

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Traffix Group

Traffic Engineering Assessment

Proposed Mixed Use Development
98-104 Riversdale Road, Hawthorn

Prepared for
Glenferrie Hill Pty Ltd

March 2026

G38194R-01B

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Document Control

Our Reference: G38194R-01B

Issue No.	Type	Date	Prepared By	Approved By
A	Draft	08/05/2026	J. Young	L. Furness
B	Final	19/05/2026	J. Young	L. Furness

AS/NZS ISO 45001-2018 Occupational Health & Safety Management Systems
AS/NZS ISO 14001 Environmental Management Systems
AS/NZS ISO 9001-2016 Quality Management Systems



COPYRIGHT: The ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd – ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

LIMITATION: This report has been prepared on behalf of and for the exclusive use of Traffix Group's client and is subject to and issued in connection with the provisions of the agreement between Traffix Group and its client. Traffix Group accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

Table of Contents

1.	Introduction.....	5
2.	Proposal.....	5
3.	Existing Conditions	6
3.1.	Subject Site.....	6
3.2.	Transport Network	11
3.2.1.	Road Network	11
3.2.2.	Car Parking Conditions	12
3.3.	Alternative Transport Modes	14
3.3.1.	Public Transport	14
3.3.2.	Bicycle Infrastructure	16
4.	Traffic Engineering Assessment	17
4.1.	Statutory Car Parking Assessment.....	17
4.1.1.	Exceeding the Maximum Car Parking Allowance	18
4.1.2.	Car Parking Demand Assessment	19
4.1.3.	Appropriateness of Providing Car Parking in Excess of the Maximum Requirement	20
4.2.	Bicycle Parking Provision.....	21
4.3.	Review of Carpark Layout and Vehicle Access Arrangements	23
4.4.	Land Adjacent to The Principal Road Network	28
4.4.1.	Decision Guidelines.....	28
4.4.2.	Assessment	29
4.5.	Loading and Waste Collection Arrangements	29
4.5.1.	Loading.....	29
4.5.2.	Waste Collection.....	29
4.6.	Traffic Impact Assessment	30
5.	Conclusions.....	32

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

List of Figures

Figure 1: Locality Plan (Source: Melway)	7
Figure 2: Aerial Photograph (Source: Metromap)	8
Figure 3: Land Use Zoning Map (Source: Planning Schemes Online)	9
Figure 4: Car Parking Requirement Map	10
Figure 5: Riversdale Road – view east	12
Figure 6: Riversdale Road – view west	12
Figure 7: Glen Street – view north	12
Figure 8: Glen Street – view south	12
Figure 9: Parking Survey Inventory (Source: Melway)	13
Figure 10: Public Transport Map (Source: PTV)	15
Figure 11: Principal Public Transport Network (Source: PTV)	15
Figure 12: Sustainable Transport Infrastructure (Source: Boroondara City Council)	16

List of Tables

Table 1: Development Summary	5
Table 2: Subject Site Description	6
Table 3: Local Road Network	11
Table 4: Summary of Public Transport Services	14
Table 5: Statutory Car Parking Assessment – Category 3 of Clause 52.06-5	18
Table 6: Assessment of exceeding the maximum requirement	20
Table 7: Statutory Bicycle Parking Assessment - Clause 52.34	22
Table 8: Design of Bicycle Parking	22
Table 9: Carpark Layout and Access Assessment	23

List of Appendices

Appendix A	Development Plans
Appendix B	Parking Inventory
Appendix C	Bicycle Rack Specification Sheet
Appendix D	Swept Path Diagrams

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

1. Introduction

Traffix Group has been engaged by Glenferrie Hill Pty Ltd to undertake a traffic engineering assessment for a proposed mixed use development at 98-104 Riversdale Road, Hawthorn.

2. Proposal

The proposal is for a mixed use development on the site as set out in the following table. A copy of the development plans prepared by Tristan Wong Architects are attached at Appendix A.

Table 1: Development Summary

Characteristics	Description		
Uses	Size/No.	Car Parking	Notes
Dwellings: Two-bedroom Apt. Three-bedroom Apt.	(42 total) 16 26	88	Parking rates: 2.1/dwelling
Medical Centre	229m ²	7	
Car Parking Provision	95 car spaces	88 resident spaces 7 medical centre	Located in basement. Resident parking and medical centre parking is separated by an internal gate.
Bicycle Parking Provision		42 resident spaces 10 visitor spaces 2 staff spaces 2 customer spaces	Located in basement Located at ground level (within medical centre building)
Other	Notes		
Vehicle Access	6.1m wide entry crossover to Glen Street		
Changes to on-street parking	One additional car space on Riversdale Road due to reinstated crossover (i.e. 8 spaces available post-development) No change to parking on Glen Street		
Loading Provision	Loading is proposed on-street, or on-site via smaller trucks and vans		
Waste Collection	Within basement carpark by private contractor using 6.4m Hino mini-waste truck		

3. Existing Conditions

3.1. Subject Site

The subject site is 98-104 Riversdale Road, Hawthorn. The table below summarises the key characteristics of the subject site.

Table 2: Subject Site Description

Characteristic	Description
Address	98-104 Riversdale Road, Hawthorn
Area	3,356m ²
Frontages	61m to Riversdale Road 59m to Glen Street
Zoning	Residential Growth Zone – Schedule 1
Car Parking Requirement Map	Category 3 (PTAL rating – medium public transport access)
Current use of site	Medical Centre / Office (Currently Vacant)
Car parking	4 x spaces accessed via Riversdale Road 28 x spaces accessed via Glen Street
Loading and waste collection	On-street
Vehicle access	1 x Single width via Riversdale Road 1 x Double Width via Glen Street
On-street parking along site frontages	13 spaces in total 6 x '2P 9am-5pm Mon-Fri' spaces on Glen Street 2 x 'Clearway 7am-9am Mon-Fri, Taxi Zone 9am-6pm Mon-Sun' spaces and 5 x 'Clearway 7am-9am Mon-Fri, 2P 9am-6pm Mon-Fri, 9am-12noon Sat' spaces on Riversdale Road

A locality plan, aerial photograph, land use zoning map and car parking requirement map is provided at Figure 1 to Figure 4, respectively.

