

Client
Coles Property Group

Date
24 November 2023

Planning

Transport

Urban Design

Waste Management

Transport Impact Assessment Report

158-162 High Street, Belmont

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Project
158-162 High Street, Belmont

Prepared for
Coles Property Group
Our reference
19490T

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1. Introduction

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1.1. Background and Introduction

A planning permit is sought for the redevelopment of the land addressed as 158-162 High Street in Geelong, for the purpose of a retail development.

Ratio Consultants has been engaged by the permit applicant to undertake a transport impact assessment for the development proposal.

1.2. Purpose & Structure of this Report

This report sets out an assessment of the anticipated transport implications of the proposed redevelopment, including consideration of the:

- Existing traffic and car parking conditions in the vicinity of the site;
- Parking demand likely to be generated by the redevelopment proposal;
- Suitability of the proposed parking arrangements in terms of supply and layout;
- Adequacy of the proposed bicycle parking arrangements in terms of supply (quantum) and layout;
- Adequacy of the proposed access arrangements for typical vehicular traffic, loading & waste collection vehicles; and
- Traffic generating characteristics of the proposed redevelopment and impact on the surrounding road network.

1.3. References

In preparing this report, reference has been made to the following:

- Architectural plans for the proposed redevelopment, prepared by Clarke Hopkins Clarke Architects, dated 08 November 2023 (provided in Appendix A of this report);
- Greater Geelong Planning Scheme;
- Australian / New Zealand Standard, Parking Facilities Part 1: Off-Street Car Parking (AS2890.1:2004);
- Australian / New Zealand Standard, Parking Facilities Part 2: Off-Street Commercial Vehicle Facilities (AS2890.2:2018);
- Australian / New Zealand Standard, Parking Facilities Part 3: Bicycle Parking (AS2890.3:2015);

- Australian / New Zealand Standard, Parking Facilities Part 6: Off-Street Parking for People with Disabilities (AS2890.6:2009);
- An inspection of the subject site and its surrounds (on 08 December 2022);
- On-site meetings with Council (on 08 December 2022 and 03 August 2023);
- Car parking and traffic survey data, as referenced in this report; and
- Other documents as nominated.

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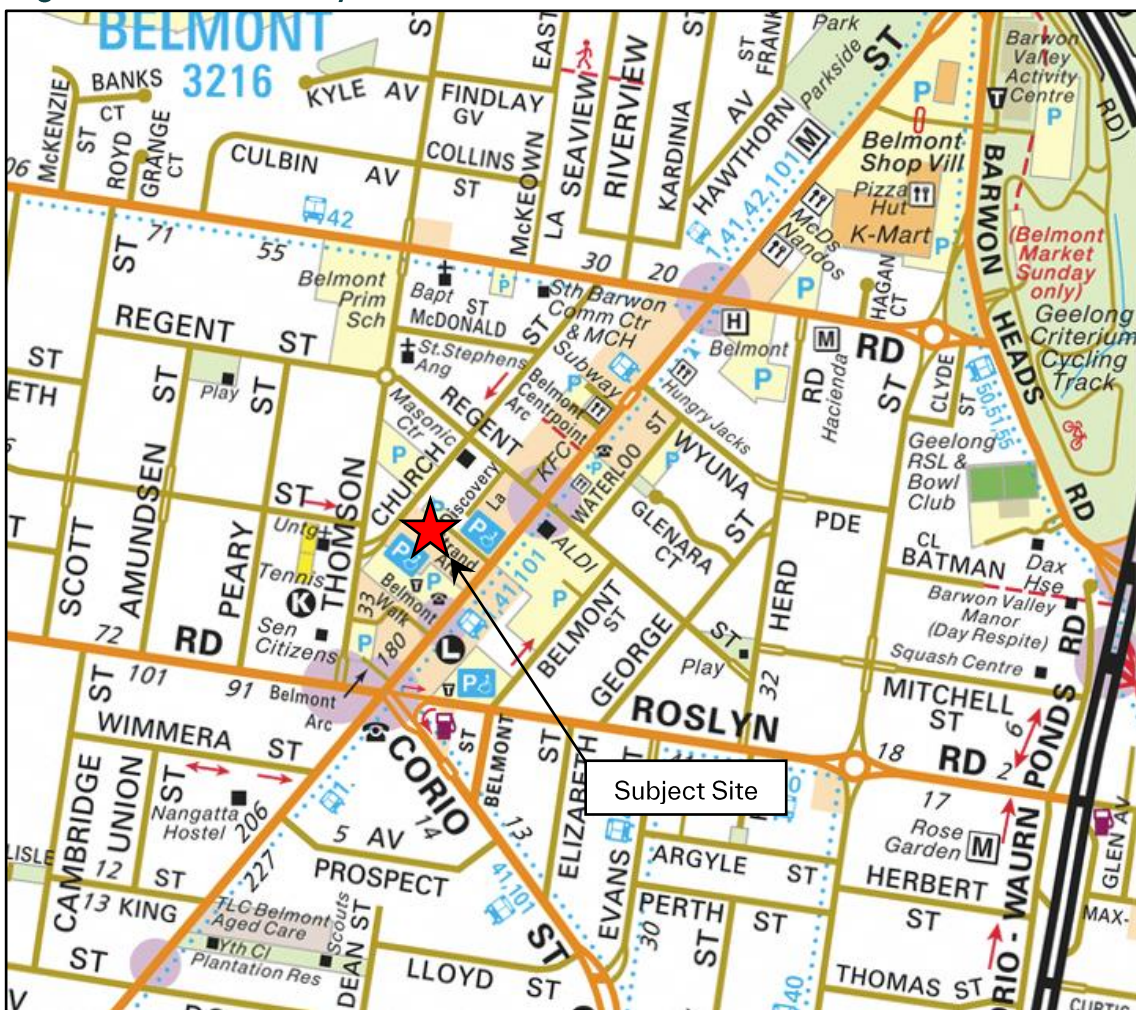
2.1. Site Location

The subject site is addressed as 158-162 High Street in Belmont and situated on the northwest side of High Street and southeast side of Church Street.

The subject land parcel is irregular in shape, with a 100-metre northwest frontage to Church Street and 46-metre southeast frontage to High Street, for an overall site area of approximately 7,350 sqm.

The location of the subject site and its surrounding environs are shown below in Figure 2.1, with an aerial context also shown in Figure 2.2.

Figure 2.1: Site Locality



(Source: Melway, Map Ref. 451 J11)

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Figure 2.2: Site Location & Its Surrounds



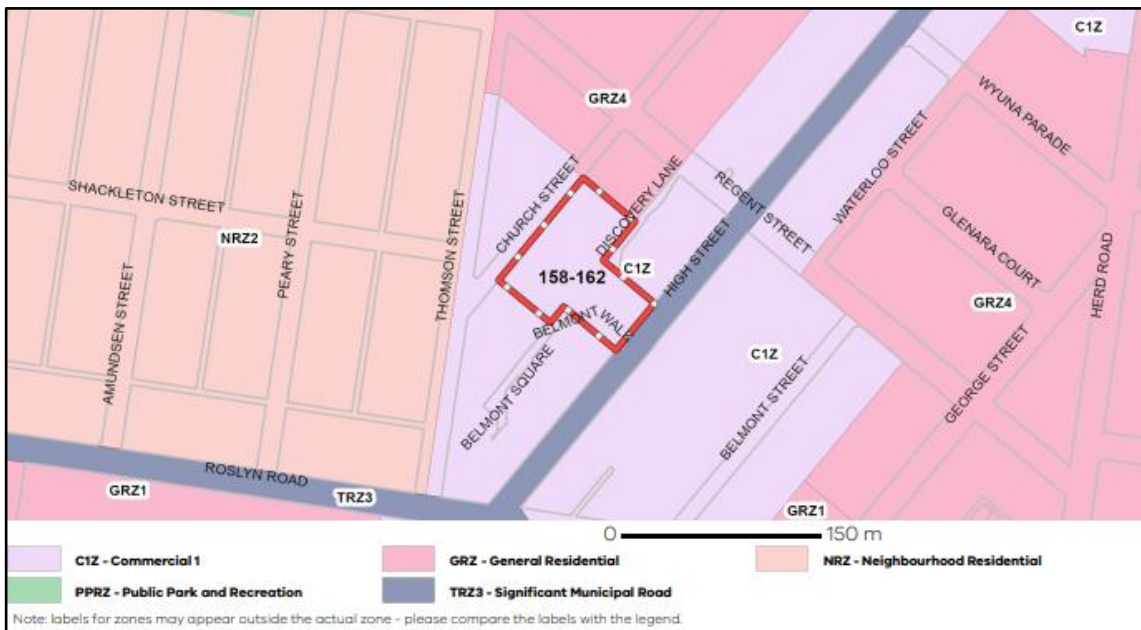
(Source: Nearmap, image dated 10 December 2022)

The site is situated within a Commercial 1 Zone (C1Z) under the Greater Geelong Planning Scheme and is not subject to any planning overlays.

The site is situated within the Belmont Activity Centre and accordingly, land use in the immediate vicinity of the site is primarily commercial in nature, with various services and amenities provided along High Street. Extending further, land use becomes primarily residential in nature.

The subject site location is shown in the zoning map provided in Figure 2.3.

Figure 2.3: Site Location & Planning Zones



(Source: Vicplan)

2.2. Existing Site

The subject site is currently occupied by an existing Coles supermarket and is surrounded by various commercial and retail tenancies in the immediate vicinity of the site.

Based on information provided to our office, it is understood that the site formerly traded as a Bi-Lo supermarket and has since been rebranded as a Coles supermarket without any modifications to the previous building footprint. Consequently, the supermarket has a smaller floor area than a typical Coles supermarket.

Car Parking Arrangements

Four (4) separate car parking areas are provided on-title for the existing site, as summarised below:

- 41 spaces (including three (3) Click & Collect spaces) on the northeast side of the supermarket building;
- 45 spaces (including three (3) parking spaces for people with disabilities and three (3) parents with prams spaces) fronting High Street;
- Sufficient space for 14 vehicles to park within a concrete apron along the Church Street frontage at the rear of the supermarket building; and
- 37 spaces on the southwest side of the supermarket building.

It is also noted that an adjoining Council owned car park (comprising 37 parking spaces) abuts the on-title car parking area on the southwest side of the supermarket building.

Each of the abovementioned car parking areas are connected and publicly accessible. Therefore, car parking demands for the Coles supermarket and surrounding commercial and retail tenancies are currently shared, despite the majority of car parking spaces being located on Coles' land.

Vehicle Access Arrangements

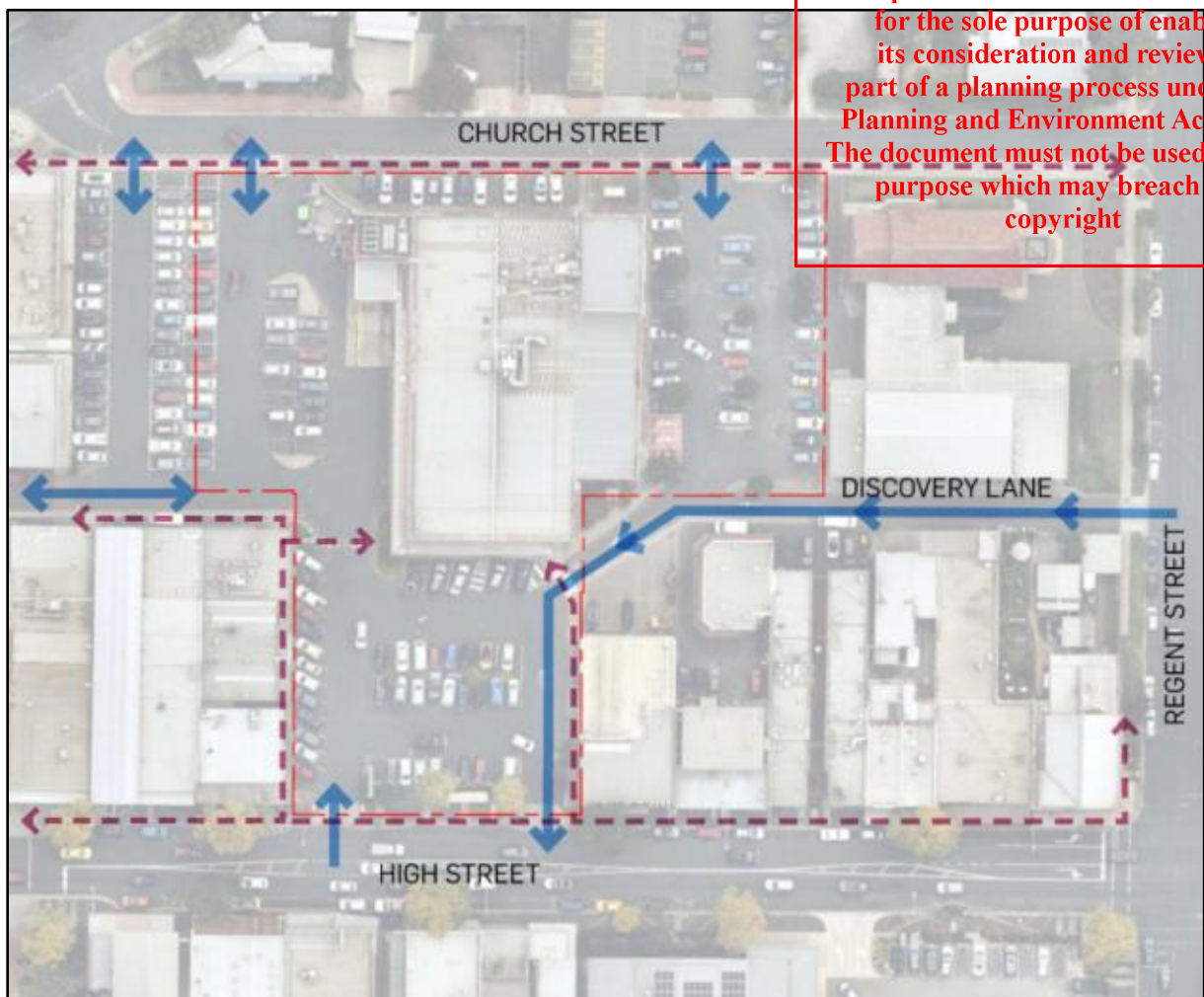
The current vehicular access arrangements to the existing site are summarised as follows:

- The southernmost crossover to High Street is entry only and provides left in & right turn in movements to the carpark fronting High Street and the supermarket entrance;
- The northernmost crossover to High Street provides left out exit movements from the site (i.e. right turns are prohibited);
- Discovery Lane provides one-way access from Regent Street to the carpark areas on the northeast side of the supermarket and carpark area fronting the supermarket entrance;
- The northern most crossover to Church Street provides access to the carpark on the northeast side of the supermarket building;
- The middle and southernmost crossovers to Church Street provide access to the on-title and Council owned carparking areas on the southwest side of the building; and
- Belmont Walk provides two-way access between the Council owned carpark and businesses and car parking areas to the west.

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The existing access arrangements are shown diagrammatically in Figure 2.4. It is also noted that each of the abovementioned vehicular access arrangements are shared by users of the surrounding commercial/retail tenancies.

Figure 2.4: Existing Access Arrangements



(Source: Clarke Hopkins Clarke Architects – Design Concept: Movement & Access)

2.3. Road Network

High Street is classified as a main distributor road in the Greater Geelong Road Register and is also located within a Transport Zone 3 (TRZ3), under the care and management of Council.

High Street is aligned in a southwest-northeast direction between Settlement Road to the south and its continuation as Moorabool Street to the north. Fronting the subject site, High Street has an approximate carriageway width of 13.5-metres, which accommodates one traffic lane in each direction and restricted parallel parking both sides of the carriageway.

It should also be noted that there is a right turn deceleration lane into the existing site along the site frontage.

High Street has a posted speed limit of 40km/hr in the vicinity of the subject site.

For context, images of High Street along the site frontage are shown in

Figure 2.5 and Figure 2.6.



Figure 2.5: High Street, looking northeast

(Source: Ratio Consultants site inspection)

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Figure 2.6: High Street, looking southwest



(Source: Ratio Consultants site inspection)

Church Street is a Council managed local road that runs in a southwest-northeast alignment between Thomson Street and Mount Pleasant Road.

Church Street has an approximate carriageway width of 7.0-metres which accommodates one traffic lane in each direction.

Church Street does not have a posted speed limit; therefore a default limit of 50km/hr applies.

For context, images of Church Street along the site frontage are shown in Figure 2.7.

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Figure 2.7: Church Street, looking northeast



(Source: Ratio Consultants site inspection)

Regent Street is a Council managed local road that runs in southeast-northwest alignment between Scott Street to the west and Herd Road to the east.

In the vicinity of the subject site, Regent Street has an approximate carriageway width of 11.5-metres which accommodates one traffic lane in each direction and restricted kerbside parallel parking on both sides of the carriageway.

Regent Street has a posted speed limit of 50km/hr.

For context, street view images of Regent Street in the vicinity of the site are shown in Figure 2.8 and Figure 2.9.

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Figure 2.8: Regent Street, looking northwest



(Source: Google Street View, image dated June 2018)

Figure 2.9: Regent Street, looking southeast



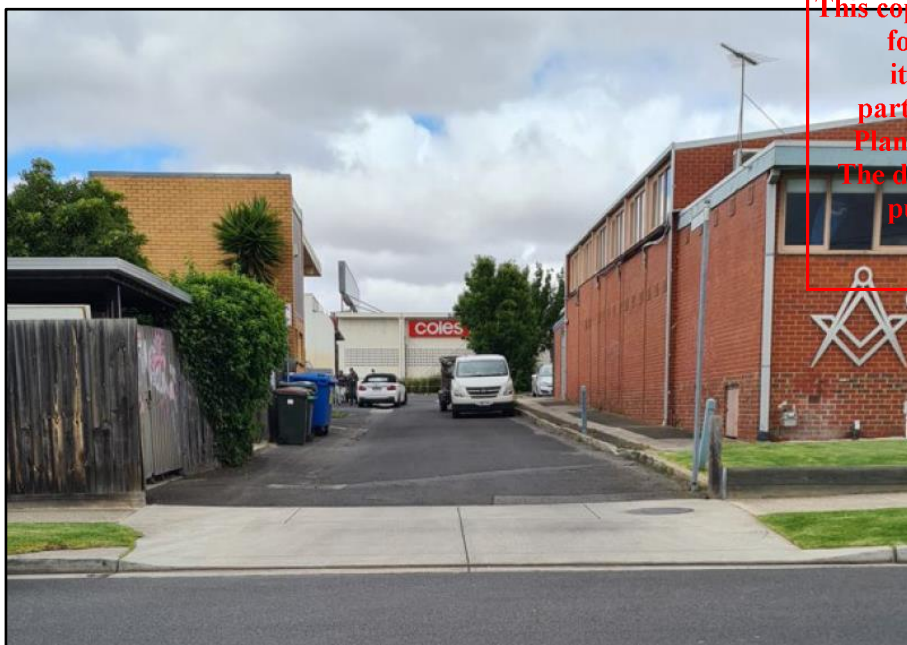
(Source: Google Street View, imaged dated June 2018)

Discovery Lane is a Council managed laneway. Originating at Regent Street, it provides one-way traffic flow in a southwest direction, connecting into the existing Coles carpark.

Discovery Lane has a minimum trafficable width of approximately 4.0-metres. It is understood that Discovery Lane is used to provide back-of-house loading for the various retail businesses along High Street.

For context, an image of Discovery Lane is shown in Figure 2.10.

Figure 2.10: Discovery Lane, looking southwest



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(Source: Ratio Consultants site inspection)

2.4. Sustainable Transport

Public Transport

The site has access to various bus routes that operate within the Greater Geelong municipality, as described in Table 2.1 and shown in Figure 2.11.

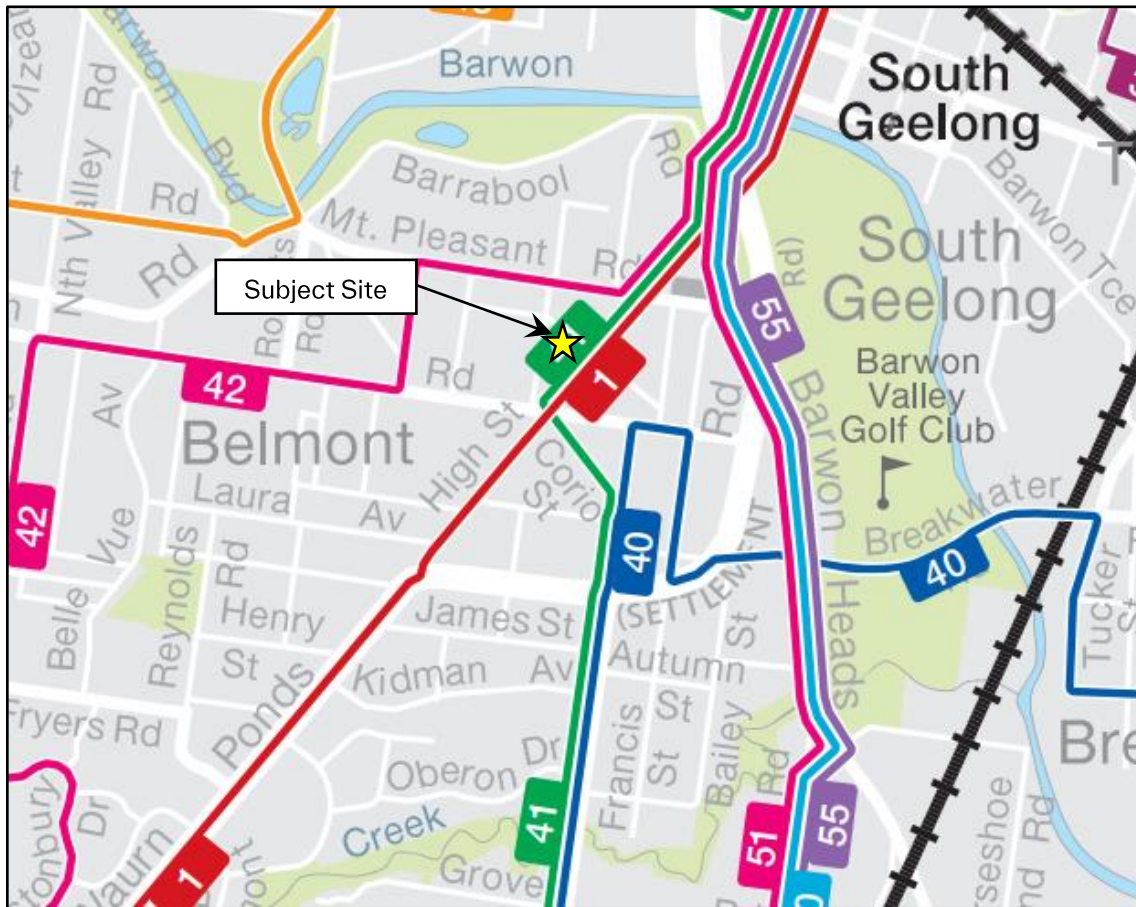
Table 2.1: Public Transport Services - Bus

Route No.	Route Description	Nearest Stop	Walking Distance
01	North Shore Station – Deakin University via Geelong City	High Street	Site boundary
41	Geelong Station – Deakin University via Grovedale	High Street	Site boundary
42	Geelong Station – Deakin University via South Valley Road	Mt Pleasant Road	450-metres
49 [1]	Kalkee Retirement Village – Belmont Village SC	High Street	Site boundary
101 [2]	Apollo Bay – Geelong (VLINe)	High Street	Site boundary

[1] Bus service only operates two (2) services per day Monday – Friday.

[2] Bus service only operates four (4) services per day.

Figure 2.11: City of Greater Geelong Public Transport Map



(Source: Public Transport Victoria)

Pedestrian Network

The subject site has a walk score of 91 out of 100 (on walkscore.com), indicating that the surrounding area is a 'walkers paradise' and that 'daily errands do not require a car'.

The walk score of an area is calculated by determining the distance required to walk from an origin to nearby amenities. It also assesses block sizes and intersection density to determine the permeability of an area.

The high walk score of the site suggests that it is ideally located for customers to visit in conjunction with other errands they are undertaking. Furthermore, employees have the ability to undertake errands before/after work or during their break without the use of their car.

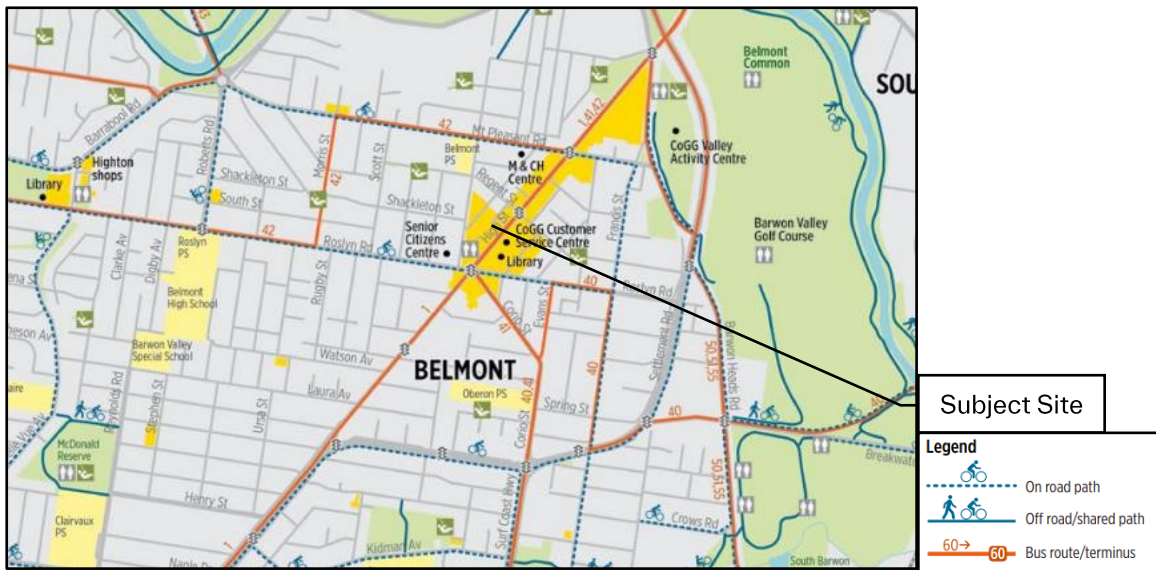
Indeed, it is evident that Belmont enjoys a connected pedestrian network, with all streets in the surrounding area having constructed footpaths and street lighting, allowing pedestrian permeability in all directions.

Bicycle Network

The site has access to the existing bicycle network, with bicycle routes provided within close proximity to the site, as shown in Figure 2.12.

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Figure 2.12: Bicycle Infrastructure in the Vicinity of the Site



(Source: City of Greater Geelong)

Figure 2.12 indicates that there are various on-road bicycle routes in the nearby vicinity of the site, including along Roslyn Road, Mt Pleasant Road and Francis Street. Furthermore, off-road shared paths along the Barwon River and Waurn Ponds Creek are both located in close proximity to the site.

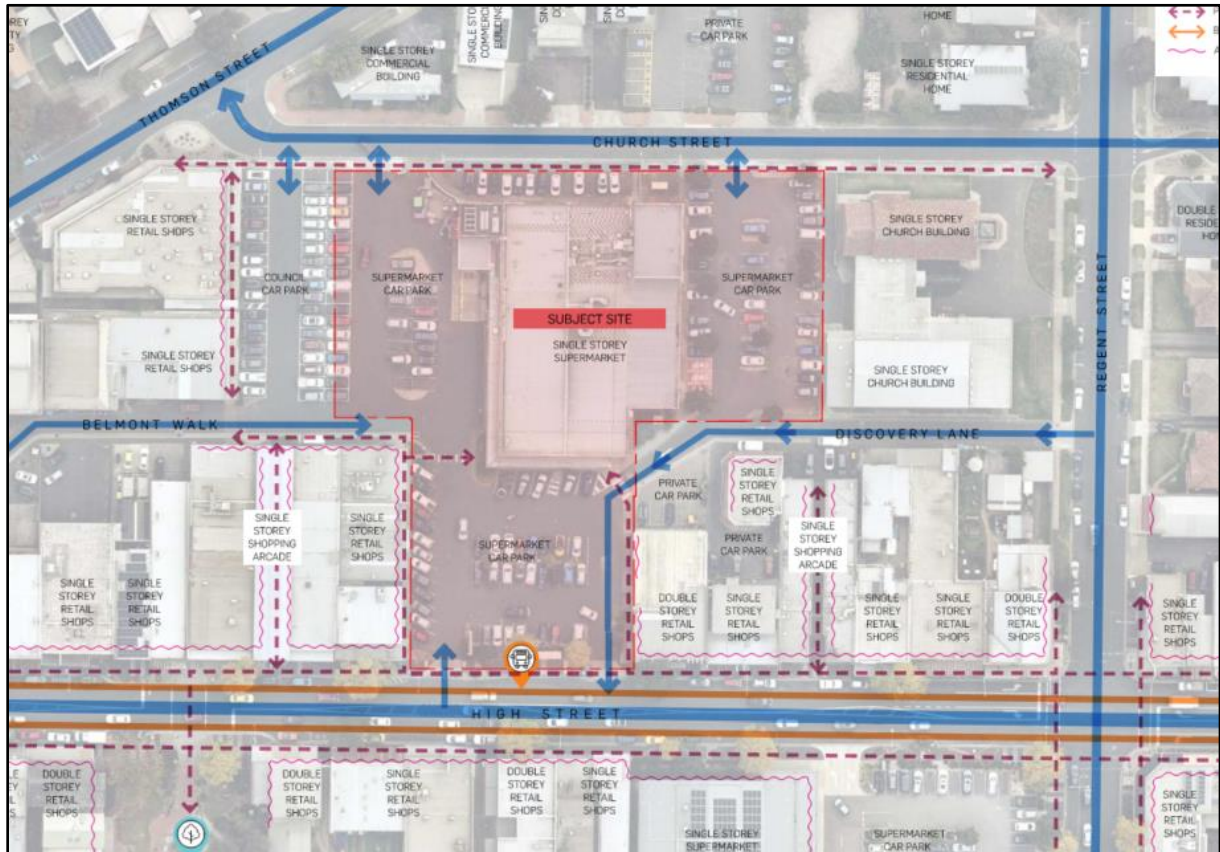
Furthermore, the Building Better Bike Connections Project should also be considered. Whilst it is understood that this project is still in early communication and engagement phase, the southern link of the project is proposed to run via High Street. If this project is realised in future, there will on-street cycle lanes along the site frontage, improving the connection between the subject site and the broader cycling network.

2.5. Site Accessibility

In order to summarise the existing site accessibility detailed within Section 2 of this report, please refer to Figure 2.13 below.

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Figure 2.13: Site Accessibility Summary



(Source: Clarke Hopkins Clarke Architects – Planning Context – Site Analysis)

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3. Development Proposal

3.1. Development Overview

The development scheme proposes to redevelop the existing supermarket for the purpose of a larger and improved supermarket offering and ancillary bottle shop, summarised as follows:

- Supermarket with a total floor area of 3,626 sqm; and
- Bottle shop with a total floor area of 205 sqm.

3.2. Parking Provision & Loading Facilities

A total of 182 car parking spaces will be provided on-site, comprised as follows:

- 21 parking spaces (including one (1) accessible parking space) within an at-grade car park on ground level; and
- 161 parking spaces (including three (3) accessible parking spaces, three (3) Click & Collect parking spaces and four (4) EV parking bays) within an at-grade basement car park.

It is noted that the 37 parking spaces within the adjoining Council owned car park will not be impacted by the redevelopment proposal.

A total of 17 bicycle parking spaces will be provided on-site, including:

- Seven (7) parking spaces within a vertical arrangement for employees; and
- Ten (10) parking spaces within a horizontal arrangement for visitors.

A total of seven (7) motorcycle parking spaces will be provided on-site, comprised as follows:

- Three (3) parking spaces within the ground level car park; and
- Four (4) parking spaces within the basement level car park.

A dedicated loading area will be provided in the northern corner of the site, comprising an at-grade loading dock waste compactor and turntable.

3.3. Site Access

Vehicular access to/from the subject site is proposed as follows:

- The existing ingress only crossover to/from High Street will be retained and widened to 8.1-metres wide, providing two-way fully directional ingress movements and left-turn egress movements to/from the ground level car park;
- A 6.2-metre-wide connection will be provided from Discovery Lane, providing one-way access to the ground level carpark;

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- A 6.6-metre-wide connection will be provided to/from the adjacent Council carpark, providing two-way access to the ground level carpark; and
- A new 10.0-metre-wide crossover is proposed in the northern corner of the site to Church Street, providing access to/from the loading area.

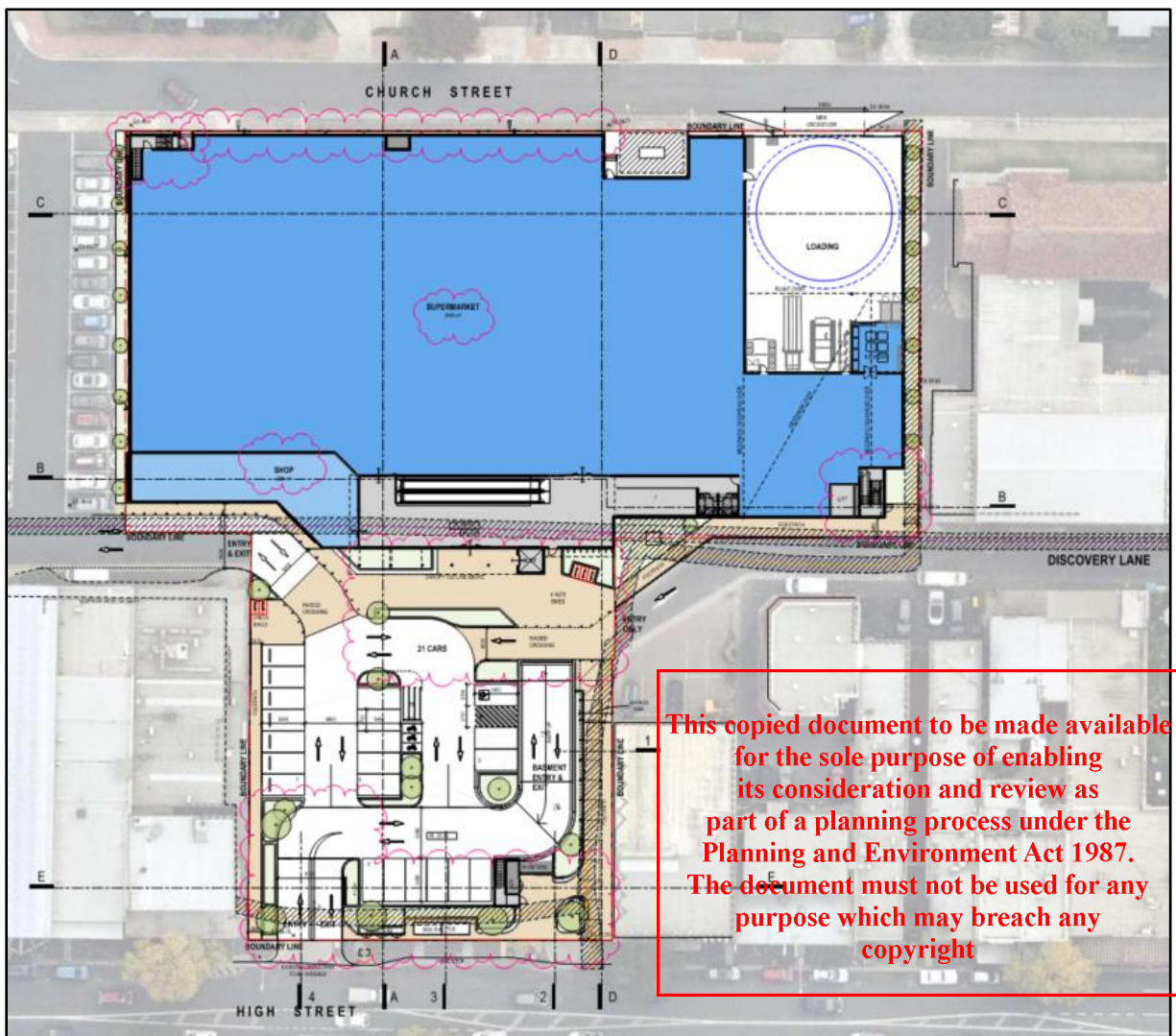
All other existing crossovers to/from the existing site (as described in Section 2.2) will be removed as part of this application and reinstated as kerb and channel. It is noted that the southernmost crossover to/from the Council owned car park will be retained.

The main supermarket entrance will be located midblock along the proposed building frontage, with a travelator and lift proposed within the airlock area to provide direct access to/from the basement carpark.

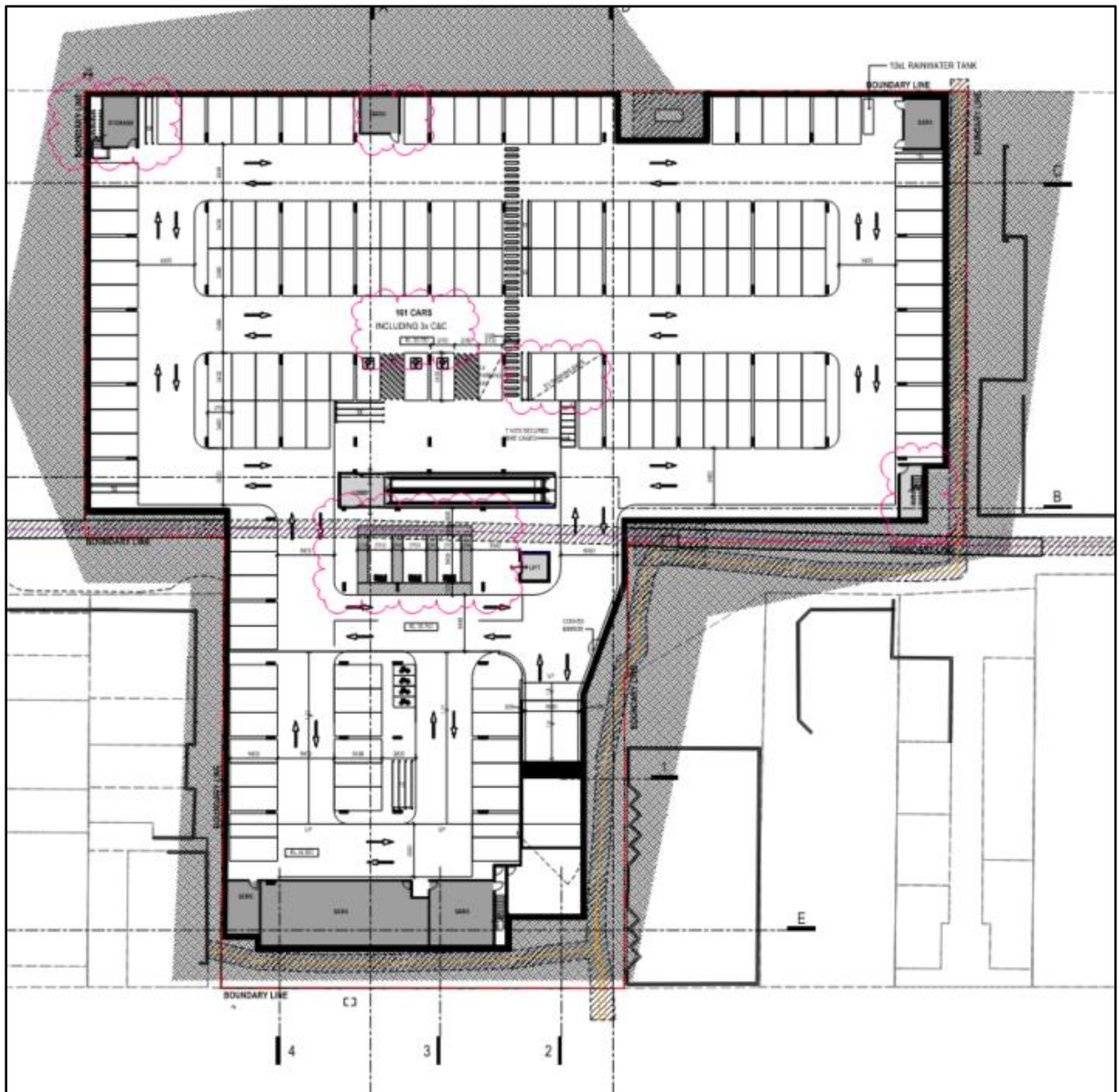
The redevelopment will provide direct pedestrian linkages with High Street as well as the existing commercial and retail offerings in the nearby vicinity.

Excerpts of the proposed site layout plans are provided in Figure 3.1, with the full site plan provided in Appendix A of this report.

Figure 3.1: Proposed Site Layout



(Source: Clarke Hopkins Clarke Architects – Ground Floor Plan)



(Source: Clarke Hopkins Clarke Architects – Basement Floor Plan)

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4. Car Parking Assessment

4.1. Clause 52.06 Requirements

Car parking requirements for new developments are set out under Clause 52.06 of the Greater Geelong Planning Scheme. The purpose of Clause 52.06 is defined in the scheme as follows:

- *To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework;*
- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality;*
- *To support sustainable transport alternatives to the motor car;*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities;*
- *To ensure that car parking does not adversely affect the amenity of the locality; and*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

Table 1 within Clause 52.06 sets out the car parking requirements that apply to a use listed in the Table. A car parking requirement in Table 1 is calculated by multiplying the figure in Column A of Column B (whichever applies) by the measure in Column C.

Column B applies if:

- *Any part of the land is identified as being within the Principal Public Transport Network Area (as shown on the Principal Public Transport Network (PPTN) Area Maps (State Government of Victoria 2018)); or*
- *A schedule to the Parking Overlay specifies the number of car parking spaces required for the use.*

The Greater Geelong municipality area is not covered by the PPTN, nor is the site subject to a Parking Overlay and is therefore subject to the Column A rates within Clause 52.06 of the Greater Geelong Planning Scheme

Accordingly, the minimum statutory car parking requirements for the application are set out in

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Table 4.1.

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Table 4.1: Statutory Car Parking Requirements

Description	Land Use	Size/No.	Column A Parking Rate	Car Parking Requirement
Supermarket		3,626 sqm	5.0 spaces to each 100 sqm of leasable floor area	181 spaces
Bottle shop	Shop	205 sqm	4.0 spaces to each 100 sqm of leasable floor area	8 spaces

Based on the above assessment, the application has a statutory requirement to provide 189 car parking spaces on-site.

The proposed provision of 182 car parking spaces on-site represents a shortfall of seven (7) spaces against the statutory requirement.

Accordingly, the application seeks a permit for a reduction against the requirements of Clause 52.06-5 of the Greater Geelong Planning Scheme.

For situations where the statutory requirement is not met on-site, Clause 52.06-7 outlines that decision guidelines for an application to reduce the car parking requirement draw a distinction between the likely demand for parking spaces and whether it is appropriate to allow the provision of fewer spaces. These are two separate considerations, one technical while the other is more strategic.

