

Revision:
A

commute TRANSPORTATION CONSULTANTS

Figure:
D1

commute TRANSPORTATION CONSULTANTS

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

ATTACHMENT B – PLAN CHANGE 79 ASSESSMENT

<table>
<tr><th>PC79 ID</th><th>Assessment Criteria</th><th>Assessment</th></tr>
<tr><td>18</td><td>E27.6.1 Tip generation
(1) Where a proposal (except where excluded in Standard E27.6.1(2)) exceeds one of the following thresholds:
(a) A new development or subdivision in Table E27.6.1.1;
(b) 100 v/hr (any hour) for activities not specified in Table E27.6.1.1 requiring a controlled or restricted discretionary land use activity consent in the applicable zone where there are no requirements for an assessment of transport or trip generation effects. This standard does not apply to development activities provided for as permitted in the applicable zone.</td><td>The proposed development is for 51 aged care units with estimated 9 – 12 peak hour trips and therefore within the development thresholds in Table E27.6.1.1 of (T1A) 100 units.
Complies.</td></tr>
<tr><td>20</td><td>E27.6.2 Number of parking and loading spaces
(6) Bicycle parking:
(e) The activities specified in Table E27.6.2.5 must provide the minimum number of bicycle parking spaces specified;
(aa) For residential developments, the required secure long-stay bicycle parking must be located and designed in a manner that (is):
i) Not required of any required outdoor living space or landscaped area;
ii) In a location accessible from either the road, vehicle access, pedestrian access or car parking area;
iii) Sheltered from the weather;
iv) Lockable and secure;
xii) The following bicycle parking requirements apply to new buildings and developments.
Table E27.6.2.5 Required bicycle parking rates
(T81)
Visitor (short-stay) minimum rate
1 per 20 for developments of 20 or more dwellings
Secure (long-stay) minimum rate
1 per dwelling without a dedicated garage or basement car parking space</td><td>There are no specific requirements for bicycle parking for retirement villages or residential care homes. However, it is considered that there are a number of areas where bicycle parking can be readily accommodated
As such, it is considered that the proposed bicycle parking arrangement is satisfactory and compliant.
Complies.</td></tr>
<tr><td>21</td><td>E27.6.2 Number of parking and loading spaces
(8) Number of loading spaces:
(a) All activities must provide loading as specified in Table E27.6.2.7.
(b) Residential activities where part of the site has frontage to an arterial road as identified on the planning maps, must provide loading as specified in Table E27.6.2.7A
Table E27.6.2.7A Minimum small loading space requirements
<table>
<tr><th>Activity</th><th>GFA/Number of dwellings</th><th>Minimum rate</th></tr>
<tr><td>(T111B)</td><td>Developments where all dwellings have individual pedestrian access directly from a public road</td><td>No loading space required</td></tr>
<tr><td></td><td>Up to 9 dwellings without individual pedestrian access directly from a public road</td><td>No loading space required</td></tr>
<tr><td></td><td>Greater than 9 dwellings up to 5,000m^2 without individual pedestrian access directly from a public road</td><td>1*</td></tr>
<tr><td></td><td>Greater than 5,000m^2</td><td>N/A</td></tr>
</table>
* Refer to T137A of Table E27.6.3.2.1 Minimum loading space dimensions</td><td>There are a total of 51 units proposed to be provided, with a GFA greater than 5,000m^2.
As such, one loading space is required to be provided.
Complies.</td></tr>
<tr><td>22</td><td>E27.6.2 (9)
(9) Fractional spaces:
(c) Where the calculation of the permitted parking results in a fractional space, any fraction that is less than one-half will be disregarded and any fraction of one-half or more will be counted as one space. If there are different activities within a development, the parking permitted for each activity must be added together prior to rounding.</td><td>Fractional spaces are not applicable for this site with only a single land use proposed.
Complies.</td></tr>
</table>