Significant nearby land uses include:

- **IGA Supermarket** located 100m north.
- **Hawthorn Library** located 400m north.

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

- Glenferrie Road Activity Centre beginning 400m north.

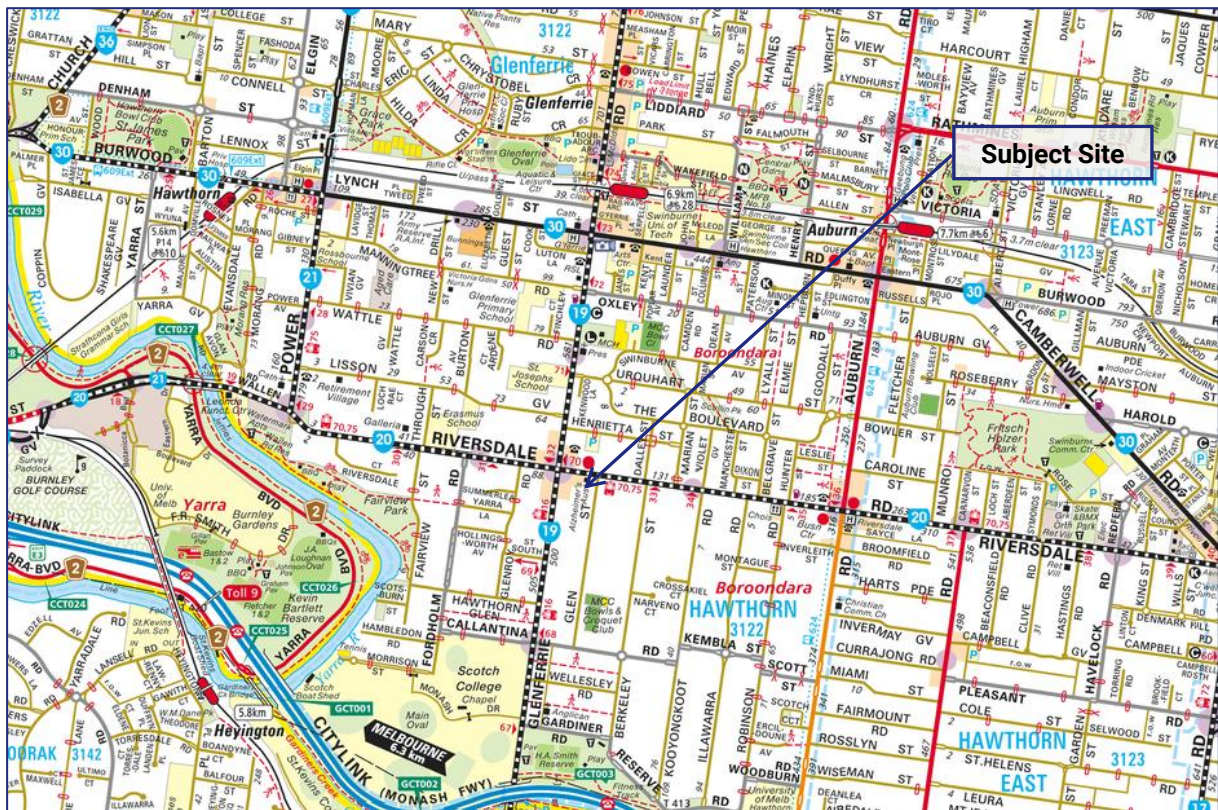


Figure 1: Locality Plan (Source: Melway)

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn



Figure 2: Aerial Photograph (Source: Metromap)