Given the site context and proposed land uses, the demand for spaces is considered more pertinent in this instance.

4.2. Car Parking Demand Assessment

Clause 52.06-7 of the Greater Geelong Planning Scheme specifies that an application to reduce (including to zero) the number of car parking spaces required under Clause 52.06-5, or in a schedule to the Parking Overlay, must be accompanied by a Car Parking Demand Assessment.

The assessment must consider various matters, including:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use;
- The variation of car parking demand likely to be generated by the proposed use over time;
- The short-stay and long-stay car parking demand likely to be generated by the proposed use;
- The availability of public transport in the locality of the land;
- The convenience of pedestrian and cyclist access to the land;
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land;
- The anticipated car ownership rates of likely or proposed visitors to or occupants (resident or employees) of the land; and
- Any empirical assessment or case study.

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The factors relevant to the sought dispensation are underlined above and discussed below.

Multi-Purpose Trips

The various car parking areas at the existing site are connected and all publicly accessible and are therefore currently shared between users of the existing supermarket and surrounding commercial and retail uses.

Whilst the development proposal seeks to relocate a large portion of on-site car parking to a new basement level car park, the permit applicant intends on maintaining the existing parking arrangements, i.e. non supermarket users will not be precluded from parking within the basement car park should they choose to do so.

The site location within the Belmont Activity Centre is also noted.

Given the shared on-site parking arrangements and plethora of amenities and services that are available nearby, it is fair to assume that a portion customers will visit the supermarket and/or bottle shop in conjunction with a trip to another use in the nearby vicinity. The reverse will also apply with someone visiting the supermarket as a secondary purpose of their overall trip.

Accordingly, the sole car parking demand generated by the subject site will be reduced as a result of multi-purpose trips in the locality.

Public Transport Accessibility

As discussed in Section 2.4 of this report, the site has access to various bus routes that operate within the Greater Geelong municipality. The standard bus routes operate seven (7) days a week, noting that special routes (servicing Apollo Bay and Kalkee Retirement Village) operate on a lower frequency. Of note, the nearest stop for four (4) of these services is located on High Street along the site boundary, providing convenient access to/from the subject site.

It is important to consider that this level of public transport amenity would be on the high side for a site situated within the Greater Geelong municipality, particularly when considering that the site is not located within the Geelong CBD.

Pedestrian & Cyclist Accessibility

There are various on-road bicycle routes in the nearby vicinity of the site, including along Roslyn Road, Mt Pleasant Road and Francis Street. Furthermore, off-road shared paths along the Barwon River and Wauron Ponds Creek are both located in close proximity to the site.

In addition, the subject site and its immediate surrounds are provided with a well-connected pedestrian network with pedestrian footpaths and street lighting provided along both sides of the majority of streets in the nearby vicinity.

The development proposal will provide direct pedestrian linkages with the High Street and Church Street frontages as well as the existing commercial and retail offerings in the nearby vicinity.

The subject achieves a walk score of 91 out of 100 (on walkscore.com), indicating that the surrounding area is a *'walkers paradise'* and that *'daily errands do not require a car'*.

Indeed, the site is situated within the Belmont Activity Centre, with various services and amenities also provided along High Street within a short walk of the subject site.

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These cycling and walking facilities provide a viable means for future employees to reduce their reliance on their private motor vehicle when travelling to/from work each day or when accessing nearby services and amenities throughout the day.

Anticipated Car Parking Demand

The statutory car parking requirement for a supermarket use (i.e. 5.0 spaces per 100 sqm of floor area) is generally considered to be representative of the demand generated by a standalone store with dedicated on-site parking facilities.

In our view, this rate is a conservative representation on the high side of the parking demand that will be generated by the subject site, for the following reasons:

- This rate does not take into account changed travel patterns that have emerged post COVID-19 lockdowns wherein people working within a hybrid work model are able to undertake errands at convenient times throughout the day when working from home. This has resulted in a more even spread of demand throughout the day and less concentration of activity during the road network peak hours, as was the case pre-pandemic;
- The provision of the Click & Collect online ordering system allows customers to order their groceries online and pick up their goods within a scheduled system that does not require these customers to park their vehicle within an on-site car parking under the traditional shopping method;
- Further to this, it is understood that a home delivery service will also be offered from this store. Again, this offering will allow customers of the store to order and receive groceries without the use of an on-site parking space; and
- As described in the preceding sections, the site is situated within the Belmont Activity Centre. It is therefore expected that a number of users will visit the supermarket in conjunction with another trip to a commercial or retail use in the nearby vicinity, which will reduce the sole car parking demand generated by the subject site.

To validate the above assumptions, reference is made to car parking occupancy surveys undertaken by our office at a number of existing supermarket sites within metropolitan Melbourne. The surveys were undertaken for the following time periods:

- Friday 15 July 2022 between 8:00am-8:00pm at half hourly intervals; and
- Saturday 16 July 2022 between 9:00am-5:00pm at half hourly intervals.

A summary of the recorded parking demands from these sites is presented in Table 4.2.

Table 4.2: Summary of Parking Survey Results

Site Location	Building Area	Walk Score	AM Parking Rate	PM Parking Rate	Sat Parking Rate
72 Upper Heidelberg Road, Ivanhoe	3,748 sqm	92	1.07 spaces per 100 sqm	1.55 spaces per 100 sqm	2.03 spaces per 100 sqm
168 Macaulay Road, North Melbourne	4,321 sqm	87	1.41 spaces per 100 sqm	2.29 spaces per 100 sqm	2.38 spaces per 100 sqm

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380 Bay Street, Brighton	3,800 sqm	91	2.82 spaces per 100 sqm	3.97 spaces per 100 sqm	4.50 spaces per 100 sqm
369 High Street, Kew	3,240 sqm	88	1.48 spaces per 100 sqm	1.85 spaces per 100 sqm	1.98 spaces per 100 sqm
475 Glen Huntly Road, Elsternwick	3,800 sqm	94	3.84 spaces per 100 sqm	3.34 spaces per 100 sqm	3.97 spaces per 100 sqm
451 Lower Heidelberg Road, Heidelberg	4,270 sqm	80	3.30 spaces per 100 sqm	2.86 spaces per 100 sqm	2.60 spaces per 100 sqm
751 Riversdale Road, Camberwell	3,800 sqm	77	2.18 spaces per 100 sqm	2.82 spaces per 100 sqm	2.95 spaces per 100 sqm
1115-1129 Glen Huntly Road, Glen Huntly	2,669 sqm	83	3.75 spaces per 100 sqm	3.56 spaces per 100 sqm	3.56 spaces per sqm
481 Plummer Street, Port Melbourne	3,600 sqm	65	3.06 spaces per 100 sqm	4.06 spaces per 100 sqm	3.08 spaces per 100 sqm
<u>Average</u>			<u>2.55 spaces per 100 sqm</u>	<u>2.92 spaces per 100 sqm</u>	<u>3.01 spaces per 100 sqm</u>
<u>85th Percentile</u>			<u>3.66 spaces per 100 sqm</u>	<u>3.89 spaces per 100 sqm</u>	<u>3.89 spaces per 100 sqm</u>

As described previously in this report, the walk score of an area is calculated by determining the distance required to walk from an origin to nearby amenities. It also assesses block sizes and intersection density to determine the permeability of an area. The walk score is considered to most important metric in determining the level of multi-purpose trips associated with each of the above sites.

The walk score of the subject site (91) is either comparable or higher than the walk score of each of the sites listed in Table 4.2. In this regard, the data presented above is considered an appropriate representation of the parking demand that will be generated by the subject site.

It is noted that each of the above sites included a supermarket and bottle shop. The parking occupancy results therefore consider the combined parking demand generated by both uses.

Conservatively applying the 85th percentile demands from the survey results to the total floor area of the proposed development indicates that the subject site could be expected to generate a demand for up to **149 spaces** during the critical weekday PM and Saturday peak periods.

4.3. Adequacy of Proposed Car Parking Provision

It is proposed to provide a total of 182 car parking spaces on-site. Based on the foregoing analysis and discussion, this level of on-site car parking is considered appropriate to meet the car parking requirements of the site for the following reasons:

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- When taking into account changes in typical travel patterns post pandemic, the provision of Click & Collect and home delivery ordering systems that allow customers to order groceries without the use of an on-site parking space and the location of the site within the Belmont Activity Centre and the resultant likelihood of multi-purpose trips to the site and surrounding uses, the statutory car parking requirement (i.e. 189 spaces) is considered to be overly conservative;
- On the basis of car parking occupancy surveys undertaken by our office at various supermarkets within metropolitan Melbourne, the subject site could conservatively be expected to generate a peak car parking demand of up to 149 spaces; and
- The proposed supply of 182 spaces is therefore sufficient to accommodate the anticipated peak parking demand, with a surplus of 33 spaces at times of peak demand. This buffer provides a good level of contingency for any day-to-day car parking demand variations and to accommodate some level of overflow parking from the surrounding uses.

It is noted the proposal will also retain the existing 37 parking spaces within the adjoining Council owned car park.

4.4. DDA Car Parking Requirements

In addition to the statutory car parking requirements outlined in Clause 52.06 of the Greater Geelong Planning Scheme, the National Construction Code (NCC) outlines the requirements for the provision of car parking spaces for people with disabilities.

The NCC rates for the provision of disabled parking spaces are outlined in Table 4.3.

Table 4.3: Car Parking Requirements for People with Disabilities

Description	NCC Class	NCC Parking Rate
Supermarket & bottle shop	Class 6	1 accessible space to every 50 car parking spaces or part thereof

Application of the above rate to the proposed car parking provision of 182 spaces generates a requirement to provide four (4) accessible car parking spaces on-site.

It is proposed to provide a total of four (4) accessible car parking spaces on-site, including one (1) space on ground level and three (3) spaces within the basement level in close proximity to the traveller and lift.

This provision is in accordance with the NCC requirement for the site and is acceptable.

4.5. Motorcycle Parking

The Greater Geelong Planning Scheme does not outline any specific requirements for the provision of motorcycle spaces on-site. However, in order to cater for the demand of this transport mode and provide a viable alternative to traditional car-based travel, a total of seven (7) motorcycle parking spaces will be provided, including three (3) spaces on ground level and four (4) spaces within the basement level.

Motorcycle spaces are 1.2-metres wide and 2.5-metres long, in accordance with the requirements of Figure 2.7 within AS2890.1:2004 and are therefore acceptable.

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5. Sustainable Transport Assessment

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5.1. Clause 52.34 Requirements

Requirements for bicycle facilities are set out within Clause 52.34 of the Greater Geelong Planning Scheme. The purpose of Clause 52.34 is defined in the scheme as follows:

- To encourage cycling as a mode of transport; and
- To provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.

Bicycle Parking Requirements

The statutory bicycle parking requirements for the application are set out in Table 5.1.

Table 5.1: Statutory Bicycle Parking Requirements

Land Use	Size/No.	User	Bicycle Parking Rate	Bicycle Parking Requirement
Shop [1]	3,831 sqm	Employee	1 space to each 600 sqm of leasable floor area is the leasable floor area exceeds 1,000 sqm	6 spaces
		Visitor	1 space to each 500 sqm of leasable floor area if the leasable floor area exceeds 1,000 sqm	8 spaces

[1] Supermarket & bottle shop are both nested under shop in Clause 73.04-12 within the Greater Geelong Planning Scheme.

Based on the above assessment, the application has a statutory requirement to provide 14 bicycle parking spaces on-site, including six (6) spaces for employees and eight (8) spaces for visitors.

Shower / Change Room Requirements

In addition to the bicycle parking requirements outlined above, Table 2 & 3 within Clause 52.34 of the Greater Geelong Planning Scheme requires that one (1) shower be provided for the first five (5) employee bicycle parking spaces and one (1) shower for each subsequent ten (10) employee bicycle parking spaces. A change room or direct access to a communal change room must be provided for each shower.

Application of these rates to the employee bicycle parking requirement of six (6) spaces indicates that the proposal also generates a requirement to provide one (1) shower / change room facility for employees.

5.2. Bicycle Parking Provision

Bicycle Parking Spaces

It is proposed to provide a total of 17 on-site bicycle parking spaces, to satisfy the bicycle parking requirements of the site.

A total of seven (7) parking spaces will be provided for employees in a secure bicycle enclosure within the basement car park. This provision exceeds the statutory requirement for the site and is therefore considered acceptable.

A total of ten (10) visitor parking spaces will be provided at ground level, in publicly accessible locations in close proximity to the supermarket entrance. This provision exceeds the statutory requirement for the site and is considered acceptable.

Shower / Change Rooms

It is not proposed to provide a formal end of trip facility on-site for employees in conjunction with the secure bicycle parking enclosure within the basement level.

Notwithstanding, it is understood that the male and female amenity rooms on ground levels have been sized to accommodate a shower in each room. These will be available for use by employees as required, noting that the amenity room can function as a change room at these times.

This provision exceeds the statutory requirement for the site and is therefore considered acceptable.

5.3. Bicycle Parking Layout

Bicycle parking spaces will be provided as a mix of horizontal and vertical spaces.

Seven (7) bicycle parking spaces for employees are proposed within a wall mounted vertical arrangement. Bicycle parking spaces are 1.65-metres long and provided at 0.75-metre spacings, accessed via an aisle exceeding 1.5-metres in width, in exceedance of the requirements of AS2890.3:2015.

Ten (10) bicycle parking spaces for visitors are proposed within an at ground horizontal arrangement. Bicycle hoops are provided with a 1.8-metre-long parking envelope and at 1.0-metre spacings, accessed via an aisle exceeding 1.5-metres in width, in exceedance of the requirements of AS2890.3:2015.

The proposed bicycle parking provision provides 59% of bicycle parking spaces within a ground level horizontal arrangement. This exceeds the requirement outlined in AS2890.3:2015 that 20% of bicycle parking spaces must be provided in a ground level horizontal arrangement.

Accordingly, it is considered that bicycle parking spaces have been designed appropriately, in accordance with the relevant sections of AS2890.3:2015.

Examples of representative bicycle parking equipment specifications are provided in Appendix B of this report.

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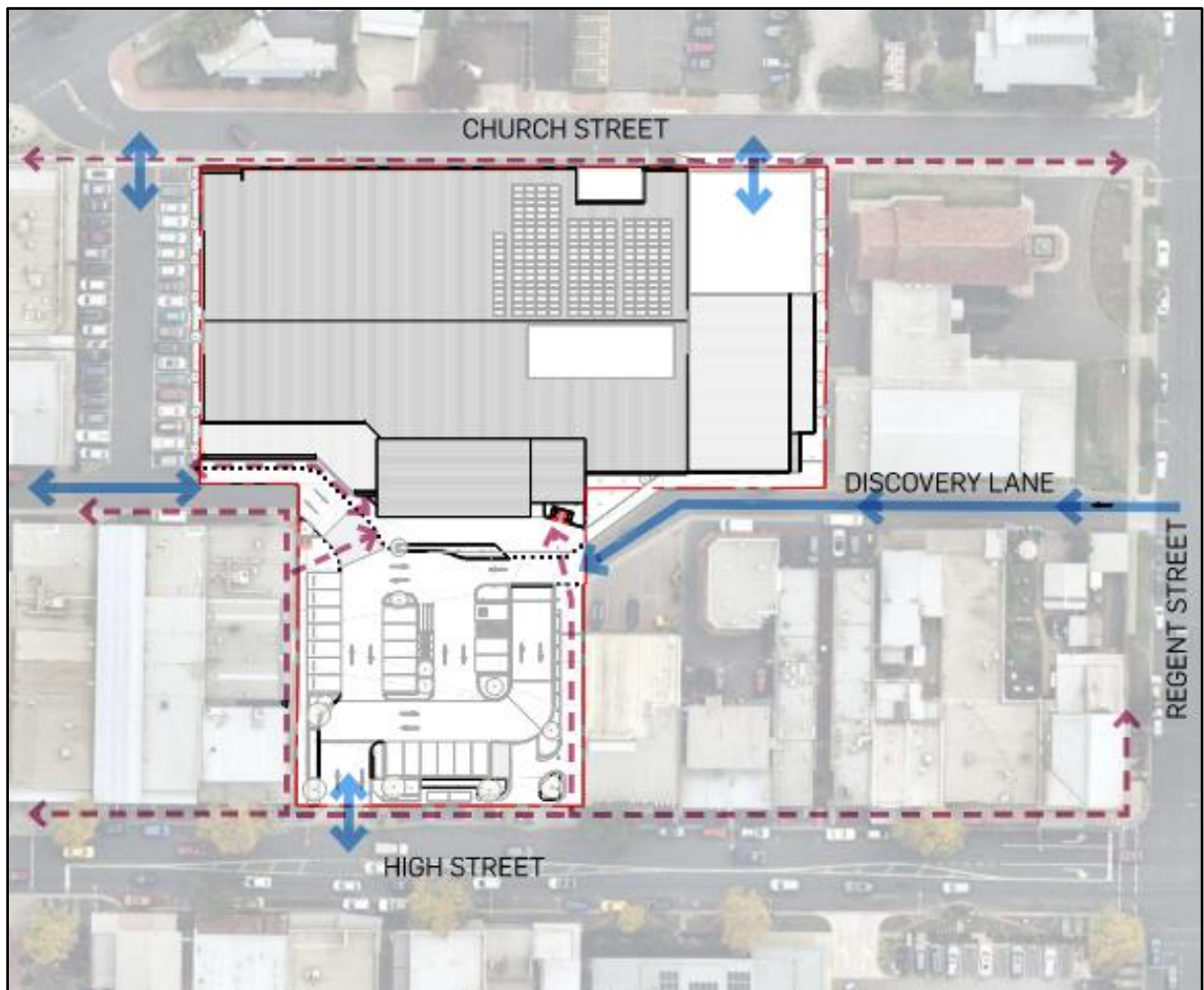
5.4. Pedestrian Connectivity

The redevelopment will provide direct pedestrian linkages with High Street as well as the existing commercial and retail offerings in the nearby vicinity, highlighted by a generous pathway that runs along the eastern boundary of the site and provides pedestrians from High Street and the adjacent bus stop, a safe and convenient pathway to the front of the supermarket.

As such, excellent connectivity will be provided to the broader Belmont Activity Centre.

Pedestrian connectivity within the site and surrounds is demonstrated by the movement and access diagram presented in Figure 5.1.

Figure 5.1: Pedestrian Connectivity



(Source: Clarke Hopkins Clarke Architects – Design Concept: Movement & Access)

It is important to note that the existing northern vehicular access point is proposed to be removed and a consolidated two-way vehicular access is proposed to the southern side of High Street. This redesign allows an excellent pedestrian and local community outcome that provides a safe and user-friendly pedestrian walkway and entrance for pedestrians to/from High Street.

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5.5. Green Travel Plan

A Green Travel Plan (GTP) has been prepared in order to seek a reduction to the environmental impact of travel associated with the development. In essence, the GTP encourages more efficient use of motor vehicles as well as use of alternatives to the motor car and comprises a list of strategies aimed at encouraging walking, cycling and public transport for travel and a shift away from the reliance on single occupant vehicle travel.

The GTP is provided in Appendix C of this report.

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6. Access Arrangements & Car Parking Layout

6.1. Access Arrangements

Vehicular access to/from the subject site is proposed as follows:

- The existing ingress only crossover to/from High Street will be retained and widened to 8.1-metres wide, providing two-way fully directional ingress movements and left-turn egress movements to/from the ground level car park;
- A 6.2-metre-wide connection will be provided from Discovery Lane, providing one-way access to the ground level carpark;
- A 6.6-metre-wide connection will be provided to/from the adjacent Council carpark, providing two-way access to the ground level carpark; and
- A new 10.0-metre-wide crossover is proposed in the northern corner of the site to Church Street, providing access to/from the loading area.

All other existing crossovers to/from the existing site (as described in Section 2.2) will be removed as part of this application and reinstated as kerb and channel. It is noted that the southernmost crossover to/from the Council owned car park will be retained.

The main supermarket entrance will be located midblock along the proposed building frontage, with a travelator and lift proposed within the airlock area to provide direct access to/from the basement carpark.

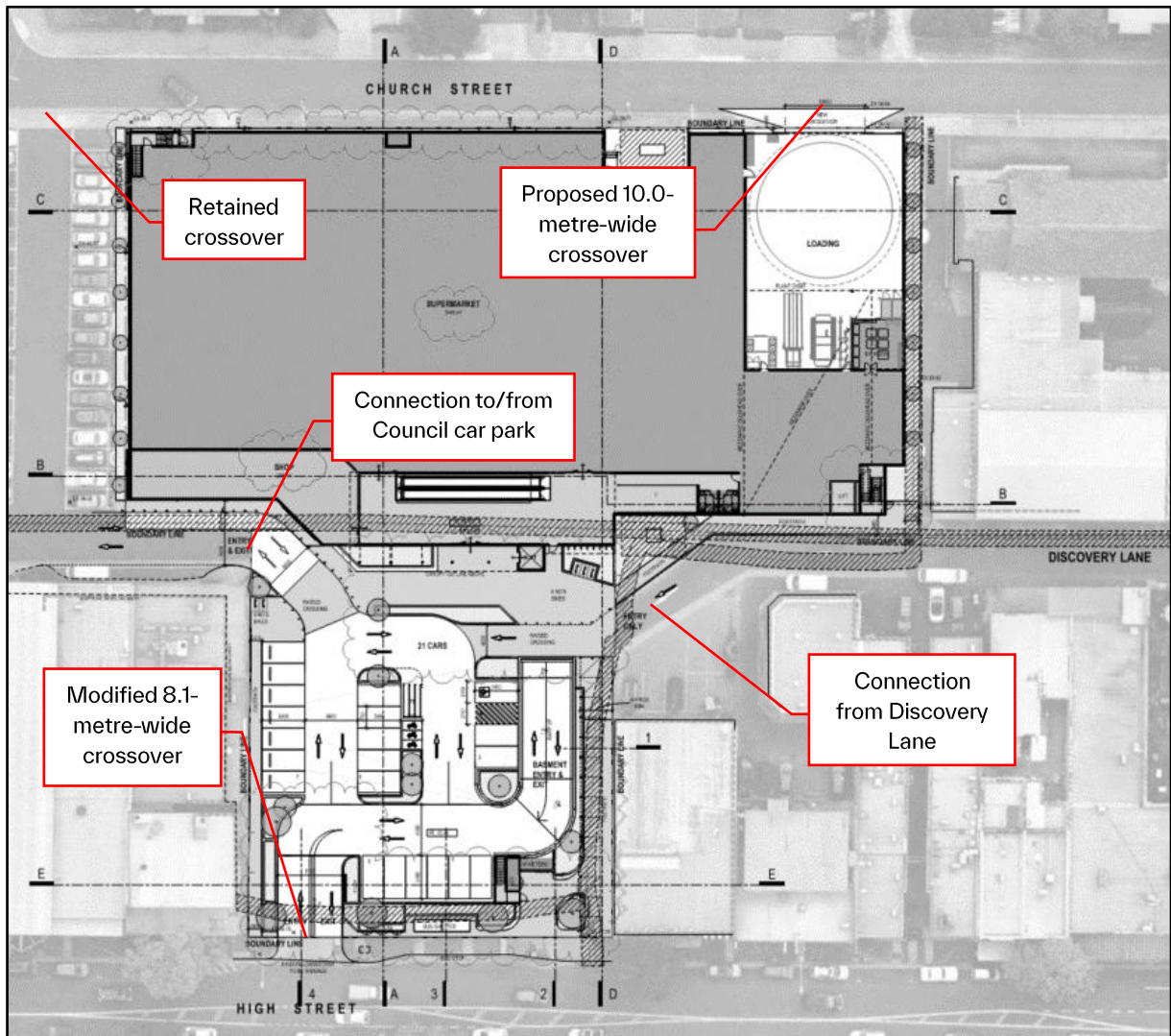
The redevelopment will provide direct pedestrian linkages with High Street as well as the existing commercial and retail offerings in the nearby vicinity.

It is important to note the proposed access strategy is consistent with the feedback provided by Council's traffic department at the on-site meeting (on 8 December 2022) to ensure best access strategy possible that minimises impacts to external users.

The proposed vehicular access arrangements are shown on the excerpt of the ground floor plan in Figure 6.1.

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Figure 6.1: Proposed Vehicular Access Arrangements



(Source: Clarke Hopkins Clarke Architects – Ground Floor Plan)

As stated earlier, the existing northern vehicular access point is proposed to be removed and a consolidated two-way vehicular access is proposed to the southern side of High Street. This redesign allows an excellent pedestrian and local community outcome that provides a safe and user-friendly pedestrian walkway and entrance for pedestrians to/from High Street

Providing separate entry and exit crossovers along High Street (similar to the existing design of the site) is considered a poor transport engineering outcome for the site for the following reasons:

- Doing so would reduce the internal queueing space available for vehicles departing the site and would increase the likelihood of vehicles queueing back onto the ramp (representing a poor user experience);
- The proposed access arrangements (i.e. a consolidated ingress & egress crossover) represents a more efficient design in that it minimises the overall crossover width along High Street. This results in a reduced pedestrian crossing width and therefore a safer and more user friendly pedestrian experience;

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- The proposed access arrangements also reduce the number of conflict points between vehicles and pedestrians along the High Street frontage;
- The above points are considered particularly important when considering the site location within the Belmont Activity Centre and the high volume of pedestrian movements within the precinct; and
- Providing a consolidated site access point also allows for the provision of more public open space and landscaping along the High Street frontage as well as a wider pedestrian connection along the northern site boundary.

In addition to the above and in response to the Council RFI comment, an on-site meeting was held between Council, Coles and Ratio Consultants at the subject site on Thursday 03 August 2022, to discuss the proposed site access strategy.

As a result of discussions within this meeting, Council provided verbal approval for the consolidated site access point as it was demonstrated that there is satisfactory width between two obstructions (an existing pole and pit) to provide the required traffic lanes and median.

Following this and to further demonstrate the adequacy of the proposed access point, our office has prepared a Functional Layout Plan (FLP) of the site access point. The FLP (provided at Appendix D of this report for reference) demonstrates that the proposed crossover design maintains adequate clearance to existing services, whilst also allowing for vehicles to simultaneously enter & exit the site. This design has been included within the architectural plans.

On the basis of the preceding, we are satisfied that the proposed High Street access arrangements to/from the site are acceptable.

6.2. Car Park Layout

The proposed access arrangements and car parking layout have been assessed against the objectives and design requirements of Clause 52.06-9 of the Greater Geelong Planning Scheme and relevant sections of AS/NZS 2890.1:2004 and AS/NZS2890.6:2009.

Design Standard 1 - Accessways

Design Standard 1 of Clause 52.06-9 relates to the design of accessways. The requirements of Design Standard 1 are assessed against the proposal in Table 6.1.

Table 6.1: Design Standard 1 - Accessways

Requirement	Comments
Must be at least 3 metres wide.	<p><u>Satisfied</u> – Single width accessways (where provided at the High Street site access) have been designed with a minimum trafficable width of 3.5 metres.</p> <p>Double width accessways have been designed with a minimum trafficable width of 6.0-metres.</p>

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	The majority of double width accessways are provided with a width of 6.4-metres (or greater).
Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide.	<u>Satisfied</u> - The accessways and internal layout have been designed to be at least 4.2 metres wide at all changes of direction.
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre.	<u>Not Applicable</u> - No dead-end accessways are proposed within the car park.
Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheelbase of 2.8 metres.	<u>Satisfied</u> - A headroom of at least 2.4 metres will be provided along the ramp and within the basement car park.
If the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3, the accessway must be designed so that cars can exit the site in a forward direction.	<u>Satisfied</u> - The on-site car parking facilities are accessible via High Street, which is located in a Transport Zone 3. Accordingly, all vehicles are able to exit the site in a forward direction.
Provide a passing area at the entrance at least 6.1m wide and 7m long if the accessway serves ten or more car parking spaces and is either more than 50m long or connects to a road in a Transport Zone 2 or Transport Zone 3.	<u>Satisfied</u> - All site access points have been designed to accommodate two-way simultaneous movement.
Have a corner splay or area at least 50% clear of visual obstructions extending at least 2m along the frontage road from the edge of an exit lane and 2.5m along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided.	<u>Satisfied</u> - Whilst not specifically notated on plans, adequate sight distance will be provided on both sides of the site access points.
If an accessway to four or more car parking spaces is from land in a Transport Zone 2 or Transport Zone 3, the access to the car spaces must be at least 6 metres from the road carriageway.	<u>Satisfied</u> - All parking spaces are located at least 6.0-metres away from High Street.
If entry to a car space is from a road, the width of the accessway may include the road.	<u>Not Applicable</u> - Car parking spaces are accessed from internal accessways and to directly to/from an adjacent road.

Design Standard 2 - Car Parking Spaces

Design Standard 2 of Clause 52.06-9 relates to the design of car parking spaces. The requirements of Design Standard 2 are assessed against the proposal in Table 6.2.

Table 6.2: Design Standard 2 - Car Parking Spaces

Requirement	Comments
Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2 of Design Standard 2.	<u>Satisfied</u> - All standard car parking spaces exceed the dimensional requirements set out in Table 2 of Design Standard 2.

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<p>A wall, fence, column, tree, tree guard or any other structure that abuts a car space must not encroach into the area marked 'clearance required' on Diagram 1 of Design Standard 2, other than:</p> <p>A column, tree or tree guard, which may project into a space if it is within the area marked 'tree or column permitted' on Diagram 1.</p> <p>A structure, which may project into the space if it is at least 2.1 metres above the space.</p>	<p>Standard car parking spaces are 2.7-metres wide, 5.4-metres long and are accessed via a minimum 6.4-metre-wide aisle.</p> <p><u>Satisfied</u> – All columns adjacent to a car parking space are located between 250mm-1,750mm from the open end of the parking space, outside of the area marked 'clearance required' on Diagram 1 within Design Standard 2.</p>
<p>Car spaces in garages must be at least 6 metres long and 3.5 metres wide for a single space and 5.5 metres wide for a double space measured inside the garage.</p>	<p><u>Not Applicable</u> – No garages are proposed.</p>
<p>Where parking spaces are provided in tandem (one space behind the other) an additional 500mm in length must be provided between each space.</p>	<p><u>Not Applicable</u> – No tandem parking spaces are proposed.</p>
<p>Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover.</p>	<p><u>Not Applicable</u> – No dwellings are proposed as part of the redevelopment.</p>
<p>Disabled car parking spaces must be designed in accordance with Australian Standard AS2890.6-2009 (disabled) and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 of Design Standard 2 by 500mm.</p>	<p><u>Not Applicable</u> – Accessible parking spaces have been designed to accord with the dimensional requirements of AS/NZS 2890.6:2022.</p>

Design Standard 3 – Gradients

Design Standard 3 of Clause 52.06-9 relates to the design of gradients. The requirements of Design Standard 3 are assessed against the proposal in Table 6.3.

Table 6.3: Design Standard 3 – Gradients

Requirement	Comments
<p>Accessway grades must not be steeper than 1:10 (10%) within 5 metres of the frontage to ensure safety for pedestrians and vehicles. The design must have regard to the wheelbase of the vehicle being designed for; pedestrian and vehicular traffic volumes; the nature of the car park; and the slope and configuration of the vehicle crossover at the site frontage. This does not apply to accessways serving three dwellings or less.</p>	<p><u>Satisfied</u> – The High Street access point has been designed with a gradient of 1:20 for the first 10.3-metres from the property boundary, thereby satisfying this requirement.</p>
<p>Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 of Design Standard 3 and be designed for vehicles travelling in a forward direction.</p>	<p><u>Satisfied</u> – The proposed gradients along the ramp to/from the basement car park are in accordance with Table 3 of Design Standard 3, with a maximum proposed gradient of 1:6.</p>

Where the difference in grade between two sections of ramp or floor is greater than 1:8 (12.5%) for a summit grade change, or greater than 1:6.7 (15%) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming.

Plans must include an assessment of grade changes of greater than 1:5.6 (18%) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority.

Satisfied – Appropriate transition sections have been provided to prevent scraping or bottoming.

6.3. Click & Collect Facility

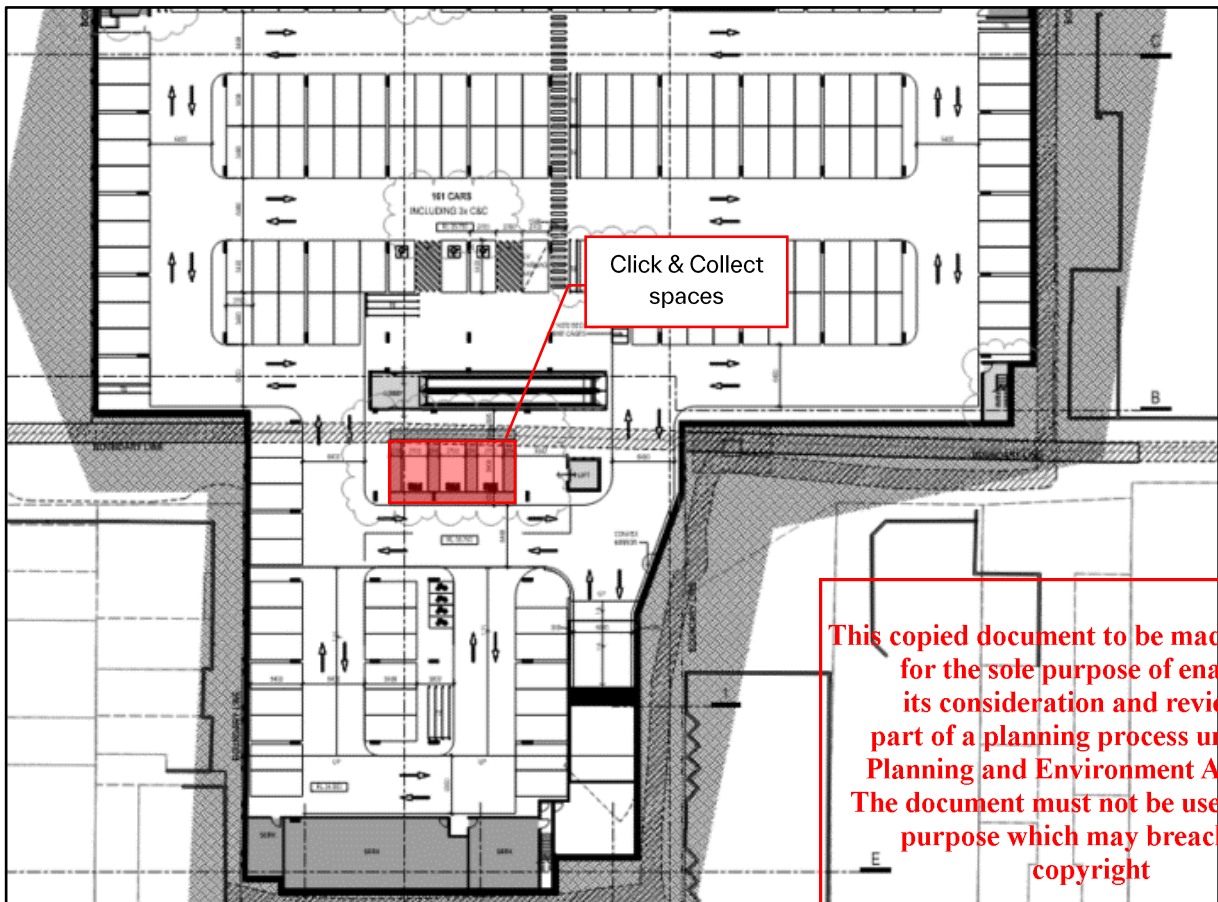
Three (3) Click & Collect spaces are proposed for the supermarket within the basement level car park.

The Click & Collect spaces will be 2.7-metres wide by 5.4-metres long, with a 1.2-metre-wide walkway provided between each of the spaces. This is in excess of the design requirements outlined in Design Standard 2 within Clause 52.06 of the Greater Geelong Planning Scheme.

A swept path assessment has been completed which demonstrates that a B85 (85th percentile passenger vehicle as defined by AS2890.1:2004) can access each of the Click & Collect spaces.

The location of the Click & Collect spaces is shown in Figure 6.2.

Figure 6.2: Click & Collect Spaces



(Source: Clarke Hopkins Clarke Architects – Ground Floor Plan)

6.4. Swept Path Assessment

In addition to the preceding, an assessment of site access and circulation has also been undertaken using the 'Autodesk Vehicle Tracking' software.

Information provided by the permit applicant indicates that the largest vehicle delivery vehicle to visit the supermarket will be a 22-pallet articulated vehicle (approx. 17.2-metres long). In this regard, a swept path assessment has been completed which indicates that the 22-pallet truck is able to access the loading area via the proposed 10.0-metre-wide crossover to/from Church before stopping on the turntable and rotating into position. Once loading/unloading activities are complete, the truck is able to rotate on the turntable as required and depart the site via Church Street in a forward direction.

The redevelopment seeks to retain the one-way access provided to the site via Discovery Lane. Noting that Discovery Lane is used to provide back-of-house loading for the various retail businesses along High Street, these loading vehicles will need to traverse the on-site ground level car park once loading activities are complete. Based on discussions with Council, it is understood that the vehicles visiting these businesses vary in size, with the largest being equivalent to an 8.8-metre-long MRV (medium rigid vehicle, as defined within AS2890.2:2018). A swept path assessment has been undertaken which demonstrates that an MRV is able to turn into the laneway via Regent Street. Once loading/unloading is complete, the MRV is able to circulate the internal accessways within the subject site and adjoining Council owned car park and depart via Church Street.

Moreover, a swept path assessment has also been undertaken which indicates that a 6.4-metre-long SRV (small rigid vehicle, as defined within AS2890.2:2018) is able to circulate the internal accessways on ground level and depart the site via either the High Street access point or Council owned car park.

A swept path assessment has also been undertaken which demonstrates that simultaneous turning movements can be achieved between a B85 and B99 (99th percentile vehicle as defined by AS290.1:2004) at the High Street site access. Furthermore, simultaneous turning movements can also be achieved between a B85 and B99 at top and bottom of the ramp and at critical junctions within the car park.

Each of the abovementioned swept paths are provided in Appendix E of this report.

6.5. Adequacy of Access Arrangements & Car Park Layout

Based on the preceding assessment, the proposed access arrangements and car park layout have been designed appropriately, in accordance with the requirements outlined within Clause 52.06-9 of the Greater Geelong Planning Scheme and/or relevant sections of the Australian Standards (AS2890 series).

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7. Loading & Waste Collection

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7.1. Statutory Requirement

Clause 65.01 'Decision Guidelines' of the Greater Geelong Planning Scheme outlines the provision of loading requirements and states the following:

'Before deciding on an application or approval of a plan, the responsible authority must consider as appropriate:

- *The adequacy of loading and unloading facilities and any associated amenity, traffic flow or road safety impacts.'*

7.2. Loading Arrangements

The site will generate loading and unloading activities associated with deliveries to the supermarket and bottle shop. Based on our experience of similar developments, multiple deliveries are expected per day.

All loading and unloading activities for the site will be undertaken via the at-grade loading dock within the back-of-house loading area.

As described previously in this report, the largest vehicle delivery vehicle to visit the supermarket will be a 22-pallet articulated vehicle (approx. 17.2-metres long). It is expected that deliveries to the bottle shop may be completed by vehicles up to a 12.5-metre-long HRV (heavy rigid vehicle as defined by AS2890.2:2018) in size.

As described in Section 6.4 of this report, a swept path assessment has been completed which demonstrates that vehicles up to the 22-pallet truck are able to access the loading area via the proposed 10.0-metre-wide crossover to/from Church before stopping on the turntable and rotating into position. Once loading/unloading activities are complete, the truck is able to rotate on the turntable as required and depart the site via Church Street in a forward direction.

It is noted that the proposed site layout does not afford the ability for a loading vehicle to be stored on-site in the event that another vehicle is using the loading area. Information provided by the permit applicant indicates that given the low daily volumes of loading truck arrivals, it is possible for the store manager to request staggered delivery times, thereby eliminating any requirement for a storage area.

It is noted that this type of arrangement has been implemented at various other supermarket sites in recent times, including Coles Drysdale which is also within the Greater Geelong municipality. Additionally, Coles Middle Camberwell also adequately facilitates comparable loading arrangements with no external impacts to the road network.

It is recommended that the operation and management of the loading area be outlined within a Loading Management Plan which can be prepared as a condition of permit.

7.3. Waste Collection Arrangements

A separate Waste Management Plan (WMP) has been prepared for the development by Ratio Consultants.

A waste room is proposed within the loading area to allow bins of all waste streams to be stored. A waste compactor is also proposed, adjacent to the waste room. Based on details within the WMP, it is understood that waste collection will be undertaken by a private contractor, using a 10.2-metre-long rear-loader for the waste bins and a 9.8-metre-long hook-lift truck for the waste compactor.

It is expected that the waste truck will access the site via the proposed 10.0-metre-wide crossover to/from Church Street before stopping on the turntable and rotating into position. During standard collection times, waste bins will be wheeled from the waste room into position behind the waste truck. When collecting/returning the compactor, the waste truck will need to reverse into position in front of the compactor location. Once waste collection is complete the waste truck will rotate as required and depart the site via Church Street in a forward direction.

For the purpose of a conservative assessment, a swept path assessment has been undertaken using the 12.5-metre-long HRV. This assessment demonstrates that the HRV can complete each of the above movements in a suitable manner.

7.4. Discovery Lane Loading Arrangements

As described previously throughout this report, the redevelopment seeks to retain the one-way access provided to the site via Discovery Lane. In addition to providing one-way access to the subject site, it is noted that Discovery Lane is currently used to provide back-of-house loading for the various retail businesses along High Street. These loading arrangements will not be impacted by the redevelopment.

In this regard and as discussed in Section 6.4 of this report, a swept path assessment has been undertaken to assess the circulation of loading vehicles within Discovery Lane following the redevelopment of the site, which demonstrates the following:

- An 8.8-metre-long MRV is able to turn into the laneway via Regent Street. Once loading/unloading is complete, the MRV is able to circulate the internal accessways within the subject site and adjoining Council owned car park and depart via Church Street; and
- A 6.4-metre-long SRV is able to turn into the laneway via Regent Street and then circulate the internal accessways on ground level and depart the site via either the High Street access point or Council owned car park once loading/unloading is complete.

7.5. Adequacy of Loading & Waste Collection Arrangements

Having regard for the discussions presented above, the proposed loading and waste collection arrangements for the site are considered acceptable, subject to the preparation of a Loading Management Plan as a condition of permit.

Furthermore, back-of-house loading arrangements within Discovery Lane for the business along High Street will not be impacted by the redevelopment. For reference, the abovementioned swept path assessment is provided within Appendix E of this report.