<table>
<tr><td>23</td><td>E27.6.1 Size and location of parking spaces
(1) Every parking space must:
(a) Comply with the minimum dimensions given in Table E27.6.3.1.1 and Figure E27.6.3.1.1; except accessible parking dimensions and accessible route requirements must be designed in accordance with the New Zealand Standard for Design for Access and Mobility – Buildings and Associated Facilities (NZS: 4121-2001).</td><td>All parking spaces comply with the Unitary Plan dimensional requirements.
Complies.
Accessible space requirements are assessed further below.</td></tr>
<tr><td>24</td><td>E27.6.1 Size and location of loading spaces
(1) Every loading space must:
(d) Comply with the following when any yard of a site is used to provide the loading space (where it is permitted within the zone).
i) The use of the loading space does not create a traffic hazard on the road at any time; and
(e) Have a maximum crossfall of 1:50 (2%) in all directions.
Table E27.6.3.2.1 Minimum loading space dimensions
(T137A)
Activities requiring a small loading space under Standard E27.6.2(8)(b)
Length of loading space(m) 6.4
Width of loading space (m) 3.5</td><td>One loading space is required, and one loading space is proposed to be provided.
Complies.</td></tr>
<tr><td>25</td><td>E27.6.3.2(A) Accessible parking
(1) Accessible parking must be provided for all new activities, changes of activity type, and / or the expansion or intensification of an existing activity in all zones, except for those listed below in E27.6.3.2(A)(2);
(2) Accessible parking is not required in the following zones, unless car parking is provided on site, in which case the required number of accessible parking spaces must be determined in accordance with Table 1 or Table 2 below, whichever is relevant:
Business Zones:
(a) Business – City Centre Zone;
(b) Business – Metropolitan Centre Zone;
(c) Business – Town Centre Zone;
(d) Business – Local Centre Zone;
(e) Business – Mixed Use Zone;
(f) Business – Neighbourhood Centre Zone.
Residential Zones:
(a) Residential – Terrace Housing and Apartment Buildings Zone.
(3) For residential developments in residential zones (excluding the Terrace Housing and Apartment Buildings Zone unless car parking is provided on site), accessible parking spaces must be provided for developments of 10 or more dwellings on a site.
(4) The required number of onsite accessible parking spaces provided must be calculated using the following method:
(i) For non-residential land uses:
Step 1 – Use the Parking Demand Guidelines in Appendix 23 to determine the theoretical parking demand
Step 2 – Use Table 1 – Number of accessible parking spaces – Non-Residential, below to determine the required number of accessible car park spaces based on either the number of parking spaces that are proposed to be provided or the theoretical parking demand calculated in Step 1, whichever is higher.
Table 1 – Number of accessible parking spaces – Non-Residential land uses
<table>
<tr><td>Total number of parking spaces provided or theoretical parking spaces, whichever is the higher</td><td>Number of accessible parking spaces</td></tr>
<tr><td>1-20</td><td>Not less than 1</td></tr>
<tr><td>21-50</td><td>Not less than 2</td></tr>
<tr><td>For every additional 50 parking spaces or part of a parking space</td><td>Not less than 1</td></tr>
</table></td><td>Appendix 23 detailed the likely parking demands for various activities from which accessible parking requirements are calculated. For ‘Retirement Villages’ the estimated parking demand is calculated by using the minimum rate of 0.7 per unit plus 0.2 visitor space per unit plus 0.3 per bed for rest home beds within a retirement village.
The proposal is for 51 units, no visitor spaces and no specific rest home beds. Using this rate the theoretical parking demand is in the order of 36 vehicles per hour, however the proposal includes 50 parking spaces. Based on the 50 parking spaces ‘No less than 2’ accessible parking spaces should be provided.
The proposal includes 2 accessible parking spaces and therefore complies.
Complies.</td></tr>
</table>

<table>
<tr><td></td><td>(ii) For retirement villages, supported residential care, visitor accommodation and boarding houses

The same method for calculating the required number of onsite accessible parking spaces for non-residential uses in 4(i) applies.
(iii) For residential land uses

The required number of accessible parking spaces provided must be in accordance with Table 2 below:

Table 2 – Number of accessible parking spaces – Residential land uses
<table><tr><td>Number of dwellings</td><td>Number of accessible parking spaces</td></tr><tr><td>10-19</td><td>Not less than 1</td></tr><tr><td>20-29</td><td>Not less than 2</td></tr><tr><td>30-50</td><td>Not less than 3</td></tr><tr><td>For every additional 25 dwellings or units</td><td>Not less than 1</td></tr></table></td><td></td></tr>
<tr><td>26</td><td>E27.6.3.3 Access and manoeuvring
(2A) For every loading space required by Table E27.6.3.2.1 (T137A) the access and manoeuvring areas associated with that loading space must accommodate the 6.4m van tracking curves set out in Figure E27.6.3.3.3.</td><td>Vehicle tracking for the loading space provided is shown in Attachment A.
Complies.</td></tr>
<tr><td>27</td><td>E27.6.3.4 Reverse manoeuvring
(1) Sufficient space must be provided on the site so vehicles do not need to reverse off the site or onto or off the road from any site where any of the following apply:
(a) Four or more parking spaces are served by a single access;
(b) There is more than 30m between the parking space and the road boundary of the site; or
(c) Access would be from an arterial road or otherwise within a Vehicle Access Restriction covered in Standard E27.6.4.1</td><td>No reverse manoeuvring is required.
Complies.</td></tr>
<tr><td>28</td><td>E27.6.3.4A Heavy vehicle access
(1) Where a site in a residential zone provides heavy vehicle access it must provide sufficient space on the site so an 8m heavy vehicle does not need to reverse onto or off the site or road, with a maximum reverse manoeuvring distance within the site of 12m.
(2) Heavy vehicle access and manoeuvring areas associated with access required by E27.6.3.4A (1) must comply with the tracking curves set out in the Land Transport New Zealand Road and traffic guidelines: RTS 18: New Zealand on-road tracking curves for heavy motor vehicles (2007).</td><td>No heavy vehicle access is proposed to be provided.
Complies.</td></tr>
<tr><td>29</td><td>E27.6.3.5 Vertical clearance
(1) To ensure vehicles can pass safely under overhead structures to access any parking and loading spaces, the minimum clearance between the formed surface and the structure must be:
(a) 2.1m where access and/or parking for cars is provided for residential activities;
(b) 2.3m where access and/or parking for cars is provided for all other activities;
(c) 2.5m where access and/or accessible parking is provided and/or required;
(ca) 2.8m where loading is required for residential activities denoted with an asterisk (*) in Table E27.6.2.7A;
(cb) 3.8m where heavy vehicle access in Standard E27.6.3.4A is provided; or
(d) 3.8m where loading is required in Table E27.6.2.7</td><td>Build A basement carparking will not include any accessible parking spaces as such a minimum of 2.1m vertical clearance is provided.
Complies.</td></tr>
<tr><td>30</td><td>E27.6.3.7 Lighting
(1) Lighting is required where there are 10 or more parking spaces which are likely to be used during the hours of darkness. The parking and manoeuvring areas and associated pedestrian routes must be adequately lit during use in a manner that complies with the rules in Section E24 Lighting.
(2) Lighting is required, in residential zones to primary pedestrian access, vehicle access, parking and manoeuvring areas, where any of the following apply:</td><td>There are proposed to be more than 10 parking spaces which are likely to be used during hours of darkness; therefore, lighting will be required; however, this</td></tr>
</table>

	(a) There are four or more dwellings accessible from a primary pedestrian access which is not adjacent to a vehicle access; (b) There are 10 or more parking spaces; or (c) There are 10 or more dwellings. Adequate must be provided during the hours of darkness in a manner that complies with the rules in Section E24 Lighting.	is not a traffic engineering matter. **Complies.**
31	**E27.6.4.3 Width of vehicle access, queueing and speed management requirements** (1) Every on-site parking and loading space must have vehicle access from a road, with the vehicle access complying with the following standards: (a) Passing bays are provided in accordance with Table E27.6.4.3.1; and (b) Meeting the minimum formed access width specified in Table E27.6.4.3.2; and (c) Meeting the minimum speed management measure spacing specified in Table E27.6.4.3.3. Emergency responder access requirements are further controlled by the Building Code. Plan users should refer to the Building Code to ensure compliance can be achieved at building consent stage. Granting of a resource consent does not imply that waivers of Building Code requirements will be granted. Fire and Emergency New Zealand publishes guidance in the context of Building Code requirements. **Table E27.6.4.3.3 Speed management requirements** (T156A) Residential Zones **Length of vehicle access** — Exceeds 30m **Location of minimum speed management measures** — Not more than 10m from the site boundary with the legal road; and Not more than 30m spacing between speed management measures. *Note: Where heavy vehicle access and speed management measures are required, the design of speed management measures should include consideration of heavy vehicle requirements.*	The access width requirements are assessed within Section 7 of this report The driveway exceeds 30m in length and therefore requires speed management. Speed management is provided at both site boundaries in the form of a change in accessway gradient to form a crest. The presence of corners at approximately 30m intervals naturally provides speed control, as vehicles must slow down to navigate them. **Complies.**
32	**E27.6.6 Design and location of pedestrian access in residential zones** (1) Where two or more dwellings are proposed in residential zones, primary pedestrian access must be provided which meets the following: (a) Have the minimum pedestrian access width and separation specified in Table E27.6.6.1 for its full length; (c) Have a gradient no greater than: (i) 1 in 12 for pedestrian access which is not adjacent to vehicle access; (ii) The maximum vehicle access gradient as specified in Table E27.6.4.4.1 where the pedestrian access is adjacent to vehicle access; (e) Have a surface treatment which is firm, stable and slip resistant in any weather conditions; (f) Provide direct and continuous access to the dwellings from a public footpath; (g) Be free from permanent obstructions and have a clear height of at least 2.1m; (2) A minimum clear width of 3m and a minimum clear height of 2.1m for its full length is required for primary pedestrian access where not adjacent to vehicle access and serving: (a) Up to three dwellings and has a length greater than 50m; or (b) Four or more dwellings. (3) For the purposes of (2) above, the clear width may include: (a) The minimum 1.8m formed primary pedestrian access width; (b) Landscape treatment with a maximum mature height of 600mm; (c) Lighting infrastructure. (4) Standards E27.6.6(1), (2) and (3) above do not apply where: (a) Up to three dwellings are proposed on a site and vehicle access is provided to each dwelling; or (b) A dwelling directly fronts and has direct access to a street.	(T156C) applies in this instance for the vehicle access, which serves 20 or more dwellings or parking spaces. As such a 1.8m wide pedestrian footpath should be provided. Pedestrian access to the site is separated from vehicle access and a central pedestrian path will link the site to the existing footpaths on Edgewater Drive. The proposal include vertically separated footpaths that are 2m in width. **Complies.**