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

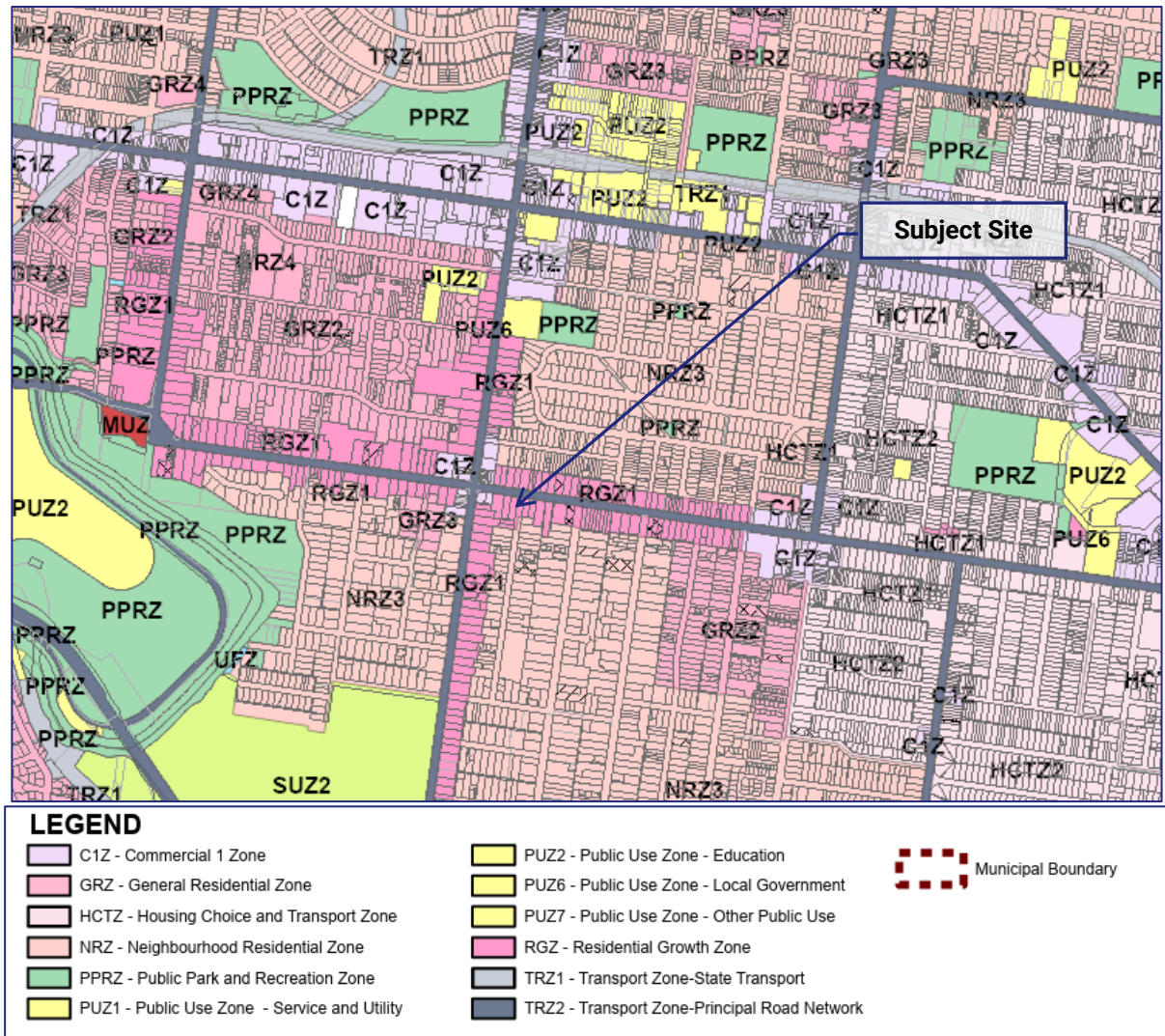


Figure 3: Land Use Zoning Map (Source: Planning Schemes Online)

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

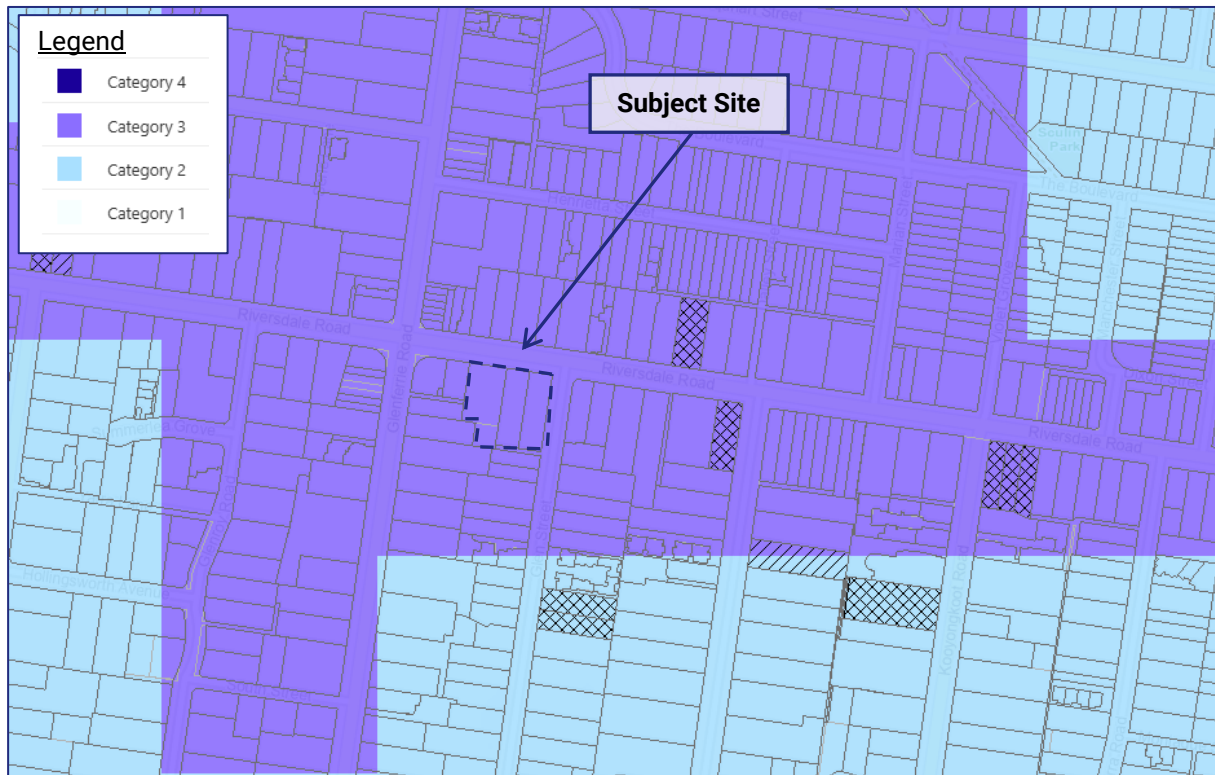


Figure 4: Car Parking Requirement Map (source: VicPlan)

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

3.2. Transport Network

3.2.1. Road Network

A summary of the local road network is provided in the table below.

Photographs of the surrounding road network are presented at Figure 5 to Figure 8.