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8. Traffic Assessment

8.1. Existing Site Traffic Volumes

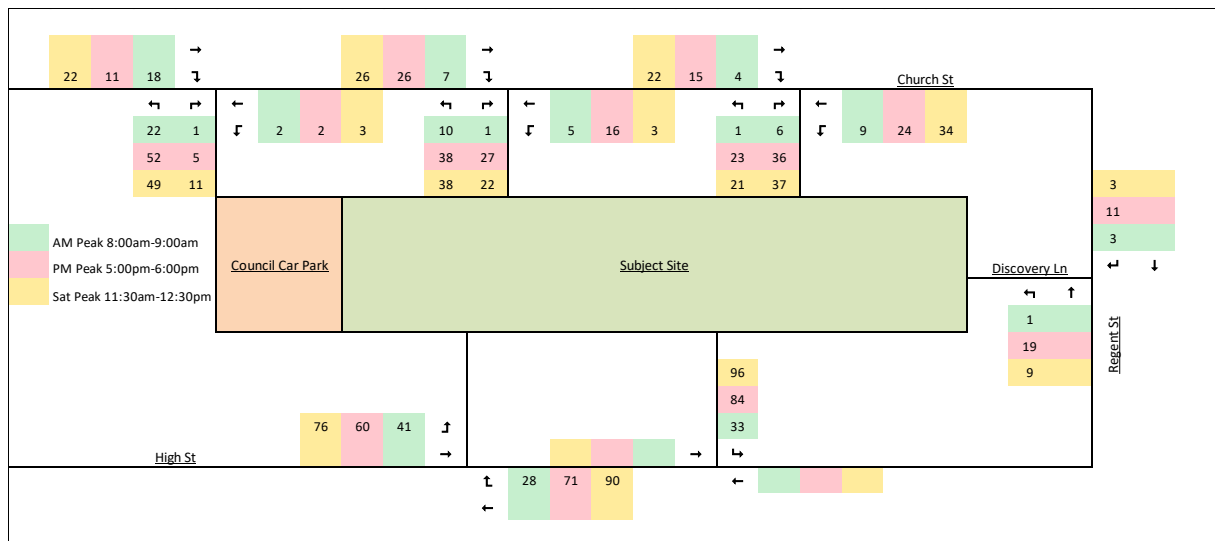
To understand the traffic generating characteristics of the existing site, Ratio Consultants commissioned turning movement count surveys at each of the existing site access points (as described in Section 2.2 of this report).

The surveys were undertaken for the following time periods:

- Thursday 01 December 2022 between 7:00am-9:00am;
- Thursday 01 December 2022 between 3:00pm-6:00pm; and
- Saturday 03 December 2022 between 11:00am-1:00pm.

The peak hour turning movements to/from the site recorded throughout the survey period are presented below in Figure 8.1, with full survey results presented in Appendix F of this report.

Figure 8.1: Existing Peak Hour Site Generated Traffic



From an assessment of the existing traffic volumes, the distribution of site generated traffic taking access to/from each frontage road has been determined.

The distribution across each peak hour period has been averaged and is presented in

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Table 8.1.

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Table 8.1: Existing Traffic Distributions

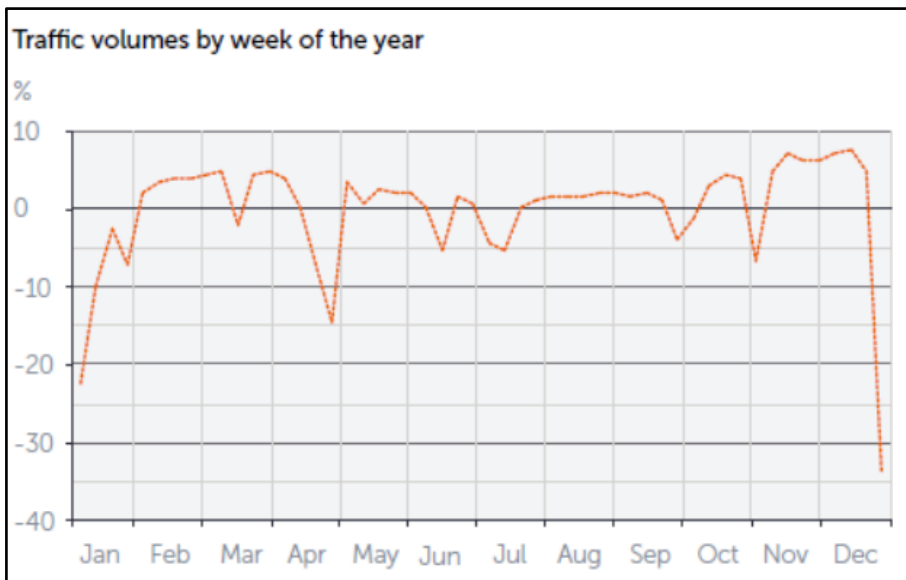
	Church Street	Discovery Lane	High Street
Inbound Movements	38%	3%	59%
Outbound Movements	63%	0% [1]	37%

[1] As Discovery Lane originates at Regent Street and provides one-way traffic flow in a southwest direction, it does not accommodate outbound movements from the subject site.

In respect to the timing of the traffic data sourced, reference has been made to DTP’s traffic monitor information on the road network. The data indicates that traffic volumes are generally highest during the early to mid-December period, with August volumes closer to (albeit still higher than) the yearly average.

For reference, the relevant figure from the DTP Traffic Monitor is represented in Figure 8.2.

Figure 8.2: Extract from DTP’s Traffic Monitor



(Source: Department of Transport and Planning)

Notwithstanding the above conservatism, Ratio has utilised early December 2022 traffic volumes in the following transport impact assessment.

8.2. Traffic Generation

Existing Site Traffic Generation

Noting the shared car parking arrangements at the existing site, the traffic volumes presented in Figure 8.1 capture the traffic generating characteristics associated with the entirety of the existing site (i.e. associated with the existing supermarket and users of the surrounding commercial & retail tenancies).

Accordingly, the total traffic volumes generated by the existing site are presented in Table 8.2.

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Table 8.2: Existing Site Traffic Generation

	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Inbound	118 vph	255 vph	288 vph
Outbound	74 vph	265 vph	274 vph
Total	192 vph	520 vph	562 vph

Redevelopment Traffic Generation

Guidance on the increased traffic generation that will occur from the redevelopment has been sought from traffic surveys undertaken in August 2022 at a number of standalone Woolworths and Coles supermarkets in Victoria.

The results of those stores with a comparable floor area and surrounding neighbourhood context are summarised in Table 8.3.

Table 8.3: Summary of Traffic Survey Results

Site Location	Building Area	Surveyed Traffic Volumes and Associated Traffic Generation Rates					
		Weekday AM		Weekday PM		Saturday Midday	
		Vehicle Movements	Traffic Generation Rate	Vehicle Movements	Traffic Generation Rate	Vehicle Movements	Traffic Generation Rate
72 Upper Heidelberg Road, Ivanhoe	3,748 sqm	76 vehicle movements	2.03 vehicle movements per 100 sqm	194 vehicle movements	5.18 vehicle movements per 100 sqm	218 vehicle movements	5.82 vehicle movements per 100 sqm
168 Macaulay Road, North Melbourne	4,321 sqm	52 vehicle movements	1.20 vehicle movements per 100 sqm	254 vehicle movements	5.88 vehicle movements per 100 sqm	219 vehicle movements	5.07 vehicle movements per 100 sqm
380 Bay Street, Brighton	3,800 sqm	136 vehicle movements	3.58 vehicle movements per 100 sqm	311 vehicle movements	8.18 vehicle movements per 100 sqm	391 vehicle movements	10.29 vehicle movements per 100 sqm
369 High Street, Kew	3,240 sqm	76 vehicle movements	2.35 vehicle movements per 100 sqm	168 vehicle movements	5.19 vehicle movements per 100 sqm	240 vehicle movements	7.41 vehicle movements per 100 sqm
475 Glen Huntly Road, Elsternwick	3,800 sqm	238 vehicle movements	6.26 vehicle movements per 100 sqm	437 vehicle movements	11.50 vehicle movements per 100 sqm	450 vehicle movements	11.84 vehicle movements per 100 sqm
451 Lower Heidelberg Road, Heidelberg	4,270 sqm	177 vehicle movements	4.15 vehicle movements per 100 sqm	348 vehicle movements	8.15 vehicle movements per 100 sqm	374 vehicle movements	8.76 vehicle movements per 100 sqm
751 Riversdale Road, Camberwell	3,800 sqm	75 vehicle movements	1.97 vehicle movements per 100 sqm	272 vehicle movements	7.16 vehicle movements per 100 sqm	285 vehicle movements	7.50 vehicle movements per 100 sqm

1115-1129 Glen Huntly Road, Glen Huntly	2,669 sqm	113 vehicle movements	4.23 vehicle movements per 100 sqm	371 vehicle movements	13.90 vehicle movements per 100 sqm	326 vehicle movements	12.21 vehicle movements per 100 sqm
481 Plummer Street, Port Melbourne	3,600 sqm	187 vehicle movements	5.19 vehicle movements per 100 sqm	496 vehicle movements	13.78 vehicle movements per 100 sqm	424 vehicle movements	11.78 vehicle movements per 100 sqm

The survey results presented in Table 8.3 were all undertaken post COVID-19 lockdowns and consequently capture the changes in travel patterns that are becoming evident with a large portion of the workforce continuing to adopt hybrid work arrangements (i.e. reduced concentration of traffic movements during the road network AM and PM peak hours as people who are working from home are able to complete errands at convenient times throughout the day).

It should also be noted that each of the sites listed above includes both a supermarket and bottle shop, similar to the redevelopment proposal for the subject site.

Accordingly, these survey results are considered an appropriate estimation of the traffic generating characteristics of the subject site.

In this case, the surveyed results for the nine (9) abovementioned supermarkets have been averaged out to adopt for the redevelopment proposal. The average traffic generation rates are presented below:

- Weekday AM peak: 3.44 vehicle movements per 100 sqm;
- Weekday PM peak: 8.77 vehicle movements per 100 sqm; and
- Saturday midday peak: 8.96 vehicle movements per 100 sqm.

Ratio Consultants are of the view that the above traffic generation estimates are conservative on the high side given the subject site is fortunate to be situated in close proximity to other retail/commercial land uses where multi-purpose trips are likely whereby a customer is able to visit a number of other uses (including a supermarket) within a single trip.

Consideration should be given that the existing traffic volumes (as shown in Figure 8.1) give an indication of the traffic generating characteristics of the overall existing site and that the redevelopment proposal seeks to retain the shared access and car parking arrangements.

With this in mind, only the traffic generation associated with the increase in floor area of the supermarket & bottle shop needs to be considered to gain an understanding of the net impact of the redevelopment proposal on the surrounding road network. A desktop inspection suggests that the existing supermarket has a building area of approximately 1,854 sqm, as shown in Figure 8.3.

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Figure 8.3: Existing Supermarket Building Area



(Source: Nearmap, image dated 10 February 2023)

As described previously in this report, the redevelopment proposal will provide a total of 3,831 sqm floor area (comprising 3,626 sqm of supermarket floor area and 205 sqm of bottle shop floor area).

Therefore, the abovementioned traffic generation rates will be applied to the increase in floor area of 1,977 sqm.

Furthermore, an even 50:50 split of inbound/outbound traffic has been assumed in all peak periods given the typical short-term nature of trips to a supermarket.

Application of the preceding assumptions to the redevelopment proposal results in the following additional traffic movements, as summarised in Table 8.4.

Table 8.4: Redevelopment Traffic Generation

	Weekday AM Peak	Weekday PM Peak	Saturday Peak
Inbound	34 vph	87 vph	89 vph
Outbound	34 vph	87 vph	89 vph
Total*	68 vph	174 vph	178 vph

* Values rounded to the nearest even number for the purpose of this assessment.

Overall Post Redevelopment Traffic Generation

The existing site traffic generation and additional redevelopment traffic generation have been added together to estimate the total volume of traffic generated by the site post redevelopment, as presented in Table 8.5.

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Table 8.5: Overall Post Redevelopment Traffic Generation

	Weekday AM Peak	Weekday PM Peak	Saturday Peak
Inbound	152 vph	342 vph	377 vph
Outbound	108 vph	352 vph	363 vph
Total	260 vph	694 vph	740 vph

8.3. Post Redevelopment Traffic Distribution

In this instance, the existing traffic distributions to/from the subject site have been derived from turning movement surveys undertaken at the existing site.

It is important to note that the redevelopment proposes to displace a large portion of the ground level car parking spaces provided for the existing site. In response, a new basement level comprising 161 car parking spaces will be provided. Ramped access will be provided to/from the basement level from within the portion of the carpark along the High Street frontage.

It follows that a greater portion of customers will access the site via High Street following the redevelopment. In this regard, the following future distributions have been assumed:

Table 8.6: Post Redevelopment Traffic Distribution

	Church Street	Discovery Lane	High Street
Inbound Movements	20%	5%	75%
Outbound Movements	40%	0% [1]	60%

[1] As Discovery Lane originates at Regent Street and provides one-way traffic flow in a southwest direction, it does not accommodate outbound movements from the subject site.

The above distributions have been applied to the existing site traffic volumes to estimate the how the existing site traffic will be redistributed under the future access arrangements.

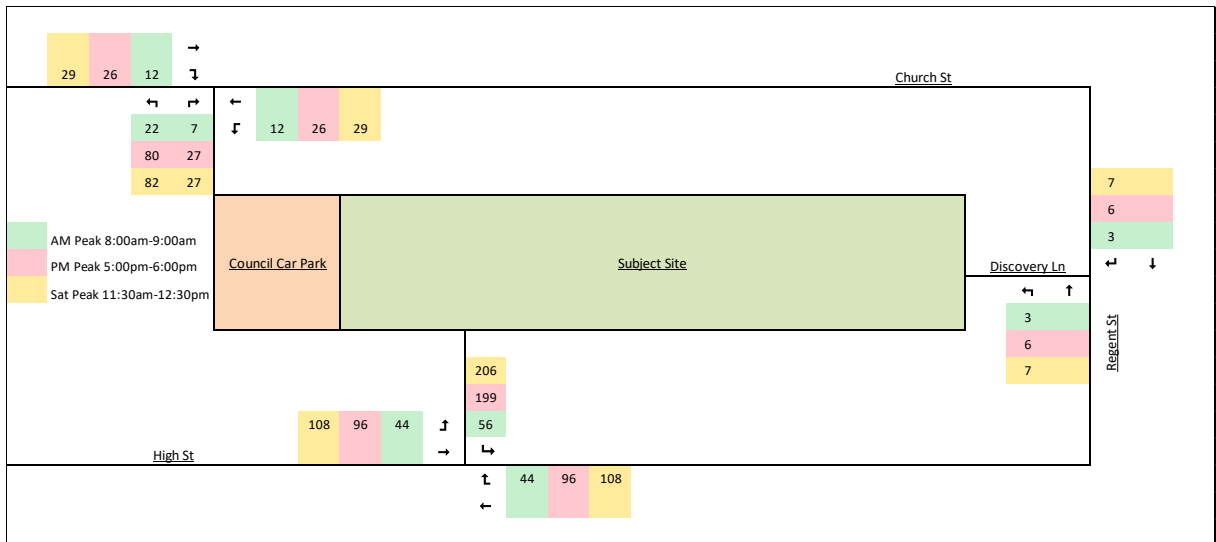
Further, an even split between right/left turn movements has been assumed for all inbound movements.

Noting that the High Street access point allows left-turn exit movements only, a 75:25 split has been assumed between left and right turn movements respectively for outbound movements at the Church Street site access. This assumption is captured in the assumed outbound distributions presented in Table 8.6.

The redistributed existing traffic volumes are presented in Figure 8.4.

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Figure 8.4: Redistributed Existing Peak Hour Site Generated Traffic

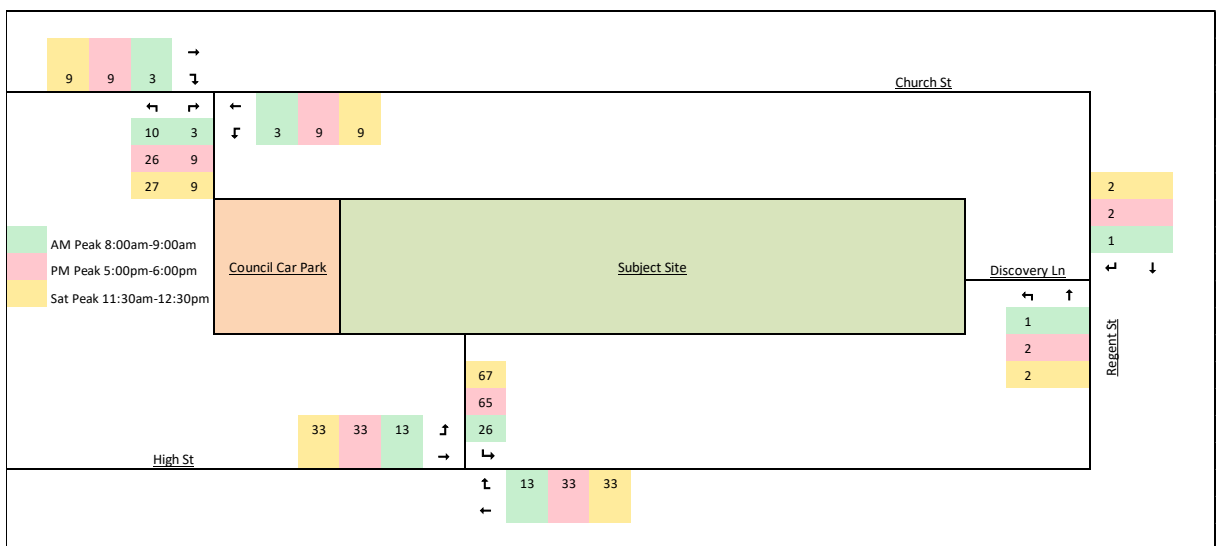


8.4. Redevelopment Site Generated Traffic Volumes

The future traffic distributions have also been applied to the additional anticipated traffic generation from the redevelopment.

The additional peak hour traffic volumes are presented in Figure 8.5.

Figure 8.5: Redevelopment Additional Peak Hour Site Generated Traffic

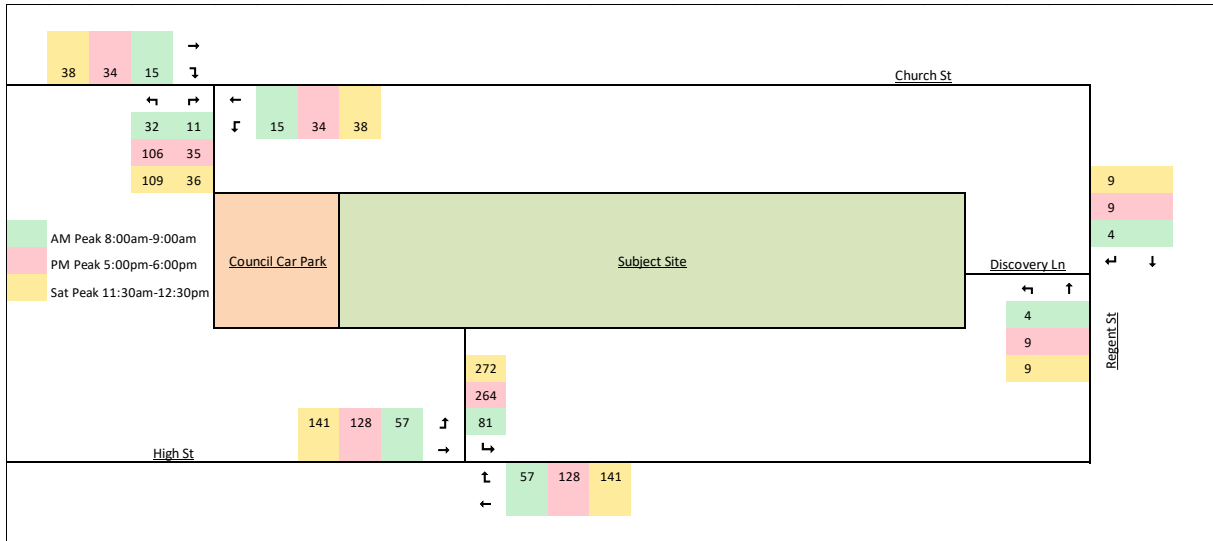


8.5. Post Redevelopment Site Generated Traffic Volumes

By adding the redistributed existing traffic volumes and the anticipated additional redevelopment traffic volumes, we get an estimate of the site generated peak hour traffic volumes post redevelopment. These are presented in Figure 8.6.

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Figure 8.6: Post Redevelopment Peak Hour Site Generated Movements



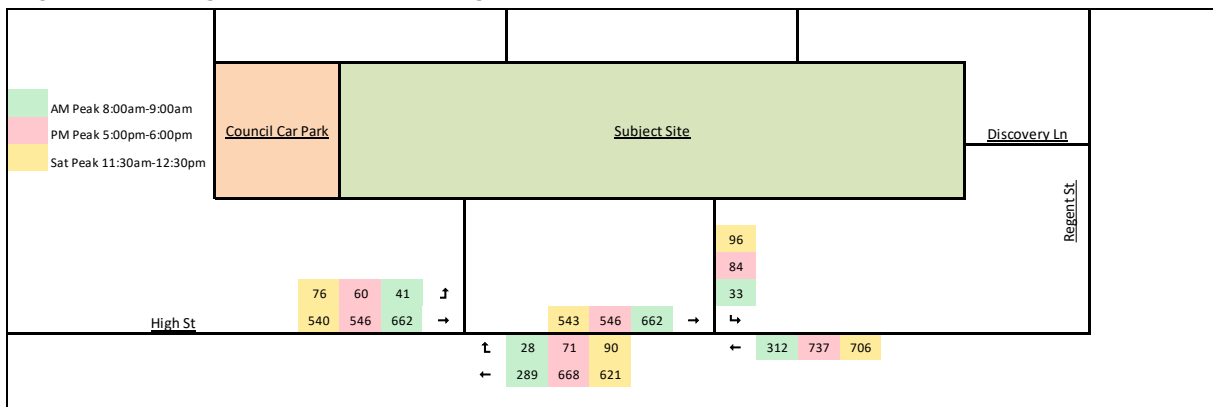
8.6. Existing Traffic Assessment

Existing Traffic Volumes

As described previously in this report, the application seeks to amend the existing access arrangements to/from the site. Accordingly, a greater proportion of site generated traffic is expected to access the site via the modified crossover to/from High Street. An assessment of the operation of the High Street site access point(s) will be undertaken in the subsequent sections.

The turning movement count surveys (as described in Section 8.1) also give an indication of the existing volume of traffic travelling along High Street past the site. These existing traffic volumes are shown in Figure 8.7.

Figure 8.7: High Street – Existing Traffic Volumes



The operation of the existing High Street site access points has been assessed using SIDRA Intersection 9.0. The parameters used to assess the intersection are as follows:

- **Degree of Saturation (D.O.S)** is a ratio of arrival (or demand) flow to capacity. Degrees of Saturation above 1.00 represent oversaturated conditions. Typical D.O.S ratings for intersections are presented below in Table 8.7.

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- The **95th percentile queue length** (95thile queue) is the value below which 95 percent of all observed cycle queue lengths fall, or 5 percent of all observed queue lengths exceed.
- **Average delay** is the average time (in seconds) that vehicles can be expected to wait at an intersection.

Table 8.7: Degree of Saturation Ratings

Degree of Saturation (D.O.S)			Rating
Signalised Intersection	Roundabouts	Unsignalised Intersection	
Up to 0.60	Up to 0.60	Up to 0.60	Excellent
0.60 – 0.70	0.60 – 0.70	0.60 – 0.70	Very Good
0.70 – 0.90	0.70 – 0.85	0.70 – 0.80	Good
0.90 – 0.95	0.85 – 0.95	0.80 – 0.90	Acceptable
0.95 – 1.00	0.95 – 1.00	0.90 – 1.00	Poor
Greater than 1.00	Greater than 1.00	Greater than 1.00	Very Poor

With regard to the existing volumes along High Street and the existing site generated movements, it is evident that the weekday PM and Saturday midday peak hours are the critical periods. Accordingly, a SIDRA analysis has been conducted to determine the existing operation of the site access points along High Street during these periods.

The results are summarised in Table 8.8, with a full set of results presented in Appendix G of this report.

Table 8.8: High Street – Existing Traffic Operating Conditions

Intersection	Approach	Weekday PM Peak Hour			Saturday Midday Peak Hour		
		D.O.S	95 th ile Queue (m)	Average Delay (s)	D.O.S	95 th ile Queue (m)	Average Delay (s)
High Street ingress only crossover	High Street (north-east)	0.374	2 m	1 sec	0.349	3 m	1 sec
	High Street (south-west)	0.338	0 m	1 sec	0.344	0 m	1 sec
High Street egress only crossover	High Street (north-east)	0.411	0 m	0 sec	0.393	0 m	0 sec
	Site access	0.093	3 m	6 sec	0.106	3 m	6 sec
	High Street (south-west)	0.304	0 m	0 sec	0.303	0 m	0 sec

The SIDRA modelling results presented in Table 8.8 suggest the following:

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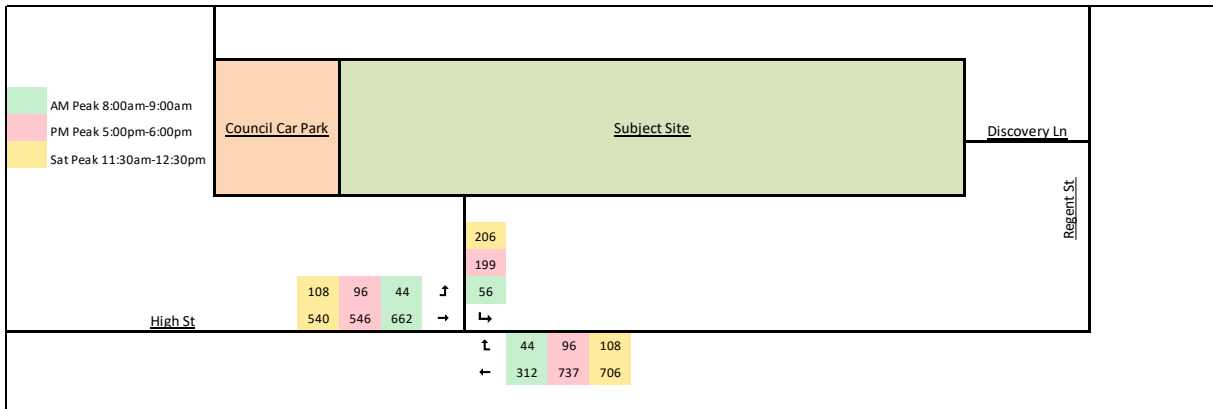
- The ingress only and egress only site access points both operate with an ‘Excellent’ D.O.S during the weekday PM and Saturday midday peak hours;
- There are negligible queues and delays for all turning movements into the site and left turn movements from the site onto High Street; and
- Overall, it is concluded that both site access points are operating well within their theoretical capacity.

Redistributed Existing Traffic Volumes

Regard has also been given to the proposed access arrangements, which seeks to consolidate access via High Street to a single crossover which accommodates fully directional ingress movements and only left-out egress movements.

Accordingly, the existing through volumes along High Street and redistributed site generated movements are shown in Figure 8.8.

Figure 8.8: High Street - Redistributed Existing Traffic Volumes



A SIDRA analysis has been conducted to determine the operation of the modified High Street site access point having regard for existing traffic volumes.

The results are summarised in Table 8.9, with a full set of results presented in Appendix G of this report.

Table 8.9: High Street – Redistributed Traffic Operating Conditions

Approach	Weekday PM Peak Hour			Saturday Midday Peak Hour		
	D.O.S	95%ile Queue (m)	Average Delay (s)	D.O.S	95%ile Queue (m)	Average Delay (s)
High Street (north-east)	0.414	3 m	1 sec	0.397	4 m	1 sec
Site access	0.218	7 m	8 sec	0.224	8 m	8 sec
High Street (south-west)	0.359	0 m	1 sec	0.362	0 m	1 sec

The SIDRA modelling results presented in suggest the following:

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- The modified High Street site access point is expected to operate with an ‘Excellent’ D.O.S during the weekday PM and Saturday midday peak hours;
- There are small increases to the D.O.S for vehicles exiting the site during both peak hour periods; however, there is also minimal queueing and delays for these movements. This suggests there will not be any detrimental impacts to internal site circulation caused by vehicles queueing within the site; and
- Overall, it is concluded that the modified High Street site access point will operate well within its theoretical capacity.

8.7. Characteristic Trip Types

It is important to investigate the characteristics of trips generated by the supermarket as there are different types of trips which may occur. These different trip types correspond to:

- ‘Primary Trips’;
- ‘Link-diverted Trips’; and
- ‘Non-link-diverted Trips’.

Primary trips and link-diverted trips involve a vehicle either making a special trip or a modification of the route to an existing trip. Non-link-diverted trips are already present on the adjacent road network, and although these trips need to be considered in the design of access driveways, turning lanes and so on, they do constitute additional traffic per se.

A significant proportion of traffic is anticipated to access the site during the road network peak hour as non-link-diverted trips. In this regard, reference is made to Table C8.1 within the ‘Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments’. The Austroads Guide indicates that for shopping centres between 3,000-20,000 sqm, typically 28% of site generated traffic is considered to be passing trade accessing the site via non-link-diverted trips.

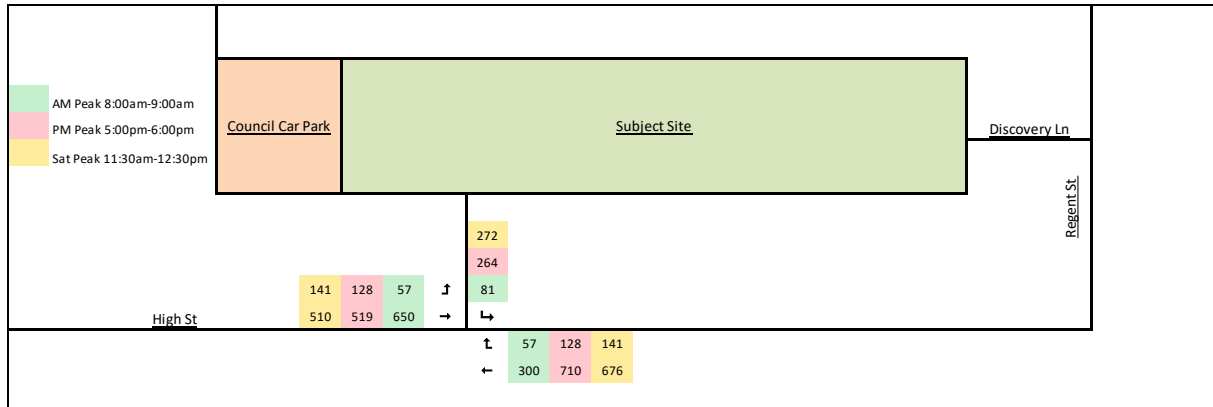
The below assessment therefore assumes that 28% of the additional site generated traffic movements will be from existing traffic along High Street.

8.8. Post Redevelopment Traffic Assessment

The existing volumes travelling past the site along High Street and the estimated post redevelopment site generated movements have been combined to estimate the total volume of traffic at the modified High Street site access point under post redevelopment conditions. These traffic volumes are shown in Figure 8.9.

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Figure 8.9: High Street – Post Redevelopment Traffic Volumes



A SIDRA analysis has been conducted to determine the operation of the modified High Street site access point having regard for existing traffic volumes.

The results are summarised in Table 8.10, with a full set of results presented in Appendix G of this report.

Table 8.10: High Street – Post Redevelopment Traffic Operating Conditions

Approach	Weekday PM Peak Hour			Saturday Midday Peak Hour		
	D.O.S	95%ile Queue (m)	Average Delay (s)	D.O.S	95%ile Queue (m)	Average Delay (s)
High Street (north-east)	0.399	4 m	1 sec	0.380	5 m	1 sec
Site access	0.280	10 m	8 sec	0.286	10 m	8 sec
High Street (south-west)	0.362	0 m	1 sec	0.364	0 m	1 sec

The SIDRA modelling results presented in suggest the following:

- The modified High Street site access point is expected to operate with an ‘Excellent’ D.O.S during the weekday PM and Saturday midday peak hours;
- Again, there are small increases to the D.O.S for vehicles exiting the site during both peak hour periods; however, there is also minimal queueing and delays for these movements. This suggests there will not be any detrimental impacts to internal site circulation caused by vehicles queueing within the site; and
- Overall, it is concluded that the modified High Street site access point will operate well within its theoretical capacity under post redevelopment conditions.

8.9. Traffic Impacts

As discussed in the preceding sections, site generated traffic will primarily take access via High Street and Church Street. From here, traffic will disperse onto the surrounding arterial road network with the choice of route dependent on the origin and destination of the trip to and from

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the site. The road network surrounding the site is highly permeable, thereby mitigating the reliance on any one road or intersection in the nearby vicinity.

The redevelopment is expected to generate an additional 68 vehicle movements during the AM peak hour, 174 vehicle movements during the PM peak hour and 178 vehicle movements during the Saturday peak hour to/from the site. On average this represents an additional 1.13, 2.90 and 2.97 vehicle movements per minute during each respective peak hour. When having regard for the site location within the Belmont Activity Centre, this increase in traffic volume is considered to be acceptable. Further, the impact on the surrounding road network will be mitigated when considering that 28% of these vehicle movements to/from the site could be expected to already be present on the surrounding road network and accessing the site via a non-link-diverted trip.

It is important to note that the redevelopment proposes to displace a large portion of the ground level car parking spaces provided for the existing site. In response, a new basement level comprising 161 car parking spaces will be provided. Ramped access will be provided to/from the basement level from within the portion of the carpark along the High Street frontage. Accordingly, a greater portion of customers are expected to access the site via High Street following the redevelopment.

A SIDRA modelling assessment has been undertaken which indicates that the modified High Street site access point will operate well within its theoretical capacity under post redevelopment conditions, with minimal queueing and delays for all movements.

On the basis of the foregoing assessment, it is considered that the site generated traffic following the redevelopment of the site can be accommodated by the surrounding road network in a safe and satisfactory manner without creating detrimental traffic safety or operational impacts.

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9. Conclusion

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It is proposed to redevelop the existing supermarket on the land located at 158-162 High Street in Belmont for the purpose of a retail development, comprising the following:

- Supermarket with a total floor area of 3,626 sqm; and
- Bottle shop with a total floor area of 205 sqm.

The redeveloped site will be supported by ground and basement car parking levels comprising a total of 182 car parking spaces (including four (4) parking spaces for people with disabilities and three (3) Click & Collect spaces) and seven (7) motorcycle parking spaces. A total of 17 bicycle parking spaces are proposed on-site to service the bicycle parking demands of the site.

Based on the foregoing assessment, it is concluded that:

- The redevelopment proposal generates a statutory requirement to provide 189 car parking spaces on-site;
- The proposed provision of 182 on-site represents a shortfall of seven (7) spaces against the statutory requirement. Accordingly, the application seeks a permit for a reduction against the statutory requirements of Clause 52.06-5 of the Greater Geelong Planning Scheme;
- Based on an assessment of the relevant decision guidelines outlined within Clause 52.06-7 of the Greater Geelong Planning Scheme, the proposed supply of car parking is considered appropriate for the following reasons:
 - When taking into account changes in typical travel patterns post pandemic, the provision of Click & Collect and home delivery ordering systems that allow customers to order groceries without the use of an on-site parking space and the location of the site within the Belmont Activity Centre and the resultant likelihood of multi-purpose trips to the site and surrounding uses, the statutory car parking requirement (i.e. 189 spaces) is considered to be overly conservative;
 - On the basis of car parking occupancy surveys undertaken by our office at various supermarkets within metropolitan Melbourne, the subject site could conservatively be expected to generate a peak car parking demand of up to 149 spaces; and
 - The proposed supply of 182 spaces is therefore sufficient to accommodate the anticipated peak parking demand, with a surplus of 33 spaces at times of peak demand. This buffer provides a good level of contingency for any day-to-day car parking demand variations and to accommodate some level of overflow parking from the surrounding uses.
- It is proposed to provide a total of 17 bicycle parking spaces on-site, including seven (7) spaces for employees within a secure bicycle parking enclosure within the basement car park and ten (10) spaces for visitors in publicly accessible locations on ground level. This

provision exceeds the statutory requirement for the site and is therefore considered to be an acceptable bicycle parking provision;

- The redevelopment also generates a requirement to provide one (1) shower / change room on-site for employees. The male and female amenity rooms on ground level have been sized to accommodate a shower in each room, which will be available for use by employees as required;
- The proposed bicycle parking layout has been designed in accordance with the requirements of AS2890.3:2015;
- The proposed car parking layout has been designed in accordance with the requirements set out within Clause 52.06 of the Greater Geelong Planning Scheme and/or relevant sections of the Australian Standards (AS2890 series);
- The proposed loading and waste collection arrangements for the site are considered to be acceptable; and
- Based on a SIDRA modelling assessment, it is expected that the traffic generated by the site post redevelopment can be accommodated by the surrounding road network in a safe and satisfactory manner without creating detrimental traffic safety or operational impacts.

On the basis of the assessment within this report, the application is considered to be acceptable from a transport engineering perspective.

