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TECHNICAL MEMORANDUM

Project	J003038 198-222 Dominion Road & 113-117 Valley Road, Mt Eden
Subject	Section 92 Response
From:	Josh Brajkovic, Principal Consultant
To:	Gerard Thompson, Barker & Associates
Date	1 October 2024

1 INTRODUCTION

This memorandum provides responses to Section 92 further information requests related to the application for a residential development at 198-222 Dominion Road & 113-117 Valley Road, Mt Eden.

The proposed 135 dwelling development includes:

- 43x 1-bedroom apartments;
- 81x 2-bedroom apartments;
- 11x 3-bedroom townhouses;
- 316sqm GFA ground floor retail / café;
- 288sqm GFA level 1 retail / cafe;
- 106 parking spaces; and
- 143 bicycle spaces.

Requests for further information were provided by Ableyand Auckland Transport. The requests and the Commute responses are provided below.

2 S92 REQUESTS AND RESPONSES

The traffic requests and the Commute responses are detailed in Table 1 below.

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Table 1: Section 92 Requests and Responses

#	Request	Response
Abley		
1	The tracking provided in the TA shows that heavy vehicles will need to reverse out of the loading space down the ramp towards the basement car park. Please confirm the gradient of the ramp to ensure it complies with E27.6.3.6 (4) and is appropriate for the manoeuvring of heavy vehicles.	The vehicle access features a 1 in 25 gradient for 15.0m in from the street boundary. Beyond this point the remainder of the driveway and loading bay, truck reverse manoeuvring is flat at RL51.850m. The updated architectural drawing RC-201 shows the relevant information.
2	The TA states that there is vertical clearance of 2.2m to enter the basement car park. The tracking provided in the TA shows that heavy vehicles will need to reverse out of the loading space down the ramp. Please confirm that there is sufficient vertical clearance for heavy vehicles to complete this manoeuvre.	As above, there is no ramp between the loading bay and the car park. The area where the truck is required to reverse into (as shown in Figures B1 and B2 of the TAR) provides 2.7m clear height. The Waste Management contractor has confirmed the height of the rubbish truck that will be used at the development is 2.5m. As such, the design is considered acceptable.
3	The Environment Court decision states that traffic modelling was completed as part of the previously granted consent for the same site. Can the applicant please provide the previous TA that shows modelling of the adjacent intersection.	The previous TA is provided attached to this memo.
4	Please confirm if any of the proposed car parking spaces are intended to be used for the proposed commercial activities. If so, please consider providing accessible parking as per E27.6.3.2(A).	No visitor parking is proposed at the development. All spaces will be allocated to residents.
5	The architectural plans show that wall-mounted cycle parks are proposed (including over-bonnet spaces). We consider that these cycle parks will be difficult to use, given that many users are likely to own e-bikes. Please consider providing additional space for floor-standing cycle parking to cater for the increased popularity of e-bikes.	Of the 135 bicycle spaces provided, 120 are unallocated and only 15 are over bonnet types allocated to carparks. Of the 120 unallocated spaces, 30 are floor standing and 90 are wall mounted. As such, it is considered that there are sufficient spaces to cater for e-bikes.
6	The proposal triggers the need for an assessment against the new trip generation thresholds (PC79) as per Table E27.6.1.1 (TA1). Please provide an assessment of effects, given that the decision for PC79 has been notified.	This assessment is provided in Table 7 of the TAR.

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#	Request	Response
Auckland Transport		
1	Section 4.3 of the TIA notes, “the proposed development is expected to generate 98vph in the peak hour. This represents an increase in peak hour vehicle trips of 2vph when compared with the previously consented scheme.” Upon review, AT considers that the applicant hasn’t provided further information on the potential impacts to the road network (especially on Valley Road and Dominion Road/Valley Road intersection) due to the estimated 98vph trip generation rate. AT acknowledges that the Environment Court decision for the previous consent stated that "the additional traffic generated by the new development would have a minimal impact on the existing levels of traffic on the adjacent road network." However, AT considers that vehicle traffic on the existing road network has relatively increased since 2019, and the traffic model should reflect current traffic volume and lane arrangements of the existing road network. In accordance with E27.8.2 (3), AT requests the applicant to provide updated traffic modelling to assess any potential impacts to the operation of the road network (especially on Dominion Road/Valley Road intersection) due to the proposed trip generation rate. If any potential adverse effects to the road network are identified, the applicant is requested to provide an updated assessment indicating how such adverse effects will be avoided, remedied, or mitigated.	We have requested SCATS traffic volume data for the subject intersection from 2019. The data recorded the following peak hour volumes (for a general weekday in September 2019): • AM peak volume of 1,800vph • PM peak volume of 2,000vph The TAR provided an updated traffic count on 1 August 2024. The traffic count recorded the following peak hour volumes: • AM peak volume of 1,700vph • PM peak volume of 2,000vph As detailed above, the recorded volumes in 2019 and 2024 are almost identical, with the AM peak volume decreasing slightly over the 5 year period. Given the background traffic volume has not changed and the development trip generation has not changed, the Environment Court decision conclusion is considered still applicable. As such, the effects of the development traffic are considered minimal.
2	Section 4.4 of the TIA notes, “the retail and café activities are likely to be used by residents of the development or by other foot traffic in the area, i.e., they are unlikely to feature dedicated vehicle trips.” Upon review, AT considers that the applicant hasn’t provided an appropriate assessment to justify why customer visits to the proposed retail stores wouldn’t feature vehicle trips. AT considers that footfall to the proposed retail stores would likely include vehicle trips, even though dedicated parking spaces within the development are restricted only for residential use. If retail stores attract vehicular traffic, AT considers that these trips may have an impact on on-street parking spaces and road network operation (due to additional traffic). In accordance with E27.8.2 (3), the applicant is requested to provide an updated trip generation assessment justifying why the proposed retail is unlikely to attract vehicular trips. If vehicular trips to the proposed commercial units are to be included in the assessment, the applicant is requested to provide an assessment on the on-street parking demand and additional traffic on the road network and how any potential adverse effects	The retail units were assessed as generating traffic as shown in Table 3 of the TAR. Of the 98vph generated by the development, 29vph were generated by the proposed retail activities. Therefore, the retail units have been included as part of the trip generation assessment. As detailed in Section 4.4 of the TAR, this trip generation calculation is considered to be conservative, as the retail is likely to predominantly serve residents and foot traffic. The same trip generation characteristics were detailed in the TAR for the previously consented scheme. The Environment Court concluded that the traffic effects of the proposal were minimal. Additional traffic generation assessment is provided in response to Item 1 above. As detailed above, the retail units are unliley to generate dedicated vehicle trips, and therefore parking spaces are

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	(if identified) to road network operation could be avoided, remedied, or mitigated.	not considered to be required. This aligns with the Unitary Plan parking minimum removals, to comply with the NPS-UD. As such, the proposed parking provisions are considered acceptable.
3	It is noted that the proposed access on Valley Road for the development is opposite to the existing access for the Woolworths supermarket. Upon review of the TIA and considering that the proposed access allows for two-way vehicle movements, AT considers that the applicant hasn't provided an assessment demonstrating how potential conflicting turning movements between vehicles accessing the proposed development and Woolworths will be appropriately avoided or managed. Considering that the development includes 106 residential parking spaces, AT estimates that vehicle movements to/from the site will be relatively higher during commuter peak hours. AT also considers that supermarkets experience relatively higher vehicle trips during the evening peak hours. Therefore, AT considers that the potential for conflicting turning movements is relatively higher in the peak hours, resulting in potential for safety-related adverse effects and potential congestion on the road network. To ensure any potential adverse effects to road user safety and road network operation are appropriately avoided, remedied, or mitigated in accordance with E27.8.2 (3) and E27.8.2 (11), AT requests the applicant to provide an updated assessment indicating the likelihood of conflicting turning movements occurring on the road network and how such conflicts will be effectively managed. If any potential adverse effects are identified, please provide an assessment on how such adverse effects will be avoided, remedied, or mitigated.	An assessment of the turning movements at the subject accesses are detailed below: • The proposed site access and the existing Woolworths access are separated by approximately 30m. • Left turn entry movements into each access do not generate any conflicts. • Left turn exit movements from each access will join the Valley Road traffic lane and therefore do not generate any conflicts. • Right turn movements out of each access travel away from the other access and therefore do not generate any conflicts • Right turn entry movements into each access have the potential to conflict if large queues form. **Figure S1** attached shows the right turning entry movements at each access. As shown, a queue of more than 6 vehicles would have to form at either access before any conflict arises. The development site access gate will remain open in peak traffic periods and therefore more than 50m is provided on-site to accommodate any queuing. Further, the signalised intersection means vehicles will travel on Valley Road in platoons, therefore allowing opportunity for vehicles to enter the site in peak traffic periods. As such, the possibility for conflicts is considered minimal and the accesses are unlikely to generate any vehicle conflicts.
4	Considering the proposed 135 apartment units within the site and the site's proximity to Woolworths, AT considers that there is potential for a relatively higher number of residents attempting to cross Valley Road between live traffic to access Woolworths. Considering that Valley Road is an arterial road, AT considers that this pedestrian behaviour could result in potential safety-related adverse effects. To ensure pedestrian and road-user safety in accordance with E27.8.2 (3), AT requests the applicant to provide an assessment on how pedestrians could safely	The pedestrian connections to the development are shown in Figure 6 of the TAR. The development features one resident connection to Carrick Place, two resident connections to Dominion Road and one resident connection to Valley Road. The connection to Carrick Place is unlikely to be used by residents that are travelling to Woolworths. Residents using the Dominion Road

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	access Woolworths. If any potential adverse effects are identified, please provide an assessment on how such adverse effects will be avoided, remedied, or mitigated.	connection will use the signalised pedestrian crossing to access Woolworths. Residents using the Valley Road connection will also use this signalised crossing, which is located approximately 35m to the west. This is considered a reasonable additional distance for pedestrians to travel to access Woolworths. As such, the proposed pedestrian connections are considered acceptable.
5	Section 4.5 notes that an access gate is setback 10.2m from the property boundary "to ensure queued vehicles are contained on-site and not extend over the pedestrian footpaths or onto the arterial roads.". Upon review of the architecture plans, AT notes that columns are proposed on either side of the vehicle crossing, as shown in Figure 1 below. Given the scale of the development and the relatively high pedestrian traffic on Valley Road, AT considers that the proposed columns could potentially impede the visibility of exiting vehicles. Further, AT considers that the 10.2m setback could potentially allow exiting vehicles to pick up speed once the gate opens, resulting in pedestrian safety-related adverse effects. To ensure pedestrian safety at the vehicle crossing in accordance with E27.8.2 (11), please provide an assessment on how pedestrian safety and intervisibility will be ensured at the crossing and how any potential adverse effects could be avoided, remedied, or mitigated.	Given the gate location, vehicle speeds on the access will be low. Vehicles exiting the site stopped at the gate only have 10m to travel before having to stop again before the intersection. As such, we do not consider vehicles will be able to accelerate to faster than 10km/h. This is considered an appropriate vehicle speed on a private vehicle access. For exiting vehicles, full visibility is available to the footpath to the drivers right hand side, given the two-way access. To the drivers left, a large opening in the wall is provided to enable visibility between vehicles and pedestrians. The opening is shown in Figure 1 and Figure 2 below. As such, the proposed vehicle access design is considered acceptable.
6	Section 5.2 of the TIA notes that "on-street parking removal will be required to establish the new vehicle crossing. The closure of the existing vehicle crossings and reinstatement to kerb and footpath will result in the availability of additional on-street parking space being created, if desired by AT." The applicant is requested to provide an updated plan indicating the amendments proposed to the road reserve (including but not limited to the NSAATs, the extent to which the existing on-street parking spaces will be removed and the location where the parking spaces could potentially be reinstated).	**Figure S2** attached shows the proposed changes to the Valley Road frontage.

We trust the responses above satisfy the Council and Auckland Transport queries.