Table 3: Local Road Network

Road Name	Agency	Classification	Transport Zone	Configuration	Speed Limit	On-Street Parking
Riversdale Road	DTP	Arterial Road	TRZ2	4 traffic lanes (2 in each direction) Tram tracks in centre lanes Footpath on both sides	60km/h	Kerbside on both sides with AM and PM clearway restrictions apply on the south side and north side, respectively.
Glen Street	Council	Local Access Road	No	10.1m undivided wide carriageway Carriageway narrows locally to 7.1m Footpath on both sides	50km/h	Short term parking on weekday business hours.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



Figure 5: Riversdale Road – view east



Figure 6: Riversdale Road – view west



Figure 7: Glen Street – view north



Figure 8: Glen Street – view south

3.2.2. Car Parking Conditions

Traffix Group completed an inventory of on-street parking during the site inspection on Wednesday 11th March, 2026 at 9:00am.

The purpose of the inventory was to ascertain the supply and management of car parking in the area, not to assess the demand for car parking. As set out at Section 4.1, the development satisfies its statutory requirements. Accordingly, the availability of on-street car parking is not a strong consideration for this proposal.

The detailed parking inventory is presented at Appendix B.

The survey area is presented in the figure below, which comprises an area of approximately 200m around the subject site.

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

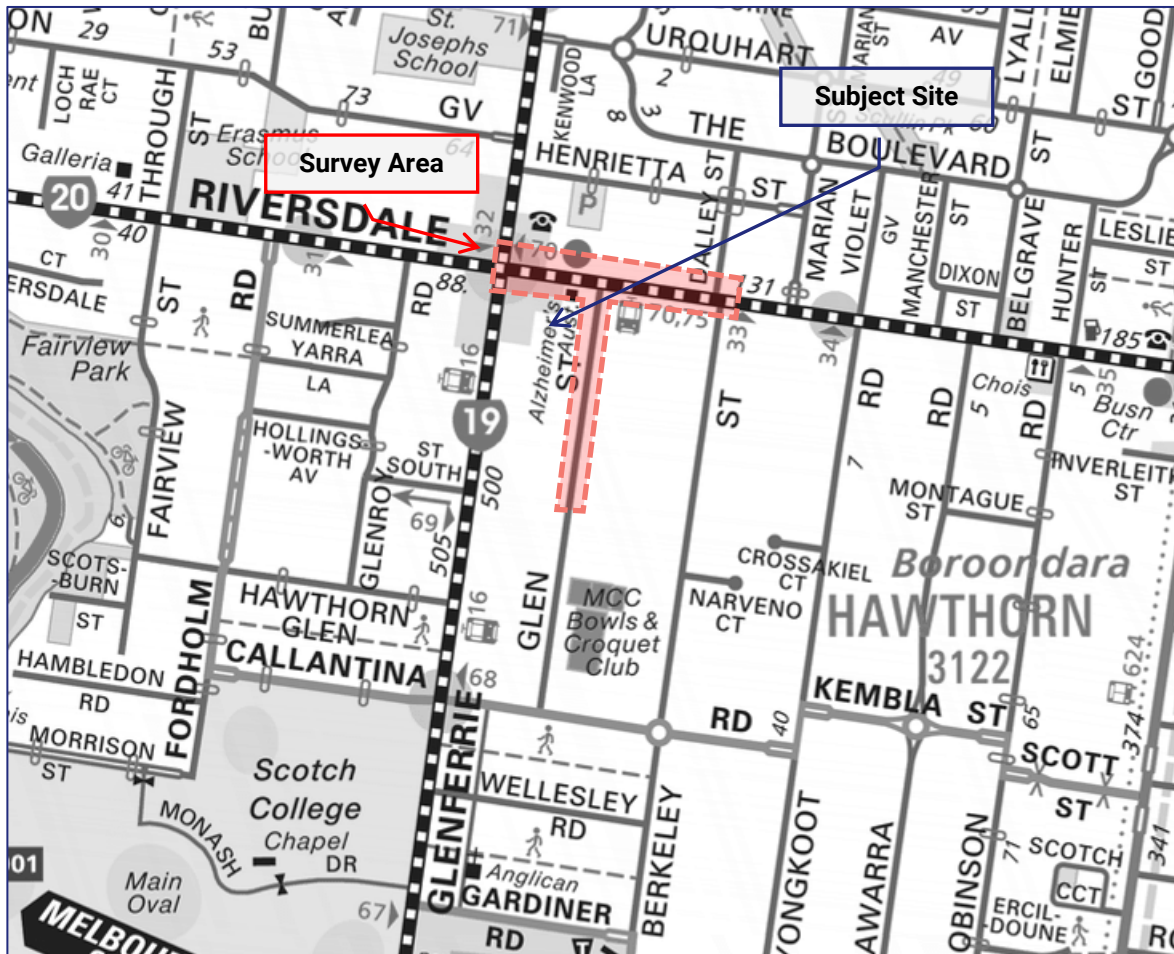


Figure 9: Parking Survey Inventory (Source: Melway)

The key findings of the inventory were:

- There are 71 on-street car spaces within approximately 200m of the subject site.
- On-street car parking within the survey area is unrestricted on the east side of Glen Street, with 1P and 2P parking provided on Riversdale Road and the west side of Glen Street.
- Parking along the site's frontages is as follows:
 - 6 x '2P 9am-5pm Mon-Fri' spaces on Glen Street
 - 2 x 'Clearway 7am-9am Mon-Fri, Taxi Zone 9am-6pm Mon-Sun' spaces and 5 x 'Clearway 7am-9am Mon-Fri, 2P 9am-6pm Mon-Fri, 9am-12noon Sat' spaces on Riversdale Road
- There are a total of 32 car spaces provided on-site, including 4 within the frontage carpark accessed via Riversdale Road, and 28 within the rear carpark accessed via Glen Street.
- At the time of the site inspection, on-street car parking was in moderate demand (50 parked vehicles, representing 70% occupancy).