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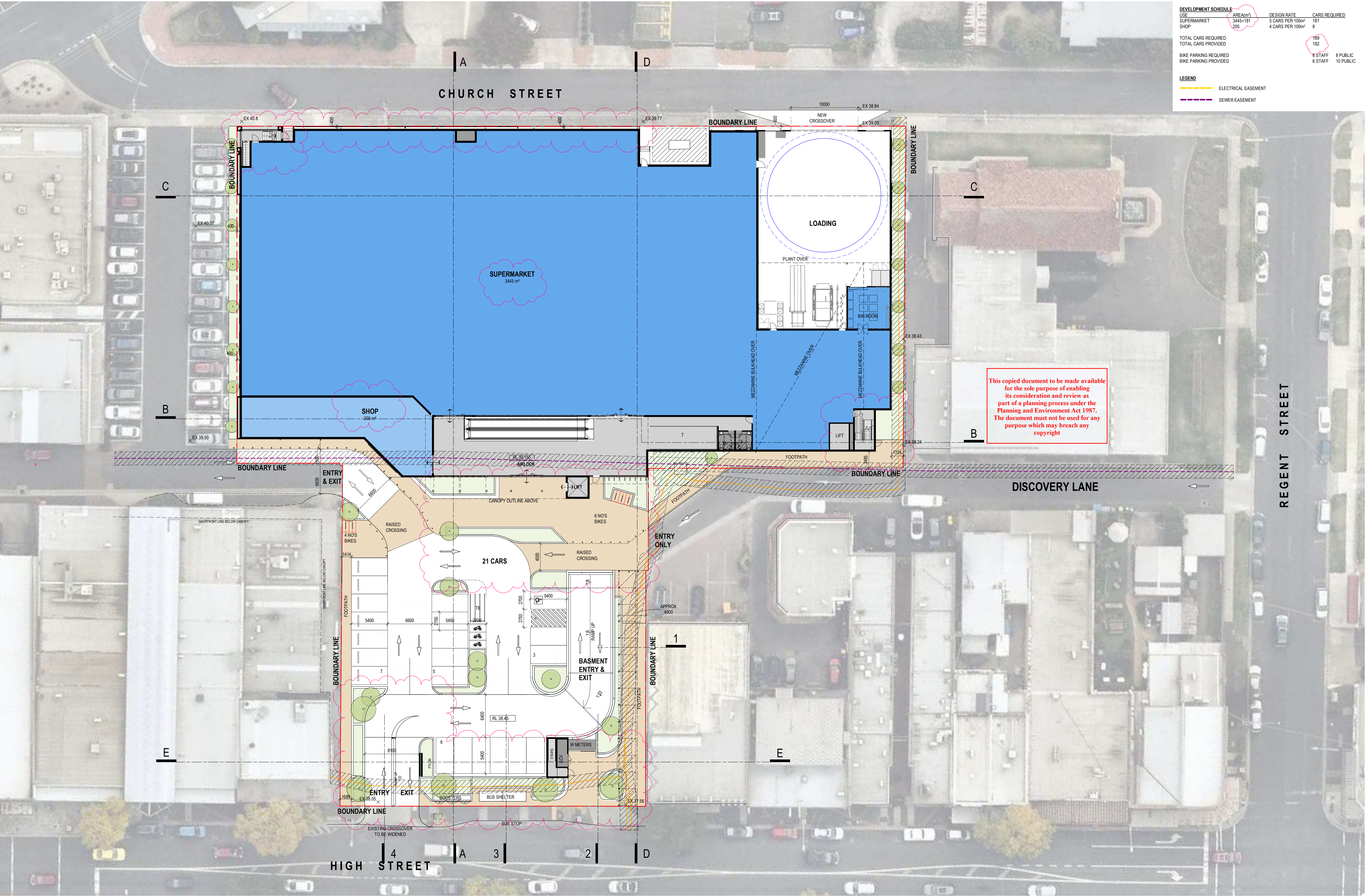
Appendix A Proposed Architectural Plans

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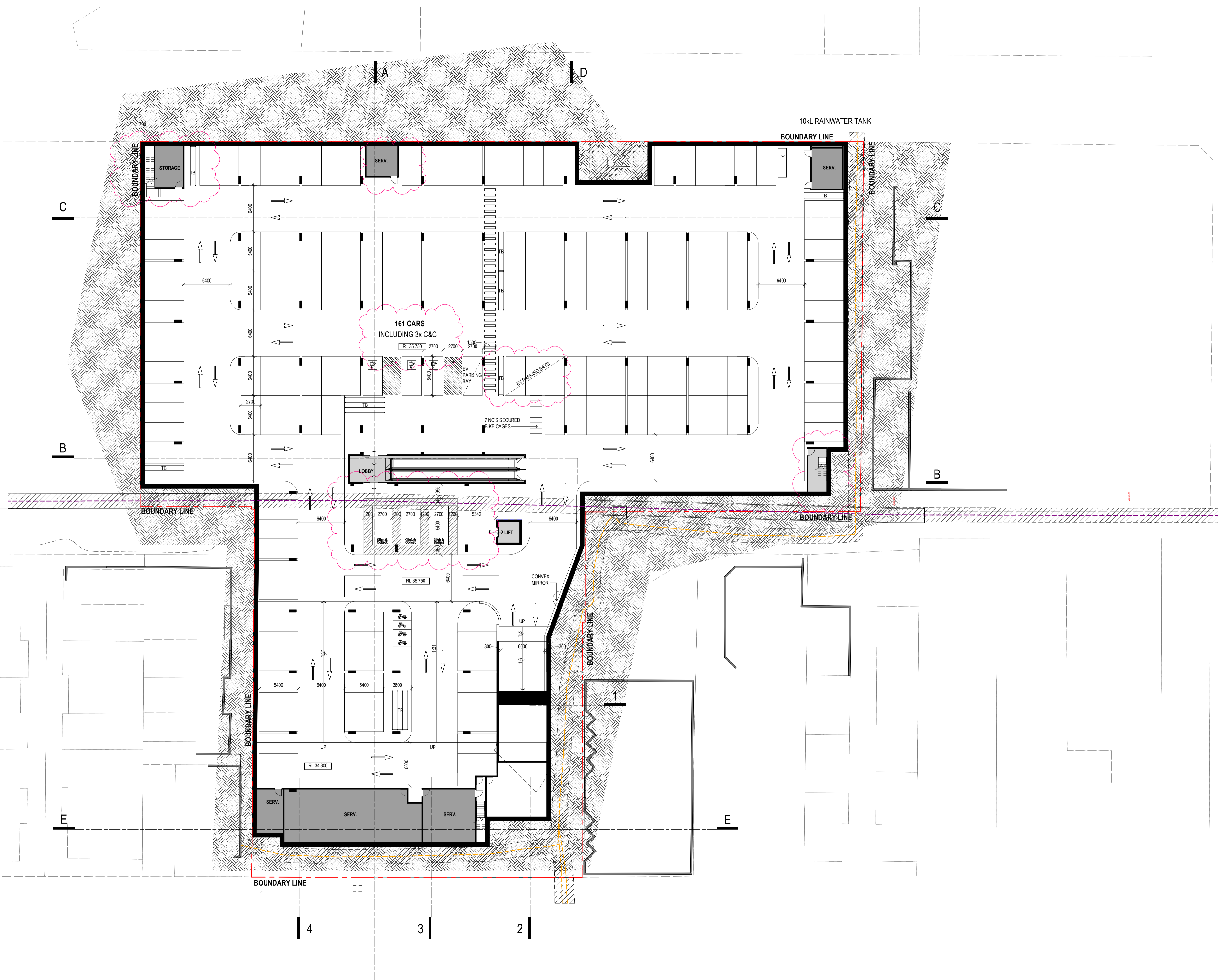
DEVELOPMENT SCHEDULE		AREA(m ²)	DESIGN RATE	CARS REQUIRED
USE	SUPERMARKET	3445+181	5 CARS PER 100m ²	181
	SHOP	205	4 CARS PER 100m ²	8
TOTAL CARS REQUIRED				189
TOTAL CARS PROVIDED				162
BIKE PARKING PROVIDED				6 STAFF 6 PUBLIC
BIKE PARKING REQUIRED				8 PUBLIC 10 PUBLIC

LEGEND
 - - - - - ELECTRICAL EASEMENT
 - - - - - SEWER EASEMENT

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Appendix B Representative Bicycle Parking Specifications

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Arc de Triomphe™



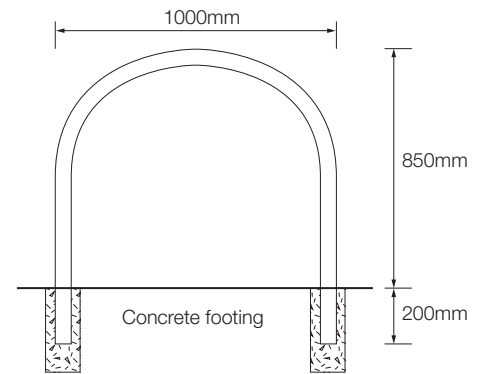
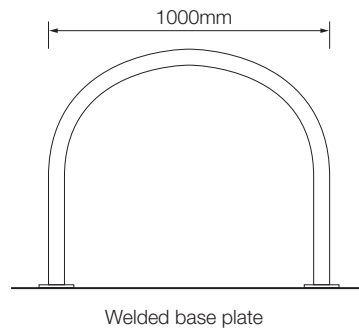
Galvanised finish / Stainless Steel finish

Features



- Each rail supports two adult bikes in an upright position
- Can be either bolted to a concrete slab or concreted in situ
- Available in stainless steel or galvanised steel
- Provides the ability to lock both wheels and frame
- Suitable for foyers and entry areas

Dimensions



Specifications

Material options

- Galvanised (Duragal)
- 316 Marine grade stainless steel

Fixing options

- Welded flange - Bolt on
- In situ

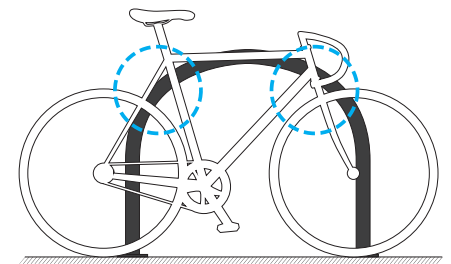
Recommended fasteners

- Galvanised Dynabolts (M10 x 65mm)
- Stainless Dynabolts (M10 x 65mm)
- Shear Nut security fasteners

Dimensions

1000mm [w] x 850mm [h]

Locking Points

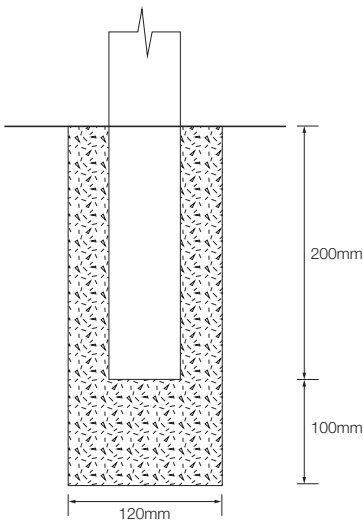


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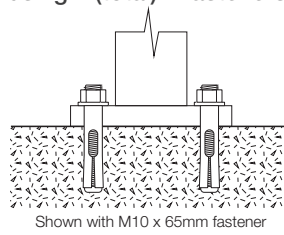
V4.1 - 1/05/2017 | Specification may be subject to change without notice. ©Bicycle Network

Fixing options

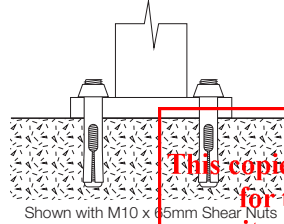
In situ (Concrete footing)



Welded flange (Bolt on) using 4 (total) x fasteners



Welded flange (Security heads) using 4 (total) x fasteners

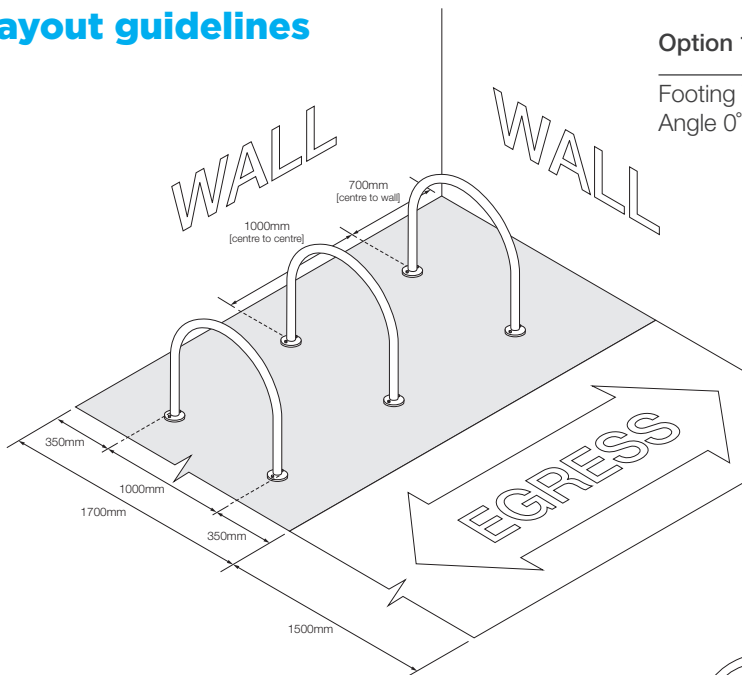


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Layout guidelines

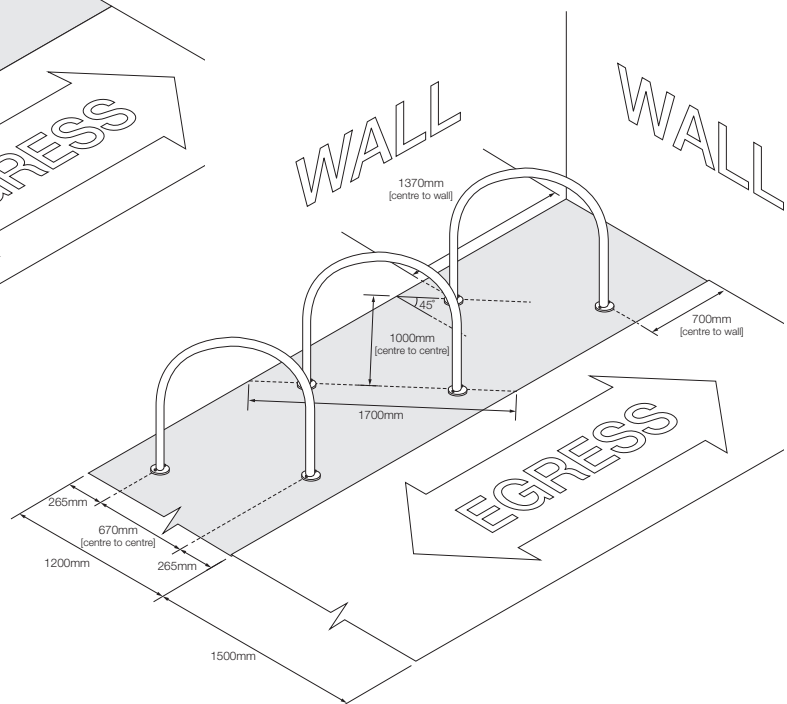
Option 1:

Footing Width 1700mm
Angle 0°

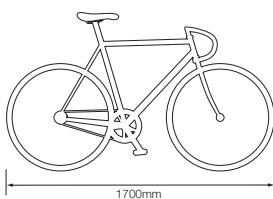


Option 2:

Footing Width 1200mm
Angle 45°



Typical Bicycle Length



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DESIGN. SUPPLY. INSTALL.

Bicycle Network ABN 41 026 835 903

p. 1300 727 563 e. parking@bicyclenetwork.com.au bikeparking.com.au

VIC Level 4, 246 Bourke Street, Melbourne VIC 3000 NSW 234 Crown Street, Darlinghurst NSW 2010

TAS 210 Collins Street, Hobart TAS 7000 NT Suite 5, 18-20 Cavenagh Street, Darwin 0800

Ned Kelly™

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Zinc finish



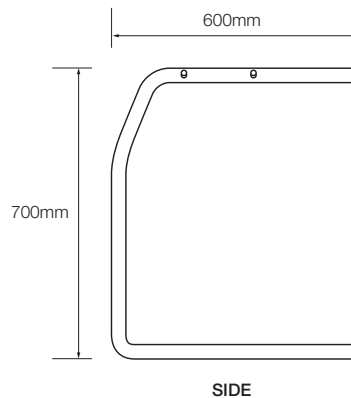
Black powder coat finish

Features



- Each rail provides storage for a single bike
- Suits bikes with full length mud guards
- Available in Zinc finish or Black powder coat over mild steel
- Provides the ability to lock the main frame and one wheel
- Support prongs with protective coating prevent damage to rim
- Can be used with custom framing - no wall needed

Dimensions



Specifications

Material options

- Zinc finish
- Black powder coat over mild steel
- Stainless steel - *Pre-order only*

Fixing options

- Bolt on to wall
- Fixed to support framing

Recommended fasteners - wall

- Dynabolts (M8 x 40mm)
- Shear Nut security fasteners

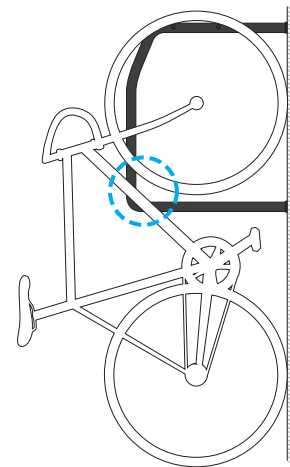
Recommended fasteners - framing

- Bolt and nut (M10 x 60mm)
- Tek screws

Dimensions

125mm [w] x 700mm [h] x 600mm [d]

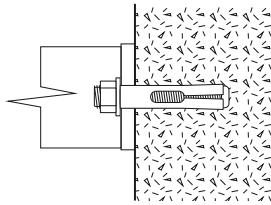
Locking Points



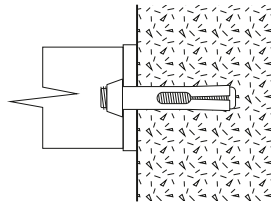
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Fixing options

Fix to a wall using 4x fasteners or Shear Nuts



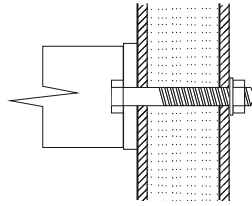
Shown with M8 x 40mm fastener



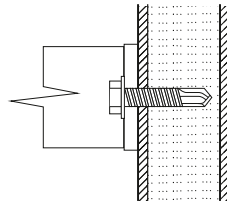
Shown with M8 x 40mm Shear Nuts

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Fix to a frame using 4x bolts or Tek Screws



Shown with M10 x 60mm Bolt, Washer & Nut

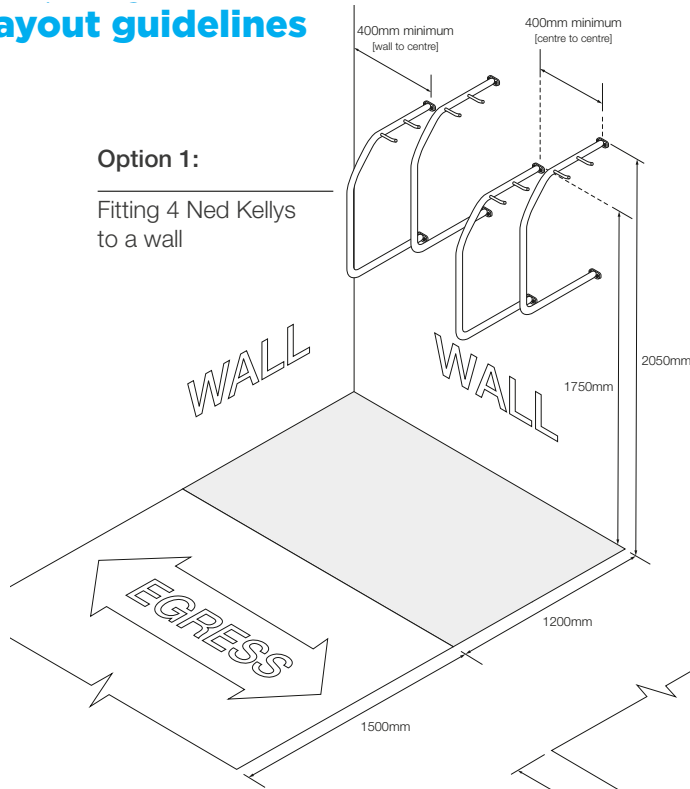


Shown with Tek Screw

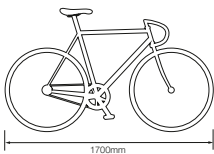
Layout guidelines

Option 1:

Fitting 4 Ned Kellys to a wall

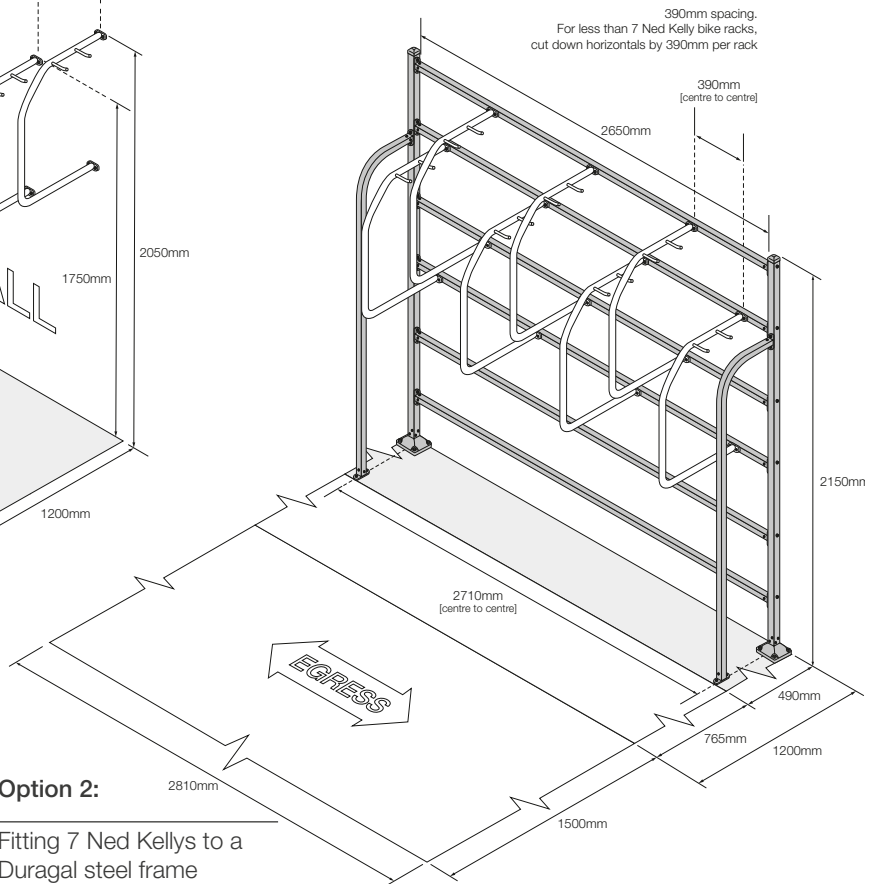


Typical Bicycle Length



Option 2:

Fitting 7 Ned Kellys to a Duragal steel frame



Appendix C Green Travel Plan

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Client
Coles Property Group

Date
24 November 2023

Planning

Transport

Urban Design

Waste Management

Green Travel Plan

158-162 High Street, Belmont

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ratio:

ratio.com.au

Project
158-162 High Street, Belmont

Prepared for
Coles Property Group

Our reference
19490T

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Version	Date	Issue	Prepared by	Checked by
F01	05/05/2023	Final	J. Hamill-Beach	C. Greenland
F02	24/11/2023	RFI Submission	J. Hamill-Beach	C. Greenland

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1. Introduction

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1.1. Background & Introduction

Welcome! This is the Green Travel Plan (referred to as the GTP herein), your informative guide to all things travel-related, specifically sustainable travel.

Information for Staff

There are green travel options readily accessible to this site located in Belmont.

Your site is located in close proximity to various bus routes operating within the Greater Geelong municipality. Furthermore, there are various bicycle friendly routes nearby and your site offers various pedestrian linkages to the surrounding network.

Given your location with the Belmont Activity Centre, you will likely to be able to undertake daily errands without needing to rely on a private vehicle.

In the following pages, you'll find useful information on where to catch public transport, safe travel routes to ride your bicycle to/from the site and handy places you can walk to.

Information for Building Management

Section 4 of the GTP establishes a number of actions that seek to encourage staff to adopt transport modes that result in the least impact on the environment, particularly active transport modes such as walking and cycling.

A group will be set up to monitor the progress towards these targets and to keep the travel plan up to date.

1.2. Purpose of this Report

The intention of the GTP is to assist in managing the transport needs of employees and customers of the site. The aim of the GTP is to reduce the environmental impact of travel associated with the operation of the site.

In essence, the GTP seeks to encourage alternatives to the single occupant motor vehicle.

The discussion within the GTP is built upon an appreciation of the site location and its surrounding environs, including the existing physical transport connections and expected operational characteristics.

A list of strategies is provided within this report aimed at encouraging walking, cycling, public transport and carpooling for travel to and from the site to promote a mode shift.

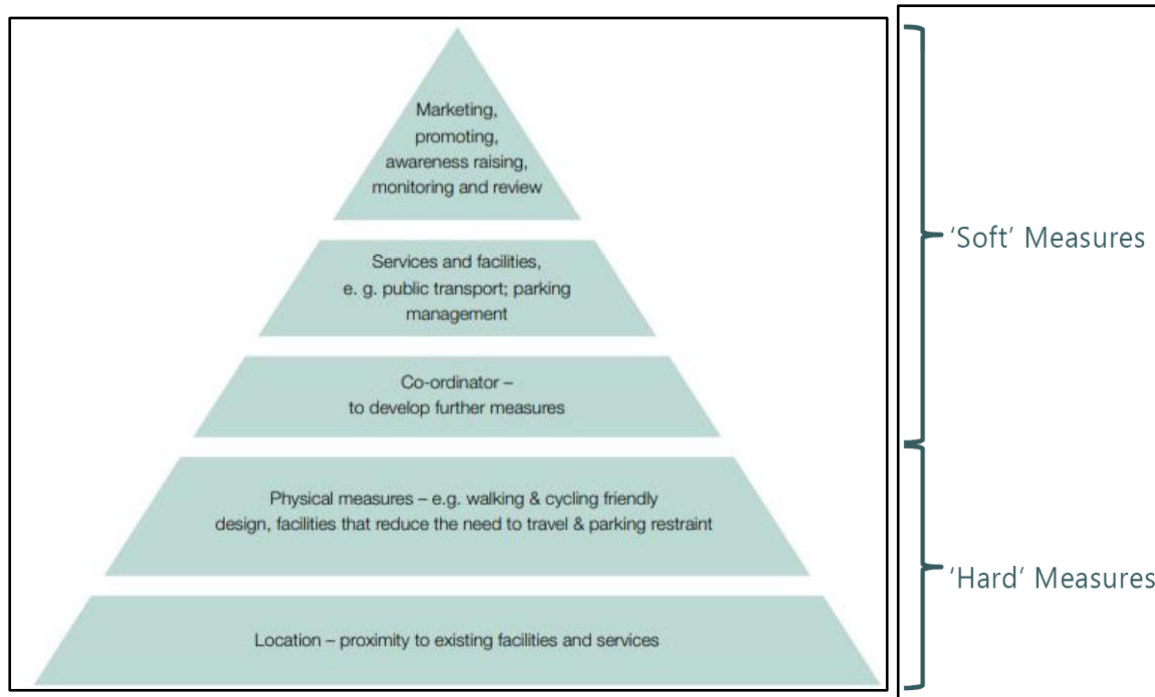
1.3. Objectives of this Plan

With the above policies in mind, the following Green Travel Plan has been prepared to assist the future tenants of the development to manage the transport needs of their staff and visitors.

In particular, the GTP aims to manage the environmental impact of travel to/from the site by encouraging more efficient use of motor vehicles (e.g. by reducing the reliance of single occupancy car journeys), as well as other modes of transport such as walking, cycling and public transport.

Figure 1.1 below, reproduced from the “Good Practice Guidelines: Delivering Travel Plans through the Planning Process” guideline prepared by the UK Department for Transport (April 2009), illustrates how successful Travel Plans are built and indicates that a mixture of “hard” and “soft” measures are often critical to the success of a strategy in reducing the use of private motor vehicle.

Figure 1.1: Green Travel Plan Pyramid



(Source: Good Practice Guidelines: Delivering Travel Plans through the Planning Process, Department for Transport UK)

In this regard, the objectives of this Green Travel Plan (“soft” measures) are as follows:

- Ensure integration into the existing and any proposed transport facilities and network;
- Encourage the use of sustainable methods of transport;
- Assist in discouraging a reliance on private motor vehicles;
- Reduce the environmental impact of the development; and
- Set out future mode splits and an action plan to achieve them.

It is noted that the transport response for the site (presented in the Transport Impact Assessment report) was prepared based on a modal hierarchy that favours active and public transport modes over private vehicle travel.

1.4. References

In preparing the GTP, reference has been made to the following:

- Architectural plans for the proposed redevelopment, prepared by Clarke Hopkins Clarke Architects, dated 08 November 2023;
- Report completed by Ratio Consultants for the planning application, titled ‘*Transport Impact Assessment, 158-162 High Street, Belmont, dated 24 November 2023*’;
- Greater Geelong Planning Scheme;
- Various forms of technical data, as referenced in this report; and
- Other documents as nominated.

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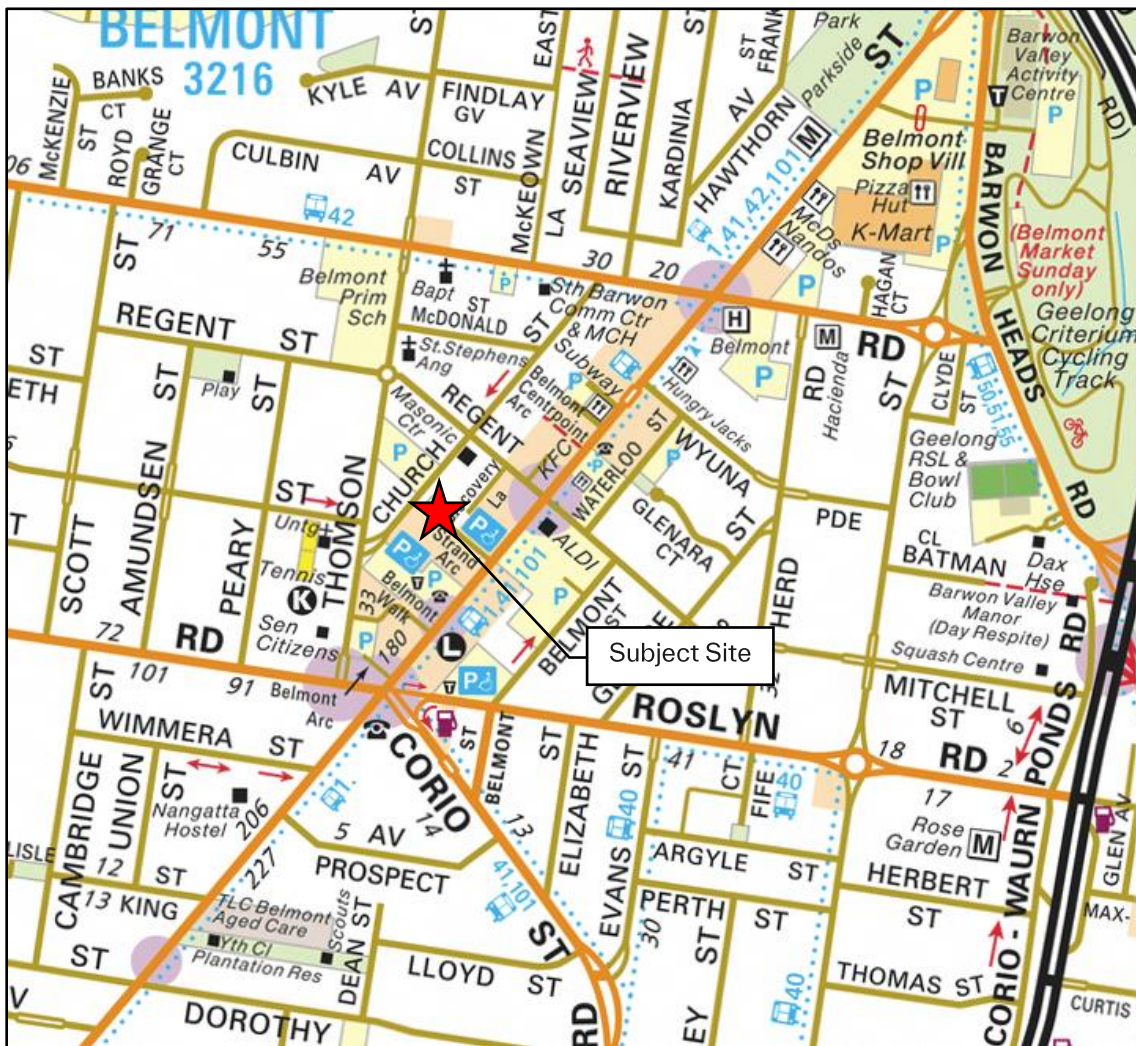
2.1. Site Location

The subject site is addressed as 158-162 High Street in Belmont and situated on the northwest side of High Street and southeast side of Church Street.

The subject land parcel is irregular in shape, with a 100-metre northwest frontage to Church Street and 46-metre southeast frontage to High Street, for an overall site area of approximately 7,350 sqm.

The location of the subject site and its surrounding environs are shown in Figure 2.1, with an aerial context also shown in Figure 2.2.

Figure 2.1: Site Locality



(Source: Melway, Map Ref. 451 J11)

Figure 2.2: Site Location & Its Surrounds



(Source: Nearmap, image dated 10 December 2022)

2.2. Pedestrian Accessibility

The subject site has a walk score of 91 out of 100 (on walkscore.com), indicating that the surrounding area is a *'walkers paradise'* and that *'daily errands do not require a car'*.

The walk score of an area is calculated by determining the distance required to walk from an origin to nearby amenities. It also assesses block sizes and intersection density to determine the permeability of an area.

The high walk score of the site suggests that it is ideally located for customers to visit in conjunction with other errands they are undertaking. Furthermore, employees have the ability to undertake errands before/after work or during their break without the use of their car.

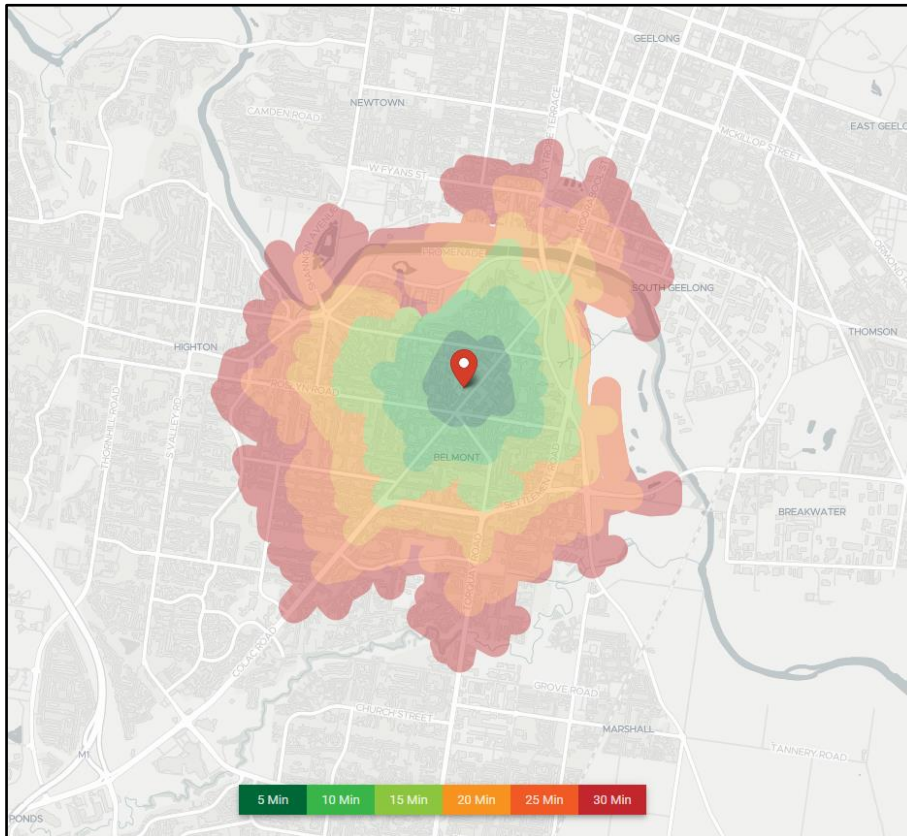
Indeed, it is evident that Belmont enjoys a connected pedestrian network, with all streets in the surrounding area having constructed footpaths and street lighting, allowing pedestrian permeability in all directions.

The 30-minute walking catchment area from the subject site is shown in the isochrone map presented in Figure 2.3. The isochrone map indicates a walking catchment of approximately 1.5-2.0 kilometres in all compass directions, noting that Barwon Valley Golf Club is located east of the subject site and subsequently restricts movement in that direction.

Of note, the 10-minute shading within the isochrone map indicates that all parts of the Belmont Activity Centre are accessible in a 10-minute walk.

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Figure 2.3: Walking Catchment Area (from subject site)



(Source: Targomo)

2.3. Cyclist Accessibility

The site has access to the existing bicycle network, with various bicycle routes provided within close proximity to the site.

The key bicycle routes in the vicinity of the site are summarised as follows:

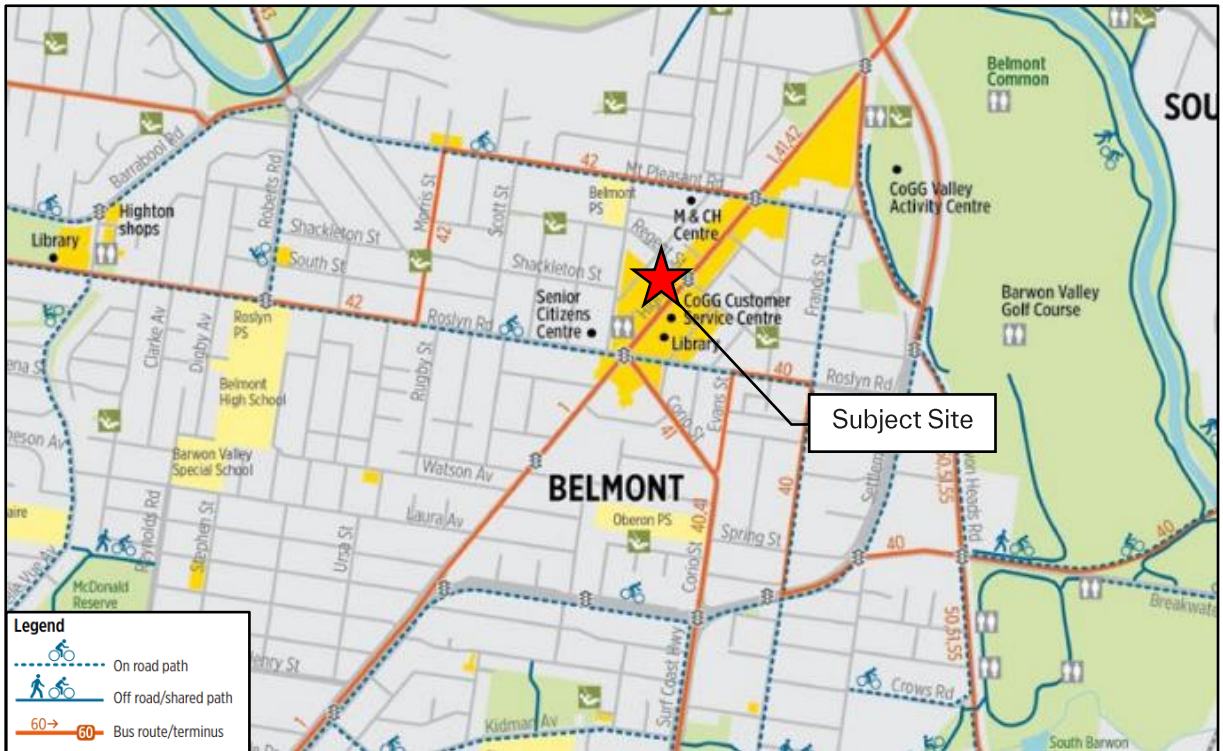
- On-road bicycle routes along Roslyn Road, Mt Pleasant Road and Francis Street; and
- Off-road shared paths along the Barwon River and Wauron Ponds Creek

The abovementioned cycling routes provide connections to the wider bicycle network, providing further connections across the Geelong municipality, as shown in the excerpt of the City of Greater Geelong Active Travel Map presented in Figure 2.4.

Based on the existing cycling routes, the 30-minute cycling catchment area from the subject site is also shown in Figure 2.5.

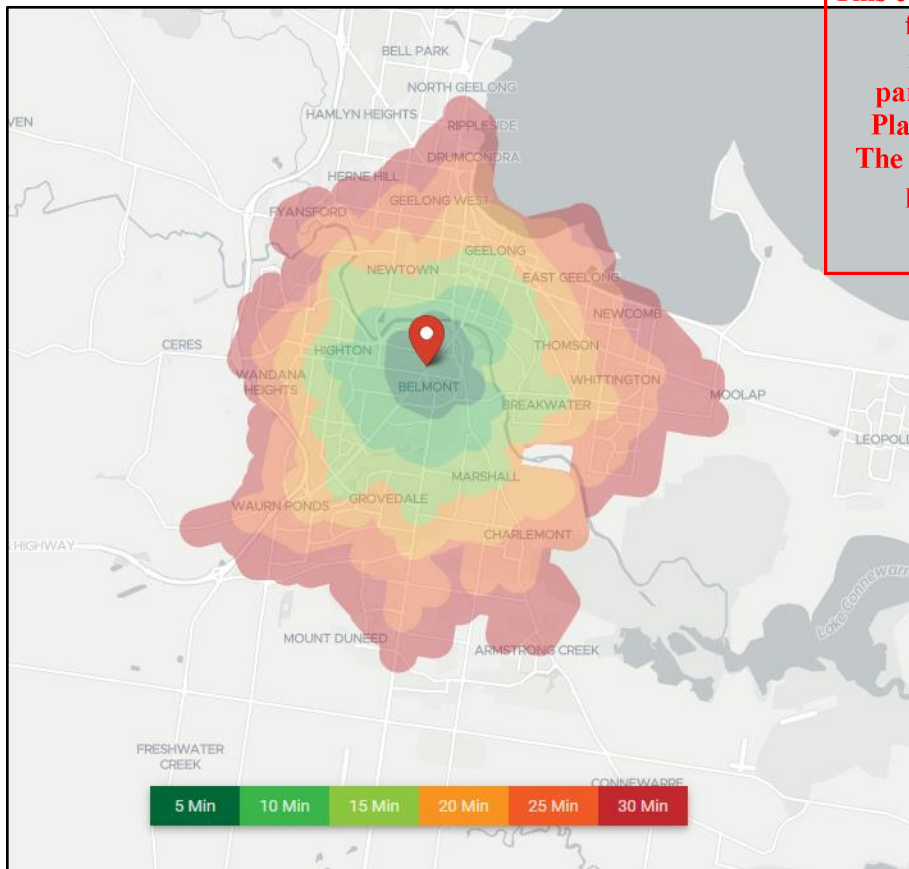
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Figure 2.4: Bicycle Infrastructure in the Vicinity of the Site



(Source: City of Greater Geelong)

Figure 2.5: Cycling Catchment Area (from subject site)



(Source: Targomo)

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2.4. Public Transport Accessibility

The site has access to various bus routes that operate within the Greater Geelong municipality, as described in Table 2.1 and shown in Figure 2.6.

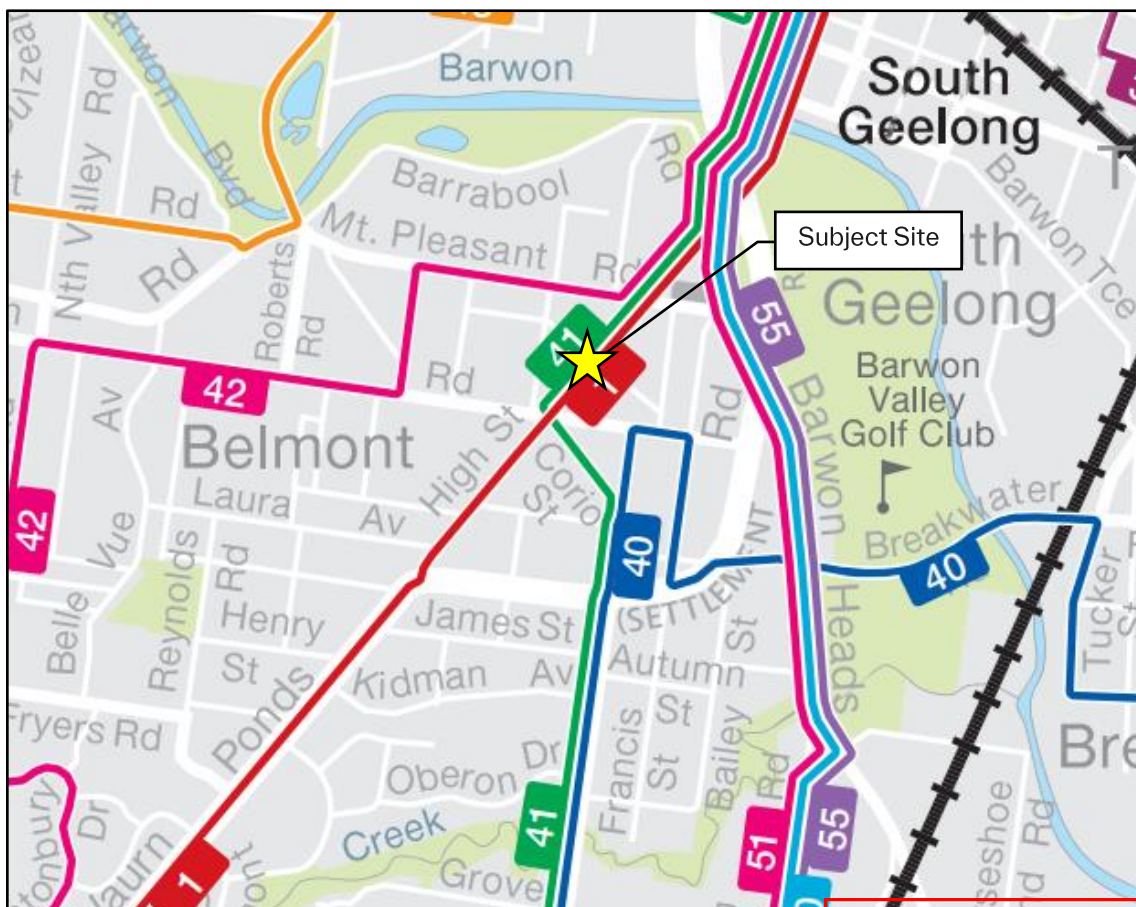
Table 2.1: Public Transport Services - Bus

Route No.	Route Description	Nearest Stop	Walking Distance
01	North Shore Station – Deakin University via Geelong City	High Street	Site boundary
41	Geelong Station – Deakin University via Grovedale	High Street	Site boundary
42	Geelong Station – Deakin University via South Valley Road	Mt Pleasant Road	450-metres
49 [1]	Kalkee Retirement Village – Belmont Village SC	High Street	Site boundary
101 [2]	Apollo Bay – Geelong (VLINe)	High Street	Site boundary

[1] Bus service only operates two (2) services per day Monday – Friday.

[2] Bus service only operates four (4) services per day.