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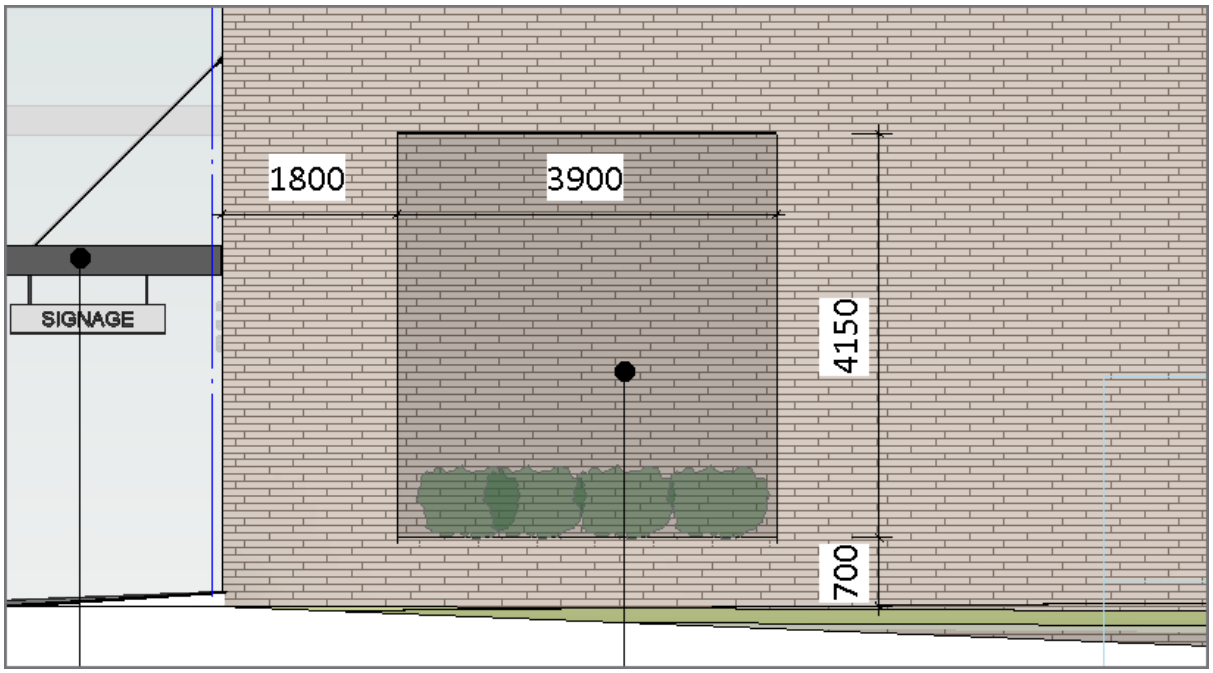
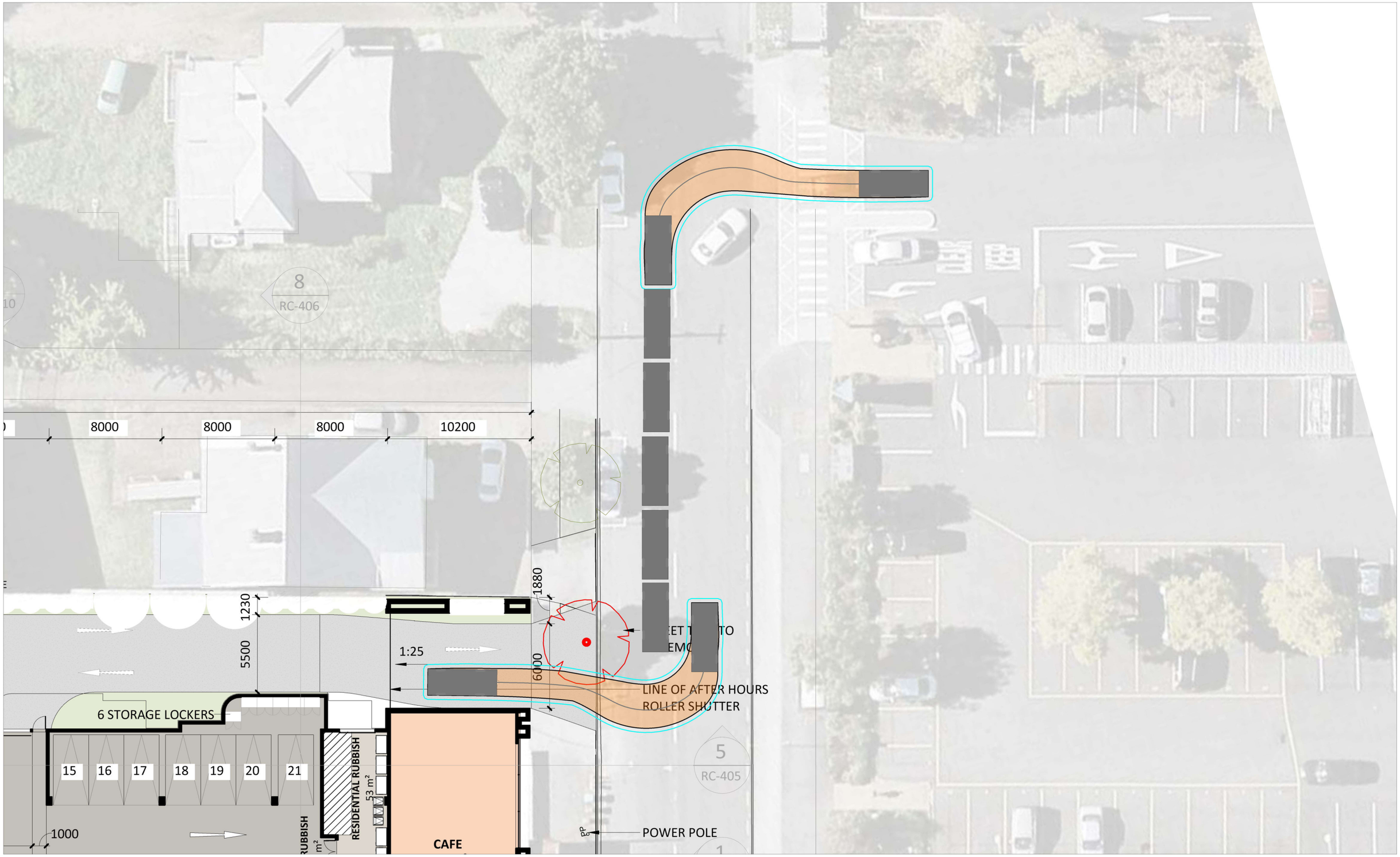
Figure 1: Visibility at driveway

Figure 2: Wall and opening dimensions





Revision notes:		
Rev:	Date:	Notes:

Drawn by: JB
Dominion Road & Valley Road

Client: Residential Development

Project: Dominion Rd & Valley Rd
Residential Development

Drawing Title: Vehicle Tracking
85th Percentile Car

Date: 23/09/2024

Scale @ A3: 1:250

Revision: A

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Figure: S1

Revision notes:		
Rev:	Date:	Notes:

Drawn by: JB
Dominion Road & Valley Road

Client: Residential Development

Project: Dominion Rd & Valley Rd
Residential Development

Drawing Title: Valley Road Access
Road Modifications

Date: 23/09/2024

Scale @ A3: 1:200

Revision: A

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Figure: S2

Panuku Development Auckland

Residential Development, 198-222 Dominion Road and 113-117 Valley Road, Mt Eden

Transportation Assessment Report

June 2017

TDG Ref: 13437 TA 170619.Docx

Panuku Development Auckland

Residential Development, 198-222 Dominion Road and 113-117 Valley Road, Mt Eden

Transportation Assessment Report

Quality Assurance Statement

Prepared by:

Josh Brajkovic

Transportation Engineer

Reviewed by:

Michael Hall

Project Transportation Engineer

Approved for Issue by:

Don McKenzie

Technical Director / Auckland Manager

Status: Final Report

Date: 19 June 2017

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Table of Contents

1. Introduction 1

2. Existing Environment 2
   2.1 Site Location 2
   2.2 Road Network 2
   2.3 Public Transport and Pedestrian / Cyclist Facilities 3
   2.4 Traffic Volumes 3
   2.5 Road Safety 6

3. Proposed Development 7

4. Traffic Effects 10
   4.1 Existing Activity 10
   4.2 Proposed Activity 10
   4.3 SIDRA Analysis 11

5. Parking and Loading 13
   5.1 Parking Numbers 13
   5.2 Parking Layout 13
   5.3 Servicing 19

6. Access and Egress 21
   6.1 Sight Distance 21

7. Light Rail Network 22

8. AUP-OIP 23

9. Conclusion 27

1. Introduction

TDG has been commissioned by Panuku Development Auckland to provide a transportation assessment for a proposed apartment complex at 198-222 Dominion Road and 113-117 Valley Road, Mt Eden, Auckland. The proposal comprises 102 residential apartments, nine retail units, and a basement parking area.

This report addresses the transportation impacts of the proposed development in regard to the following matters:

- Levels of vehicular traffic likely to be generated by the activities.
- The associated effect on the performance and safety of the surrounding road network.
- Adequacy and function of the proposed on-site parking area and access driveways.
- Compliance with the Auckland Unitary Plan – Operative in Part (**AUP – OIP**) and its associated requirements.
- Potential impacts associated with the proposed Light Rail link along Dominion Road.

These and other matters will be addressed in the detail of the report that follows. By way of a summary however, it can be demonstrated that the proposed apartment complex can be established such that the generated traffic and parking demands will cause less than minor effects to the function, capacity and safety of the surrounding transport network.

It is noted that a previous assessment for the subject site has been undertaken by TDG in June 2016, as well as a subsequent Section 92 response in July 2016, which have been incorporated into this report.

2. Existing Environment

2.1 Site Location

Figure 1 shows the site location at 198-222 Dominion Road and 113-117 Valley Road, within the context of the surrounding environment. The surrounding land uses include a mix of various commercial activities to the north, east and south, with the adjacent Dominion Road featuring various retail and commercial establishments.

The site is located within the "Business – Local Centre Zone" under the AUP-OIP.

The site is approximately 2km south of the Auckland Central Business District (**CBD**) along Dominion Road. There are bus stops located along the site frontage on both Valley Road and Dominion Road. Key nearby amenities within reasonable walking distance from the site include the Eden Quarter shopping complex which features a Countdown supermarket, Auckland Grammar School, Kowhai Intermediate School, Mt Eden Normal Primary School, Balmoral Primary School, Mt Eden Domain and Eden Park.

2.2 Road Network

Figure 2 shows the location of the development site within the context of the surrounding road network hierarchy, as defined by the AUP-OIP. The site has frontage to Dominion Road, Valley Road and Carrick Place.

Dominion Road and Valley Road are classified as a Regional Arterial Road and a District Arterial Road, respectively. These roads provide for large through-traffic movements in a moderate to high speed environment. They predominantly act as distribution routes to various areas of the city.

Carrick Place is classified as a Local Road, in which role it is intended to provide primarily for individual property access.

In the vicinity of the site, Valley Road consists of two lanes running east-west, with one lane in each direction. Valley Road has a carriageway width of approximately 10.5m. Kerbside parking is permitted within the carriageway and there are footpaths on both sides.

Carrick Place has a carriageway width of approximately 7.0m and operates as a cul-de-sac in the vicinity of the site. Kerbside parking and footpaths exist on both sides of the road.

Dominion Road at the location of the proposed pedestrian access serving the proposed development consists of four lanes running north-south, with two lanes in each direction within a kerb to kerb width of 15.0m. The kerbside, northbound lane operates as a bus lane on weekday mornings from 7am-9am. The corresponding kerbside, southbound lane operates as a bus lane from 4:30pm-6:00pm on weekdays. This southbound bus lane terminates approximately 50m north of the Dominion Road / Valley Road intersection. Outside of the bus lane operation times, 30 minute on-street time restricted (**P30**) parking is permitted.

2.3 Public Transport and Pedestrian / Cyclist Facilities

The site has good access to Auckland's public transport network as well as pedestrian and cycle facilities. The nearest bus stops are located within 100m of the site on Dominion Road in both the northbound and southbound directions.

Bus routes travelling along Dominion Road travel between southern Auckland suburbs and the CBD. The other bus service in the vicinity is the Outer Link service which travels via Valley Road, in a loop, stopping at locations including Parnell, Newmarket, Universities, Ponsonby and Downtown. The Outer Link service also provides ready access to other bus and train services in the city centre.

Adjacent to the site, there are footpaths on both sides of Dominion Road, Valley Road and Carrick Place. Cycle facilities are provided by way of the bus lanes on Dominion Road previously mentioned. The Dominion Road cycleway has recently been completed, connecting Mt Roskill to the central city, and is a key cycling facility in the vicinity of the development. The signalised intersection of Dominion Road and Valley Road provides parallel phased pedestrian crossing facilities.