3.3. Alternative Transport Modes

3.3.1. Public Transport

The site has access to several public transport services. The site is located Category 3 of the CPR system with PTAL rating of medium public transport access. The site is also within the Principal Public Transport Network area (PPTN).

A summary of the public transport services is provided at Table 4 and a map of the broader services is provided at Figure 10.

Table 4: Summary of Public Transport Services

Service	Between	Via
Riversdale Road – 25m walking distance west of subject site		
Tram Route 70	Wattle Park & Waterfront City Docklands	Camberwell, Hawthorn, Richmond & CBD
Tram Route 75	Vermont South & Central Pier, Docklands	Burwood, Camberwell, Hawthorn, Richmond & CBD
Glenferrie Road – 50m walking distance west of subject site		
Tram Route 16	Melbourne University & Kew	CBD, Malvern, Caulfield & Hawthorn
Glenferrie Road – 830m walking distance north of subject site		
Glenferrie Railway Station	Belgrave, Alamein & Lilydale Line	Richmond
Glenferrie Road – 1.25km walking distance south of subject site		
Kooyong Railway Station	Glen Waverley Line	Richmond

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

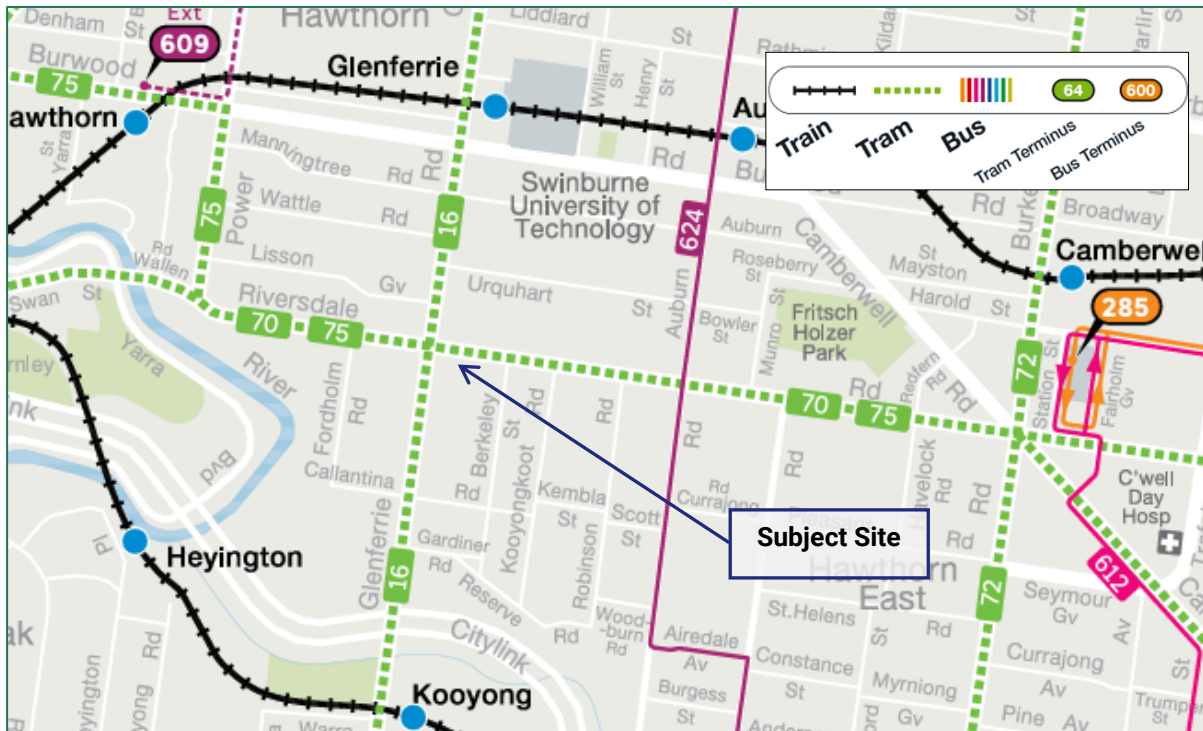


Figure 10: Public Transport Map (Source: PTV)