Figure 2.6: City of Greater Geelong Public Transport Map

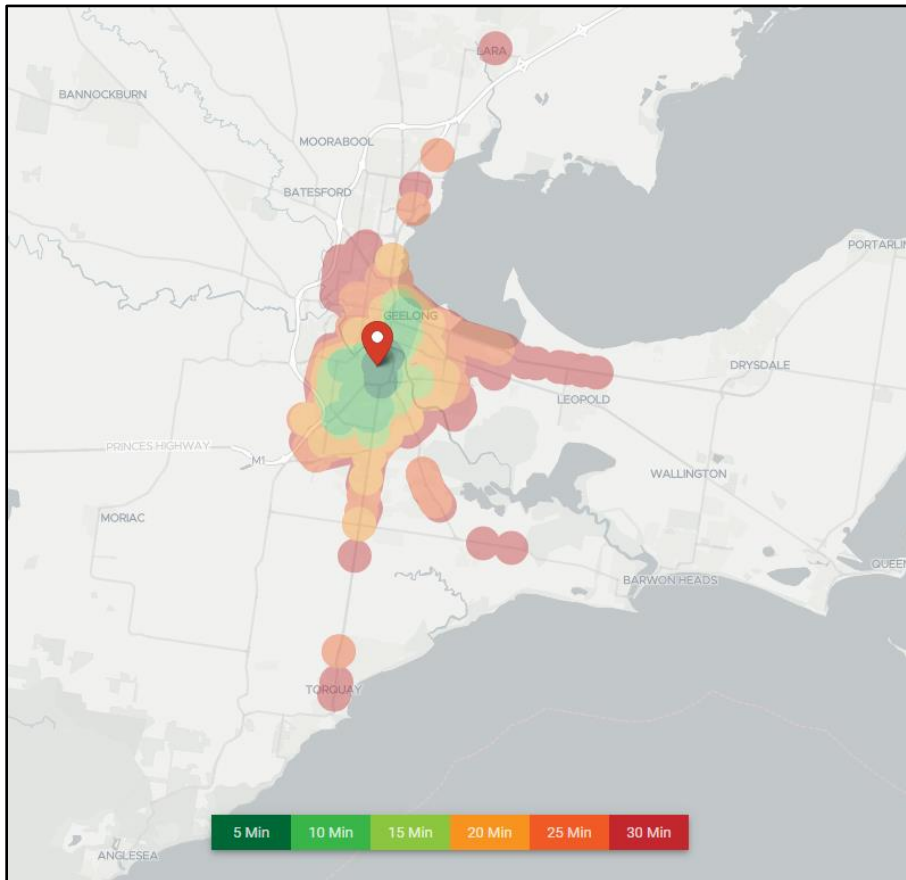


(Source: Public Transport Victoria)

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Based on the available public transport services, Figure 2.7 presents an isochrone drawing of the area that is accessible from the subject site in a 30-minute public transport journey.

Figure 2.7: Public Transport Catchment Area (from subject site)



(Source: Targomo)

As shown in Figure 2.7, the site is accessible from all the surrounding suburbs within a short public transport trip.

2.5. Private Vehicle Accessibility

The redevelopment proposal will provide a total of 181 car parking spaces and seven (7) motorcycle parking spaces on-site.

Time restricted on-street parking is provided in the vicinity of the site and within the Belmont Activity Centre.

As described in Section 8 of the Transport Impact Assessment report, the surrounding road network is relatively congested during the peak periods.

Recent transport projects that have been implemented or are in planning within Geelong (such as the Building Better Bike Connections Project) have generally reduced the capacity of the road network in favour of walking, cycling and public transport modes.

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3. Redevelopment Proposal

3.1. Redevelopment Overview

The application proposes to redevelop the existing supermarket for the purpose of a larger supermarket and ancillary bottle shop, summarised as follows:

- Supermarket with a total floor area of 3,626 sqm
- Bottle shop with a total floor area of 205 sqm.

A dedicated loading area will be provided in the northern corner of the site, comprising an at-grade loading dock, waste compactor and turntable.

3.2. Car Parking Provision

A total of 182 car parking spaces will be provided on-site, comprised as follows:

- 21 parking spaces (including one (1) accessible parking space), within an at-grade car park on ground level; and
- 161 parking spaces (including three (3) accessible parking spaces, three (3) Click & Collect parking spaces and four (4) EV parking bays) within an at-grade basement car park.

A total of seven (7) motorcycle parking spaces will also be provided on-site, comprised as follows:

- Three (3) parking spaces within the ground level car park; and
- Four (4) parking spaces within the basement level car park.

It is noted that the 37 parking spaces within the adjoining Council owned car park will not be impacted by the redevelopment proposal.

3.3. Bicycle Parking Provision

A total of 17 bicycle parking spaces will be provided on-site, as summarised below.

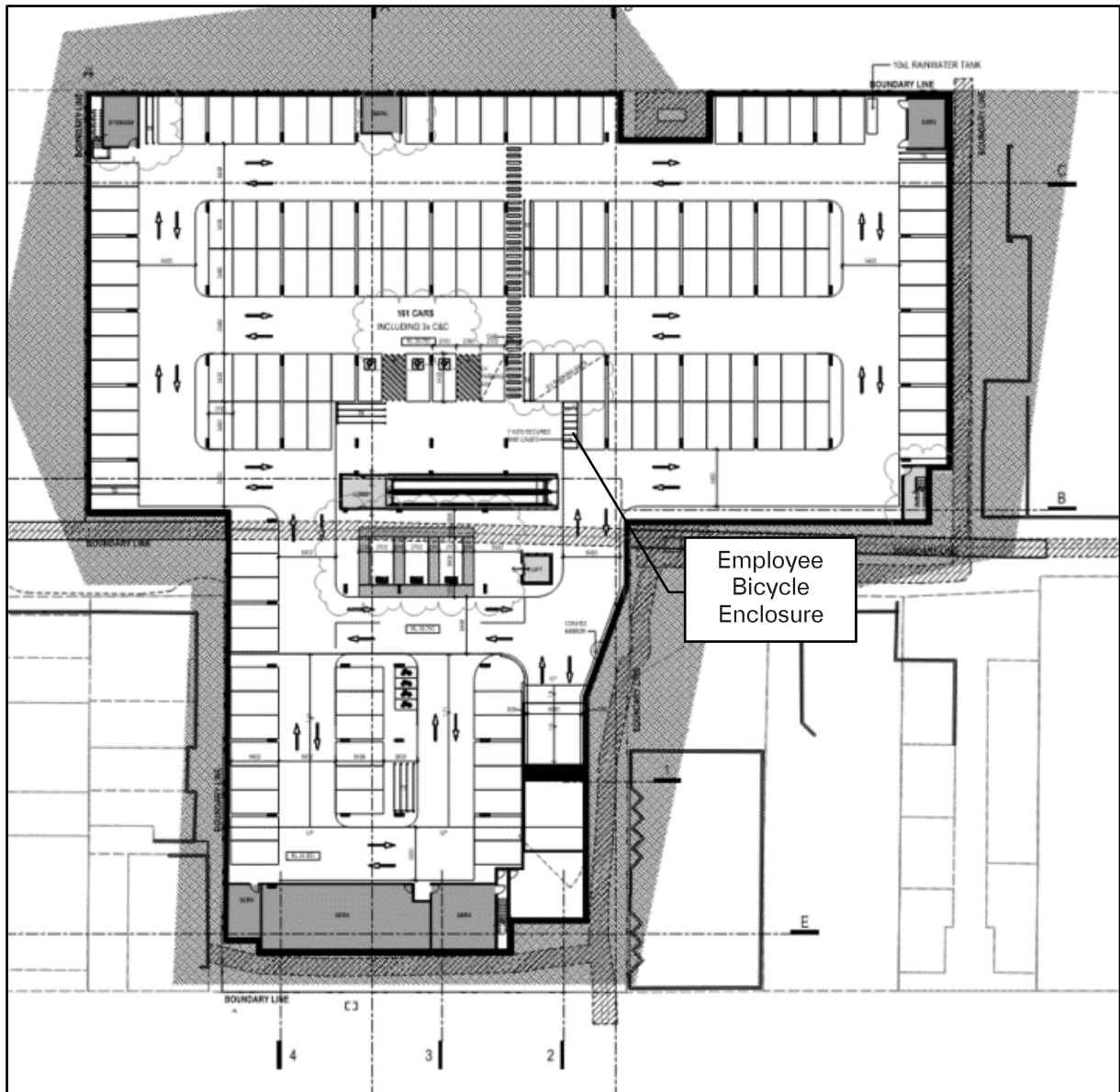
Employees

A secure bicycle enclosure comprising seven (7) bicycle parking spaces within a wall mounted vertical arrangement is proposed within the basement level. This enclosure is accessible either via the ramp from ground level or via the traveller/lift.

The location of the employee bicycle enclosure is shown in Figure 3.1.

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Figure 3.1: Employee Bicycle Enclosure



(Source: Clarke Hopkins Clarke Architects – Basement Floor Plan)

Visitors

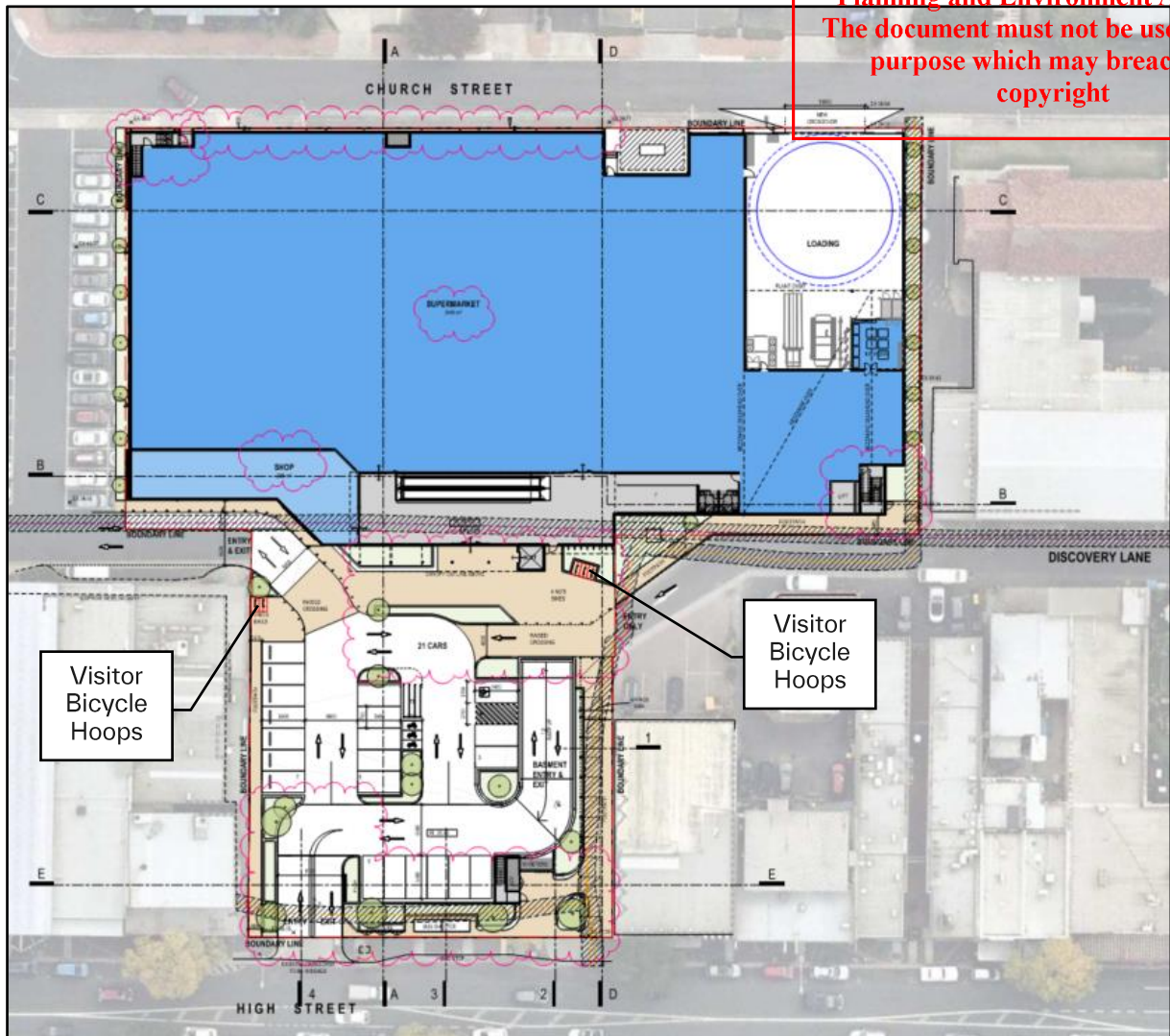
A total of ten (10) bicycle parking spaces for visitors will be provided as follows:

- Three (3) bicycle hoops (providing six (6) spaces) in close proximity to the northern airlock entrance; and
- Two (2) bicycle hoops (provided four (4) spaces) in close proximity to the existing retail tenancies along the southern site boundary.

The location of the visitor bicycle parking spaces are shown in Figure 3.2.

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Figure 3.2: Visitor Bicycle Parking Spaces



(Source: Clarke Hopkins Clarke Architects – Ground Floor Plan)

3.4. Site Access Arrangements

Vehicular access to/from the subject site is proposed as follows:

- The existing ingress only crossover to/from High Street will be retained and widened to 7.6-metres wide, providing two-way fully directional ingress movements and left-turn egress movements to/from the ground level car park;
- A 5.15-metre-wide connection will be provided from Discovery Lane, providing one-way access to the ground level carpark;
- A 6.6-metre-wide connection will be provided to/from the adjacent Council carpark, providing two-way access to the ground level carpark; and
- A new 10.0-metre-wide crossover is proposed in the northern corner of the site to Church Street, providing access to/from the loading area.

All other existing crossovers to/from the existing site (as described in Section 2.2) will be removed as part of this application and reinstated as kerb and channel. It is noted that the southernmost crossover to/from the Council owned car park will be retained.

The main supermarket entrance will be located midblock along the proposed building frontage, with a travelator and lift proposed within the airlock area to provide direct access to/from the basement carpark.

The redevelopment will provide direct pedestrian linkages with High Street as well as the existing commercial and retail offerings in the nearby vicinity.

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4. Action Plan

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4.1. Preamble

A list of actions is presented in this section of the GTP for implementation within the development. Each action is accompanied with a timeframe for implementation.

It is noted that not all actions should be considered compulsory, but rather should be treated as potential measures that should be investigated and implemented as appropriate.

4.2. General Actions

A list of general actions are presented in Table 4.1. Each of these actions are considered mandatory.

Table 4.1: GTP General Actions

Action	Responsible Agent	Date to be Completed
Set up a Green Travel Plan Coordinator to monitor the plan. Role to be handed over to Coles after one year.	Permit applicant	Year 1 and ongoing
Review the effectiveness of the Green Travel Plan initiatives and update the targets and objectives of the Green Travel Plan.	GTP Coordinator	Every 5 years
Update the Green Travel Plan if any major changes occur such as updates to the bicycle or public transport network.	GTP Coordinator	Ongoing as required
Provide a welcome pack for employees new to the site. Amongst other things, the welcome pack should provide details on how to obtain a Myki / transport ticket, as well as information on the surrounding public transport, pedestrian and cycling networks in the vicinity of the site. The pack should also inform users of the allocation, operation and management of the car park, as well as information on the secure bicycle parking enclosure.	GTP Coordinator	Upon occupation

4.3. Walking Actions

A list of walking actions are presented in Table 4.2.

Table 4.2: GTP Walking Actions

Action	Responsible Agent	Date to be Completed
Provide lockers for employees to keep a change of clothes in.	Applicant	Provided as part of the redevelopment

Provide showers and changing room facilities for employees.	Applicant	Provided as part of the development
Identify employees living in close proximity to the site who may be interested in walking to work.	GTP Coordinator	Ongoing
Promote sustainable transport events such as Walk to Work Day.	GTP Coordinator	Annually
Provide employees with an active transport pack that identifies the walking facilities in the surrounding area.	GTP Coordinator	On occupation and ongoing as required

4.4. Cycling Actions

A list of cycling actions are presented in Table 4.3.

Table 4.3: GTP Cycling Actions

Action	Responsible Agent	Date to be Completed
Provide sufficient bicycle parking to meet peak needs of the redevelopment.	Applicant	Provided as part of the redevelopment
Have good, secure bicycle parking in an easily accessible location for use by employees and visitors.	Applicant	Provided as part of the redevelopment
Provide showers and change rooms for use by employees.	Applicant	Provided as part of the redevelopment
Provide bicycle parking for use by customers in a publicly accessible and convenient location	Applicant	Provided as part of the redevelopment
Ensure bicycle parking is clearly visible or provide signage to direct people to parking locations	Applicant	Provided as part of the redevelopment
Promote sustainable transport events such as Ride2Work Day.	GTP Coordinator	Annually
Provide employees with an active transport pack that identifies the cycling facilities in the surrounding area.	GTP Coordinator	On occupation and ongoing as required
Promote the use of active transport to employees living in reasonable proximity of the subject site.	GTP Coordinator	On occupation and ongoing as required

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4.5. Public Transport Actions

A list of public transport actions are presented in Table 4.4.

Table 4.4: GTP Public Transport Actions

Action	Responsible Agent	Date to be Completed
Provide staff with a kit containing information on all nearby public transport options including timetables, public transport maps, Public Transport Victoria	GTP Coordinator / Applicant	On occupation

information, locations of Myki outlets and TravelSmart map showing walking and cycling routes.		
Promote awareness of the area with maps and timetable information for all relevant public transport services. This can be achieved via a notice board or information board within the team room.	GTP Coordinator	Ongoing
Promote awareness of cost saving and environmental benefits of public transport in comparison with car ownership and travel.	GTP Coordinator	Ongoing
Employers to provide an interest free loan to buy an annual Myki / public transport ticket.	GTP Coordinator	Post occupation

4.6. Private Vehicle Actions

A list of private vehicle actions are presented in Table 4.5.

Table 4.5: GTP Private Vehicle Actions

Action	Responsible Agent	Date to be Completed
Encourage carpooling between employees (where appropriate) to reduce single occupancy car trips.	GTP Coordinator	On occupation and ongoing as required

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5. Monitoring and Review

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5.1. Monitoring and Review

In order for the GTP to be effective it must be reviewed on a regular basis. It is important to ensure that the GTP is meeting its objectives set out in the preceding section, and that strategies are having their intended impact on transport choices for users of the site.

In order to account for the settling of activity levels at the site, it is recommended that post-occupancy surveys be undertaken to determine a 'baseline' against which future travel behaviour can be compared. This should also consider questions regarding the perceived and real barriers to utilising more sustainable travel modes such as walking, cycling and public transport. This will enable identification of opportunities for additional 'Actions' to overcome these barriers. It is also recommended that mode splits are reviewed annually for a period of five (5) years after the development is occupied.

This review should be completed by undertaking travel mode questionnaire surveys for employees. The results of these surveys should subsequently be used to assess what the mode split are, what mode should be targeted and determine the necessity of potential actions to achieve the desired level of change.

In the event that the monitoring process reveals that a shift away from the desired mode split target is occurring, a number of measures could be adopted to further assist the achievement of the integrated transport goals. Potential measures could include:

- Review the car parking management plan (if required by a condition of permit) to ensure on-site car parking spaces are being fully utilised for purpose;
- Review the utilisation of bicycle facilities to determine whether additional facilities or promotion of their use is required; and
- Provide more detailed and personal travel information regarding nearby public transport services to tenants and employees.

5.2. Responsibility

Given the exclusively retail nature of the development, it is expected that employers / employees will be able to monitor and manage the respective elements of the GTP.

The Owners Corporation and Working Group would be led by a GTP Coordinator who would facilitate working group meetings and take responsibility for monitoring and reviewing the GTP.

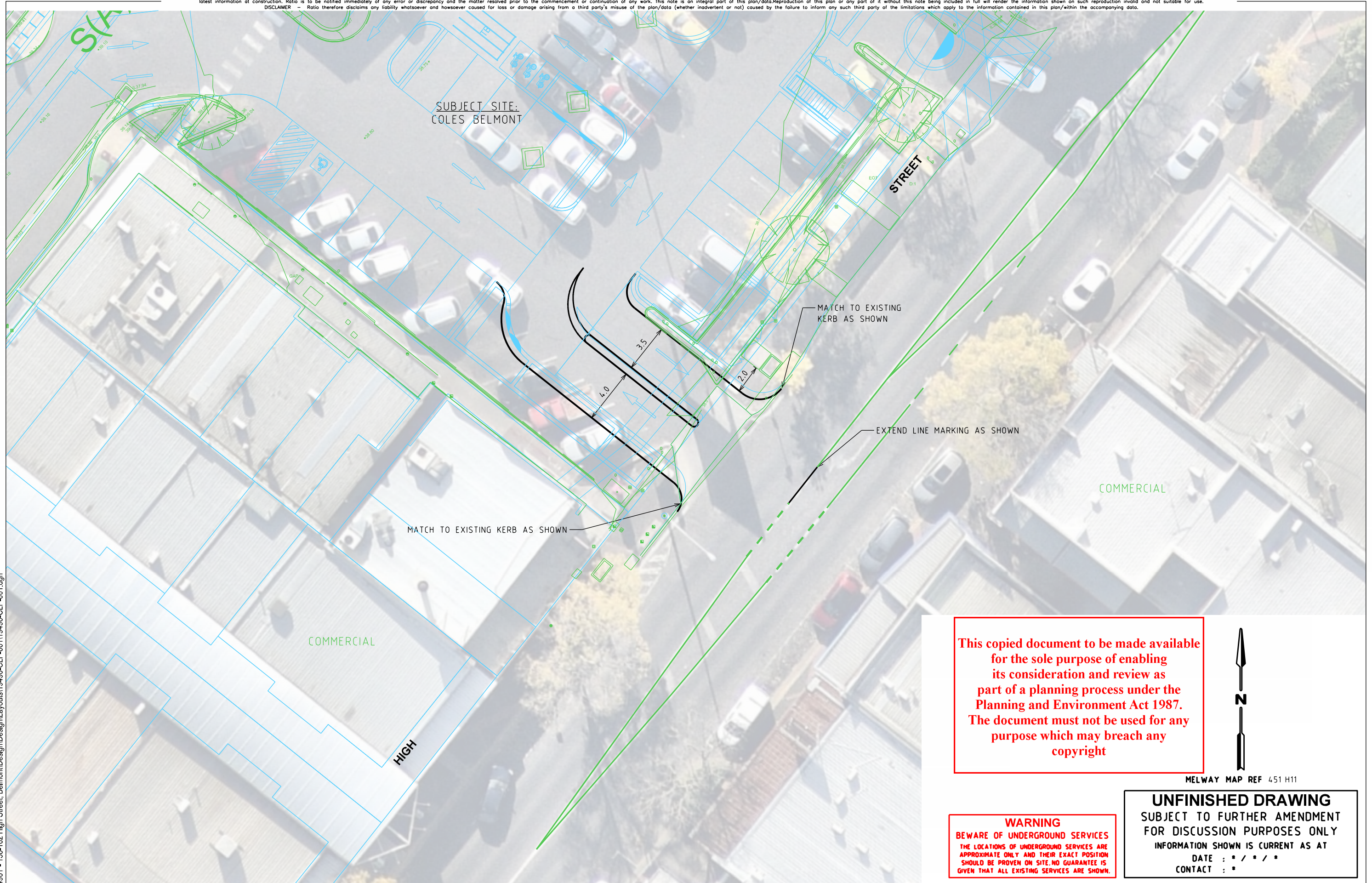
The primary aims of the working group will include:

- Review GTP initiatives and determine a program for implementation;
- Oversee completion of post occupancy surveys and follow up actions arising from these;
- Provide feedback on activities and initiatives;
- Update mode split targets in line with post occupancy survey;
- Assist GTP Coordinator to promote activities and disseminate information; and
- Advocate for sustainable transport modes amongst tenants & employees.

Appendix D Functional Layout Plan

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MELWAY MAP REF 451 H11

WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

UNFINISHED DRAWING
 SUBJECT TO FURTHER AMENDMENT FOR DISCUSSION PURPOSES ONLY
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ISSUE	APP'D	DATE	COMMENTS
A	C.G.	09.08.23	INITIAL ISSUE

GENERAL NOTES

1. FEATURE AND LEVEL SURVEY PREPARED BY TAYLORS REF No. 23643/S1-D1.dwg DATED 09/05/2023
2. ARCHITECTURAL BASE PLAN PREPARED BY CLARKE HOPKINS CLARKE ARCHITECTS REF No. 20220074_TP200-DWG_Ground Floor Plan_-dwg DATED 07/08/2023
3. ALL DIMENSIONS ARE IN METRES AND MEASURED TO THE INVERT OF KERB AND CHANNEL
4. LOCAL ROAD - HIGH STREET (SPEED ZONE 50KM/H)

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AUTHORISED	C.GREENLAND	09.08.23
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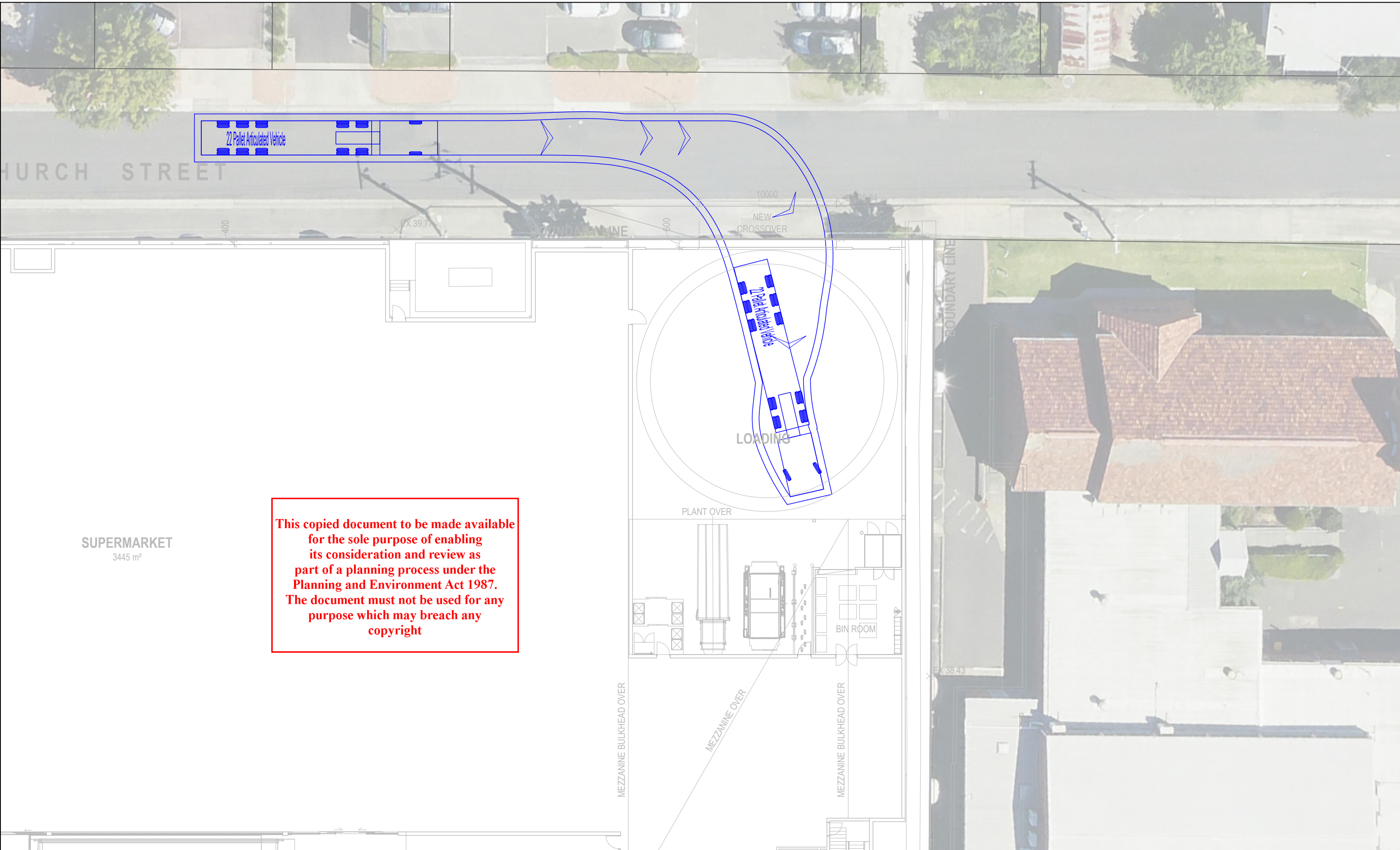
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COLES BELMONT REDEVELOPMENT City of Greater Geelong HIGH STREET ACCESS FUNCTIONAL LAYOUT			
DATE	SHEET NO.	DRAWING NO.	ISSUE
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Appendix E Swept Path Assessment

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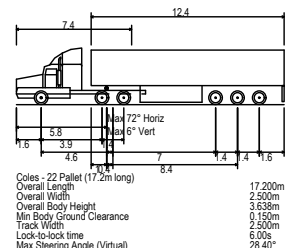


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FACSIMILE (03)9429 3011

Coles - 22 Pallet Articulated Vehicle



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h

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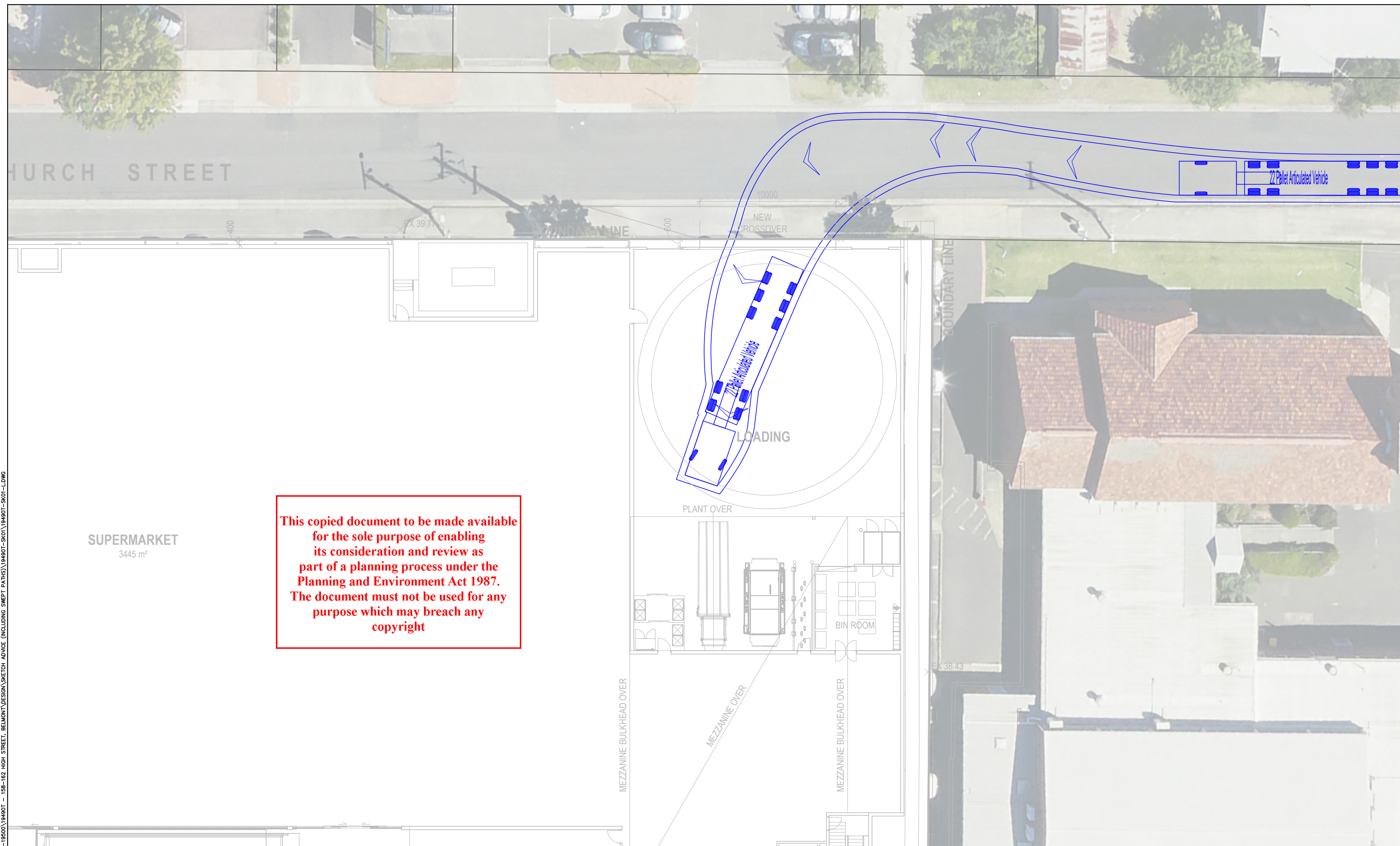
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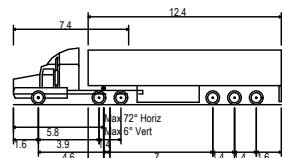
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SUPERMARKET
3445 m²

Coles - 22 Pallet Articulated Vehicle



Coles - 22 Pallet (17.2m long)	17.200m
Overall Length	2.500m
Overall Width	3.838m
Overall Body Height	0.150m
Min Body Ground Clearance	2.500m
Track Width	6.00s
Lock-to-lock time	28.4s
Max Steering Angle (Virtual)	

VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Proposed Retail Development
158-162a High Street, Belmont
Sweep Path Assessment

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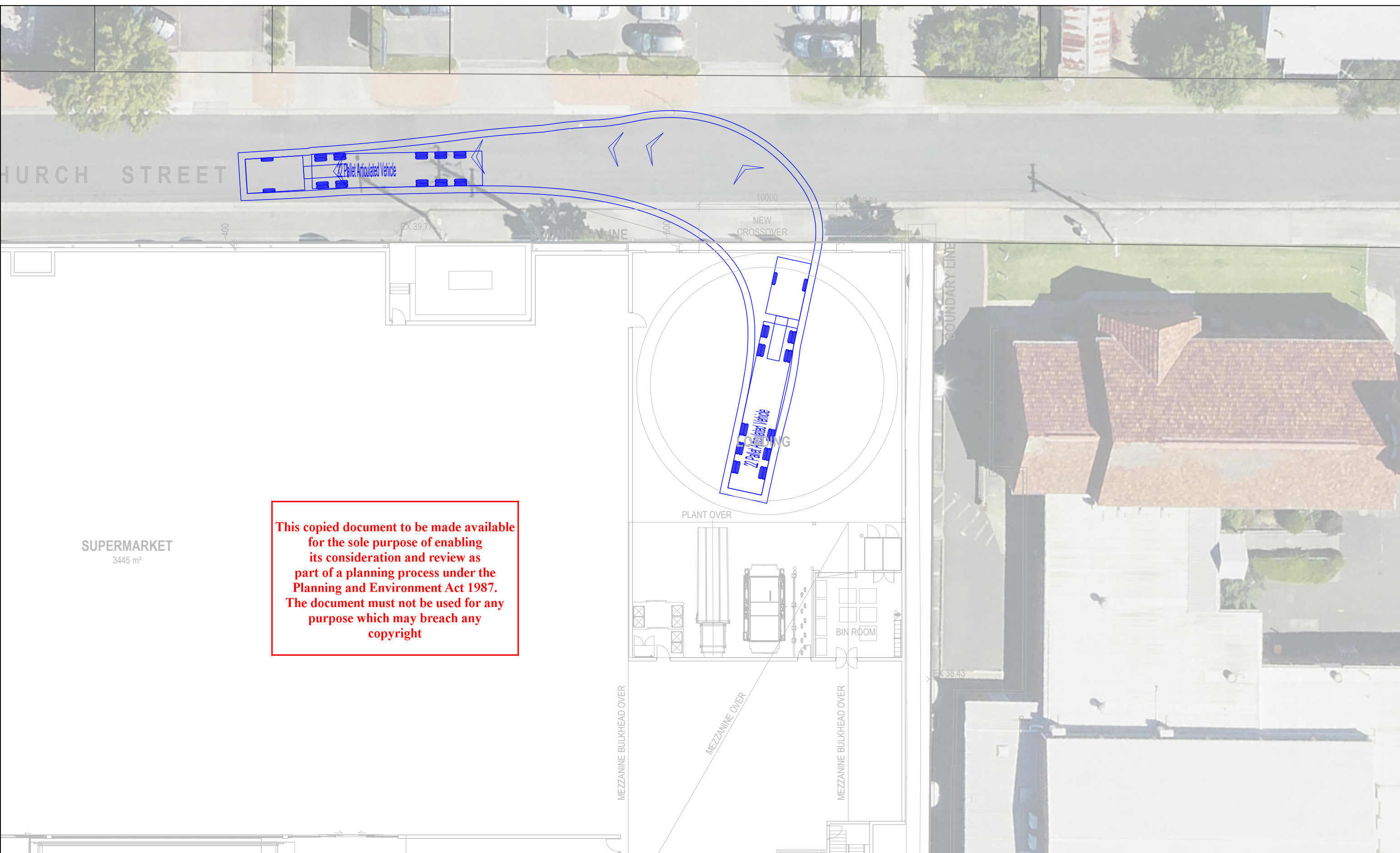
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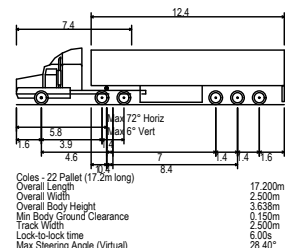
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Coles - 22 Pallet Articulated Vehicle



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

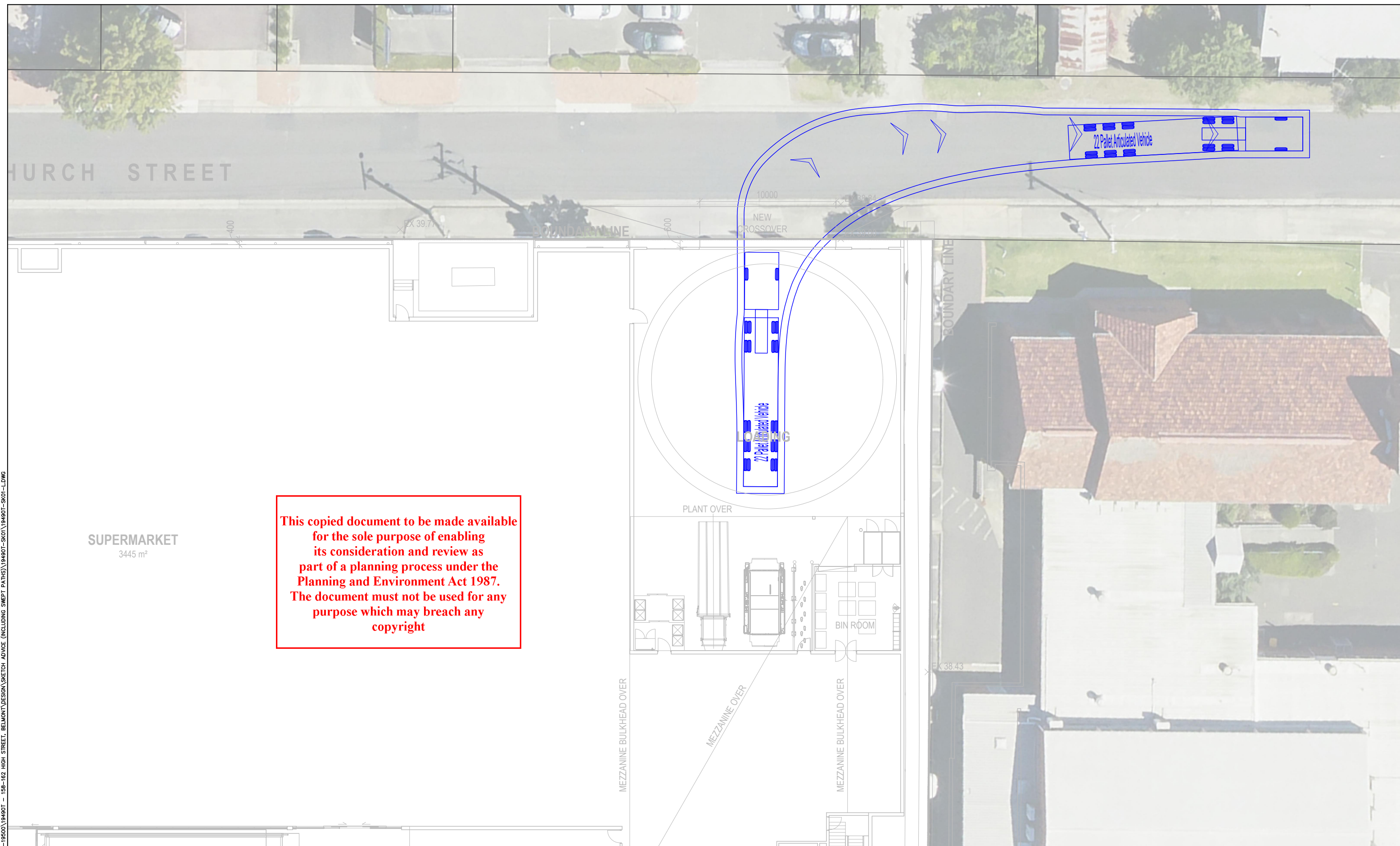
Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
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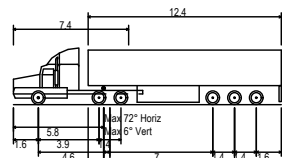
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SUPERMARKET
3445 m²

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Coles - 22 Pallet Articulated Vehicle



Coles - 22 Pallet (17.2m long)	17.200m
Overall Length	2.500m
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Max Steering Angle (Virtual)	

VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

- NOTE:
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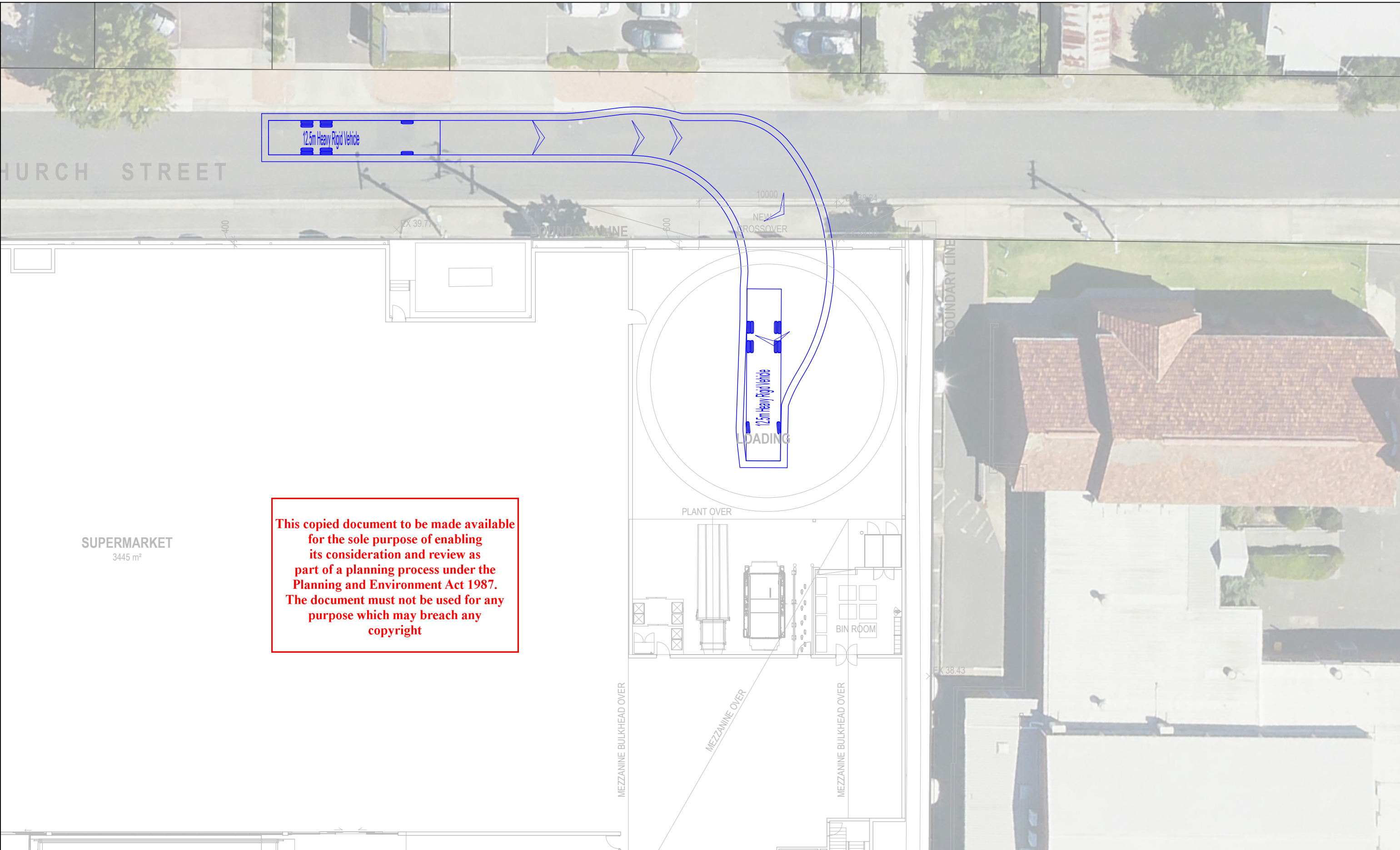
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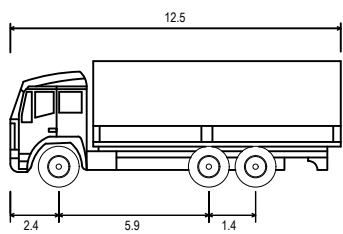


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HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
 500mm CLEARANCE (FORWARD)
 VEHICLE ENVELOPE (REVERSE)
 500mm CLEARANCE (REVERSE)

Overall Length
 Overall Width
 Track Width
 Lock to Lock Time
 Max Steering Angle (Virtual)

17.200m
 2.500m
 2.500m
 6.00 sec
 28.40°

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

- NOTE:
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 - 2) Maximum design speed 5km/h



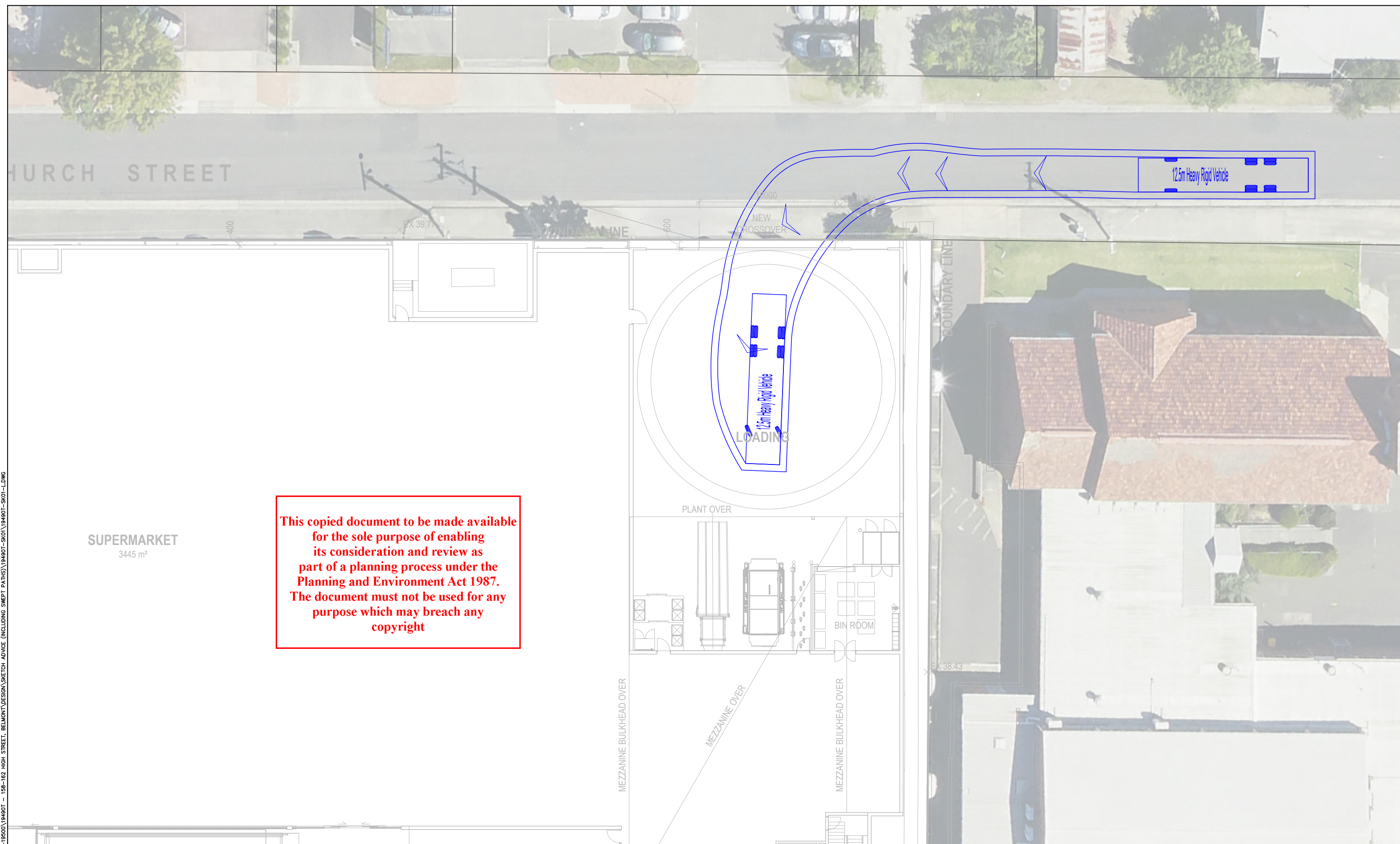
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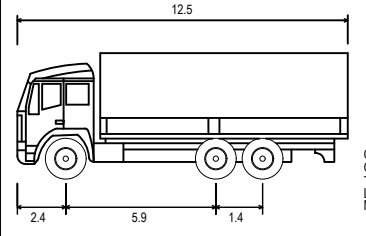
SUPERMARKET
3445 m²

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HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Overall Length 17.200m
Overall Width 2.500m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Max Steering Angle (Virtual) 28.40°

Proposed Retail Development 158-162a High Street, Belmont Sweep Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h

RATIO REFERENCE
19490T-SK01-L/JHB

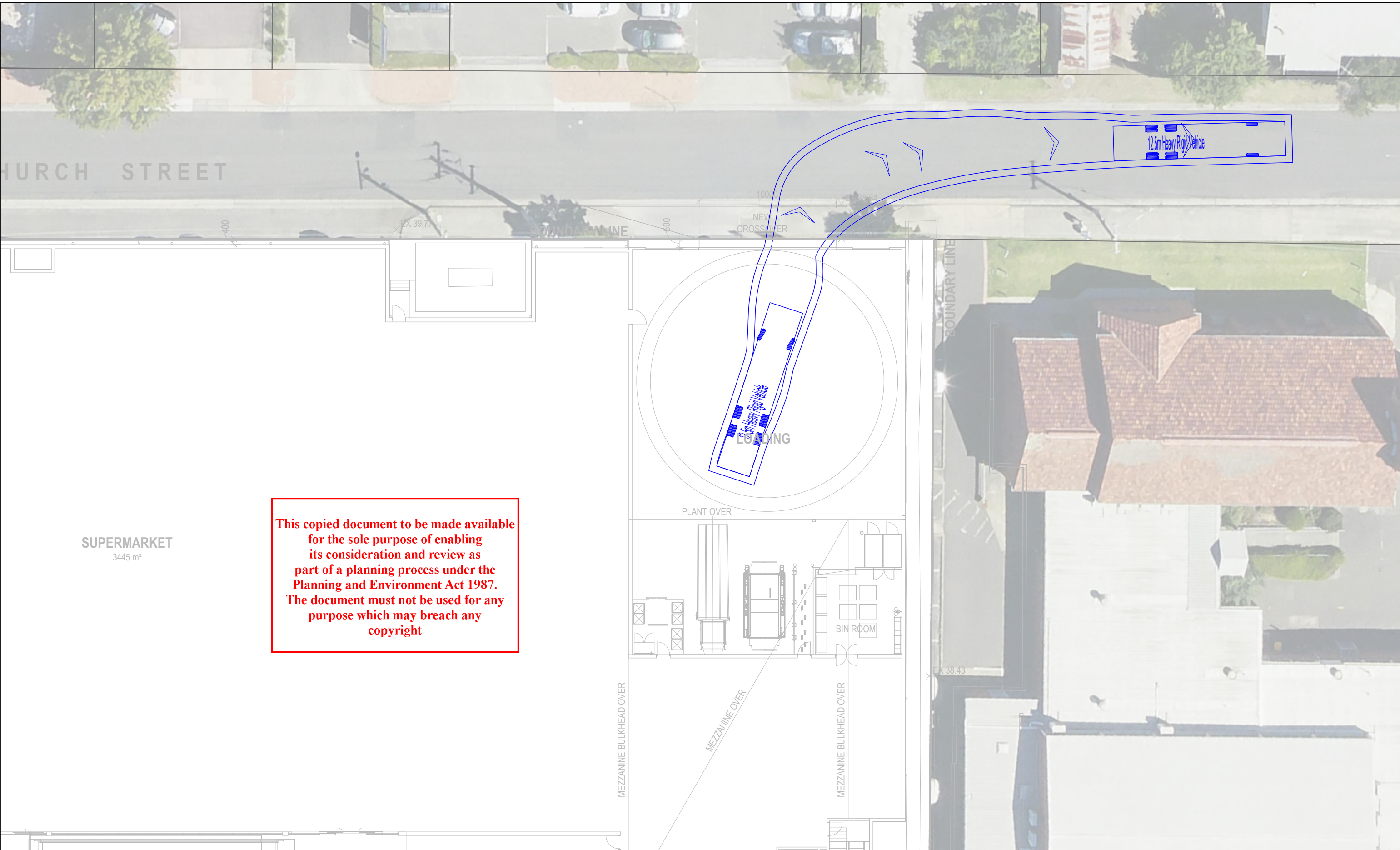
SHEET No.
06 of 20

SCALE
1:250 @ A3

DATE
23/11/2023



Y: 19001-19500\19490T - 158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-LDWG



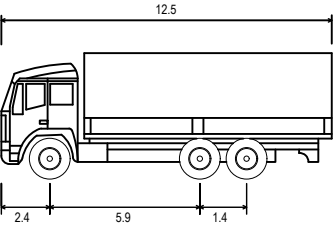
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SUPERMARKET
3445 m²

ratio:

RATIO CONSULTANTS PTY LTD
ABN 005 422 104
8 GWYNNE STREET
CREMORNE, VICTORIA 3121
TELEPHONE (03)9429 3111
FACSIMILE (03)9429 3011

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
500mm CLEARANCE (FORWARD)
VEHICLE ENVELOPE (REVERSE)
500mm CLEARANCE (REVERSE)

Overall Length 17.200m
Overall Width 2.500m
Track Width 2.500m
Lock to Lock Time 6.00 sec
Max Steering Angle (Virtual) 28.40°

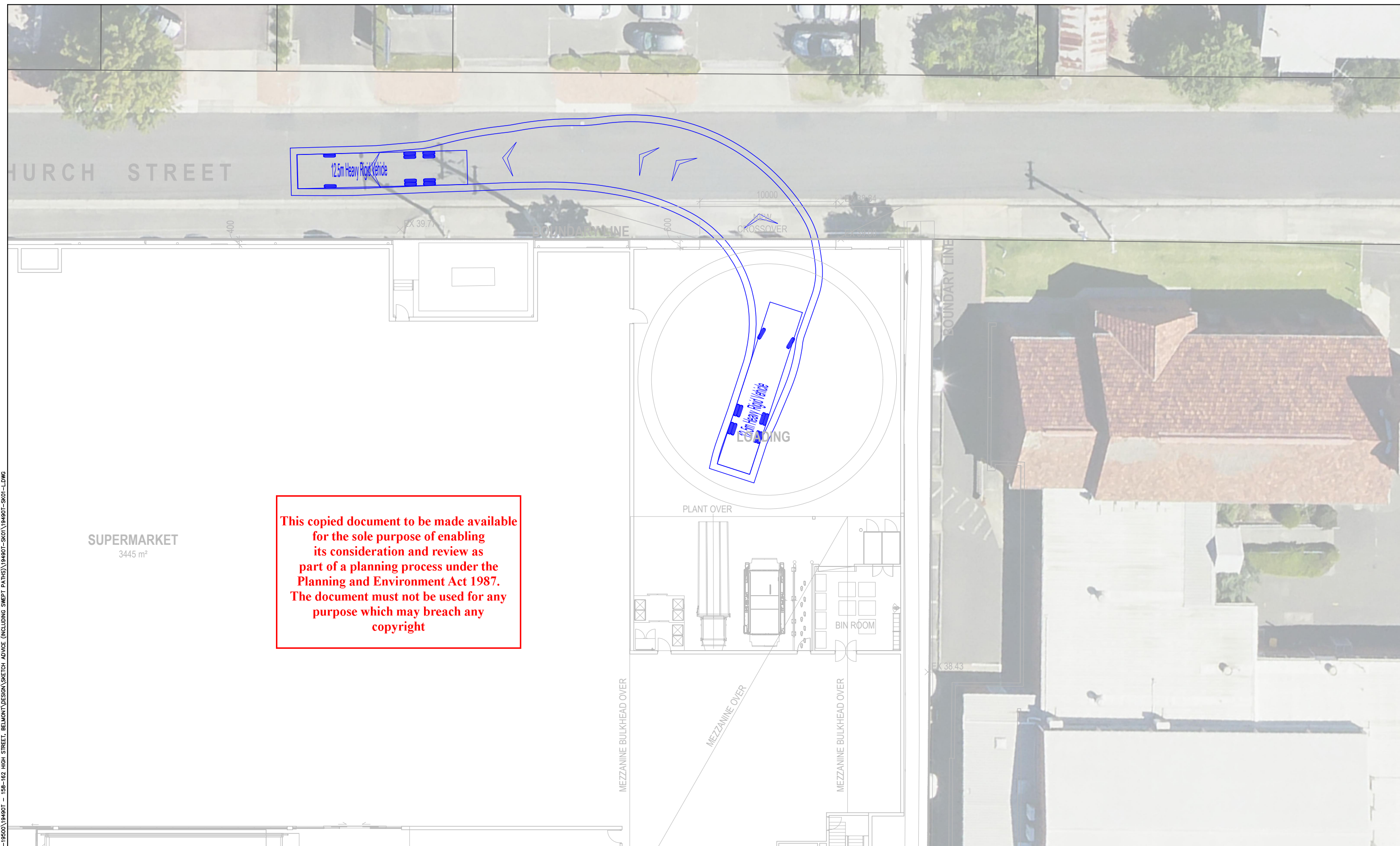
Proposed Retail Development 158-162a High Street, Belmont Sweep Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h



RATIO REFERENCE 19490T-SK01-L/JHB	SHEET No. 07 of 20	SCALE 1:250 @ A3	DATE 23/11/2023
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Y: 19001-19500\19490T - 158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-LDWG

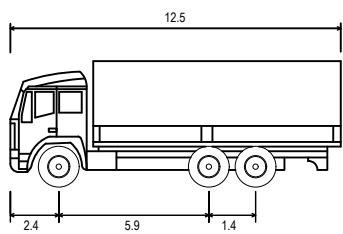


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ratio:

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 ABN 005 422 104
 8 GWYNNE STREET
 CREMORNE, VICTORIA 3121
 TELEPHONE (03)9429 3111
 FACSIMILE (03)9429 3011

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
 500mm CLEARANCE (FORWARD)
 VEHICLE ENVELOPE (REVERSE)
 500mm CLEARANCE (REVERSE)

Overall Length
 Overall Width
 Track Width
 Lock to Lock Time
 Max Steering Angle (Virtual)

17.200m
 2.500m
 2.500m
 6.00 sec
 28.40°

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

- NOTE:
- 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 - 2) Maximum design speed 5km/h



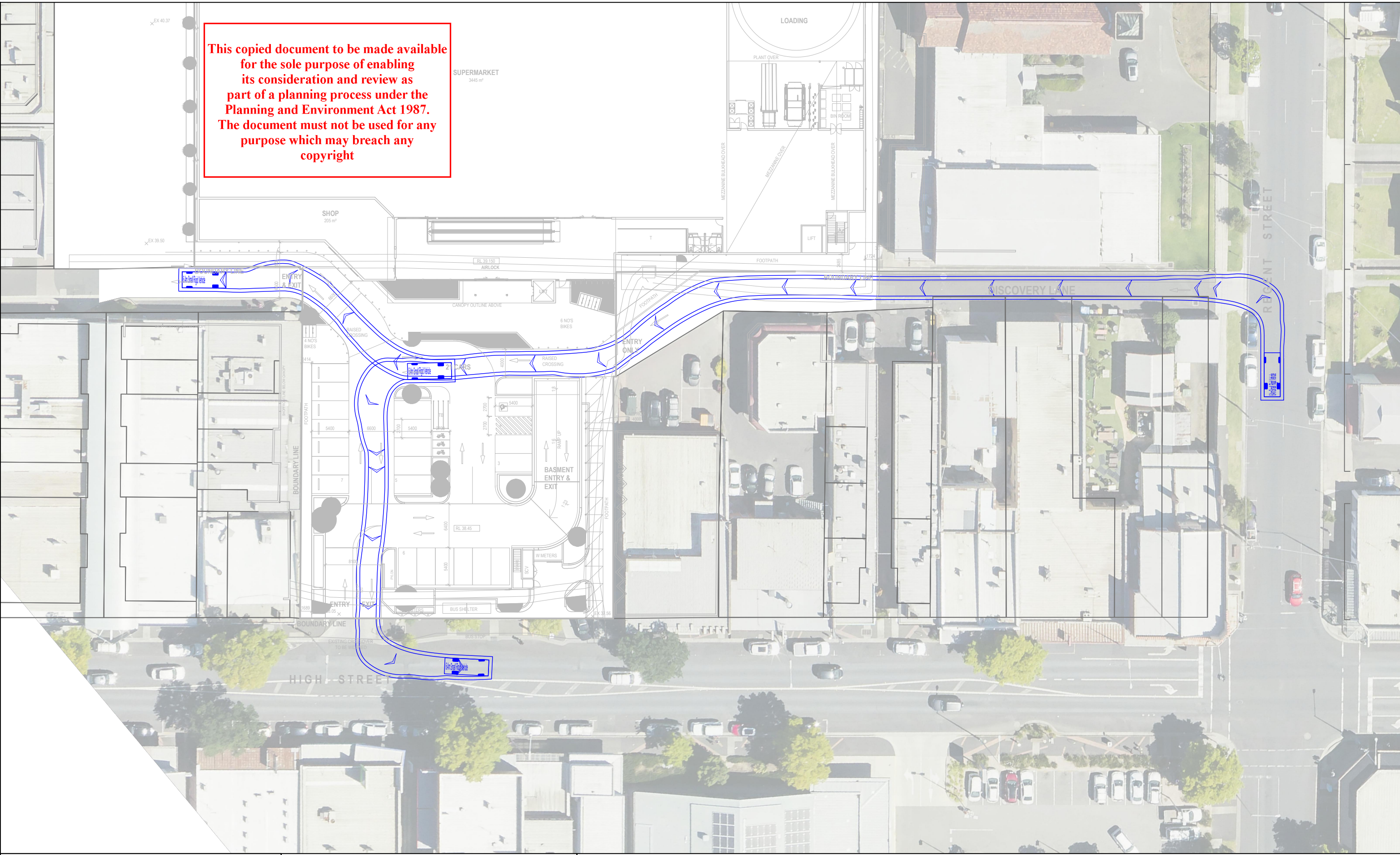
RATIO REFERENCE
 19490T-SK01-L/JHB

SHEET No.
 08 of 20

SCALE
 1:250 @ A3

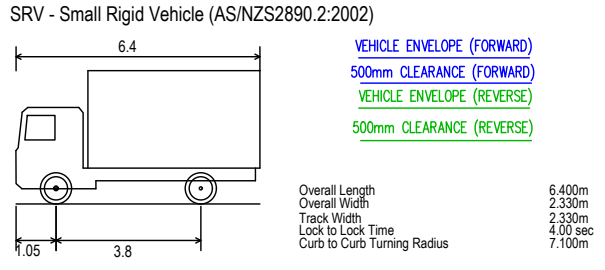
DATE
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ratio:
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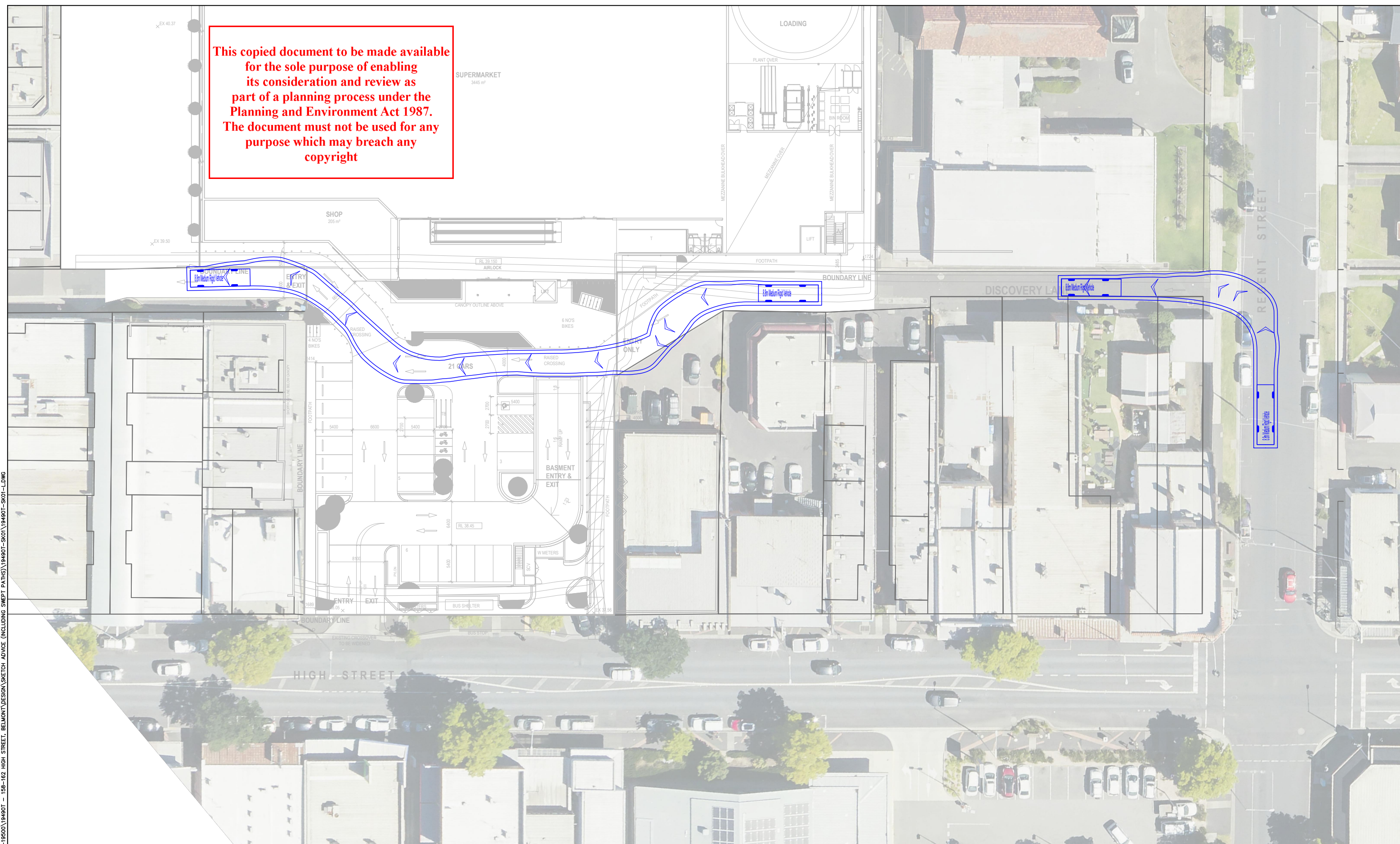
Proposed Retail Development
 158-162a High Street, Belmont
 Swept Path Assessment

NOTE:
 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 2) Maximum design speed 5km/h

RATIO REFERENCE 19490T-SK01-L/JHB	SHEET No. 09 of 20	SCALE 1:500 @ A3	DATE 23/11/2023
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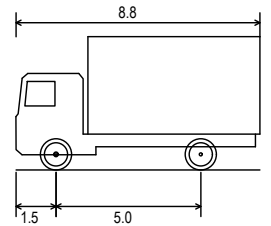


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ratio:

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 ABN 005 422 104
 8 GWYNNE STREET
 CREMORNE, VICTORIA 3121
 TELEPHONE (03)9429 3111
 FACSIMILE (03)9429 3011

MRV - Medium Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE (FORWARD)
 500mm CLEARANCE (FORWARD)
 VEHICLE ENVELOPE (REVERSE)
 500mm CLEARANCE (REVERSE)

Overall Length 8.800m
 Overall Width 2.500m
 Track Width 2.500m
 Lock to Lock Time 4.00 sec
 Curb to Curb Turning Radius 10.000m

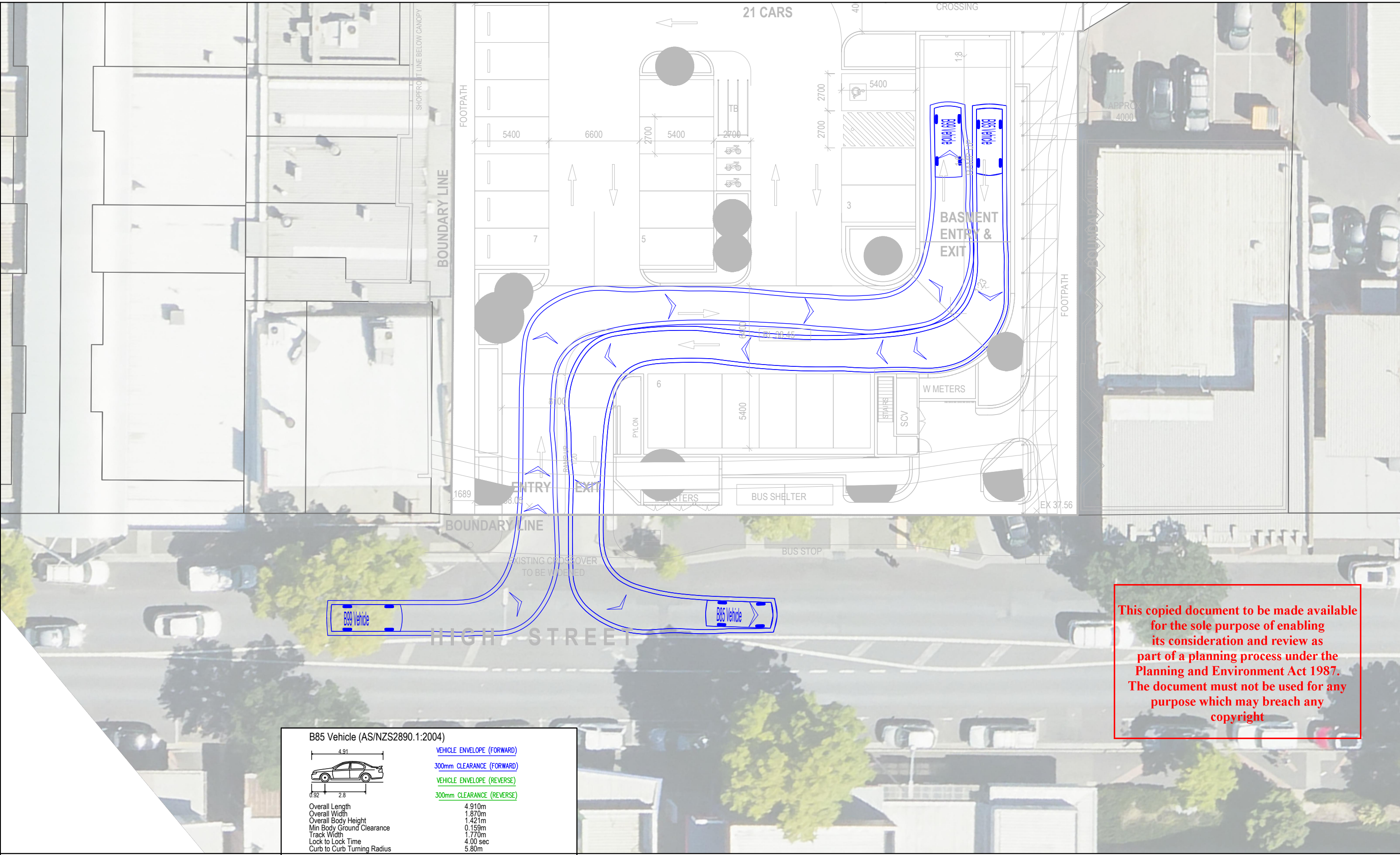
Proposed Retail Development
 158-162a High Street, Belmont
 Swept Path Assessment

NOTE:
 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 2) Maximum design speed 5km/h



RATIO REFERENCE 19490T-SK01-L/JHB	SHEET No. 10 of 20	SCALE 1:500 @ A3	DATE 23/11/2023
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Y: 19000-19500 (19490T) - 158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-LDWG



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B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

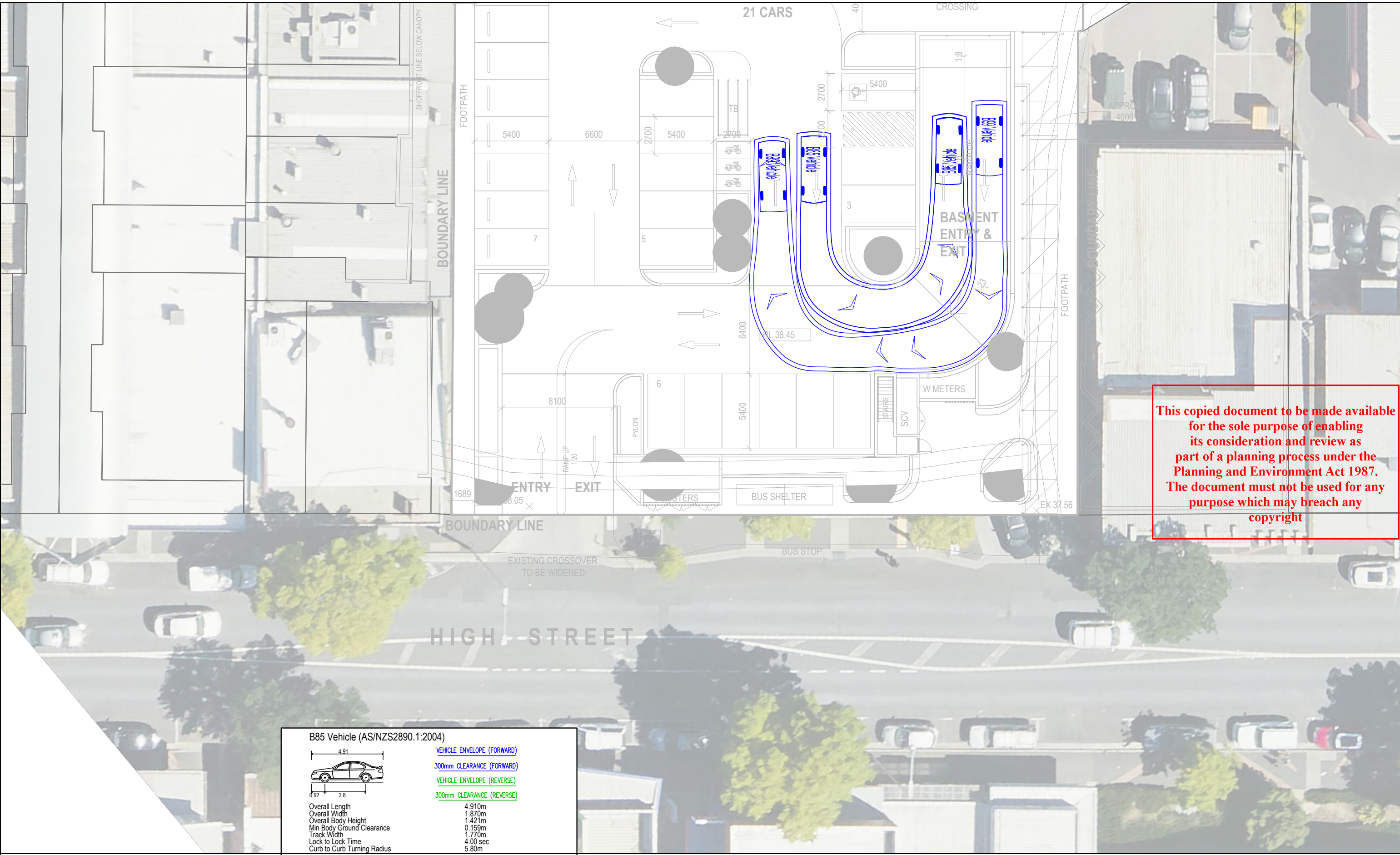
B89 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h



Y: 19001-19500\19490T - 158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-LDWG



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B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

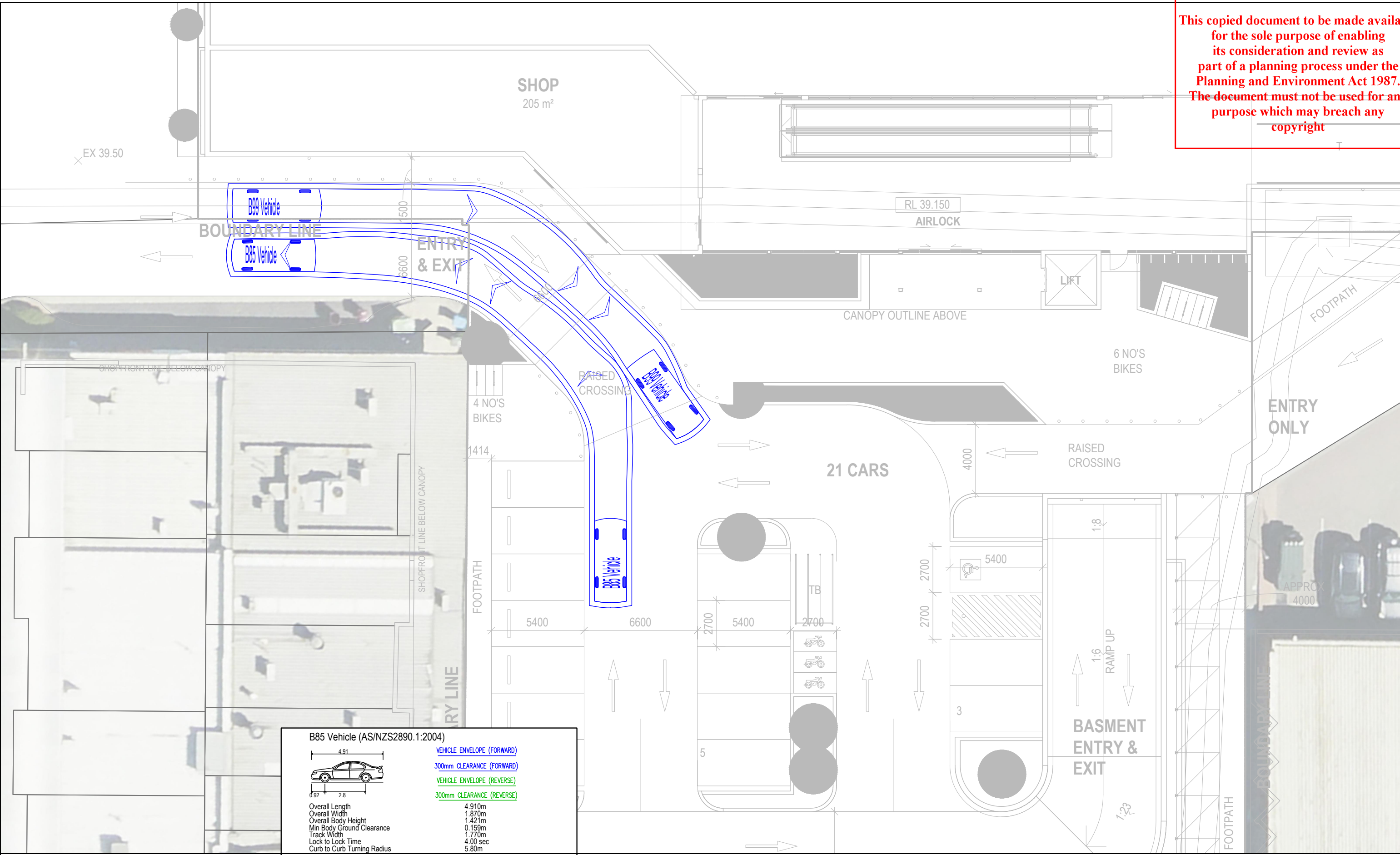
B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h



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B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
Overall Length	4.91m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

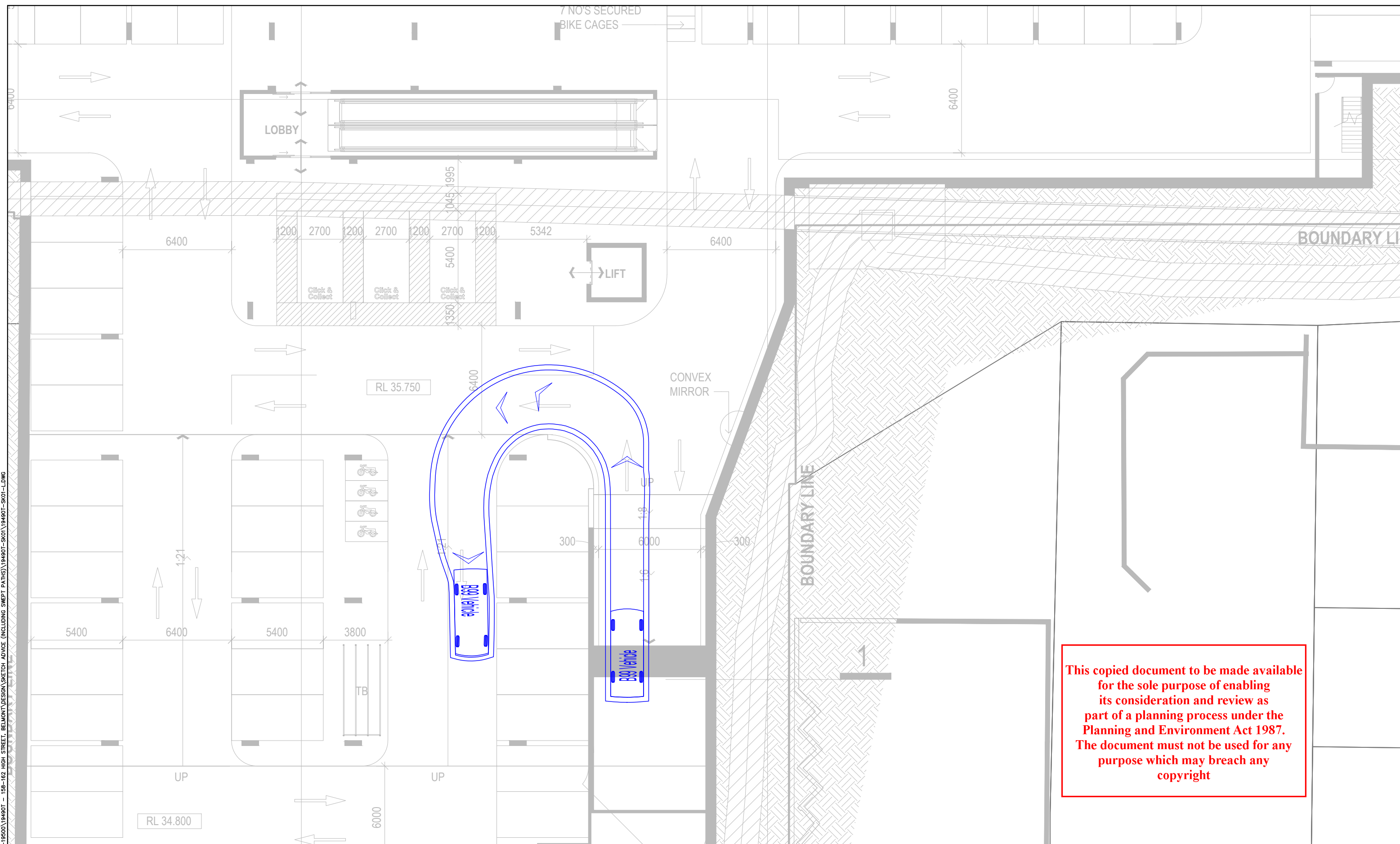
B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h



Y: 19600-19500\19490T - 158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-L.DWG
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B99 Vehicle (AS/NZS2890.1:2004)