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

(5) For four or more dwellings in residential zones, pedestrian access must be provided to each parking space within a parking area consisting of four or more parking spaces served by the same vehicle access and:

(a) Have a minimum width of 1.2m;

(b) Be vertically separated from trafficable areas as shown in Figure E27.6.4.3.1;

(c) Connect to the primary pedestrian access or the dwellings associated with those parking spaces;

(d) Have a surface treatment which is firm, stable and slip resistant in any weather condition; and

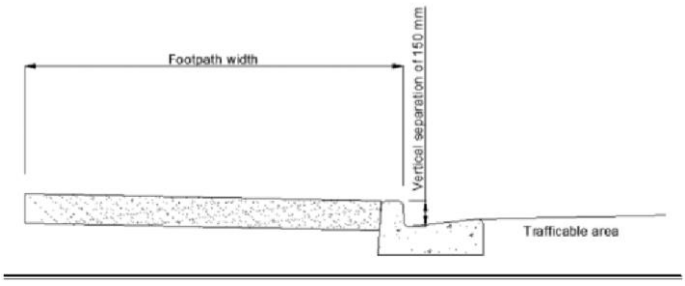
(e) Be free from permanent obstructions and have a clear height of 2.1m for its full length.

This standard does not apply where the pedestrian access forms part of a primary pedestrian access.

Table E27.6.6.1 Primary Pedestrian Access width and separation requirements

Location of site	The total number of parking spaces or dwellings served by a vehicle and/or Primary Pedestrian Access	Minimum formed Primary Pedestrian Access width where not adjacent to vehicle access	Minimum formed Primary Pedestrian Access width and separation where adjacent to vehicle access
(T156A)	**Serves 2-3 dwellings**	**1.8m**	**No requirement under E27.6.6(1) to (3)**
(T156B)	**Serves 4 to 19 parking spaces or 4 to 19 dwellings, whichever is the greater**	**1.8m**	**1.4m (including the kerb), which must be vertically separated from trafficable areas as shown in Figure E27.6.4.3.1**
(T156C)	**Serves 20 or more parking spaces or 20 or more dwellings, whichever is the greater**	**1.8m**	**1.8m (including the kerb), which must be vertically separated from trafficable areas as shown in Figure E27.6.4.3.1**

Figure E27.6.4.3.1 Vertical separation of pedestrian access



33

E27.6.7 Provision for electric vehicle charging

Purpose: to ensure that any undercover car parks for new semi-detached dwellings or for new dwellings within a terrace or apartment building are provided with the capability to install Electric Vehicle Supply Equipment.

(1) Any new dwellings with car parking (with the exception of new detached dwellings) must provide each undercover car park with the capability to install Electric Vehicle Supply Equipment with designated space for the necessary conduit, circuit and metering between the car park and an electrical distribution board on the same building storey, or ground level if the car parking space is at ground level.

Note:

(a) This standard does not apply to any car parking permanently allocated to visitors.

The development provides basement carparking which is able to provide electric charging facilities.

Complies.

Suite 16, 160 Broadway, Newmarket 1023
PO Box 128259, Remuera 1541, Auckland
Ph. 09 869 2825
www.commute.kiwi

	Refer to the following standards and guidelines: - *Australian/New Zealand Wiring Rules AS/NZS 3000:2018* - *SNZ PAS 6011:2021 Electric Vehicle Chargers for Residential Use* - *SNZ PAS 6011:2021 Electric Vehicle Chargers for Commercial Applications* - *WorkSafe EV charging safety guidelines 2nd addition plus addendums 1 and 2*	