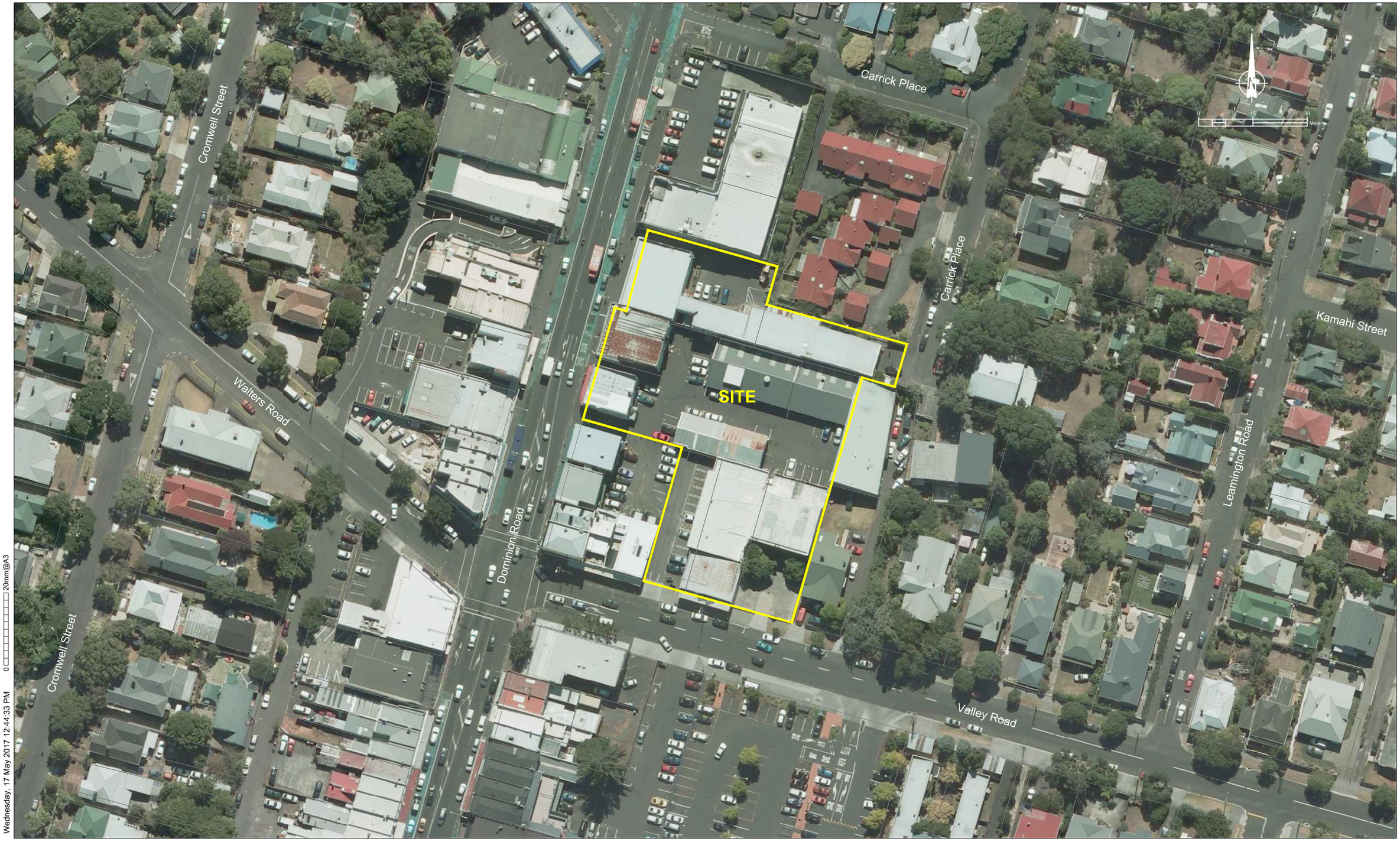
2.4 Traffic Volumes

Traffic volumes have been collated from automatic count data provided by Auckland Transport on both Dominion Road and Valley Road. **Table 1** below summarises the peak traffic volumes passing the site in vehicles per hour (**vph**).

Road	Count Start Date	Peak Period	Peak Hour Volume (vph)
Dominion Road	Wednesday 18th June 2014	AM	1,938
		PM	1,996
Valley Road	Friday 4th April 2013	AM	715
		PM	936

Table 1: Peak Hour Traffic Volumes

The counts also showed that daily traffic volumes of approximately 25,900 vehicles per day exist (**vpd**) on Dominion Road and 8,100vpd on Valley Road. These traffic volumes reflect the respective roles of the Dominion Road and Valley Road routes.



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REV	DATE	DRN	CHK	DESCRIPTION
A	15.09.15	SP	---	Isthmus Base Plans
B	09.05.16	CTM	---	Updated Isthmus Base Plans
C	17.05.17	CTM	---	Updated Isthmus Base : Level1-3423-2.2-Rev H
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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

SITE LOCATION

DRAWN: SP/CM	---	---
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DWG NO:13437A1C		

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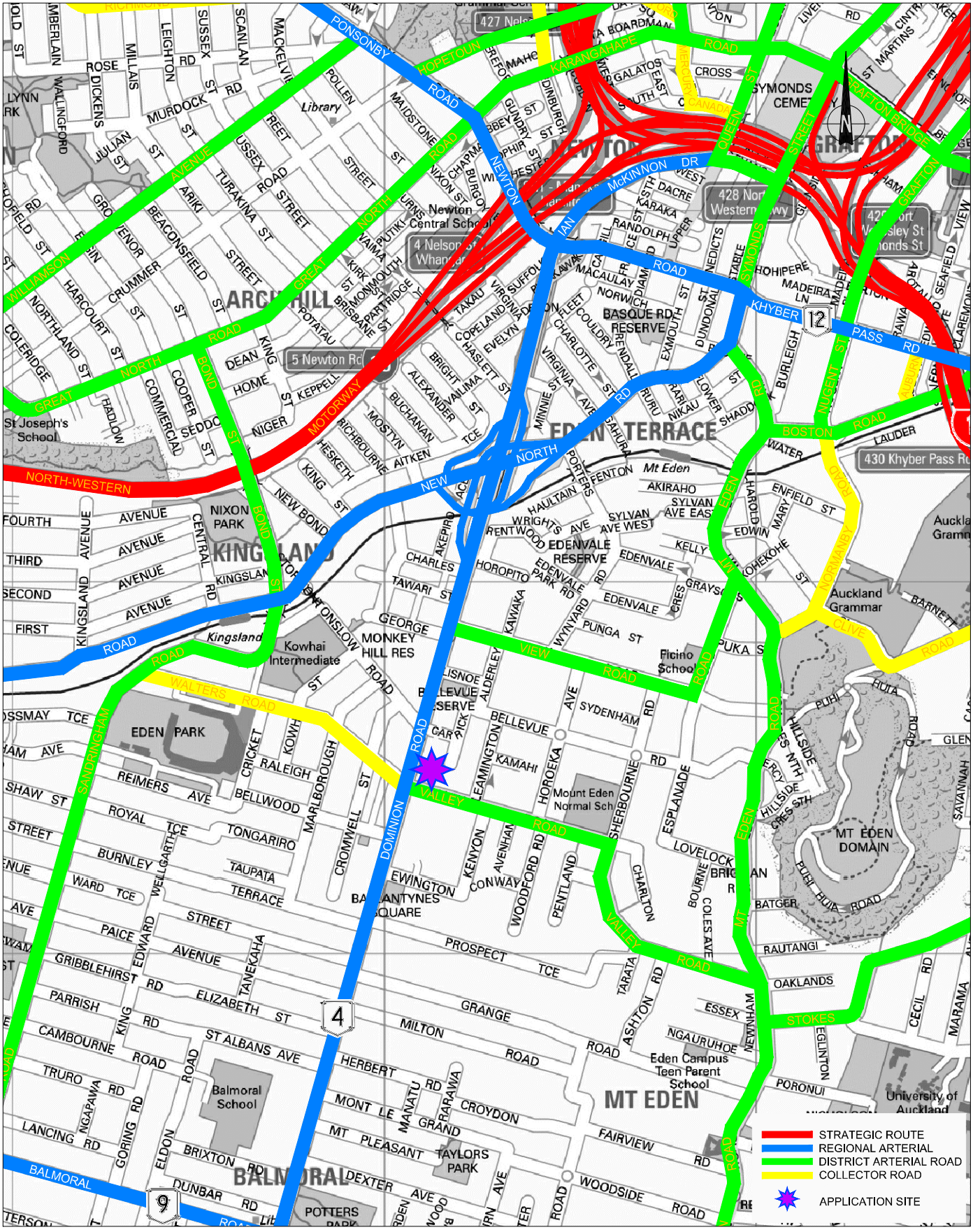

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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN

ROAD HIERARCHY

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SCALE: N.T.S

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2.5 Road Safety

A search of the New Zealand Transport Agency's NZTA crash database was undertaken for all reported crashes in the five-year period from 2012 to 2016, and all available records for 2017, in the vicinity of the site. The search area included Dominion Road and Valley Road across the site frontage and for a distance of 50m beyond the extent of the site.

The search revealed a total of 41 crashes had occurred in the vicinity of the site during this period. Only nine of these crashes resulted in injury of any kind, with eight injuries reported as minor and one as serious. Three of these injury crashes were due to a driver failing to give way to other road users.

The non-injury crashes were caused by a variety of factors, including driver attention being diverted, misjudging vehicle speeds and failure to look when manoeuvring. With the exception of the one crash involving pedestrians, all crashes were a result of driver error.

The scale and pattern of crashes revealed by the search is considered low for arterial roads with high volumes of traffic and moderate to high speed limits. As will be discussed, the volume of traffic generated by the proposed residential development is not expected to detrimentally affect this existing safety record.

3. Proposed Development

It is proposed to establish four new residential apartment buildings on the site comprising a total of 102 dwellings. The proposed development will provide the following:

- A total of four multi-storey buildings (ranging in height between three and five levels) and basement.
- 901sqm of retail space in nine tenancies located at ground level.
- 102 residential apartments (24 one bedroom, 56 two bedroom, 22 three bedroom).
- One new vehicle access driveway from Valley Road.
- Three new pedestrian accesses, connecting the development to Dominion Road, Valley Road and Carrick Place.
- A total of 116 carparking spaces, including 112 basement spaces and four at-grade spaces accessed from Carrick Place.

Figures 3 and **4** show the proposed development and parking layout.

It is intended that the on-site basement car parking spaces and at-grade spaces off Carrick Place will be dedicated to residents only.

No vehicular site access is proposed off Dominion Road. This is consistent with the expectations from a road hierarchy position of Dominion Road as well as reflecting the higher density of traffic and general road user movements along this route. However pedestrian and cyclist access to and from the site will be provided onto Dominion Road for residents use.

Auckland Transport has proposed to introduce a light rail corridor along Dominion Road. This is independent of the subject proposal. It is possible that a light rail stop will be located on Dominion Road adjacent to the frontage of the site, however this is uncertain at this stage.

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REV	DATE	DRN	CHK	DESCRIPTION
A	15.09.15	SP	---	Isthmus Base Plan-IGL 3423_Dominion/Valley Rd_Basement Floor Plan_150903 (02.09.15)
B	09.05.16	CTM	---	Updated Isthmus Base Plan-3423-1.2-Rev C (08.04.16)
C	17.05.17	CTM	---	Updated Isthmus Base : Level1-3423-2.2-Rev H
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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

PROPOSED DEVELOPMENT

LEVEL 1 FLOOR PLAN

DRAWN: SP/CM	---	---
DATE: 17.05.17	STATUS: ---	
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DWG NO:13437A1C		

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REV	DATE	DRN	CHK	DESCRIPTION
—	—	—	—	—
B	05.05.16	CTM	—	Isthmus Base Plan-IGL-3423 Prelim Design (03.05.16)
C	17.05.17	CTM	—	Updated Isthmus Base : 3423-2.1-RevH (01/05/17) Draft RC
D	19.06.17	SP	JB	Updated Isthmus Base Plan -
—	—	—	—	Pages from Isthmus Plans (May 2017)_Page_1.png (recieved 17.05.17)
E	20.06.17	SP	JB	IGL 3423 Preliminary Design_BasementFloorPlan.dwg (recieved 20.06.17)
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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

PROPOSED DEVELOPMENT

BASEMENT FLOOR PLAN

isthmus

DRAWN: CTM	---	---
DATE: 20.06.17	STATUS: ---	
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DWG NO:13437A2E		

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4. Traffic Effects

4.1 Existing Activity

The site is currently occupied by specialty retail premises. The New South Wales Roads and Traffic Authority (now Roads and Marine Services) *Guide to Traffic Generating Developments* (**RTA Guide**) was used to calculate the sites approximate current trip generation. For retail activities, a weekday evening peak trip generation rate of 4.6vph per 100sqm GFA for specialty shops has been adopted from the RTA Guide for the weekday peak hour.

The current arrangement provides approximately 2,600sqm GFA of retail activity. This floor area calculation was based on the area of the buildings as measured from aerial photography. Upper stories were not included in the area as it is understood that these are typically back rooms that are not used for customer generating activity. Therefore, based on the 2,600sqm GFA calculation, the existing site is expected to generate approximately 120 and 1,440 peak hour and daily trips, respectively. The trip generation is detailed in **Table 2** below.