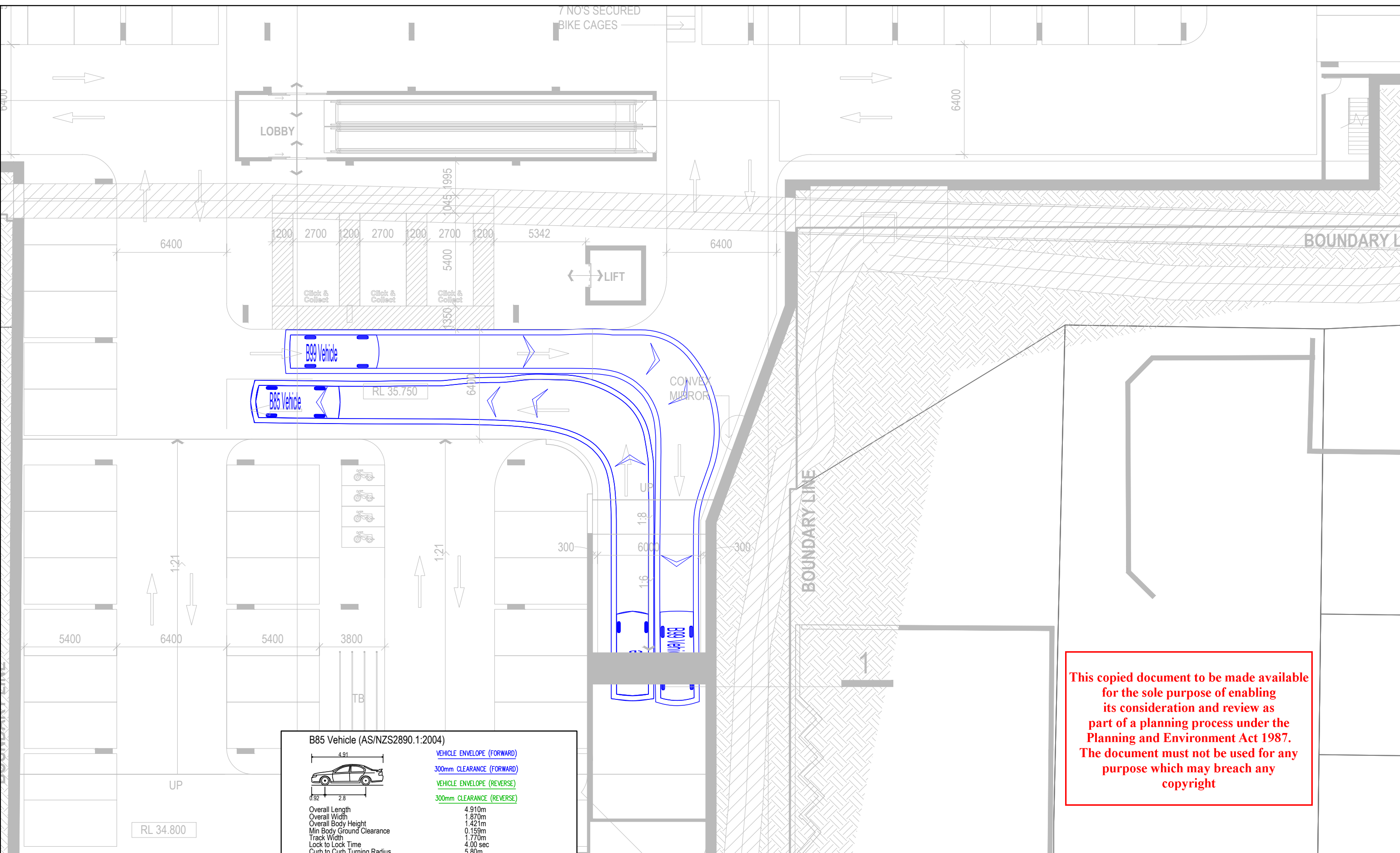
	Overall Length	5.200m
	Overall Width	1.940m
	Overall Body Height	2.200m
	Min Body Ground Clearance	0.312m
	Track Width	1.840m
	Lock to Lock Time	4.00 sec
	Curb to Curb Turning Radius	6.30m

VEHICLE ENVELOPE (FORWARD)
 300mm CLEARANCE (FORWARD)
 VEHICLE ENVELOPE (REVERSE)
 300mm CLEARANCE (REVERSE)



Y: 19/001-19/500 (19/490T - 158-162 HIGH STREET, BELMONT) DESIGN SKETCH ADVICE (INCLUDING SWEEP PATHS) 19/490T-SK01 19/490T-SK01-LDWG 23/11/2023 3:29:23 PM

Y: 19600 - 19500 (19490T - 158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-LDWG



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B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.91m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

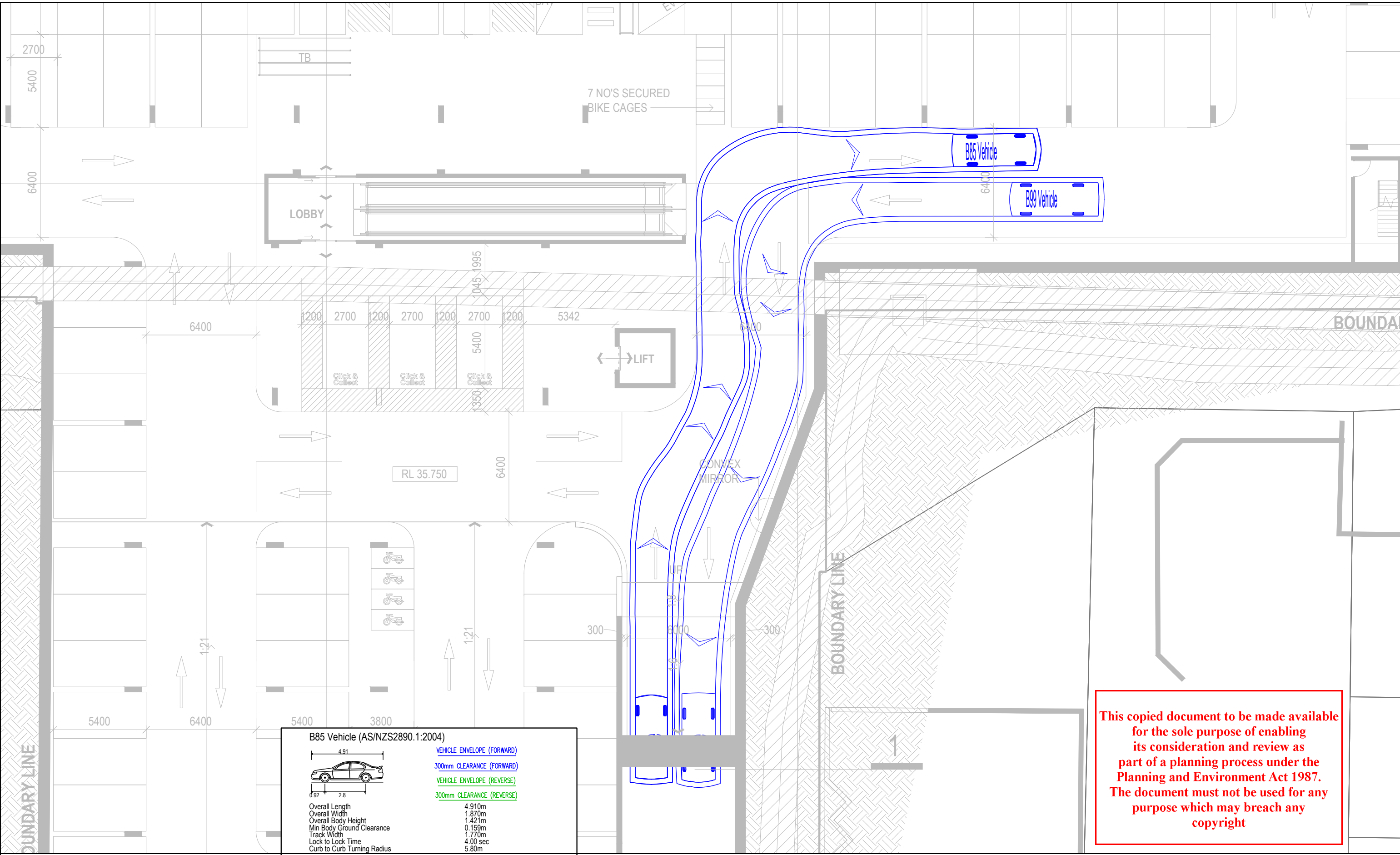
B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h



Y: 19001-19500 (19490T - 158-162 HIGH STREET, BELMONT) DESIGN SKETCH ADVICE (INCLUDING SWEEP PATHS) 19490T-SK01 19490T-SK01-LDWG



B85 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.91m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

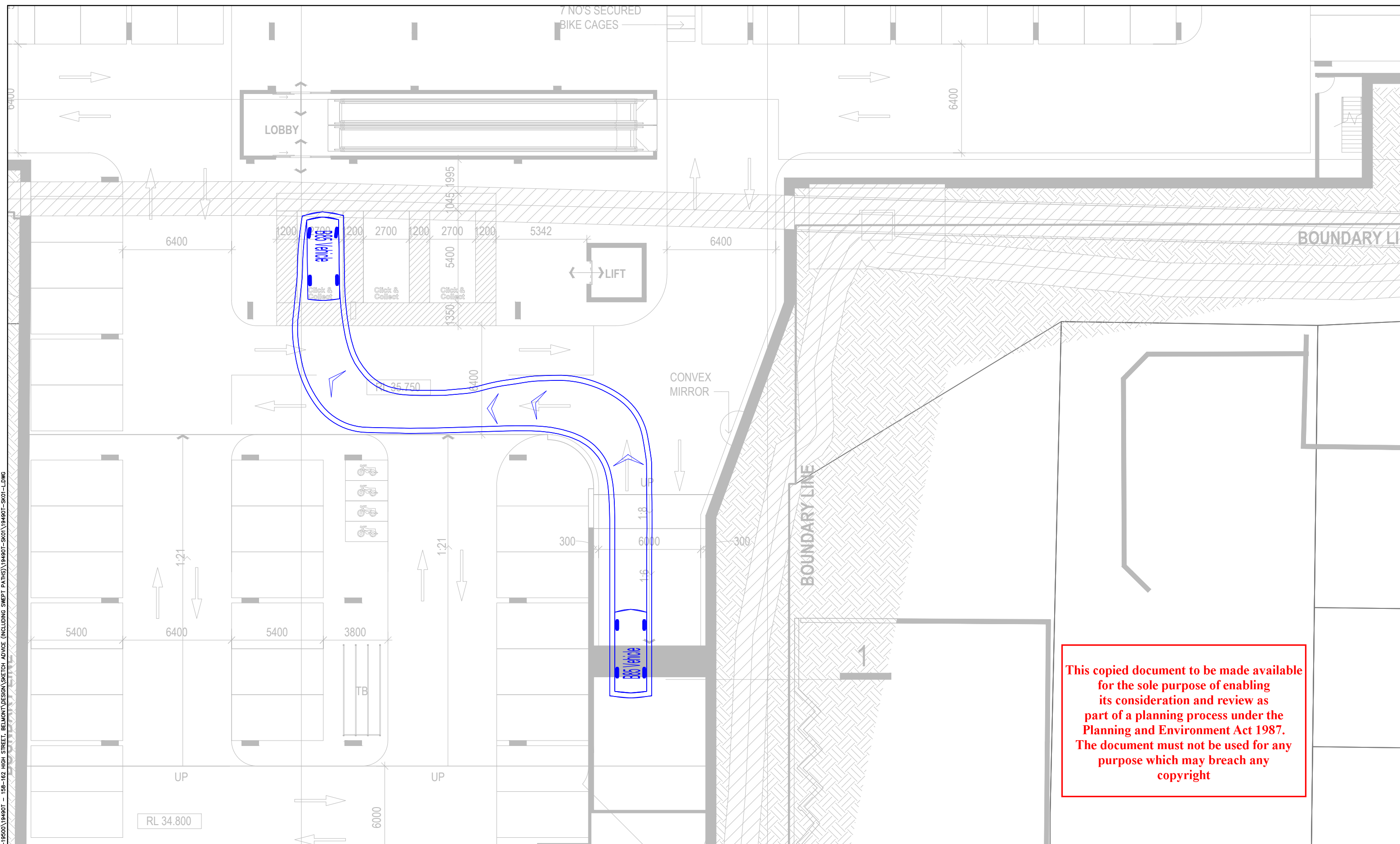
B99 Vehicle (AS/NZS2890.1:2004)	
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	2.200m
Min Body Ground Clearance	0.312m
Track Width	1.840m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	6.30m

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Proposed Retail Development 158-162a High Street, Belmont Swept Path Assessment

NOTE:
1) Base plan supplied by Clarke Hopkins Clarke Architects.
2) Maximum design speed 5km/h



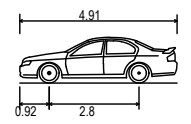


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ratio:
 RATIO CONSULTANTS PTY LTD
 ABN 005 422 104
 8 GWYNNE STREET
 CREMORNE, VICTORIA 3121
 TELEPHONE (03)9429 3111
 FACSIMILE (03)9429 3011

B85 Vehicle (AS/NZS2890.1:2004)

	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

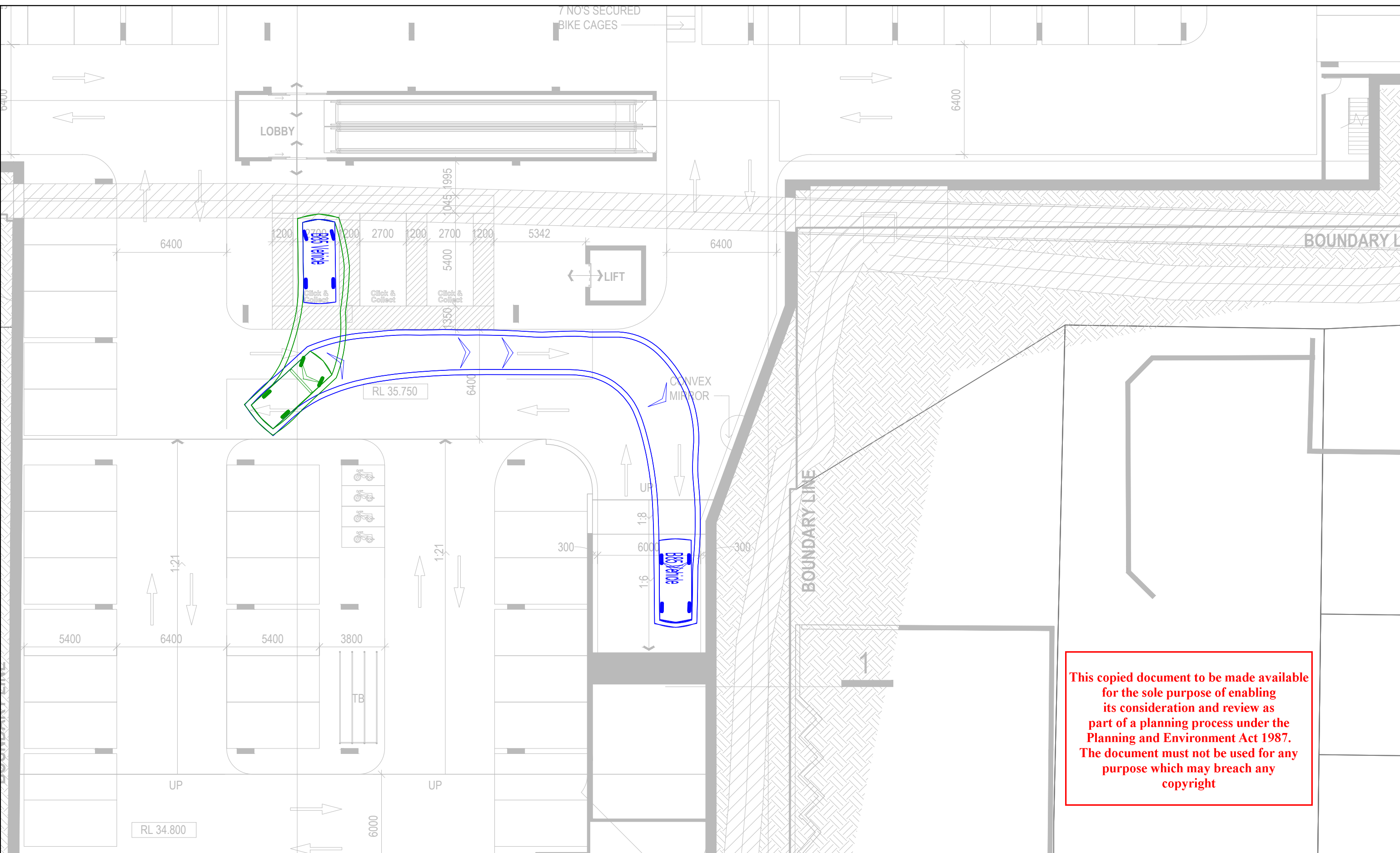
Proposed Retail Development
 158-162a High Street, Belmont
 Swept Path Assessment

NOTE:
 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 2) Maximum design speed 5km/h

RATIO REFERENCE	SHEET No.	SCALE	DATE
19490T-SK01-L/JHB	17 of 20	1:200 @ A3	23/11/2023

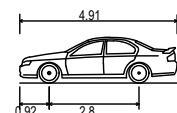


Y: 19600-19500 (19490T - 158-162 HIGH STREET, BELMONT) \DESIGN \SKETCH \ADVICE (INCLUDING SWEEP PATHS) \19490T-SK01 \19490T-SK01-L.DWG



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B85 Vehicle (AS/NZS2890.1:2004)

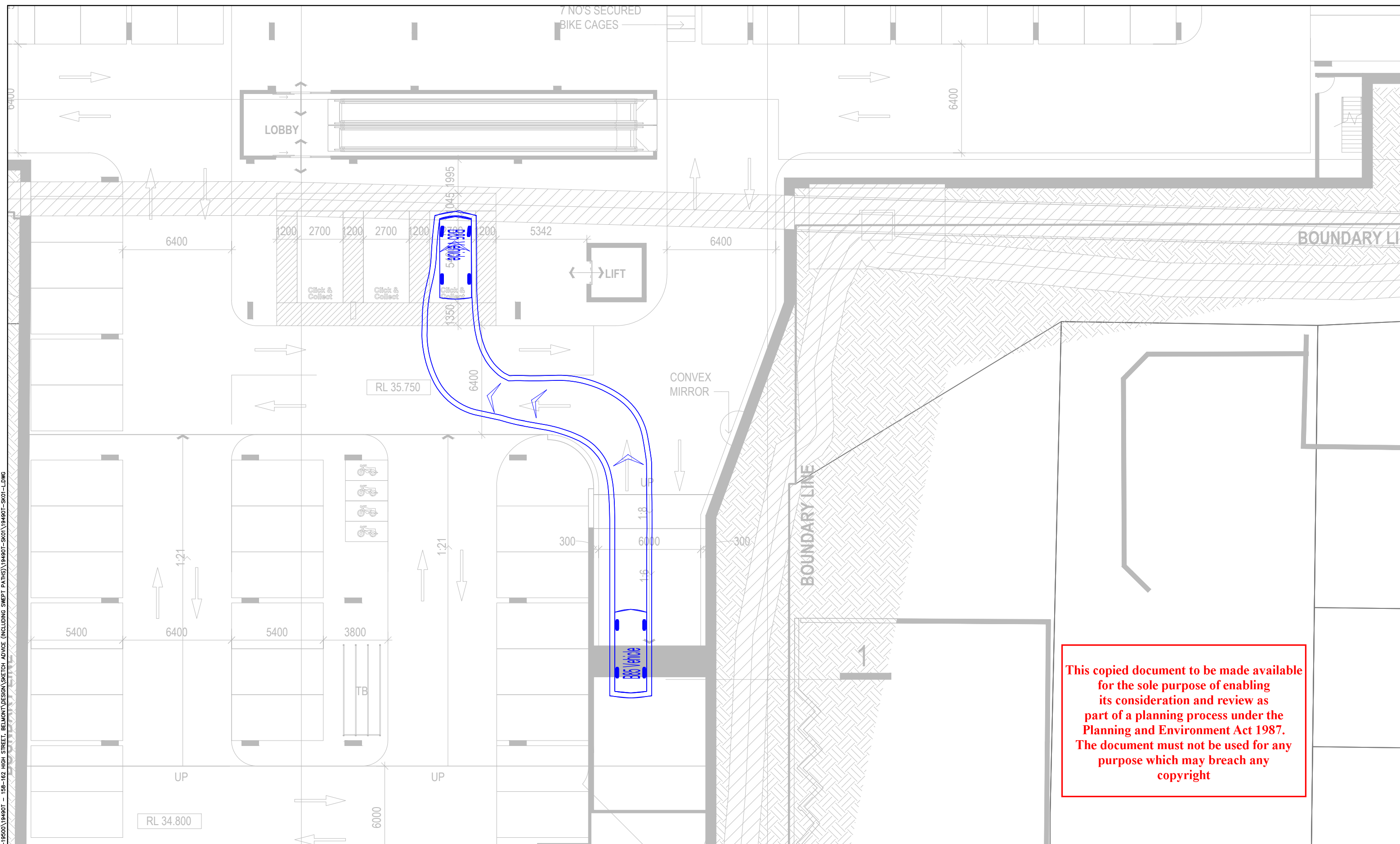
	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)

Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

Proposed Retail Development
 158-162a High Street, Belmont
 Swept Path Assessment

NOTE:
 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 2) Maximum design speed 5km/h





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ratio:
 RATIO CONSULTANTS PTY LTD
 ABN 005 422 104
 8 GWYNNE STREET
 CREMORNE, VICTORIA 3121
 TELEPHONE (03)9429 3111
 FACSIMILE (03)9429 3011

B85 Vehicle (AS/NZS2890.1:2004)

	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)

Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

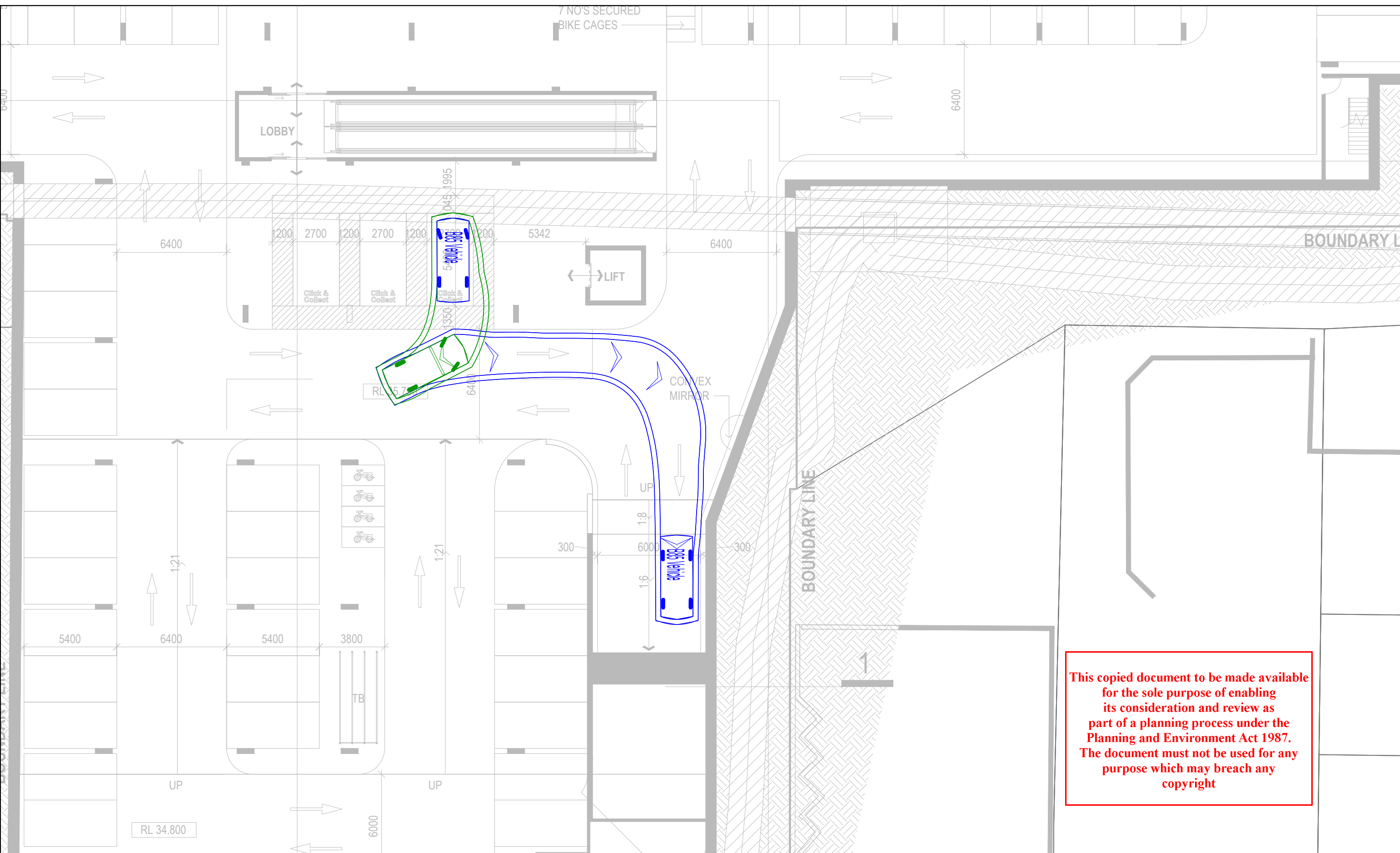
Proposed Retail Development
 158-162a High Street, Belmont
 Swept Path Assessment

NOTE:
 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 2) Maximum design speed 5km/h

RATIO REFERENCE	SHEET No.	SCALE	DATE
19490T-SK01-L/JHB	19 of 20	1:200 @ A3	23/11/2023



Y: 19001-19500\19490T-158-162 HIGH STREET, BELMONT\DESIGN\SKETCH ADVICE (INCLUDING SWEEP PATHS)\19490T-SK01\19490T-SK01-LDWG



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B85 Vehicle (AS/NZS2890.1:2004)

	VEHICLE ENVELOPE (FORWARD)
	300mm CLEARANCE (FORWARD)
	VEHICLE ENVELOPE (REVERSE)
	300mm CLEARANCE (REVERSE)
Overall Length	4.910m
Overall Width	1.870m
Overall Body Height	1.421m
Min Body Ground Clearance	0.159m
Track Width	1.770m
Lock to Lock Time	4.00 sec
Curb to Curb Turning Radius	5.80m

Proposed Retail Development
 158-162a High Street, Belmont
 Swept Path Assessment

NOTE:
 1) Base plan supplied by Clarke Hopkins Clarke Architects.
 2) Maximum design speed 5km/h



Appendix F Traffic Survey Results

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TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

Intersection of Carpark and High St, Belmont

GPS: -38.173991, 144.343778

Date: Thu 01/12/22

Weather: Fine

Suburban: Belmont

Customer: Rialto

North: High St
East: N/A
South: High St
West: Carpark

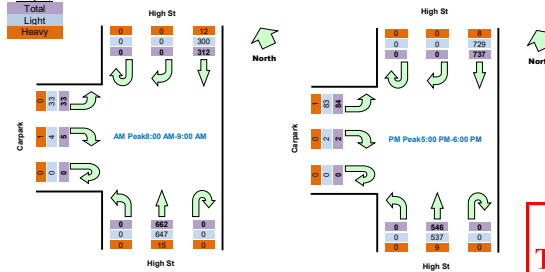
Survey AM: 7:00 AM-9:00 AM
Period PM: 3:00 PM-6:00 PM
Traffic AM: 8:00 AM-9:00 AM
Peak PM: 5:00 PM-6:00 PM

All Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	0	0	50	0	91	1	0	1	2	660	
7:15	7:30	0	0	43	0	92	0	0	1	6	749	
7:30	7:45	0	0	53	0	110	0	0	2	8	853	
7:45	8:00	0	0	44	0	145	0	0	4	7	947	
8:00	8:15	0	0	65	0	159	0	0	1	9	1012	Peak
8:15	8:30	0	0	70	0	167	0	0	0	9		
8:30	8:45	0	0	93	0	164	0	0	3	7		
8:45	9:00	0	0	84	0	172	0	0	1	8		
15:00	15:15	0	0	174	0	141	0	0	0	20	1291	
15:15	15:30	0	0	156	0	127	0	0	0	23	1302	
15:30	15:45	0	0	180	0	123	0	0	0	13	1323	
15:45	16:00	0	0	172	0	144	0	0	0	18	1355	
16:00	16:15	0	0	166	0	162	0	0	0	18	1352	
16:15	16:30	0	0	179	0	129	0	0	1	18	1355	
16:30	16:45	0	0	182	0	145	0	0	0	21	1353	
16:45	17:00	0	0	194	0	122	0	0	1	14	1353	
17:00	17:15	0	0	180	0	143	0	0	0	26	1369	Peak
17:15	17:30	0	0	174	0	124	0	0	1	26		
17:30	17:45	0	0	185	0	141	0	0	1	21		
17:45	18:00	0	0	198	0	138	0	0	0	11		

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
8:00	9:00	0	0	312	0	662	0	0	5	33	1012
17:00	18:00	0	0	737	0	546	0	0	2	84	1369

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
7:00	7:15	0	0	45	0	86	1	0	0	1
7:15	7:30	0	0	40	0	88	0	0	1	6
7:30	7:45	0	0	47	0	108	0	0	2	8
7:45	8:00	0	0	41	0	140	0	0	4	7
8:00	8:15	0	0	65	0	158	0	0	1	9
8:15	8:30	0	0	66	0	161	0	0	0	9
8:30	8:45	0	0	87	0	159	0	0	2	7
8:45	9:00	0	0	82	0	169	0	0	1	8
15:00	15:15	0	0	170	0	137	0	0	0	20
15:15	15:30	0	0	154	0	123	0	0	0	23
15:30	15:45	0	0	174	0	118	0	0	0	13
15:45	16:00	0	0	171	0	140	0	0	0	18
16:00	16:15	0	0	162	0	158	0	0	0	18
16:15	16:30	0	0	174	0	125	0	0	1	18
16:30	16:45	0	0	181	0	144	0	0	0	21
16:45	17:00	0	0	190	0	121	0	0	1	14
17:00	17:15	0	0	177	0	140	0	0	0	25
17:15	17:30	0	0	174	0	122	0	0	1	26
17:30	17:45	0	0	183	0	139	0	0	1	21
17:45	18:00	0	0	195	0	136	0	0	0	11

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
8:00	9:00	0	0	300	0	647	0	0	4	33	984
17:00	18:00	0	0	729	0	537	0	0	2	83	1351

Heavy Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
7:00	7:15	0	0	5	0	3	0	0	1	1
7:15	7:30	0	0	3	0	4	0	0	0	0
7:30	7:45	0	0	6	0	2	0	0	0	0
7:45	8:00	0	0	3	0	5	0	0	0	0
8:00	8:15	0	0	0	0	1	0	0	0	0
8:15	8:30	0	0	4	0	6	0	0	0	0
8:30	8:45	0	0	6	0	5	0	0	1	0
8:45	9:00	0	0	2	0	3	0	0	0	0
15:00	15:15	0	0	4	0	4	0	0	0	0
15:15	15:30	0	0	2	0	4	0	0	0	0
15:30	15:45	0	0	6	0	5	0	0	0	0
15:45	16:00	0	0	1	0	4	0	0	0	0
16:00	16:15	0	0	4	0	4	0	0	0	0
16:15	16:30	0	0	5	0	4	0	0	0	0
16:30	16:45	0	0	1	0	1	0	0	0	0
16:45	17:00	0	0	4	0	1	0	0	0	0
17:00	17:15	0	0	3	0	3	0	0	0	1
17:15	17:30	0	0	0	0	2	0	0	0	0
17:30	17:45	0	0	2	0	2	0	0	0	0
17:45	18:00	0	0	3	0	2	0	0	0	0

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
8:00	9:00	0	0	12	0	15	0	0	1	0	28
17:00	18:00	0	0	8	0	9	0	0	0	1	18

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TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

Intersection of Carpark and High St, Belmont

GPS: -38.174222, 144.343557

Date: Thu 01/12/22
 Weather: Fine
 Suburban: Belmont
 Customer: Rialto

North: High St
 East: N/A
 South: High St
 West: Carpark

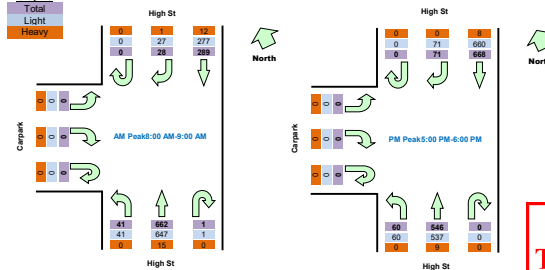
Survey Period: AM: 7:00 AM-9:00 AM
 PM: 3:00 PM-6:00 PM
 Traffic Peak: AM: 8:00 AM-9:00 AM
 PM: 5:00 PM-6:00 PM

All Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	0	4	47	0	92	2	0	0	0	656	
7:15	7:30	0	6	38	0	92	4	0	0	0	751	
7:30	7:45	1	4	50	1	109	7	0	0	0	855	
7:45	8:00	0	5	43	0	145	6	0	0	0	951	
8:00	8:15	0	8	58	0	159	15	0	0	0	1021	Peak
8:15	8:30	0	1	69	1	167	6	0	0	0		
8:30	8:45	0	11	85	0	164	8	0	0	0		
8:45	9:00	0	8	77	0	172	12	0	0	0		
15:00	15:15	0	14	160	0	141	13	0	0	0	1283	
15:15	15:30	0	10	146	0	127	11	0	0	0	1298	
15:30	15:45	0	10	170	0	123	22	0	0	0	1330	
15:45	16:00	0	14	158	0	143	20	0	0	1	1344	
16:00	16:15	0	8	158	0	162	15	0	0	0	1339	
16:15	16:30	0	13	167	0	129	17	0	0	0	1338	
16:30	16:45	0	16	166	0	145	12	0	0	0	1326	
16:45	17:00	0	18	177	0	122	14	0	0	0	1328	
17:00	17:15	0	22	158	0	143	19	0	0	0	1345	Peak
17:15	17:30	0	14	161	0	124	15	0	0	0		
17:30	17:45	0	19	167	0	141	14	0	0	0		
17:45	18:00	0	16	182	0	138	12	0	0	0		

Peak Time	North Approach High St	South Approach High St	West Approach Carpark	Peak total						
8:00	9:00	0	28	289	1	662	41	0	0	1021
17:00	18:00	0	71	668	0	546	60	0	0	1345

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	0	3	42	0	89	2	0	0	0	656	
7:15	7:30	0	6	35	0	88	4	0	0	0	751	
7:30	7:45	1	4	44	1	107	7	0	0	0	855	
7:45	8:00	0	5	40	0	140	6	0	0	0	951	
8:00	8:15	0	8	58	0	158	15	0	0	0	1021	Peak
8:15	8:30	0	1	65	1	161	6	0	0	0		
8:30	8:45	0	10	79	0	159	8	0	0	0		
8:45	9:00	0	8	75	0	169	12	0	0	0		
15:00	15:15	0	14	156	0	137	13	0	0	0	1283	
15:15	15:30	0	10	144	0	123	11	0	0	0	1298	
15:30	15:45	0	10	164	0	118	22	0	0	0	1330	
15:45	16:00	0	14	157	0	139	20	0	0	1	1344	
16:00	16:15	0	8	154	0	158	15	0	0	0	1339	
16:15	16:30	0	13	162	0	125	17	0	0	0	1338	
16:30	16:45	0	16	165	0	144	12	0	0	0	1326	
16:45	17:00	0	17	174	0	121	14	0	0	0	1328	
17:00	17:15	0	22	155	0	140	19	0	0	0	1345	Peak
17:15	17:30	0	14	161	0	122	15	0	0	0		
17:30	17:45	0	19	165	0	139	14	0	0	0		
17:45	18:00	0	16	179	0	136	12	0	0	0		

Peak Time	North Approach High St	South Approach High St	West Approach Carpark	Peak total						
8:00	9:00	0	27	277	1	647	41	0	0	993
17:00	18:00	0	71	660	0	537	60	0	0	1328

Heavy Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	0	1	5	0	3	0	0	0	0	656	
7:15	7:30	0	0	3	0	4	0	0	0	0	751	
7:30	7:45	0	0	6	0	2	0	0	0	0	855	
7:45	8:00	0	0	3	0	5	0	0	0	0	951	
8:00	8:15	0	0	0	0	1	0	0	0	0	1021	Peak
8:15	8:30	0	0	4	0	6	0	0	0	0		
8:30	8:45	0	1	6	0	5	0	0	0	0		
8:45	9:00	0	0	2	0	3	0	0	0	0		
15:00	15:15	0	0	4	0	4	0	0	0	0	1283	
15:15	15:30	0	0	2	0	4	0	0	0	0	1298	
15:30	15:45	0	0	6	0	5	0	0	0	0	1330	
15:45	16:00	0	0	1	0	4	0	0	0	0	1344	
16:00	16:15	0	0	4	0	4	0	0	0	0	1339	
16:15	16:30	0	0	5	0	4	0	0	0	0	1338	
16:30	16:45	0	0	1	0	1	0	0	0	0	1326	
16:45	17:00	0	1	3	0	1	0	0	0	0	1328	
17:00	17:15	0	0	3	0	3	0	0	0	0	1345	Peak
17:15	17:30	0	0	0	0	2	0	0	0	0		
17:30	17:45	0	0	2	0	2	0	0	0	0		
17:45	18:00	0	0	3	0	2	0	0	0	0		

Peak Time	North Approach High St	South Approach High St	West Approach Carpark	Peak total						
8:00	9:00	0	1	12	0	15	0	0	0	28
17:00	18:00	0	0	8	0	9	0	0	0	17

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TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY trafficsurvey.com.au



Intersection of Regent St and Discovery Ln, Belmont

GPS: -38.172865, 144.344074

Date: Thu 01/12/22
 Weather: Fine
 Suburban: Belmont
 Customer: Ratio

North: N/A
 East: Regent St
 South: Discovery Ln
 West: Regent St

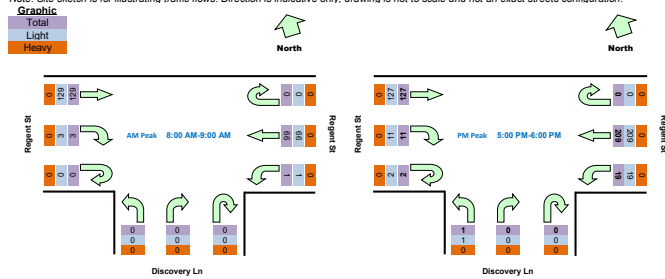
Survey Period: AM: 7:00 AM-9:00 AM
 PM: 3:00 PM-6:00 PM
 Traffic Peak: AM: 8:00 AM-9:00 AM
 PM: 5:00 PM-6:00 PM

All Vehicles

Time		East Approach Regent St			South Approach Discovery Ln			West Approach Regent St			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	1	4	1	0	0	0	0	0	8	91	
7:15	7:30	0	13	0	0	0	0	0	2	15	111	
7:30	7:45	0	7	1	0	0	0	0	1	18	123	
7:45	8:00	0	6	0	0	0	0	1	0	13	151	
8:00	8:15	0	7	0	0	0	0	0	1	26	199	Peak
8:15	8:30	0	18	0	0	0	0	0	0	24		
8:30	8:45	0	14	1	0	0	0	0	2	38		
8:45	9:00	0	27	0	0	0	0	0	41			
15:00	15:15	0	35	1	0	0	0	0	0	27	285	
15:15	15:30	0	30	3	0	1	0	0	1	23	308	
15:30	15:45	0	43	1	0	0	0	0	2	29	340	
15:45	16:00	0	45	0	0	0	0	0	1	43	338	
16:00	16:15	0	40	1	0	0	0	0	0	45	324	
16:15	16:30	0	41	5	0	2	1	0	2	39	333	
16:30	16:45	0	35	2	0	1	1	0	2	32	338	
16:45	17:00	0	36	3	0	0	0	0	1	35	352	
17:00	17:15	0	56	5	0	0	1	2	4	27	369	Peak
17:15	17:30	0	49	4	0	0	0	0	3	39		
17:30	17:45	0	52	1	0	0	0	0	1	33		
17:45	18:00	0	52	9	0	0	0	0	3	28		

Peak Time		East Approach Regent St			South Approach Discovery Ln			West Approach Regent St			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
8:00	9:00	0	66	1	0	0	0	0	3	126	199
17:00	18:00	0	209	19	0	0	1	2	11	127	369

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time		East Approach Regent St			South Approach Discovery Ln			West Approach Regent St			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	0	4	1	0	0	0	0	0	8		
7:15	7:30	0	13	0	0	0	0	0	2	15		
7:30	7:45	0	6	1	0	0	0	0	0	1	18	
7:45	8:00	0	6	0	0	0	0	1	0	13		
8:00	8:15	0	7	0	0	0	0	0	1	26		
8:15	8:30	0	18	0	0	0	0	0	0	24		
8:30	8:45	0	14	1	0	0	0	0	2	38		
8:45	9:00	0	27	0	0	0	0	0	41			
15:00	15:15	0	35	1	0	0	0	0	0	26		
15:15	15:30	0	30	3	0	1	0	0	1	23		
15:30	15:45	0	43	1	0	0	0	0	2	29		
15:45	16:00	0	45	0	0	0	0	0	1	43		
16:00	16:15	0	40	1	0	0	0	0	0	44		
16:15	16:30	0	40	5	0	2	1	0	2	39		
16:30	16:45	0	35	2	0	1	1	0	2	32		
16:45	17:00	0	36	3	0	0	0	0	1	35		
17:00	17:15	0	56	5	0	0	1	2	4	27		
17:15	17:30	0	49	4	0	0	0	0	3	39		
17:30	17:45	0	52	1	0	0	0	0	1	33		
17:45	18:00	0	52	9	0	0	0	0	3	28		

Peak Time		East Approach Regent St			South Approach Discovery Ln			West Approach Regent St			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
8:00	9:00	0	66	1	0	0	0	0	3	126	199
17:00	18:00	0	209	19	0	0	1	2	11	127	369

Heavy Vehicles

Time		East Approach Regent St			South Approach Discovery Ln			West Approach Regent St			Hourly Total	
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	Hour	Peak
7:00	7:15	1	0	0	0	0	0	0	0	0		
7:15	7:30	0	0	0	0	0	0	0	0	0		
7:30	7:45	0	1	0	0	0	0	0	0	0		
7:45	8:00	0	0	0	0	0	0	0	0	0		
8:00	8:15	0	0	0	0	0	0	0	0	0		
8:15	8:30	0	0	0	0	0	0	0	0	0		
8:30	8:45	0	0	0	0	0	0	0	0	0		
8:45	9:00	0	0	0	0	0	0	0	0	0		
15:00	15:15	0	0	0	0	0	0	0	0	0		
15:15	15:30	0	0	0	0	0	0	0	0	0		
15:30	15:45	0	0	0	0	0	0	0	0	0		
15:45	16:00	0	0	0	0	0	0	0	0	0		
16:00	16:15	0	0	0	0	0	0	0	0	1		
16:15	16:30	0	1	0	0	0	0	0	0	0		
16:30	16:45	0	0	0	0	0	0	0	0	0		
16:45	17:00	0	0	0	0	0	0	0	0	0		
17:00	17:15	0	0	0	0	0	0	0	0	0		
17:15	17:30	0	0	0	0	0	0	0	0	0		
17:30	17:45	0	0	0	0	0	0	0	0	0		
17:45	18:00	0	0	0	0	0	0	0	0	0		

Peak Time		East Approach Regent St			South Approach Discovery Ln			West Approach Regent St			Peak total
Period Start	Period End	U	WB	L	U	R	L	U	R	EB	total
8:00	9:00	0	0	0	0	0	0	0	0	0	0
17:00	18:00	0	0	0	0	0	0	0	0	0	0

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TURNING MOVEMENT SURVEY
Intersection of Church St and Carpark, Belmont