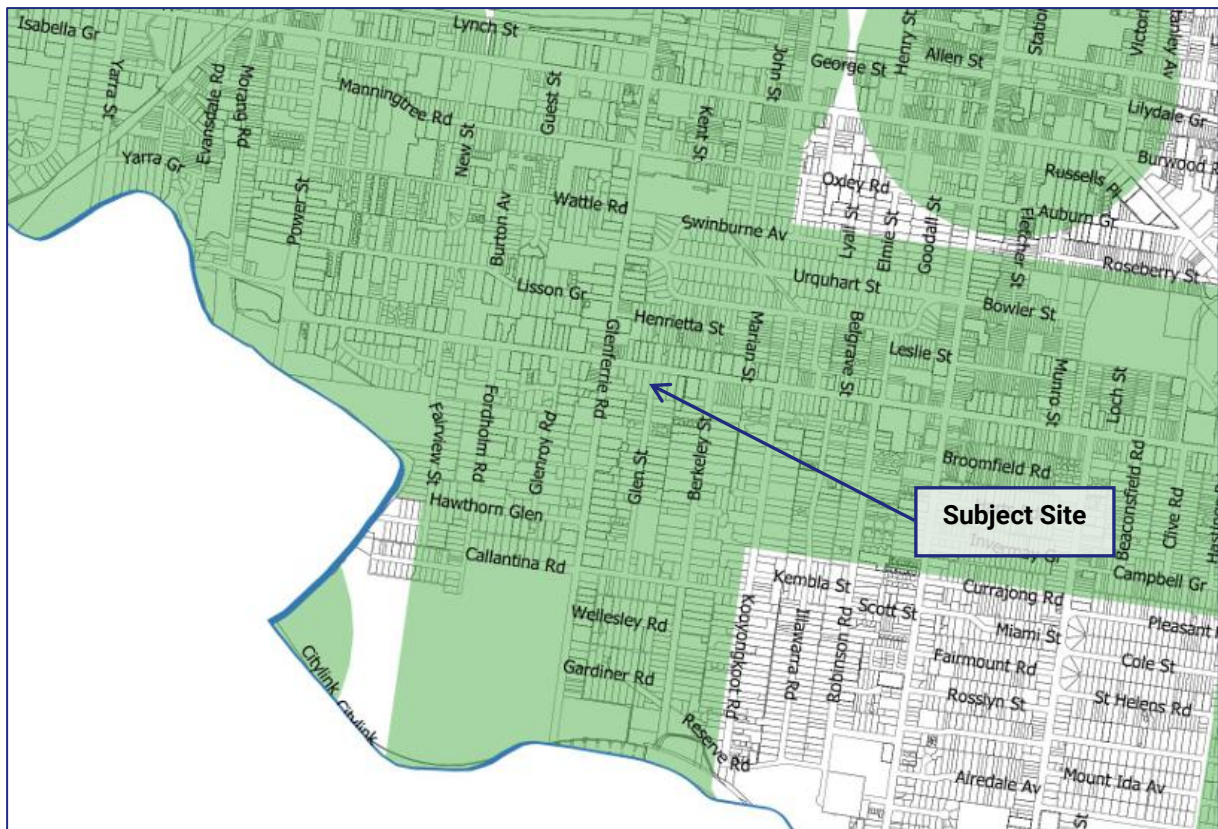


Figure 11: Principal Public Transport Network (Source: PTV)

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

3.3.2. Bicycle Infrastructure

The site is well served by bicycle infrastructure with off-road shared paths and informal bicycle routes surrounding the site, as shown in the excerpt from the City of Boroondara TravelSmart Map shown in Figure 12.

Glenferrie Road provides on-road bicycle lanes which connect to the surrounding bicycle network. The network includes an off-road path along CityLink / Yarra Boulevard.

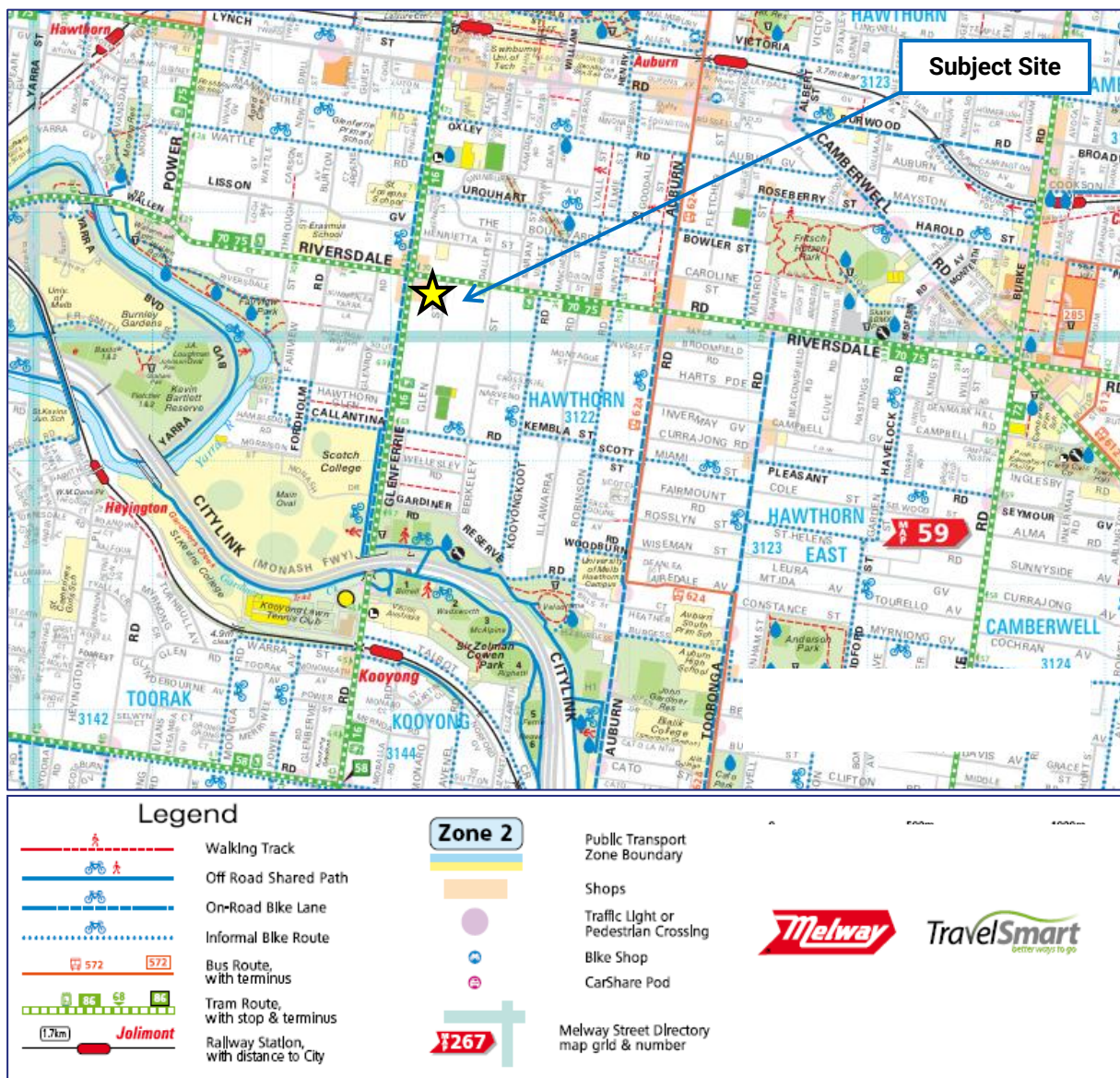


Figure 12: Sustainable Transport Infrastructure (Source: Boroondara City Council)