Activity	Size	Trip Generation Rate		Peak Trips	
		Peak	Daily	Peak (vph)	Daily (vpd)
Retail	2,600sqm	4.6vph/100sqm GFA	55.5vpd/100sqm GFA	120	1,443

Table 2: Consented Development Peak Hour Trip Generation

It is noted that, as a proportion of the site is currently vacant, the surveyed trip volumes are not considered to provide a full or proper representation of the existing site's potential trip generation. Given this, we have adopted a conservative approach and have not discounted the site's existing potential trip generation as part of the SIDRA analysis (Section 4.3) used to assess the potential effects of the traffic expected to be generated by the proposed development.

4.2 Proposed Activity

An assessment of the expected trip generation for the proposed residential development has been undertaken also using the RTA Guide. The RTA Guide states that a medium density residential flat building, such as those proposed, generates approximately 0.65 vehicle trips (the sum of both arrivals and departures) during the peak commuter hour per dwelling and 6.5 daily vehicle trips per dwelling for units with three or more bedrooms. Units with one or two bedrooms will generate 0.5 peak hour vehicle trips and 5.0 daily vehicle trips.

For retail activities, a weekday evening peak trip generation rate of 4.6vph per 100sqm GFA for specialty shops has been adopted from the RTA Guide for the weekday peak hour.

The table below summarises the trips generated by the proposed development across each day and in the weekday PM peak hour.

Activity	Size	Trip Generation Rate		PM Peak Trips (vph)	
		Peak	Daily	Peak	Daily
1-2 bedroom units	80 dwellings	0.5vph/dwelling	5vpd/dwelling	40	400
3+ bedroom units	22 dwellings	0.65vph/dwelling	6.5vpd/dwelling	14	143
Retail	901sqm	4.6vph/100sqm GFA	55.5vpd/100sqm GFA	41	500
Total	-	-	-	**95**	**1,043**

Table 3: Proposed Development Peak Hour Trip Generation

The site is therefore expected to generate a total of 95 trips during the PM peak hour and 1,043 daily. As the underground parking spaces are only for residents, no retail movements will be associated with the Valley Road access. The retail customers will likely find parking on the surrounding road network, as is currently the case with other retail premises in the area or travel by public transport, bicycle or by foot. As will be demonstrated in the following chapter, it is demonstrated that the proposed access driveway is readily capable of accommodating the 54 expected peak hour vehicle trips generated by the residents.

4.3 SIDRA Analysis

A series of SIDRA[1] models were created to investigate the effects of the addition of extra traffic generated by the proposed development. The models detailed the signalised intersection of Dominion Road, Valley Road and Walters Road adjacent to the site.

The traffic volumes for the current scenario were those used from surveys conducted by TDG in September 2015. The added traffic volumes from the development were those trip generation numbers calculated previously in Section 4.2 above.

4.3.1 AM Peak

Currently, the Level of Service (**LOS**[2]) rating for the signalised intersection between Dominion Road, Valley Road and Walters Road for the AM peak is LOS C. The average delays during these times range from 17 to 59 seconds for southbound Dominion Road right turning movements and eastbound Valley Road right turning movements, respectively.

The predicted 54 peak hour vehicle trips calculated previously representing the residential traffic generation were then added to the current traffic volumes. These 54 trips were assigned proportionally based on an inbound to outbound split of 29% to 71%. This value was taken from the *Institute of Transportation Engineers Trip Generation Manual ("ITE Guide")* for mid-rise apartment buildings. The inbound and outbound trips were then split according to the surveyed traffic volumes on Dominion Road and Valley Road.

[1] SIDRA is a software package used for intersection and network capacity, level of service and performance analysis.
[2] Level of service is a means to broadly quantify the operational quality provided by specific parts or larger sections of transport infrastructure. LOS A is free flow condition and LOS F is traffic jam conditions.

These proportions were split approximately 50% to 50% from the surveys, however the Dominion Road to Valley Road split was conservatively taken as 60% to 40% as the Dominion Road intersection is considered more critical. The Dominion Road movements were then proportioned according to surveyed turning traffic movements.

The addition of the predicted traffic generated form the development to the intersection does not change the LOS C rating. The average delays increase slightly but these increases are considered minimal and of a scale that would be imperceptible to other road users.

4.3.2 PM Peak

Currently, the LOS rating for the signalised intersection between Dominion Road, Valley Road and Walters Road for the PM peak is LOS C. The average delays during these times are between 19 and 42 seconds for northbound Dominion Road right turning movements and eastbound Valley Road right turning movements, respectively.

The predicted 54 peak hour vehicle trips calculated previously were then added to the current PM traffic volumes. Conservatively, no subtraction was made to allow for trips currently generated by the site. These 54 trips were proportioned based on an inbound to outbound split of 59% to 41%. This value was taken from the ITE Guide for mid-rise apartment buildings. The inbound and outbound trips were then split according to the surveyed traffic volumes on Dominion Road and Valley Road. These proportions were split approximately 50% to 50% from the surveys, however the Dominion Road to Valley Road split was conservatively taken as 60% to 40% as the Dominion Road intersection is considered more critical. The Dominion Road movements were then proportioned according to surveyed traffic movements.

The addition of the predicted traffic generated form the development to the intersection does not change the LOS C rating. The average delays increase slightly (of the order of one or two seconds) and are considered minimal to the extent of not adversely affecting other road users or even being perceptible to others at this location.

The SIDRA results for the intersection are summarised in the following **Table 4**, with the key indicator being overall intersection delay (in seconds / vehicle) and LOS. The LOS is a commonly used parameter to indicate intersection performance and used by road controlling authorities as an indicator for when further transport investment is warranted.

Intersection	Existing		Future	
	AM Peak	PM Peak	AM Peak	PM Peak
Dominion Rd / Valley Rd / Walters Rd	27.5 (C)	27.2 (C)	28.0 (C)	27.5 (C)

Table 4: Intersection Performance

As can be seen, the intersection is expected to continue to perform well, even when the traffic flows associated with the development are included with overall intersection delays increasing by less than one second per vehicle in the AM and PM peaks. This indicates that from a traffic operations and transport infrastructure capacity point of view, the proposed development is not expected to require any change to the current roads and intersections to ensure an appropriate network performance is maintained.

5. Parking and Loading

5.1 Parking Numbers

The AUP-OIP specifies the parking requirements for residential units. For each one-bedroom residential unit, a maximum parking rate of one space per unit is detailed. For each two or more bedroom unit, a maximum parking rate of two spaces per unit is detailed. A maximum parking rate of 0.2 spaces per unit is also detailed for visitors. For retail premises, a maximum parking rate of one space per 20sqm GFA is detailed.

Table 5 below sets out the maximum parking provision standards included within the AUP-OIP. No minimum parking rates apply for residential activities within the AUP-OIP. The issue of a parking minimum for retail and commercial activities in the Business Local Centre and other Business zones is currently under appeal in the Environment Court.

Activity	No. Units / GFA	AUP-OIP Max. Parking Rate	Max. No. Parking Spaces
1 bedroom residential unit	24 units	1/unit	24
2+ bedroom residential unit	78 units	2/unit	156
Retail unit	901sqm	1/20sqm GFA	45
Total	-	-	**225**

Table 5: AUP-OIP Maximum Parking Spaces Required

The proposed provision of 116 spaces is 109 less than the maximum of 225 required by the AUP-OIP, and therefore satisfies requirements.

The AUP-OIP also requires that mobility spaces be provided. The New Zealand Standard NZS 4121:2001 '*Design for Access and Mobility – Buildings and Associated Facilities*' is considered the most appropriate guide for mobility space provisions. However the Building Act does not require the provision of mobility spaces for residential units, therefore mobility parking is only required to be provided based on the retail parking space requirements. As mentioned previously, no retail parking is provided; therefore no mobility spaces are required.

5.2 Parking Layout

It is proposed that 112 parking spaces will be provided on a single basement level, with an additional four at-grade spaces provided off Carrick Place. All spaces will be allocated to residents, and are therefore expected to be used for long stays by regular users only. The basement carpark will be accessed only from Valley Road. No parking provision for retail activities is provided, as the proposed retail GFA is less than the existing retail GFA, and therefore any retail parking demand will be accommodated by the surrounding road network.

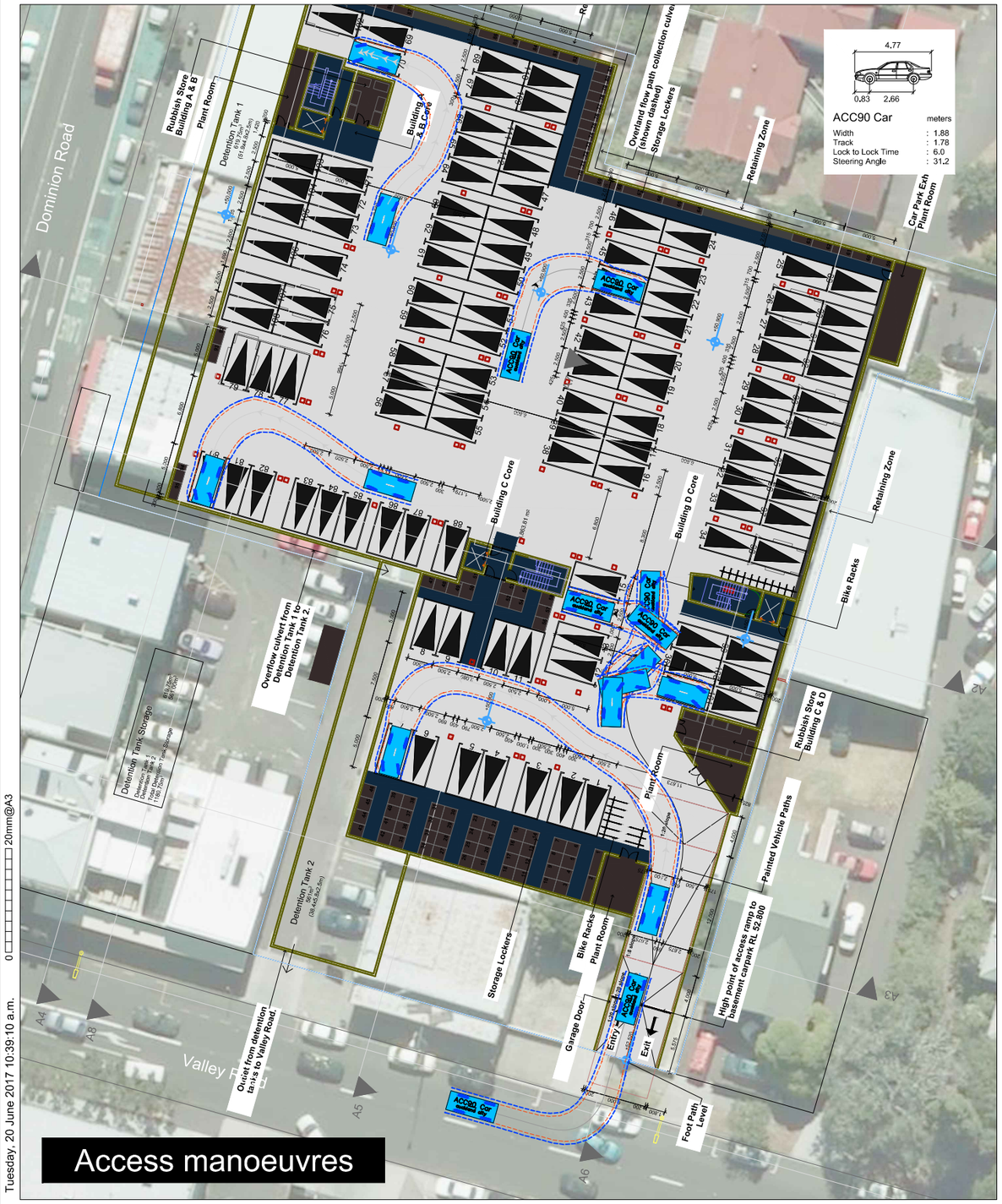
Access to the parking in the basement will be from Valley Road via a two-lane, two-way driveway and ramp measuring 6m wide. The ramp will have a maximum gradient of 1 in 8. The gradient of the ramp where it meets Valley Road is 1 in 20. All of these dimensions satisfy the AUP-OIP gradient requirements.