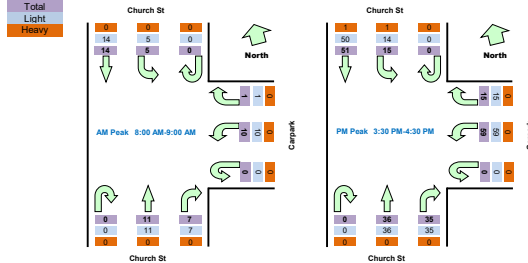
Date: -38.173647,144.342475	North: Church St	Survey AM: 7:00 AM-9:00 AM
Weather: Thu 01/12/22	East: Carpark	Period PM: 3:30 PM-4:30 PM
Suburban: Belmont	South: Church St	Traffic AM: 8:00 AM-9:30 AM
Customer: Rialto	West: N/A	Peak PM: 3:30 PM-4:30 PM

All Vehicles

Time	North Approach Church St	East Approach Carpark	South Approach Church St	Hourly Total								
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
7:00	7:15	0	1	0	0	0	1	0	1	0	14	
7:15	7:30	0	0	0	0	0	0	0	0	2	18	
7:30	7:45	0	0	3	0	1	1	0	0	1	31	
7:45	8:00	0	0	0	0	1	0	0	1	1	37	
8:00	8:15	0	2	0	0	0	1	0	1	3	48	Peak
8:15	8:30	0	4	2	0	0	6	0	0	3		
8:30	8:45	0	4	1	0	1	1	0	2	3		
8:45	9:00	0	4	2	0	0	2	0	4	2		
15:00	15:15	0	10	4	0	6	7	0	2	8	183	
15:15	15:30	0	15	2	0	2	14	0	7	6	203	
15:30	15:45	0	13	4	0	3	12	0	9	8	211	Peak
15:45	16:00	0	16	2	0	4	12	0	7	10	203	
16:00	16:15	0	12	5	0	4	16	0	10	10	195	
16:15	16:30	0	10	4	0	4	19	0	9	8	189	
16:30	16:45	0	7	3	0	3	8	0	11	9	173	
16:45	17:00	0	14	0	0	5	11	0	6	7	186	
17:00	17:15	0	11	3	0	9	10	0	8	10	187	
17:15	17:30	0	8	5	0	4	10	0	2	9		
17:30	17:45	0	11	4	0	7	15	0	9	8		
17:45	18:00	0	16	4	0	7	3	0	7	7		

Peak Time	North Approach Church St	East Approach Carpark	South Approach Church St	Peak total							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:00	9:00	0	14	5	0	1	10	0	7	11	48
15:30	16:30	0	51	15	0	15	59	0	35	36	211

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time	North Approach Church St	East Approach Carpark	South Approach Church St							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	1	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	2
7:30	7:45	0	0	2	0	0	1	0	0	1
7:45	8:00	0	0	0	0	1	0	0	1	1
8:00	8:15	0	2	0	0	0	1	0	1	3
8:15	8:30	0	4	2	0	0	6	0	0	3
8:30	8:45	0	4	1	0	1	1	0	2	3
8:45	9:00	0	4	2	0	0	2	0	4	2
15:00	15:15	0	10	4	0	5	7	0	2	8
15:15	15:30	0	15	2	0	2	14	0	7	6
15:30	15:45	0	12	4	0	3	12	0	9	8
15:45	16:00	0	16	2	0	4	12	0	7	10
16:00	16:15	0	12	5	0	4	16	0	10	10
16:15	16:30	0	10	3	0	4	19	0	9	8
16:30	16:45	0	7	3	0	3	7	0	10	9
16:45	17:00	0	14	0	0	4	11	0	6	7
17:00	17:15	0	11	3	0	9	10	0	8	10
17:15	17:30	0	8	5	0	4	10	0	2	9
17:30	17:45	0	11	4	0	7	15	0	9	8
17:45	18:00	0	15	4	0	7	3	0	7	7

Peak Time	North Approach Church St	East Approach Carpark	South Approach Church St	Peak total							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:00	9:00	0	14	5	0	1	10	0	7	11	48
15:30	16:30	0	50	14	0	15	59	0	35	36	209

Heavy Vehicles

Time	North Approach Church St	East Approach Carpark	South Approach Church St							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	0	0	0	0	1	0	1	0
7:15	7:30	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	1	0	1	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	1	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0	0	0
15:30	15:45	0	1	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	1	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	1	0	1	0
16:45	17:00	0	0	0	0	1	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0
17:45	18:00	0	1	0	0	0	0	0	0	0

Peak Time	North Approach Church St	East Approach Carpark	South Approach Church St	Peak total							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:00	9:00	0	0	0	0	0	0	0	0	0	0
15:30	16:30	0	1	1	0	0	0	0	0	0	2

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TURNING MOVEMENT SURVEY
Intersection of Church St and Carpark, Belmont

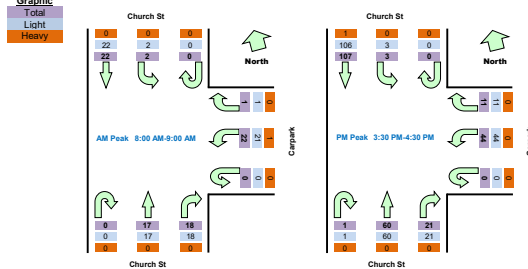
GPS: -38.173762, 144.342318	North: Church St	Survey AM: 7:00 AM-9:00 AM
Date: Thu 01/12/22	East: Carpark	Period PM: 3:30 PM-4:30 PM
Weather: Belmont	South: Church St	Traffic AM: 8:00 AM-9:30 AM
Suburban: Belmont	West: N/A	Peak PM: 3:30 PM-4:30 PM
Customer: Rialto		

All Vehicles

Time	North Approach Church St	East Approach Carpark	South Approach Church St	Hourly Total								
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
7:00	7:15	0	2	0	0	0	1	0	1	1	34	
7:15	7:30	0	0	0	0	1	5	0	2	1	47	
7:30	7:45	0	1	0	0	0	4	0	6	1	60	
7:45	8:00	0	0	0	0	0	5	0	1	2	71	
8:00	8:15	0	3	0	0	0	8	0	3	4	82	Peak
8:15	8:30	0	9	1	0	1	4	0	5	2		
8:30	8:45	0	5	0	0	0	5	0	8	5		
8:45	9:00	0	5	1	0	0	5	0	2	6		
15:00	15:15	0	17	0	0	2	12	0	7	8	220	
15:15	15:30	0	29	0	0	2	11	1	2	11	243	
15:30	15:45	0	24	1	0	1	7	0	6	16	247	Peak
15:45	16:00	0	27	1	0	3	11	0	7	14	243	
16:00	16:15	0	27	1	0	4	13	1	7	16	235	
16:15	16:30	0	29	0	0	3	13	0	1	14	219	
16:30	16:45	0	15	0	0	0	16	0	0	20	200	
16:45	17:00	0	25	0	0	2	15	0	2	11	215	
17:00	17:15	0	21	0	0	3	10	1	3	15	208	
17:15	17:30	0	18	0	0	1	11	0	1	10		
17:30	17:45	0	26	0	0	1	18	0	5	16		
17:45	18:00	0	17	2	0	0	13	0	2	14		

Peak Time	North Approach Church St	East Approach Carpark	South Approach Church St	Peak total							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Peak total
8:00	9:00	0	22	2	0	1	22	0	18	17	82
15:30	16:30	0	107	3	0	11	44	1	21	60	247

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Time	North Approach Church St	East Approach Carpark	South Approach Church St							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	1	0	0	0	1	0	1	0
7:15	7:30	0	0	0	0	1	5	0	2	1
7:30	7:45	0	1	0	0	0	4	0	6	1
7:45	8:00	0	0	0	0	0	5	0	1	2
8:00	8:15	0	3	0	0	0	7	0	3	4
8:15	8:30	0	9	1	0	1	4	0	5	2
8:30	8:45	0	5	0	0	0	5	0	8	5
8:45	9:00	0	5	1	0	0	5	0	2	6
15:00	15:15	0	17	0	0	2	12	0	7	8
15:15	15:30	0	29	0	0	2	11	1	2	11
15:30	15:45	0	23	1	0	1	7	0	6	16
15:45	16:00	0	27	1	0	3	11	0	7	14
16:00	16:15	0	27	1	0	4	13	1	7	16
16:15	16:30	0	29	0	0	3	13	0	1	14
16:30	16:45	0	14	0	0	0	16	0	0	19
16:45	17:00	0	25	0	0	2	15	0	2	11
17:00	17:15	0	21	0	0	3	10	1	3	15
17:15	17:30	0	18	0	0	1	11	0	1	10
17:30	17:45	0	26	0	0	1	18	0	5	16
17:45	18:00	0	16	2	0	0	13	0	2	14

Peak Time	North Approach Church St	East Approach Carpark	South Approach Church St	Peak total							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Peak total
8:00	9:00	0	22	2	0	1	21	0	18	17	81
15:30	16:30	0	106	3	0	11	44	1	21	60	246

Heavy Vehicles

Time	North Approach Church St	East Approach Carpark	South Approach Church St							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	1	0	0	0	0	0	0	1
7:15	7:30	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0
8:00	8:15	0	0	0	0	0	1	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	0
8:30	8:45	0	0	0	0	0	0	0	0	0
8:45	9:00	0	0	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0	0	0
15:30	15:45	0	1	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0	0	0
16:30	16:45	0	1	0	0	0	0	0	0	1
16:45	17:00	0	0	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0
17:45	18:00	0	1	0	0	0	0	0	0	0

Peak Time	North Approach Church St	East Approach Carpark	South Approach Church St	Peak total							
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Peak total
8:00	9:00	0	0	0	0	0	1	0	0	0	1
15:30	16:30	0	1	0	0	0	0	0	0	0	1

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TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Carpark and High St, Belmont

GPS -38.173991,144.343778

Date:	Sat 03/12/22
Weather:	Fine
Suburban:	Belmont
Customer:	Ratio

North:	High St
East:	N/A
South:	High St
West:	Carpark

Survey Period	AM:	11:00 AM-12:00 PM
	PM:	12:00 PM-1:00 PM
Traffic Peak	AM:	11:30 AM-12:30 PM
	PM:	12:00 PM-1:00 PM

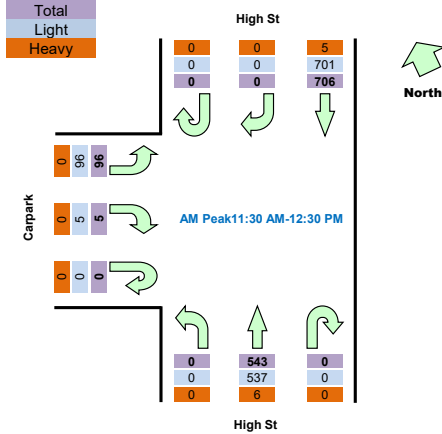
All Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
11:00	11:15	1	0	153	0	140	0	0	2	24	1312	
11:15	11:30	0	0	167	0	114	0	0	1	21	1325	
11:30	11:45	0	0	191	0	135	0	0	1	22	1350	Peak
11:45	12:00	0	0	166	0	150	0	0	0	24	1346	
12:00	12:15	0	0	177	0	131	0	0	0	25	1304	
12:15	12:30	0	0	172	0	127	0	0	4	25		
12:30	12:45	0	0	185	0	133	0	0	0	27		
12:45	13:00	0	0	162	0	117	0	0	2	17		

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
11:30	12:30	0	0	706	0	543	0	0	5	96	1350

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic



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Light Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
11:00	11:15	1	0	151	0	140	0	0	2	24
11:15	11:30	0	0	165	0	114	0	0	1	21
11:30	11:45	0	0	190	0	133	0	0	1	22
11:45	12:00	0	0	165	0	150	0	0	0	24
12:00	12:15	0	0	175	0	128	0	0	0	25
12:15	12:30	0	0	171	0	126	0	0	4	25
12:30	12:45	0	0	184	0	131	0	0	0	27
12:45	13:00	0	0	160	0	116	0	0	2	17

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
11:30	12:30	0	0	701	0	537	0	0	5	96	1339

Heavy Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
11:00	11:15	0	0	2	0	0	0	0	0	0
11:15	11:30	0	0	2	0	0	0	0	0	0
11:30	11:45	0	0	1	0	2	0	0	0	0
11:45	12:00	0	0	1	0	0	0	0	0	0
12:00	12:15	0	0	2	0	3	0	0	0	0
12:15	12:30	0	0	1	0	1	0	0	0	0
12:30	12:45	0	0	1	0	2	0	0	0	0
12:45	13:00	0	0	2	0	1	0	0	0	0

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
11:30	12:30	0	0	5	0	6	0	0	0	0	11

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Carpark and High St, Belmont

GPS -38.174222,144.343557

Date:	Sat 03/12/22
Weather:	Fine
Suburban:	Belmont
Customer:	Ratio

North:	High St
East:	N/A
South:	High St
West:	Carpark

Survey Period	AM:	11:00 AM-12:00 PM
	PM:	12:00 PM-1:00 PM
Traffic Peak	AM:	11:30 AM-12:30 PM
	PM:	12:00 PM-1:00 PM

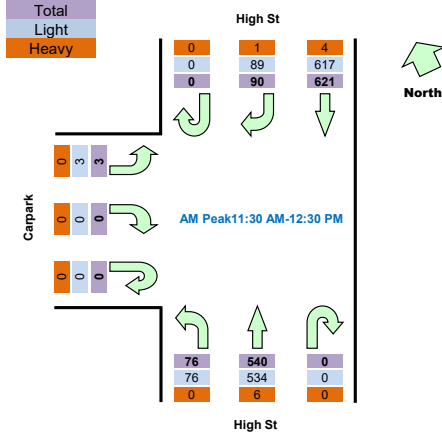
All Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark			Hourly Total	
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
11:00	11:15	0	20	135	0	140	21	0	0	0	1292	
11:15	11:30	0	18	150	0	114	17	0	0	0	1305	
11:30	11:45	0	23	169	0	134	18	0	0	1	1330	Peak
11:45	12:00	0	19	147	0	150	16	0	0	0	1320	
12:00	12:15	0	26	151	0	129	21	0	0	2	1287	
12:15	12:30	0	22	154	0	127	21	0	0	0		
12:30	12:45	1	15	169	0	132	18	0	0	0		
12:45	13:00	0	21	143	0	117	18	0	0	0		

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
11:30	12:30	0	90	621	0	540	76	0	0	3	1330

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic



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Light Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
11:00	11:15	0	20	133	0	140	21	0	0	0
11:15	11:30	0	18	148	0	114	17	0	0	0
11:30	11:45	0	23	168	0	132	18	0	0	1
11:45	12:00	0	19	146	0	150	16	0	0	0
12:00	12:15	0	25	150	0	126	21	0	0	2
12:15	12:30	0	22	153	0	126	21	0	0	0
12:30	12:45	1	15	168	0	130	18	0	0	0
12:45	13:00	0	21	141	0	116	18	0	0	0

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
11:30	12:30	0	89	617	0	534	76	0	0	3	1319

Heavy Vehicles

Time		North Approach High St			South Approach High St			West Approach Carpark		
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
11:00	11:15	0	0	2	0	0	0	0	0	0
11:15	11:30	0	0	2	0	0	0	0	0	0
11:30	11:45	0	0	1	0	2	0	0	0	0
11:45	12:00	0	0	1	0	0	0	0	0	0
12:00	12:15	0	1	1	0	3	0	0	0	0
12:15	12:30	0	0	1	0	1	0	0	0	0
12:30	12:45	0	0	1	0	2	0	0	0	0
12:45	13:00	0	0	2	0	1	0	0	0	0

Peak Time		North Approach High St			South Approach High St			West Approach Carpark			Peak total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	
11:30	12:30	0	1	4	0	6	0	0	0	0	11

TRANS TRAFFIC SURVEY

TURNING MOVEMENT SURVEY

trafficsurvey.com.au



Intersection of Church St and Carpark, Belmont

GPS -38.173647, 144.342475

Date:	Sat 03/12/22
Weather:	Fine
Suburban:	Belmont
Customer:	Ratio

North:	Church St
East:	Carpark
South:	Church St
West:	N/A

Survey Period	AM:	11:00 AM-12:00 PM
	PM:	12:00 PM-1:00 PM
Traffic Peak	AM:	11:00 AM-12:00 PM
	PM:	12:00 PM-1:00 PM

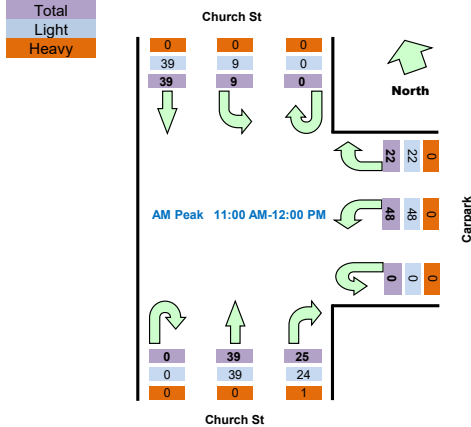
All Vehicles

Time		North Approach Church St			East Approach Carpark			South Approach Church St			Hourly Total	
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
11:00	11:15	0	11	5	0	7	9	0	7	13	182	Peak
11:15	11:30	0	13	4	0	3	17	0	6	11	173	
11:30	11:45	0	11	0	0	4	16	0	6	7	163	
11:45	12:00	0	4	0	0	8	6	0	6	8	156	
12:00	12:15	0	13	1	0	3	10	0	5	11	173	
12:15	12:30	0	14	2	0	7	6	0	5	10		
12:30	12:45	0	12	3	0	3	8	0	3	8		
12:45	13:00	0	7	5	0	6	19	0	7	5		

Peak Time		North Approach Church St			East Approach Carpark			South Approach Church St			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
11:00	12:00	0	39	9	0	22	48	0	25	39	182

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.

Graphic



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Light Vehicles

Time		North Approach Church St			East Approach Carpark			South Approach Church St		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
11:00	11:15	0	11	5	0	7	9	0	7	13
11:15	11:30	0	13	4	0	3	17	0	5	11
11:30	11:45	0	11	0	0	4	16	0	6	7
11:45	12:00	0	4	0	0	8	6	0	6	8
12:00	12:15	0	13	1	0	3	10	0	5	10
12:15	12:30	0	14	2	0	7	5	0	5	10
12:30	12:45	0	12	3	0	3	8	0	3	8
12:45	13:00	0	7	5	0	6	19	0	7	5

Peak Time		North Approach Church St			East Approach Carpark			South Approach Church St			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
11:00	12:00	0	39	9	0	22	48	0	24	39	181

Heavy Vehicles

Time		North Approach Church St			East Approach Carpark			South Approach Church St		
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
11:00	11:15	0	0	0	0	0	0	0	0	0
11:15	11:30	0	0	0	0	0	0	0	1	0
11:30	11:45	0	0	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0	0	1
12:15	12:30	0	0	0	0	0	1	0	0	0
12:30	12:45	0	0	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0	0	0

Peak Time		North Approach Church St			East Approach Carpark			South Approach Church St			Peak total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	
11:00	12:00	0	0	0	0	0	0	0	1	0	1

Appendix G SIDRA Modelling Results

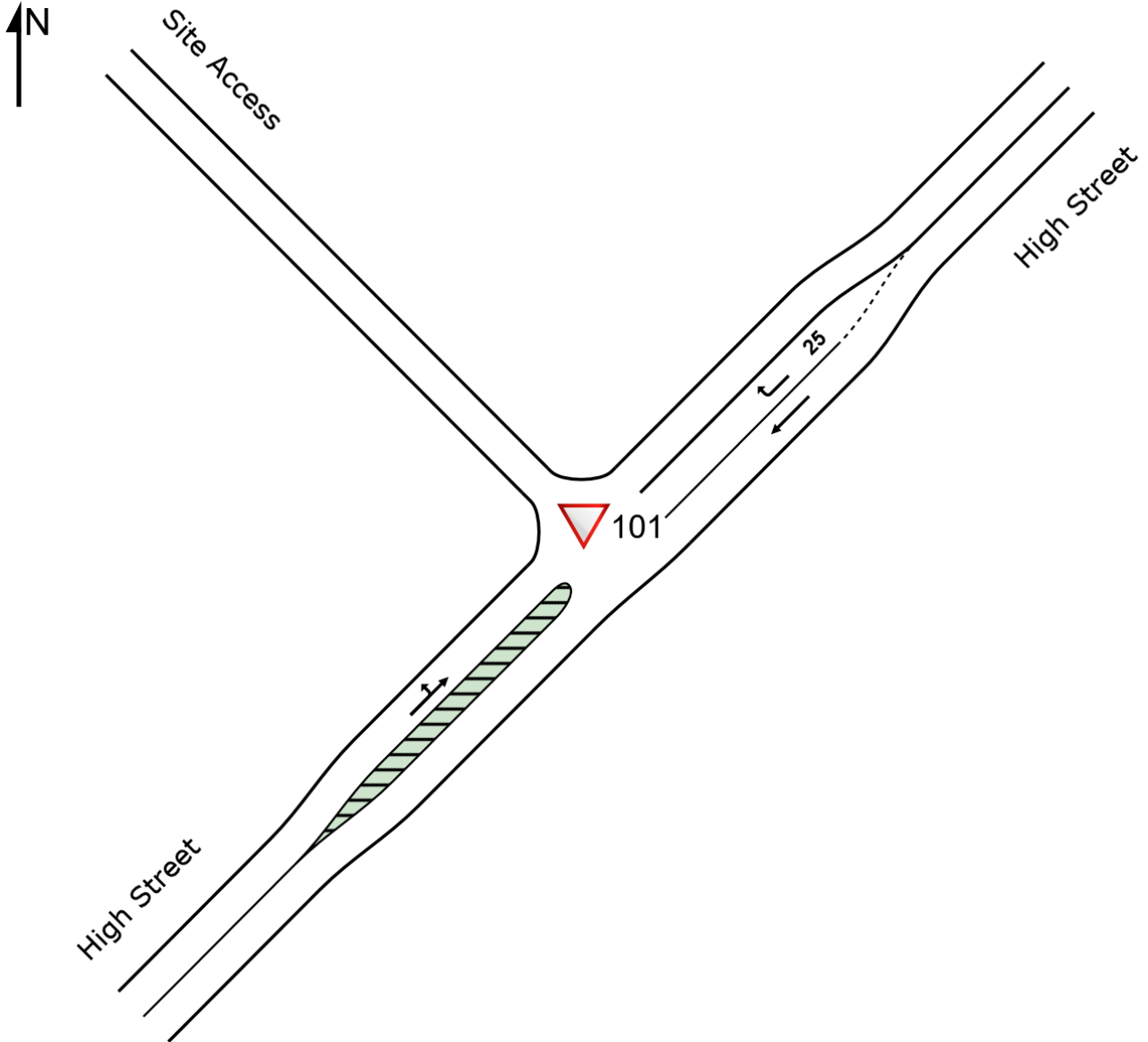
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SITE LAYOUT

▽ Site: 101 [Ex - High St Ingress - PM (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Ex - High St Ingress - PM (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	668	5.0	703	5.0	0.374	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.9
26	R2	71	0.0	75	0.0	0.077	6.7	LOS A	0.3	2.2	0.48	0.66	0.48	37.0
Approach		739	4.5	778	4.5	0.374	0.8	NA	0.3	2.2	0.05	0.06	0.05	39.6
SouthWest: High Street														
30	L2	60	0.0	63	0.0	0.338	3.5	LOS A	0.0	0.0	0.00	0.05	0.00	39.9
31	T1	546	5.0	575	5.0	0.338	0.1	LOS A	0.0	0.0	0.00	0.05	0.00	39.7
Approach		606	4.5	638	4.5	0.338	0.5	NA	0.0	0.0	0.00	0.05	0.00	39.7
All Vehicles		1345	4.5	1416	4.5	0.374	0.7	NA	0.3	2.2	0.03	0.06	0.03	39.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Ex - High St Ingress - Sat (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	621	5.0	654	5.0	0.349	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.9
26	R2	90	0.0	95	0.0	0.099	6.8	LOS A	0.4	2.8	0.50	0.67	0.50	37.0
Approach		711	4.4	748	4.4	0.349	1.0	NA	0.4	2.8	0.06	0.09	0.06	39.5
SouthWest: High Street														
30	L2	76	0.0	80	0.0	0.344	3.5	LOS A	0.0	0.0	0.00	0.06	0.00	39.8
31	T1	540	5.0	568	5.0	0.344	0.1	LOS A	0.0	0.0	0.00	0.06	0.00	39.7
Approach		616	4.4	648	4.4	0.344	0.6	NA	0.0	0.0	0.00	0.06	0.00	39.7
All Vehicles		1327	4.4	1397	4.4	0.349	0.8	NA	0.4	2.8	0.03	0.07	0.03	39.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

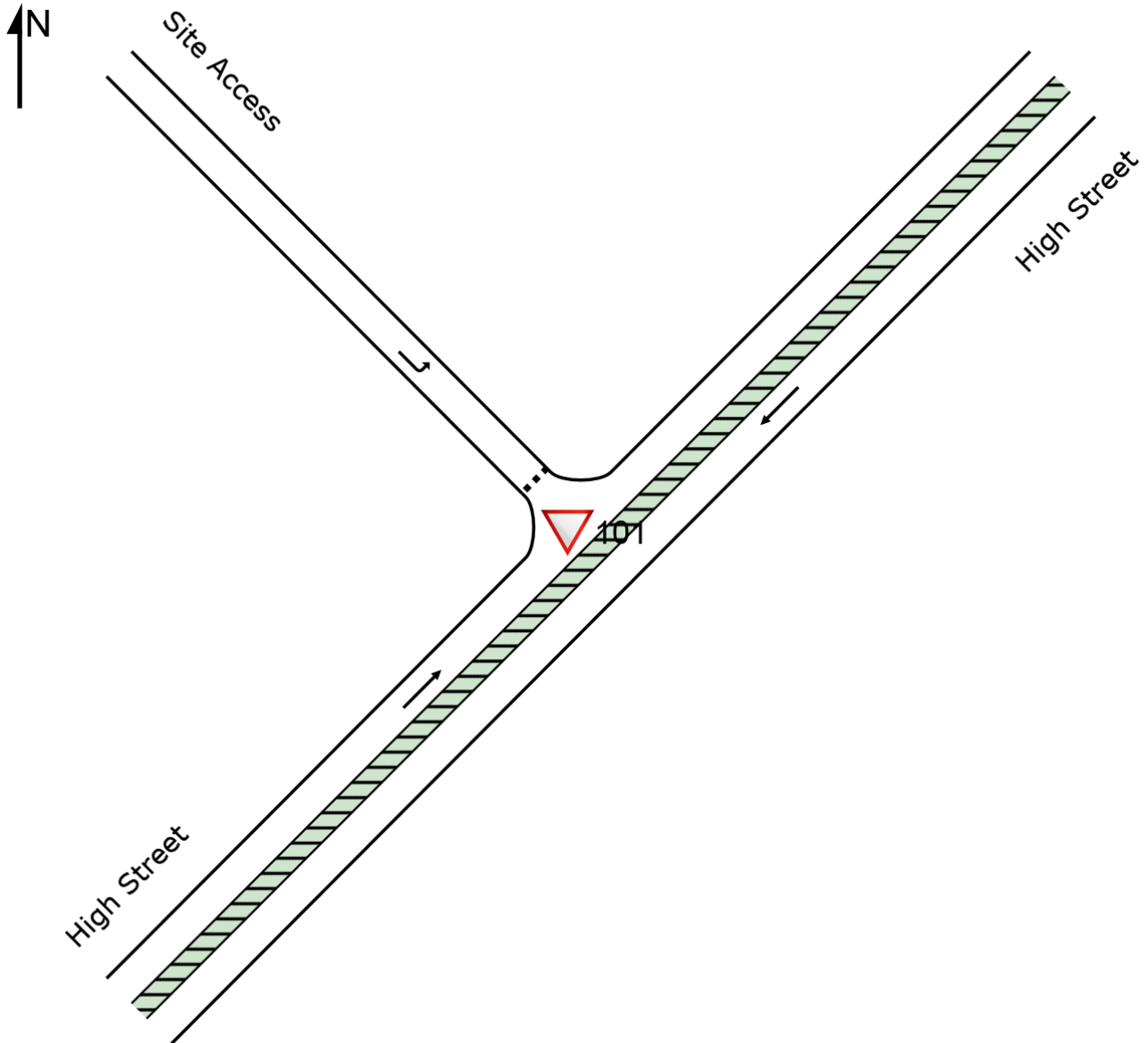
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SITE LAYOUT

▽ Site: 101 [Ex - High St Egress - PM (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Ex - High St Egress - PM (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	737	5.0	776	5.0	0.411	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.8
Approach		737	5.0	776	5.0	0.411	0.2	NA	0.0	0.0	0.00	0.00	0.00	39.8
NorthWest: Site Access														
27	L2	84	1.0	88	1.0	0.093	6.0	LOS A	0.4	2.9	0.53	0.64	0.53	37.7
Approach		84	1.0	88	1.0	0.093	6.0	LOS A	0.4	2.9	0.53	0.64	0.53	37.7
SouthWest: High Street														
31	T1	546	5.0	575	5.0	0.304	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	39.9
Approach		546	5.0	575	5.0	0.304	0.1	NA	0.0	0.0	0.00	0.00	0.00	39.9
All Vehicles		1367	4.8	1439	4.8	0.411	0.5	NA	0.4	2.9	0.03	0.04	0.03	39.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Ex - High St Egress - Sat (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	706	5.0	743	5.0	0.393	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.8
Approach		706	5.0	743	5.0	0.393	0.2	NA	0.0	0.0	0.00	0.00	0.00	39.8
NorthWest: Site Access														
27	L2	96	1.0	101	1.0	0.106	6.0	LOS A	0.5	3.3	0.53	0.64	0.53	37.7
Approach		96	1.0	101	1.0	0.106	6.0	LOS A	0.5	3.3	0.53	0.64	0.53	37.7
SouthWest: High Street														
31	T1	543	5.0	572	5.0	0.303	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	39.9
Approach		543	5.0	572	5.0	0.303	0.1	NA	0.0	0.0	0.00	0.00	0.00	39.9
All Vehicles		1345	4.7	1416	4.7	0.393	0.6	NA	0.5	3.3	0.04	0.05	0.04	39.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
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 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

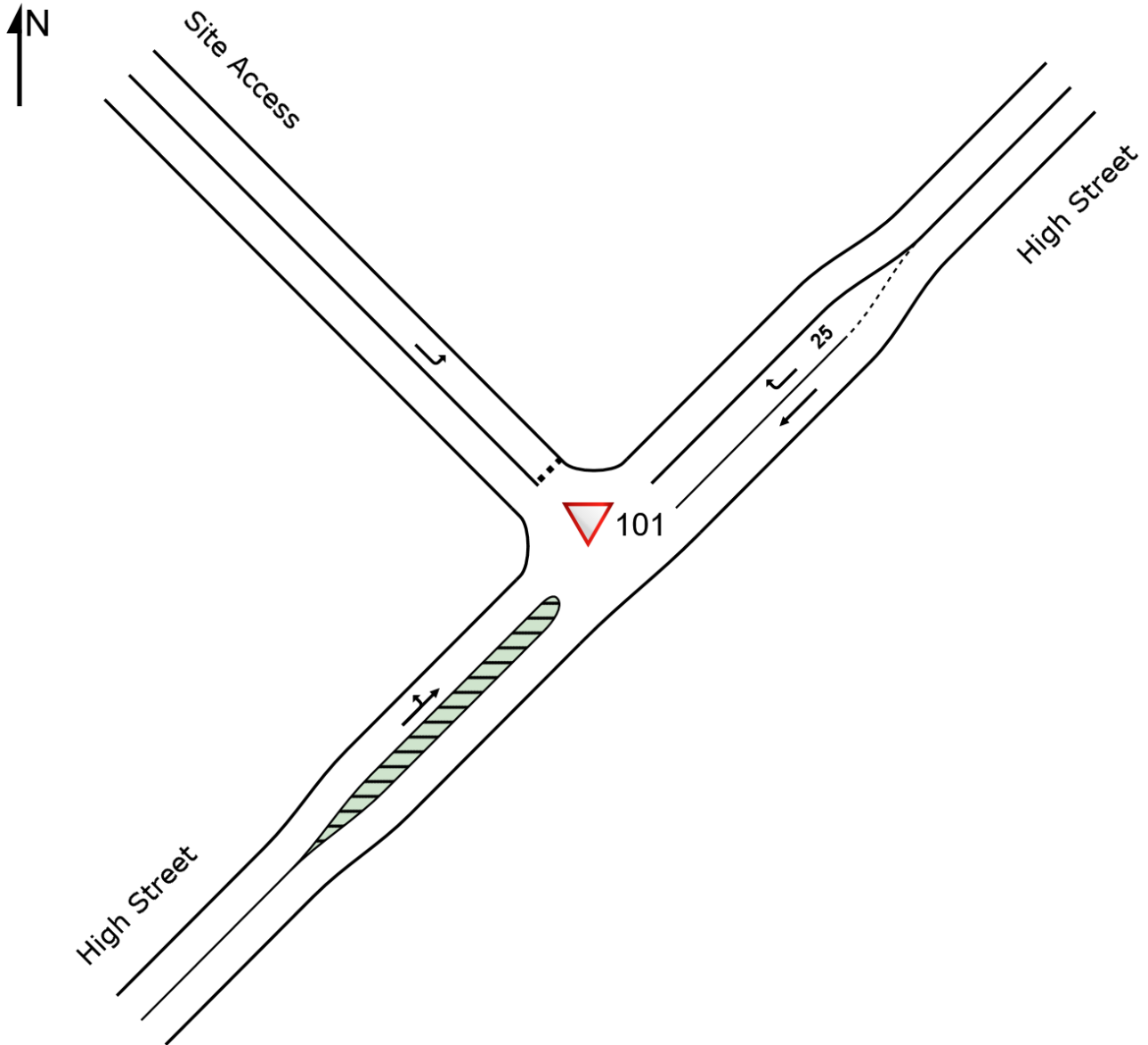
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SITE LAYOUT

▽ Site: 101 [Redis - High St - PM (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Redis - High St - PM (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	737	5.0	776	5.0	0.414	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.8
26	R2	96	0.0	101	0.0	0.110	6.8	LOS A	0.4	3.1	0.52	0.67	0.52	37.1
Approach		833	4.4	877	4.4	0.414	1.0	NA	0.4	3.1	0.06	0.08	0.06	39.5
NorthWest: Site Access														
27	L2	199	0.0	209	0.0	0.218	8.4	LOS A	1.0	7.2	0.57	0.74	0.57	51.5
Approach		199	0.0	209	0.0	0.218	8.4	LOS A	1.0	7.2	0.57	0.74	0.57	51.5
SouthWest: High Street														
30	L2	96	0.0	101	0.0	0.359	3.5	LOS A	0.0	0.0	0.00	0.07	0.00	39.8
31	T1	546	5.0	575	5.0	0.359	0.2	LOS A	0.0	0.0	0.00	0.07	0.00	39.6
Approach		642	4.3	676	4.3	0.359	0.7	NA	0.0	0.0	0.00	0.07	0.00	39.7
All Vehicles		1674	3.8	1762	3.8	0.414	1.7	NA	1.0	7.2	0.10	0.15	0.10	40.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Redis - High St - Sat (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	706	5.0	743	5.0	0.397	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.8
26	R2	108	0.0	114	0.0	0.124	6.9	LOS A	0.5	3.5	0.53	0.68	0.53	37.0
Approach		814	4.3	857	4.3	0.397	1.1	NA	0.5	3.5	0.07	0.09	0.07	39.4
NorthWest: Site Access														
27	L2	206	0.0	217	0.0	0.224	8.3	LOS A	1.1	7.5	0.57	0.74	0.57	51.5
Approach		206	0.0	217	0.0	0.224	8.3	LOS A	1.1	7.5	0.57	0.74	0.57	51.5
SouthWest: High Street														
30	L2	108	0.0	114	0.0	0.362	3.6	LOS A	0.0	0.0	0.00	0.08	0.00	39.8
31	T1	540	5.0	568	5.0	0.362	0.2	LOS A	0.0	0.0	0.00	0.08	0.00	39.6
Approach		648	4.2	682	4.2	0.362	0.7	NA	0.0	0.0	0.00	0.08	0.00	39.6
All Vehicles		1668	3.7	1756	3.7	0.397	1.8	NA	1.1	7.5	0.10	0.17	0.10	40.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Vehicle movement LOS values are based on average delay per movement.
 Minor Road Approach LOS values are based on average delay for all vehicle movements.
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
 Delay Model: SIDRA Standard (Geometric Delay is included).
 Queue Model: SIDRA Standard.
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

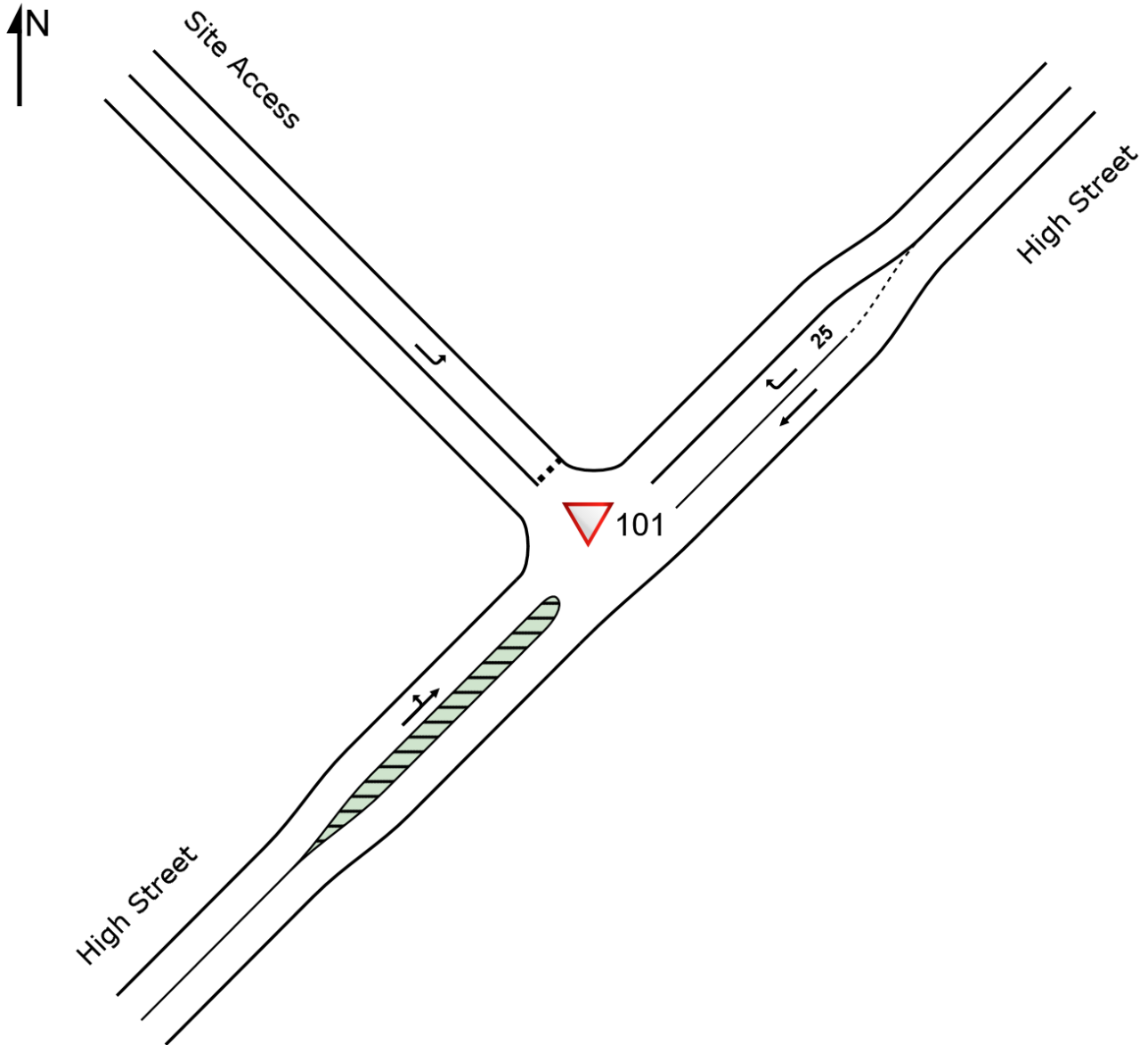
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SITE LAYOUT

▽ Site: 101 [Post Redev - High St - PM (Site Folder: General)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Post Redev - High St - PM (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	710	5.0	747	5.0	0.399	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.8
26	R2	128	0.0	135	0.0	0.147	6.9	LOS A	0.6	4.2	0.53	0.69	0.53	37.0
Approach		838	4.2	882	4.2	0.399	1.2	NA	0.6	4.2	0.08	0.11	0.08	39.4
NorthWest: Site Access														
27	L2	264	0.0	278	0.0	0.280	8.3	LOS A	1.4	9.8	0.58	0.75	0.58	51.5
Approach		264	0.0	278	0.0	0.280	8.3	LOS A	1.4	9.8	0.58	0.75	0.58	51.5
SouthWest: High Street														
30	L2	128	0.0	135	0.0	0.362	3.6	LOS A	0.0	0.0	0.00	0.09	0.00	39.7
31	T1	519	5.0	546	5.0	0.362	0.2	LOS A	0.0	0.0	0.00	0.09	0.00	39.6
Approach		647	4.0	681	4.0	0.362	0.8	NA	0.0	0.0	0.00	0.09	0.00	39.6
All Vehicles		1749	3.5	1841	3.5	0.399	2.1	NA	1.4	9.8	0.13	0.20	0.13	40.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 101 [Post Redev - High St - Sat (Site Folder: General)]

New Site
 Site Category: (None)
 Give-Way (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[Total veh/h]	[HV %]	[Total veh/h]	[HV %]				[Veh. veh]	[Dist m]				
NorthEast: High Street														
25	T1	676	5.0	712	5.0	0.380	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	39.8
26	R2	141	0.0	148	0.0	0.163	7.0	LOS A	0.7	4.7	0.54	0.70	0.54	37.0
Approach		817	4.1	860	4.1	0.380	1.3	NA	0.7	4.7	0.09	0.12	0.09	39.3
NorthWest: Site Access														
27	L2	272	0.0	286	0.0	0.286	8.3	LOS A	1.4	10.0	0.57	0.74	0.57	51.6
Approach		272	0.0	286	0.0	0.286	8.3	LOS A	1.4	10.0	0.57	0.74	0.57	51.6
SouthWest: High Street														
30	L2	141	0.0	148	0.0	0.364	3.6	LOS A	0.0	0.0	0.00	0.10	0.00	39.7
31	T1	510	5.0	537	5.0	0.364	0.2	LOS A	0.0	0.0	0.00	0.10	0.00	39.5
Approach		651	3.9	685	3.9	0.364	0.9	NA	0.0	0.0	0.00	0.10	0.00	39.6
All Vehicles		1740	3.4	1832	3.4	0.380	2.3	NA	1.4	10.0	0.13	0.21	0.13	40.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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