4. Traffic Engineering Assessment

4.1. Statutory Car Parking Assessment

The proposed development falls under the land-use category of 'dwelling' and 'medical centre' under Clause 73.03 of the Planning Scheme. The Planning Scheme sets out the parking requirements for new developments under Clause 52.06. The purpose of Clause 52.06 is:

- *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.*
- *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.*

The statutory parking requirements are set out at Clause 52.06-5 of the Planning Scheme. Clause 52.06-5 states:

Table 1 of this clause sets out the minimum and maximum car parking requirements that apply to a use specified in the table based on the land category identified in the Car Parking Requirement Maps (Department of Transport and Planning, 2025) (CPR maps).

The site is located in Category 3 of the CPR system (PTAL rating – medium public transport access). This category applies minimum and maximum car parking rates.

The statutory car parking assessment of the development is set out in Table 5 below.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Table 5: Statutory Car Parking Assessment – Category 3 of Clause 52.06-5

Use	Size / No.	Statutory Parking Rate (Category 3)	Parking Requirement ⁽¹⁾	Parking Provision	Complies?
Dwelling	42	Min. 0 spaces per dwelling Max. 2 spaces per dwelling	0-84 spaces	88	No
Medical Centre	229m ²	Min. 0 spaces to each 100m ² of LFA Max. 5 spaces to each 100m ² of LFA	0-11 spaces	7	Yes
TOTAL			0-95 spaces	95	
Notes:					
1. Clause 52.06-5 specifies that where a car parking calculation results in a requirement that is not a whole number, then number of spaces should be rounded down to the nearest whole number.					

Based on the above, the car parking for the medical centre is compliant, while car parking for the dwellings exceeds the maximum car parking requirement set out under Clause 52.06-5, and a permit is required under Clause 52.06-7.

Disabled Parking

Clause 52.06-9 states that:

The car parking requirement specified in Table 1 includes disabled car parking spaces. The proportion of spaces to be allocated as disabled spaces must be in accordance with Australian Standard AS2890.6-2009 (disabled) and the Building Code of Australia.

A single DDA space is required for the medical centre under the National Construction Code (NCC), which is provided on-site.

4.1.1. Exceeding the Maximum Car Parking Allowance

Clause 52.06-7 allows for applications to exceed the maximum statutory car parking requirement. Such an application must be accompanied by a Car Parking Demand Assessment.

Clause 52.06-7 sets out that a Car Parking Demand Assessment must have regard to the following key factors:

- *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 proposed occupants (residents or employees) of the land.*
- *Any empirical assessment or case study.*

4.1.2. Car Parking Demand Assessment

The proposal includes 4 car spaces greater than the maximum requirement, exceeding the maximum requirement by less than 5%. It represents 4 dwellings (out of 42) that will be allocated 3 car spaces, rather than 2.

According to the ABS car ownership data in the 2021 Census:

- Within Boroondara, 11% of households occupying a three-bedroom apartment have 3 or more cars.
- Within the Hawthorn suburb, the proportion is 3%.

There is a limited market for larger apartments with 3 car spaces, which this proposal seeks to meet. We expect that the future owners of the car spaces will use them, as they have specifically sought to purchase the additional car space. It is also important to note that although residents may have an additional car, it is not expected that providing an additional vehicle would necessarily result in the car being used at the same time as the others, or generating additional traffic trips (i.e. residents would still likely utilise their 'primary' car on most occasions).

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

4.1.3. Appropriateness of Providing Car Parking in Excess of the Maximum Requirement

Before granting a permit to provide more than the maximum car parking spaces specified under Clause 52.06-5 or in a schedule to the Parking Overlay, the Responsible Authority must consider a variety of factors. These are assessed in the table below.

Table 6: Assessment of exceeding the maximum requirement

Factor to Consider	Response
The Car Parking Demand Assessment.	The Car Parking Demand Assessment indicates that these spaces are likely to be used, if provided.
Any relevant local planning policy or incorporated plan.	Not relevant in this case.
Whether additional car parking is required for disability parking.	It is not required for DDA parking.
Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.	The modest additional car parking will have no impact on any activity centre.
The future growth and development of any nearby activity centre.	
Local traffic management in the locality of the land.	The traffic generation of 4 additional car spaces is not significant. Further, as the third car, we expect that this vehicle will be used less than the first two cars provided.
The impact of additional car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.	The additional spaces are provided within a basement, with no visible impact.
The need to create safe, functional and attractive parking areas.	The additional spaces will not impact the functionality of the carpark and make it only marginally larger. As the car parking will be accommodated within a basement, the additional spaces will not be visible from within the streetscape.
Access to, or provision of, alternative modes of transport to and from the land.	The site continues to have good access to public transport services. We do not believe that the

Factor to Consider	Response
	provision of 3 car spaces for a small number of dwellings would meaningfully change the use of alternative transport to/from the site.
<i>The character of the surrounding area and whether increasing the car parking provision would result in a quality/positive urban design outcome.</i>	The 4 additional spaces do not meaningfully change the size of the basement or the vehicle access configuration required (the need for a two-way ramp).
<i>Any other matter specified in a schedule to the Parking Overlay.</i>	Not relevant.
<i>Any other relevant consideration.</i>	Holistically, the development would be allowed a maximum 95 car spaces. Notwithstanding the provision of resident parking above its individual limitation, overall the development provides 95 car spaces (i.e. in line with the total limit). Accordingly, no more car parking is provided than required overall, it is just a function of the specific allocation to land uses that triggers a permit under Clause 52.06-7.