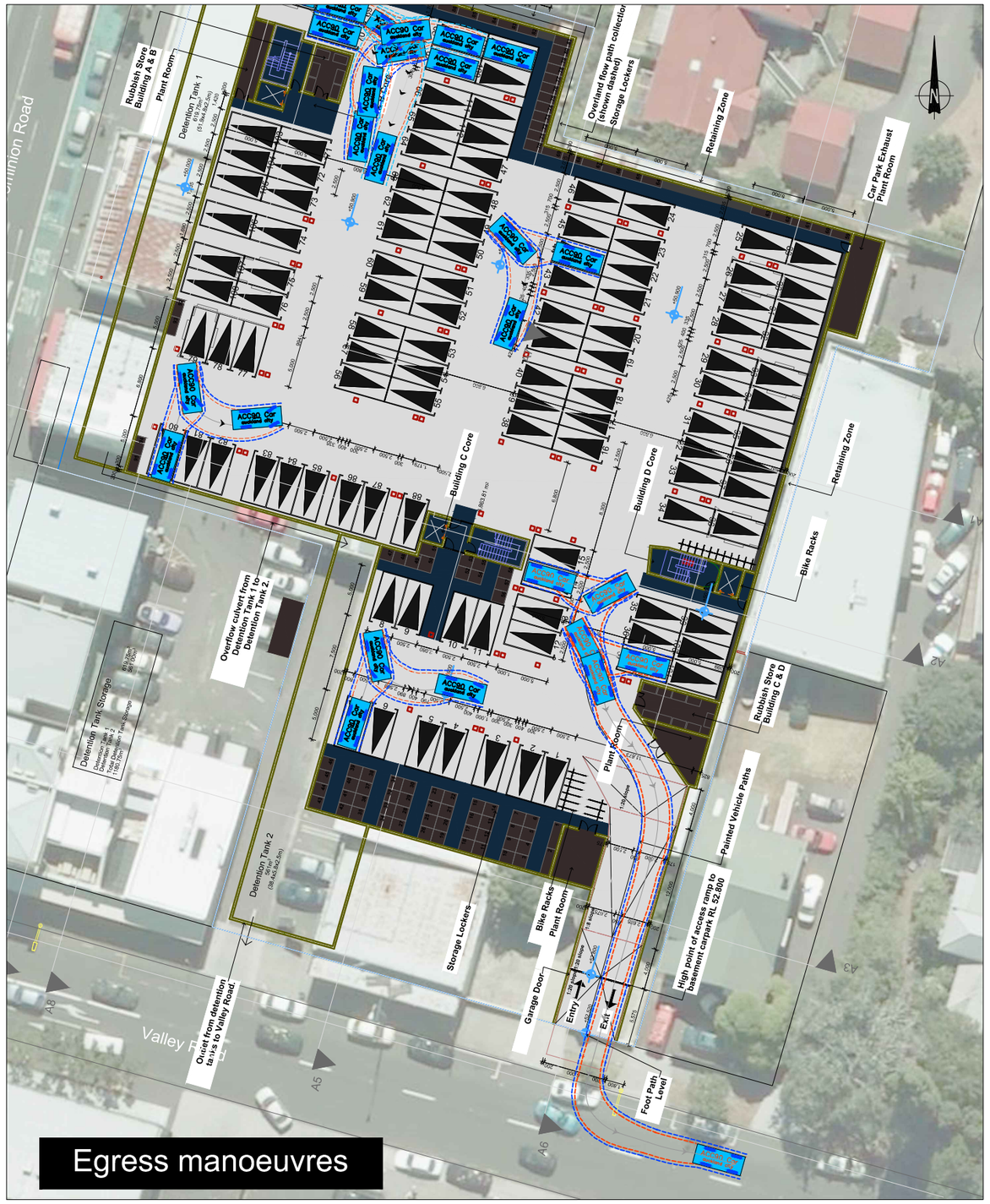
The perpendicular parking spaces are all 5.0m long, 2.5m wide, with manoeuvring aisles that are at least 6.8m wide for the significant majority of spaces. These dimensions satisfy the AUP-OIP requirements with minimum depths of 4.9m and 6.7m wide manoeuvring aisles for 2.5m wide spaces. It is noted that spaces 36 and 13 are provided with only 6.1m manoeuvring space. Tracking of a 90% Auckland City vehicle is shown in **Figures 5, 5a and 5b** to verify the workability of these spaces, as well as other spaces throughout the carpark. A small number of spaces require 3-point turns to access or egress, as shown in the attached figures. These are considered suitable for the development however, as they will be used by regular residents of the development, who will be familiar with the parking environment.

Overall there are 25 pairs of tandem parking spaces and 62 single spaces. Each single space and tandem pair will be allocated to a specific residential unit. This means that 87 units will have dedicated parking and 15 units will not be allocated a parking space. The units without dedicated on-site parking will be one-bedroom units and the tandem pairs will be allocated to the largest units. Owners will be aware of the parking allocation at the time the properties are sold.

No dedicated visitor spaces are being provided on-site by the development. Any visitors to the site will able to park on the surrounding streets which currently happens for the existing retail tenancies or use a car park belonging to the owner of the apartment that they are visiting.

There are a number of “blind aisles” within the basement layout. These are considered acceptable as each space will be assigned to an apartment unit; therefore there will be no need to turn around at the end of these aisles (without first entering a parking space). In addition, an additional area of at least 1.0m of aisle length is provided beyond the last parking space to assist with manoeuvring. Further, to ensure vehicles at the end of the aisle are able to manoeuvre, the tracking of vehicles manoeuvring in and out of these spaces has been checked with a 90th percentile car (for regular users), as shown in Figure 5. This shows that a car can adequately manoeuvre in and out of these spaces.





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B	05.05.16	CTM	—	Isthmus Base Plan-IGL-3423 Prelim Design (03.05.16)
C	17.05.17	CTM	—	Updated Isthmus Base : 3423-2.1-RevH (01/05/17) Draft RC
D	19.06.17	SP	JB	Updated Isthmus Base Plan -
—	—	—	—	Pages from Isthmus Plans (May 2017)_Page_1.png (recieved 17.05.17)
E	20.06.17	SP	JB	IGL 3423 Preliminary Design_BasementFloorPlan.dwg (recieved 20.06.17)
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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

PROPOSED DEVELOPMENT

BASEMENT FLOOR - 90% CAR TRACKING

isthmus

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DATE: 20.06.17	STATUS: ---
SCALE: 1:500@A3	
DWG NO:13437A2E	

TDG

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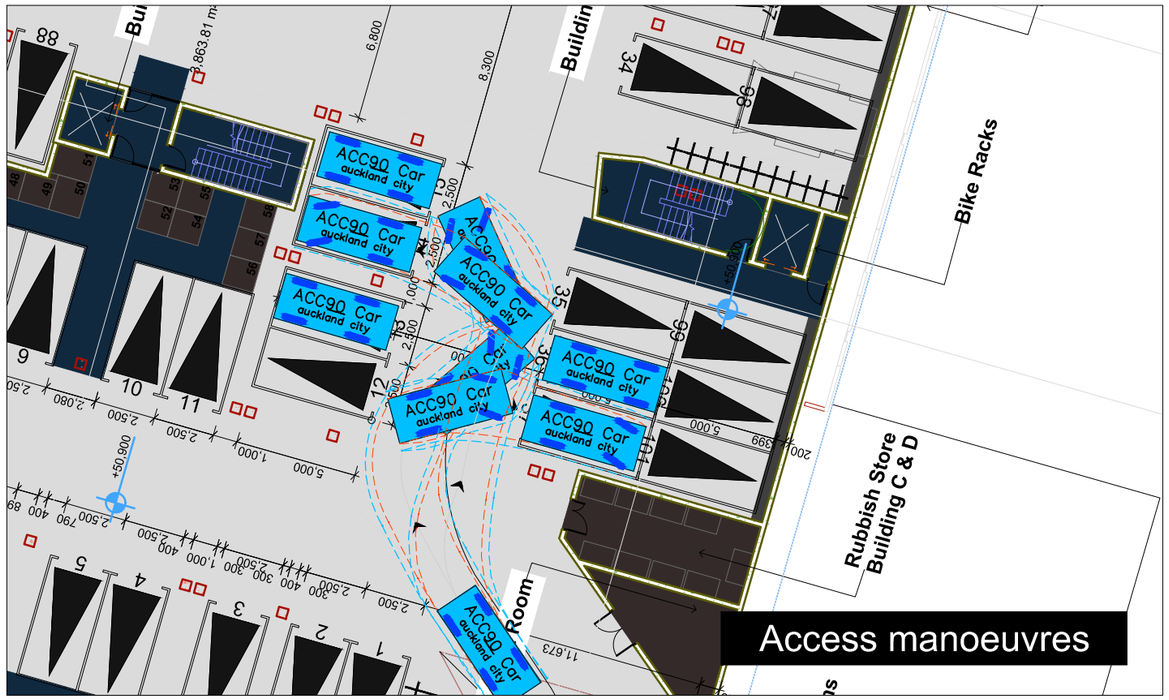
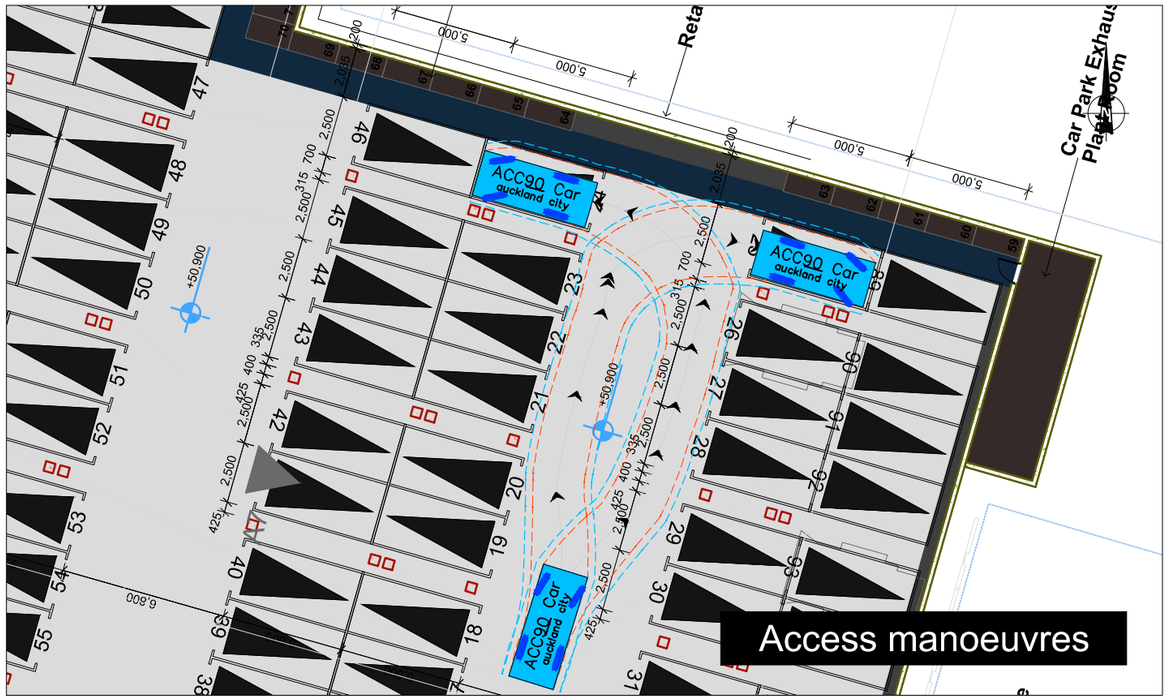


Access manoeuvres



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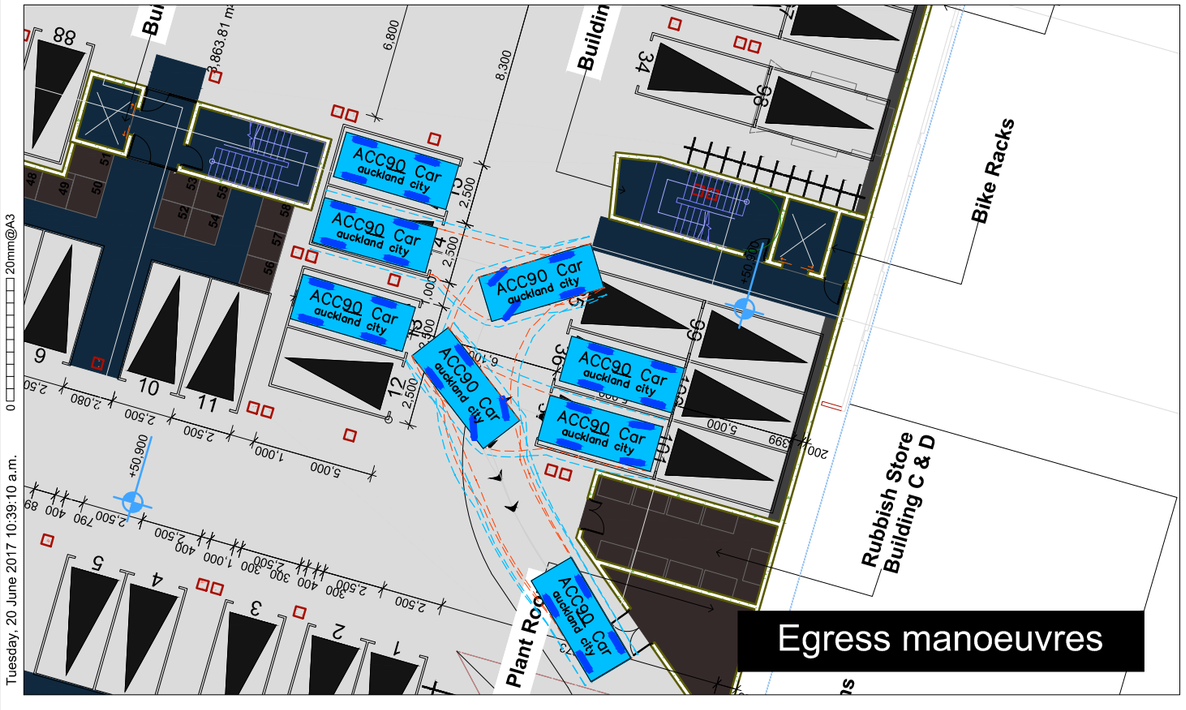
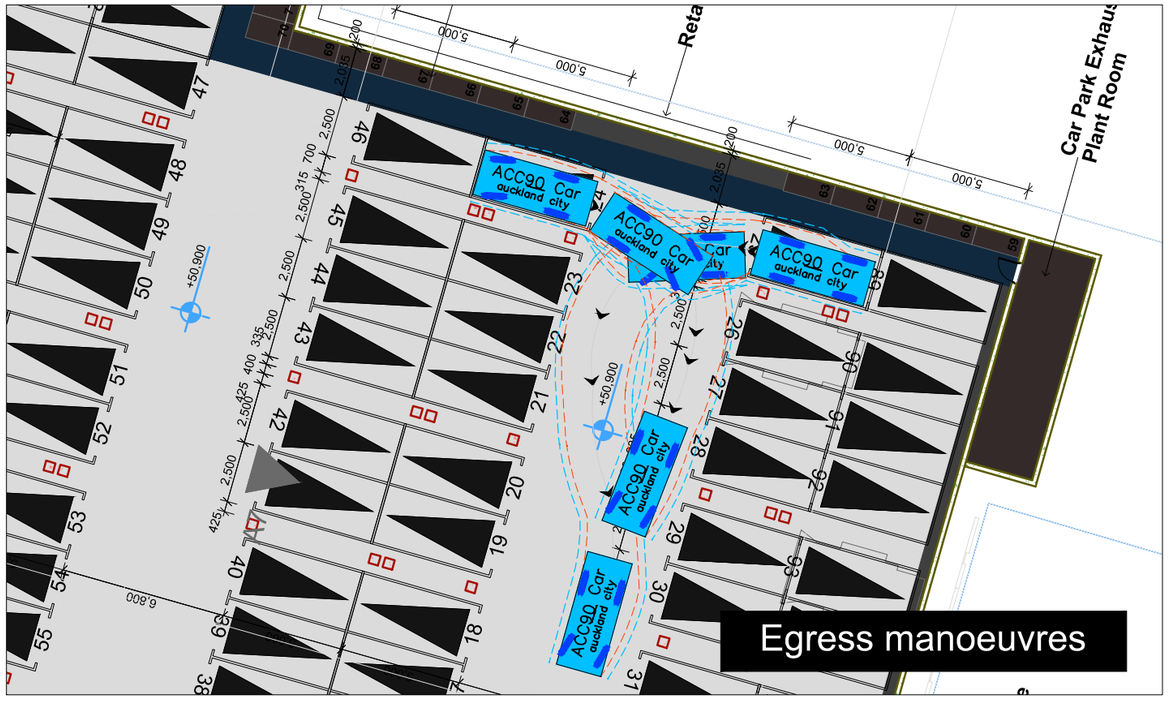


Egress manoeuvres



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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

PROPOSED DEVELOPMENT

BASEMENT FLOOR - 90% CAR TRACKING

isthmus

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DATE: 20.06.17	STATUS: ---
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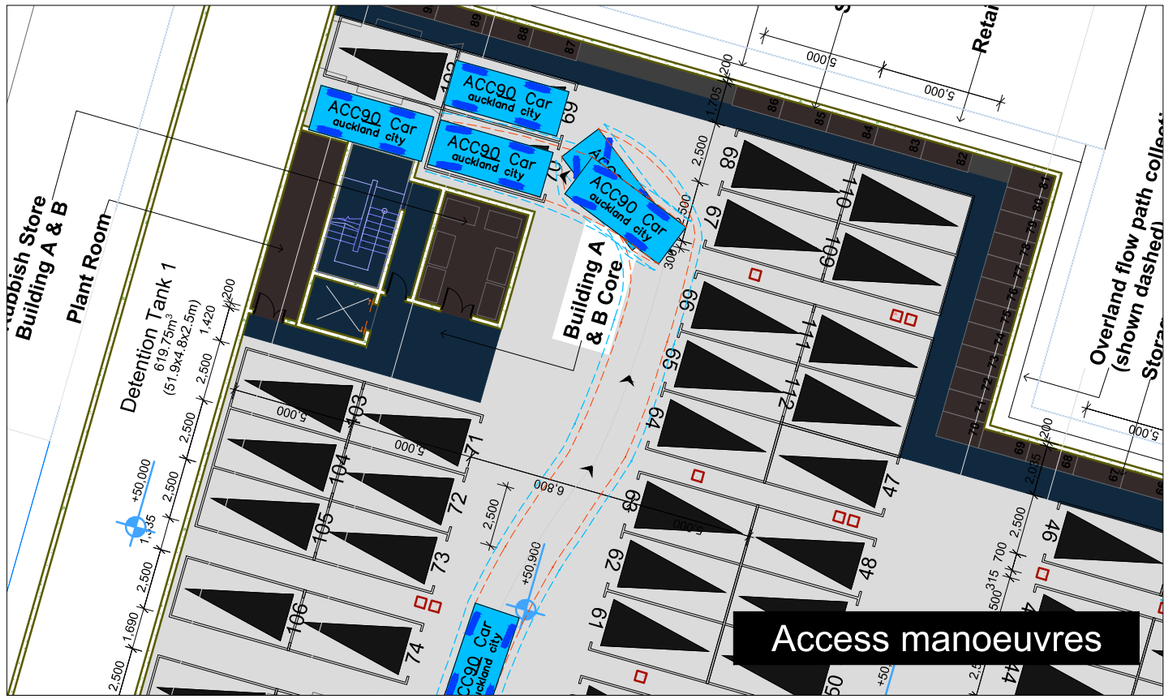

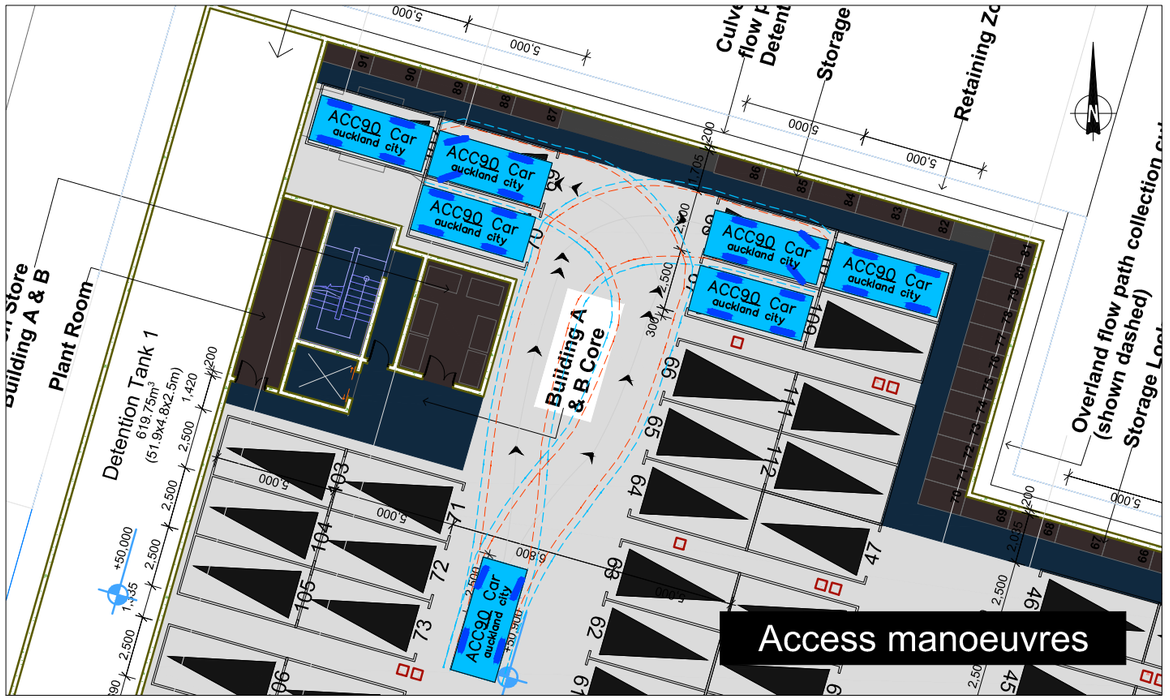

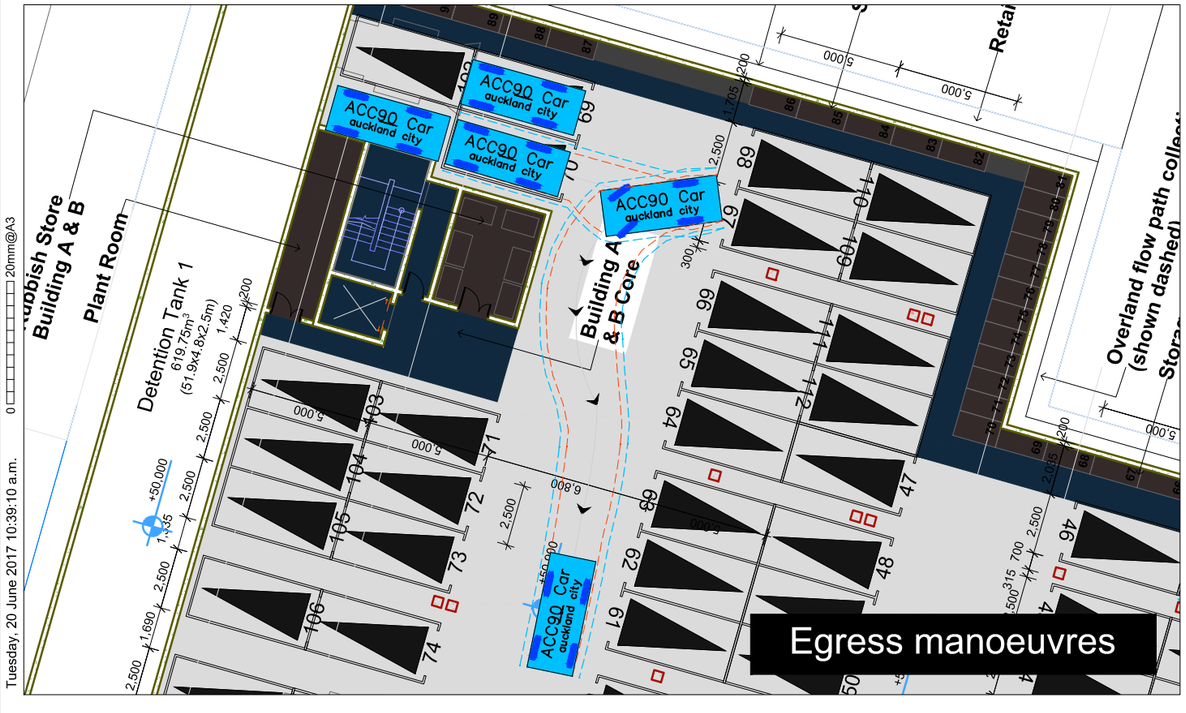

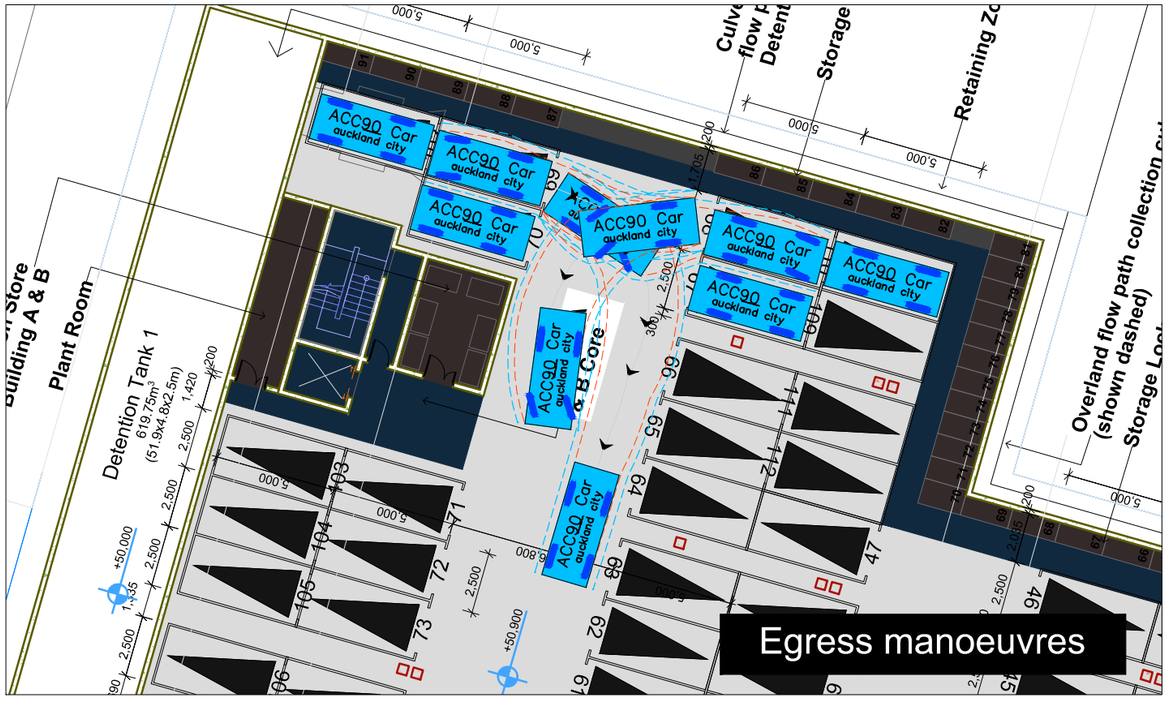

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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

PROPOSED DEVELOPMENT

BASEMENT FLOOR - 90% CAR TRACKING

isthmus

DRAWN: CTM	---	---
DATE: 20.06.17	STATUS: ---	
SCALE: 1:250@A3		
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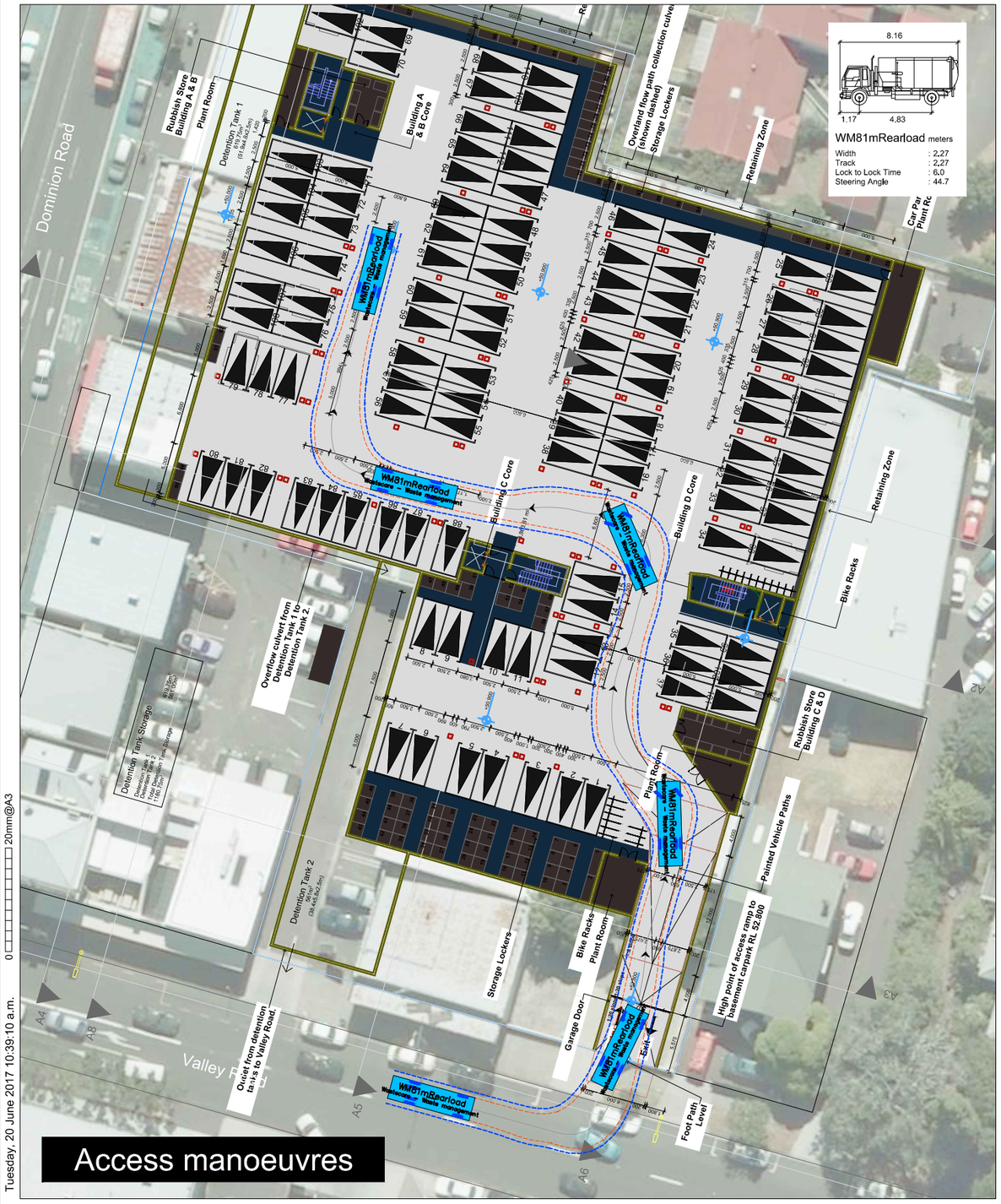
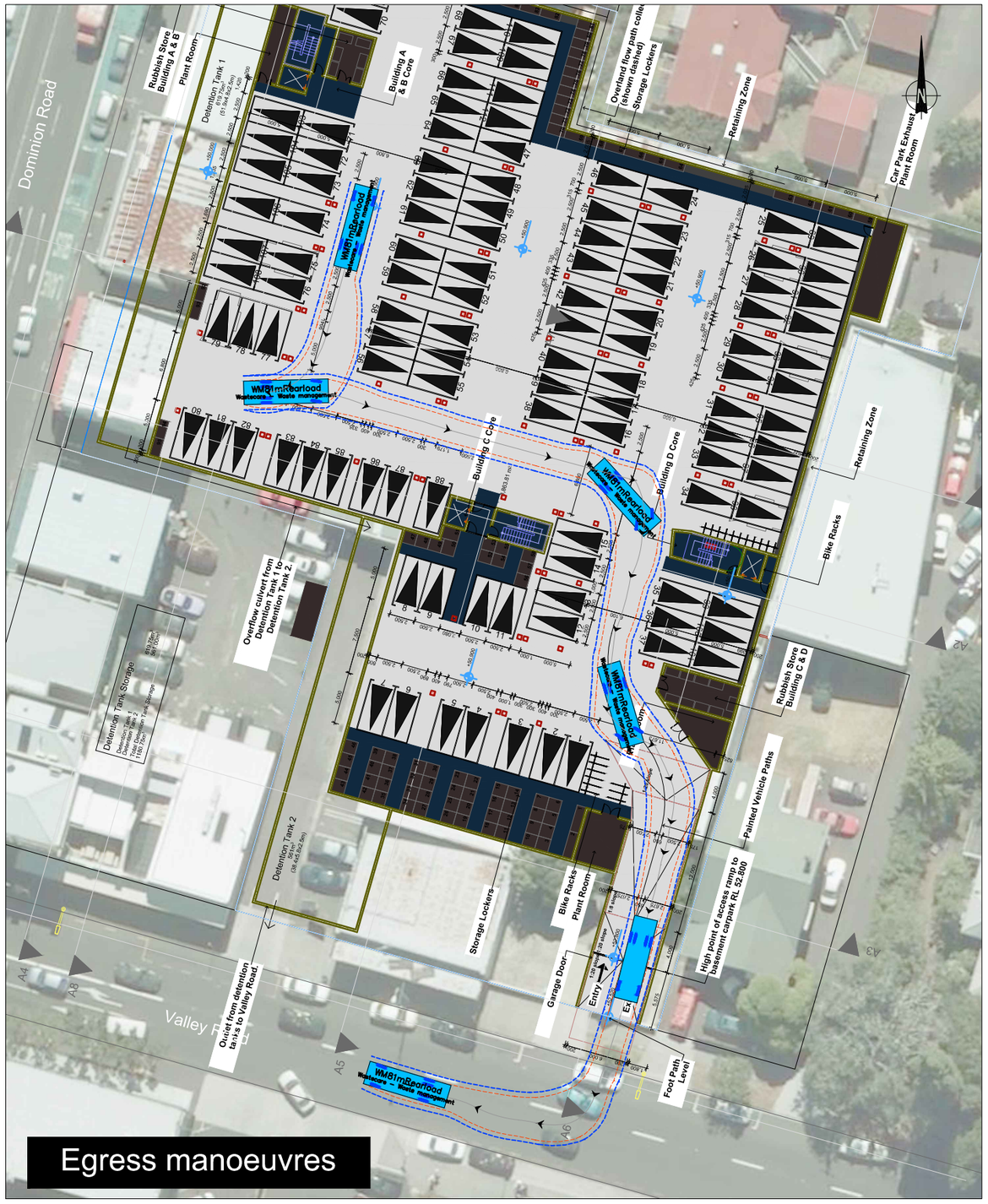


Access manoeuvres



Egress manoeuvres

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RESIDENTIAL COMPLEX, 113-117 VALLEY ROAD, MT EDEN, AUCKLAND

PROPOSED DEVELOPMENT

BASEMENT FLOOR - 8.1m REFUSE TRUCK TRACKING

isthmus

DRAWN: CTM	---	---
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5.3 Servicing

Rubbish collection will operate in the underground carpark within the rubbish store. **Figure 6** shows the tracking of the Waste Management truck that is expected to service the site where the schematic of the truck is shown in **Figure 7**.

The maximum height of the truck is 2.69m while the minimum clearance of the basement ramp is 3.2m. Accounting for the 1 in 8 gradient of the ramp, the truck has an effective height of 2.71m which is still less than the minimum clearance.

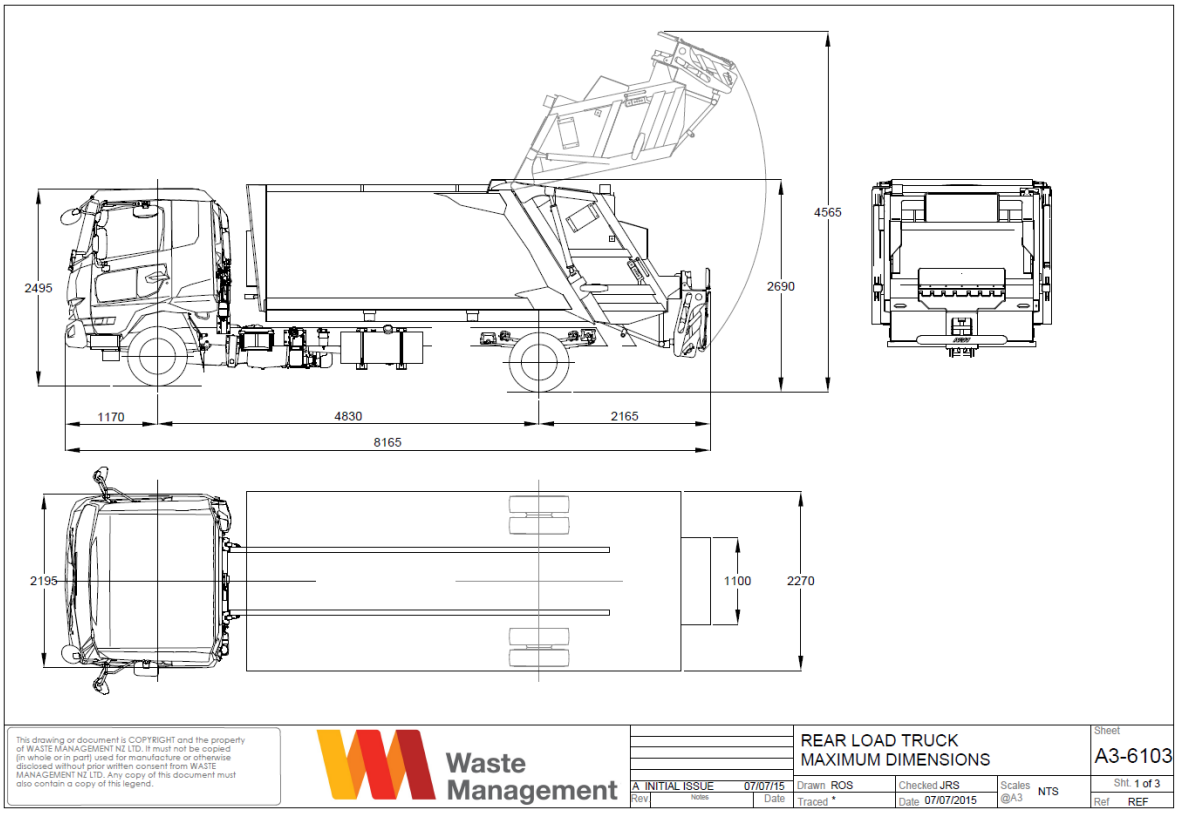

Figure 7: Waste Management Truck Schematic

The AUP-OIP requires one loading space for retail activity up to 5,000sqm GFA. The proposed development will be serviced by loading on Dominion Road. Parking exists on both sides of Dominion Road during the hours where bus lanes are not operational. It is noted that the various existing retail activities on Dominion Road currently use the 30 minute parking areas on Dominion Road to service their premises, as will be the case with the subject development. These areas are shown in blue in **Figure 8**. Loading vehicles may also use other on-street parking areas in the vicinity of the site.

Figure 8: On-Street Loading Areas

This provision for loading is considered to be suitable for the proposed development, as it will only serve 901sqm GFA of retail activity, general residential deliveries, and furniture moving requirements, which are relatively infrequent.

A fire hydrant is provided on the northern side of Valley Road for emergency service use within 20m of the site access.

6. Access and Egress

The new development will provide a single vehicle access from Valley Road, approximately 60m east of the Dominion Road / Valley Road intersection. The new, two-way access will be 6.5m wide. This satisfies the AUP-OIP requirements for access width.

The site access will be served by a garage door and associated card reader, and will be located approximately 5m from the street boundary. This enables vehicles to queue on the driveway without overhanging onto the footpath. Vehicles will be able to wait on the shallow part of the ramp where the gradient is 1 in 20. A "Vehicle Approaching" sign with audio alert will be located adjacent to the vehicle access to alert pedestrians of vehicles who are accessing or egressing the site.

Pedestrian access is provided directly from the street frontages, with accesses from Dominion Road, Valley Road and Carrick Place provided. As vehicle and pedestrian access is separate, this will result in low potential for conflict. Access directly onto Dominion Road is only provided for pedestrians and not for vehicles. The existing driveway that is shared with site at 224-234 Dominion Road will be reduced in width so that no vehicle access is provided over the subject site. No legal right of ways have been established as part of this access. The remaining driveway width is still sufficient to allow for vehicle access to the neighbouring site and therefore no access agreements or specific measures are required with the adjacent corner properties.

6.1 Sight Distance

The Land Transport Safety Authority (now NZTA) RTS-6 document *Guidelines for Visibility at Driveways* is commonly used to calculate recommended sight distances, based on the operating speed and classification of the frontage road and the amount of traffic on the driveway.

Valley Road is classified as a District Arterial Road. The sight distance requirement for an Arterial Road according to RTS-6 is 90m for a 50km/h operating speed. The available sight distance to the east measures greater than 100m and therefore satisfies this requirement. To the west, the available sight distance is approximately 70m, however is limited by the Dominion Road / Valley Road intersection. The effects of this sight distance shortfall are considered minimal, as vehicles travelling from the west are likely to be slower due to the Valley Road intersection, or be forced to begin acceleration from a stop due to the traffic signals. This would drop the operating speed to approximately 40 km/h, which requires a 70m sight distance according to RTS 6, and this requirement is satisfied.

7. Light Rail Network

Auckland Transport has previously proposed plans to upgrade the Dominion Road corridor. No plans have been confirmed and the schemes have often changed and been amended. The most current plans include a light rail network that will include a line down the centre of the Dominion Road carriageway.

The timings for this project are not yet determined. The first stage of the network will be a line from downtown along Queen Street to Ian McKinnon Drive. Stage 2 will feature the line along Dominion Road and this will extend from the Stage 1 line to Mt Roskill.

Following the completion of Stage 2, the network will feature a 7km dedicated corridor featuring 12 stops. Services will be high frequency with a fleet of ten electric powered vehicles each with a capacity of up to 450 people. Stage 3 will then feature a line along Sandringham Road that will connect to the Dominion Road line.

One of the proposed stops along Dominion Road is going to be at Valley Road. It is unclear whether this will be north or south of the signalised intersection. A stop north of the intersection will be adjacent to the frontage of the site. In either location, the light rail stop will be easily within walking distance for residents. The implementation of the light rail project is therefore expected to reduce the reliance on private transport and decrease the overall number of trips generated by the development.

As the light rail is in the early stages of its design and without construction timings it is difficult to provide a quantitative analysis as to how many private vehicular trips will be reduced. The intersection between Dominion Road and Valley Road will also be modified to accommodate the light rail network where the light rail vehicles will have priority over other modes. Again without any details it is difficult to assess the impacts of this project on the intersection performance.

8. AUP-OIP

The development has been assessed against the relevant transport-related AUP-OIP rules, as summarised in the table below.

Criteria	Compliance	Comments
Parking		
E.27.6.2(1) The number of parking spaces must meet the minimum rates and not exceed the maximum rates specified which apply to the zone specified in **Table E.27.6.2.4**	**Complies.**	A total of 116 carparks are provided, including 112 basement spaces and four at-grade spaces.
E.27.6.2(6) The activities specified in **Table E27.6.2.5** must provide the minimum number of bicycle spaces specified	**Can Comply.**	The site provides approximately 24 bicycle spaces in the basement, with space available on the ground floor for further provision.
E.27.6.3(1) Every parking space must comply with the minimum dimensions given in **Table E27.6.3.1.1** and **Figure E27.6.3.1.1**	**Complies**	All carparks are marked at 2.5m width and 5m depth. Manoeuvring space for the majority of spaces is at least 6.8m.
E27.6.3.3 Access and manoeuvring	**Complies**.	The access width and gradient complies with requirements as discussed in Section 6.
E27.6.2.7 Minimum loading space requirements	**Does not comply.**	A specific on-site loading space is not provided, loading will occur on Dominion Road, with rubbish collection to occur in the basement. This has been discussed in Section 5.3.
E27.6.3.4 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 the following apply:	**Complies**	All parking is provided in the basement.
E27.6.3.6 (3) The gradient for the surface of any parking space must not exceed 1 in20.	**Complies**	The parking areas will be constructed to comply with this standard.
E27.6.3.6 (4) The gradient for manoeuvring area must not exceed 1 in 8.	**Complies**	Manoeuvring areas are all flat.
Access		

Criteria	Compliance	Comments
Access (cont.)		
E27.6.4.2 (1) The maximum number of vehicle crossings permitted for any site and separation distance between crossings is specified in **Table E27.6.4.2.1.**	**Complies**	Only one vehicle crossing is proposed and adequate separation is provided between the vehicle crossings.
E27.6.4.2(2) All vehicle crossings (except on unsealed roads) must be designed and constructed to maintain the level, colour and materials of the footpath to clearly identify to vehicles that pedestrians have priority.	**Complies**	The vehicle crossing and footpaths will be constructed to comply with this standard.
Table E27.6.4.3.2 Width of crossing at the boundary is minimum 5.5m and maximum 6.0m (two-way) if the access serves 10 or more parking spaces.	**Complies**	
E27.6.4.4.1 Gradient of vehicle access must not be steeper than specified in **Table E27.6.4.4.1.**	**Complies**	Access to carparking area is at most 1 in 8 (12.5%).

Table 6: Auckland Unitary Plan (Operative in Part)

The proposal complies with all AUP-OIP transport-related development controls, except those as noted. Therefore the proposal is considered to be suitable when assessed against the relevant transport provisions. The development compares well with the assessment criteria for the relevant restricted controlled and restricted discretionary activities, as noted below:

Rule	Compliance
12.9.1.2A Criteria for assessing controlled activities	
a) Vehicle access to and from the site must ensure adequate sight distances and avoid congestion, and be sufficiently separated from pedestrian access to ensure the safety of pedestrians.	The vehicle access has good sight distances and will not increase congestion on the surrounding roads. The pedestrian accesses to the development are completely separate from the vehicle access.
b) Parking areas must be located away from residential zone boundaries, and meet particular requirements for the safe and efficient vehicle circulation on site to avoid or mitigate adverse effects on the roading network.	The parking area is located away from residential zone boundaries. Access to the parking areas is via a driveway which provides ample space for queuing on-site such that it will not affect the road network.
12.9.1.2 Criteria for assessing discretionary activities	
a) i) Accessibility of the site.	The site is accessible via one site driveway off Valley Road. The site has excellent accessibility due to its proximity to the nearby Dominion Road arterial.
ii) Current traffic problems in the area.	No specific traffic problems have been identified.
iii) Existing and probable future traffic volumes on adjacent roads.	Traffic volumes on adjacent roads are currently of a level typical of arterial and local roads. The introduction of the proposed Light Rail Network on Dominion Road is likely to reduce traffic volumes on

Rule	Compliance
	the surrounding road network, as a mode shift towards public transport will result.
iv) Ability of the adjacent existing or planned roading systems to handle increased traffic and the feasibility of improving the roading system to handle increased traffic.	The increases in traffic from the proposed development are considered to be minimal. No improvements to the roading system are required to manage increased traffic.
iv) Traffic congestion and pedestrian / vehicle conflict likely to be caused by the proposal.	The effects on congestion or pedestrian / vehicle conflict are expected to be less than minor. By incorporating a two-way access way, the effects on through traffic will be minimal. In addition, separate entrance ways and thoroughfares are provided for vehicles and pedestrians.
v) Vehicle access to and from the site must: - ensure adequate sight distances and avoid congestion caused by entrance and exit of vehicles. - be sufficiently separated from pedestrian access to ensure the safety of pedestrians.	- Adequate sight distance is provided from the Valley Road access due to the slowing of vehicles at the Dominion Road intersection. The proposed driveway will be two-way to avoid congestion on valley Road caused by vehicles entering / exiting the site. - It is proposed that pedestrians access the site via pedestrian through site links from Dominion Road, Valley Road or Carrick Place. There should be no need for pedestrians to walk down the access into the basement carpark.
c) Reduction in Parking Spaces i) Whether or not it is physically practicable to provide the required parking on the site in terms of the existing location of buildings, availability of access to the road, and other similar matters.	The on-site underground carpark has maximised the provision of spaces by utilising stacked spaces. It is not practicable to provide further spaces on-site.
ii) Whether there is an adequate alternative supply of parking in the vicinity eg public carpark, formed angle road parking. In general on-street parallel parking, particularly in residential roads is not considered a viable alternative.	Section 5.1 describes the availability of public parking in the vicinity of the site. Abundant parking is available that can make up for any additional requirements over what is provided.
Whether there is another site in the immediate vicinity that has available parking spaces which are not required at the same time as the proposed activity eg the proposed activity operates outside of normal business hours and the activity on the other site only operates during normal business hours. In such a situation the council will require a legal agreement between the applicant and owner of the site confirming such an arrangement.	The site is predominantly residential; therefore spaces will be allocated to residential units. The Countdown supermarket carpark exists directly opposite the proposed Valley Road access, however this is specifically for supermarket customers. There are no other sites within the area that could provide parking for residents.

Rule	Compliance
d) Stack parking Favourable consideration may be given to the provision of stack parking subject to the following criteria: i) Stacked parking occurs when access to a parking space is achieved through another parking space; ii) Stacked parking will generally only be allowed in special circumstances in order to alleviate adverse effects, where no feasible alternative exists; iii) Stacked parking may be allowed for one of the two required parking spaces for any residential development where each residential unit has two parking spaces physically associated with it;	The stacked spaces utilise space that would otherwise be redundant. The parking provision of 116 parking spaces is less than the minimum permitted parking provision of 228 parking spaces, and therefore the stacked spaces will improve amenity for residents. Each pair of stacked spaces will be allocated to a single residential unit so they can be readily managed, and they do not hinder the internal circulation of the parking area. See Section 5 of this report.

Table 7: Assessment Against Relevant, Transport-Related District Plan Criteria For Restricted Controlled and Restricted Discretionary Activities

9. Conclusion

On the basis of this transportation assessment, it is concluded that:

- The resultant new trips generated by the proposed development will have a negligible effect on the function, capacity and safety of the local traffic network.
- Visibility from the proposed Valley Road access meets accepted good practice requirements.
- All parking spaces comply with the requirements of the AUP-OIP in terms of manoeuvring and space dimensions, with the exception of the tandem spaces.
- The provision of on-street loading does not meet AUP-OIP requirements; however it is suitable for the surrounding retail environment and the number of trucks which are expected to service the development.
- Provision of generally separate pedestrian and vehicular thoroughfares will result in low potential for conflicts.
- The light rail project adjacent to the site will improve the transportation options for the development in the future and reduce dependence on trips made by private vehicles.

It is therefore considered that there are no traffic engineering reasons to preclude the approval of the resource consent as requested.

TDG