Based on the above, we are satisfied that there is no material impact from providing 4 more resident car spaces (88 instead of 84) and exceeding the maximum limitation is acceptable under the decision guidelines of Clause 52.06-7.

4.2. Bicycle Parking Provision

Clause 52.34 of the Planning Scheme specifies bicycle parking requirements for new developments. The purpose of Clause 52.34 is to:

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

The development provides bicycle parking as follows:

- 42 secure bicycle spaces within the basement for residents provided via two-tier bicycle rails.
- 10 spaces for visitors provided via open horizontal 'Flat Top' rails at ground level.
- 2 staff spaces for the medical centre provided via horizontal 'Flat Top' rails at ground level.
- 2 medical centre customer spaces provided via horizontal 'Flat Top' rails at ground level.

A copy of the bicycle rack specifications for the two tier system is attached at Appendix C.

The statutory bicycle parking requirement of the development under Clause 52.34 is set out in the table below.

Table 7: Statutory Bicycle Parking Assessment - Clause 52.34

Use	Size/No.	Statutory Bicycle Parking Requirement		No. Bicycle spaces required
		Residents or Employees	Visitors or Customers	
Dwellings	42 dwellings	1 space per 5 dwellings	1 space per 10 dwellings	8 resident spaces 4 visitor spaces
Medical Centre	Maximum 10 practitioners	1 to each 8 practitioners	1 to each 4 practitioners	1 staff space 2 visitor spaces
TOTAL				8 resident spaces 1 staff space 6 visitor spaces

Based on the above, provision of 56 bicycle spaces satisfies the bicycle parking provision requirements of Clause 52.34.

Clause 52.34 also requires consideration of end-of-trip facilities and the design of the bicycle parking spaces. The table below reviews the design and provision of these facilities.

Table 8: Design of Bicycle Parking

Requirement	Assessment	Design Response
End of Trip Facilities - Table 2 & 3 of Clause 52.34-5		
If 5 or more employee bicycle spaces are required, 1 one shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter.	✓	No shower / change room is required, given that only 2 staff spaces are provided.
1 change room or direct access to a communal change room to each shower. The change room may be a combined shower and change room.	✓	
Design of Bicycle Parking		
Does the design comply with the design requirements of Clause 52.34-6?	✓	All bicycle spaces are designed in accordance with the bicycle parking specifications.
Does the design comply with the requirements of AS2890.3-2015?	✓	

Based on the above, we are satisfied that the provision of bicycle parking accords with the requirements of Clause 52.34.

4.3. Review of Carpark Layout and Vehicle Access Arrangements

Traffix Group has provided design advice to the project architect to achieve a satisfactory carpark layout. The proposed parking layout has been assessed under the following guidelines:

- Clause 52.06-9 of the Planning Scheme (Design Standards for car parking),
- AS2890.1-2004 – Part 1: Off-Street Car Parking (where relevant), and
- AS2890.6-2022 – Part 6: Off-Street Parking for People with Disabilities.

An assessment against the relevant design standards of the Planning Scheme and Australian Standards (where relevant) is provided in the table below.

Swept path diagrams demonstrating vehicle access to the site and of the 'critical' car spaces are attached at Appendix D.

It is recommended that there be a system to track occupancy of the patient car spaces and display the availability of the on-site car parking at the site entrance. This is to minimise unnecessary trips into the basement by patients searching for car parking. This can be achieved by a condition of permit.

Table 9: Carpark Layout and Access Assessment

Requirement	Assessment	Design Response
Clause 52.06-9 Design Standard 1 – Accessways		
Must be at least 3m wide	✓	Accessways exceed 3m at all points.
Have an internal radius of at least 4m at changes of direction or intersection or be at least 4.2m wide.	✓	Accessways exceed 4.2m width at all locations.
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forwards direction with one manoeuvre.	N/A	Private carpark.
Provide at least 2.1m headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8m.	✓	Headroom in excess of 2.2m provided along all accessways.
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.	✓	All cars can exit the site in a forward direction.

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Requirement	Assessment	Design Response																													
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.	✓	Accessway is 6.1m along the entire ramp into the basement.																													
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, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	✓	A compliant sight triangle is provided on the exit side of the crossover. The sight triangle is achieved on the entry side of the crossover within the accessway width.																													
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 6m from the road carriageway.	N/A	Access is not to a Transport Zone.																													
If entry to the car space is from a road, the width of the accessway may include the road.	N/A	All car parking within basement level.																													
Clause 52.06-9 Design Standard 2 – Car Parking Spaces																															
Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2 under Clause 52.06-9.	✓	All car spaces are provided in accordance with Table 1.																													
<table><tr><th>Angle of car spaces to accessway</th><th>Accessway width</th><th>Car park width</th><th>Car park length</th></tr><tr><td>Parallel</td><td>3.6 m</td><td>2.3 m</td><td>6.7 m</td></tr><tr><td>45°</td><td>3.5 m</td><td>2.6 m</td><td>4.9 m</td></tr><tr><td>60°</td><td>4.9 m</td><td>2.6 m</td><td>4.9 m</td></tr><tr><td rowspan="4">90°</td><td>6.4 m</td><td>2.6 m</td><td>4.9 m</td></tr><tr><td>5.8 m</td><td>2.8 m</td><td>4.9 m</td></tr><tr><td>5.2 m</td><td>3.0 m</td><td>4.9 m</td></tr><tr><td>4.8 m</td><td>3.2 m</td><td>4.9 m</td></tr></table>		Angle of car spaces to accessway	Accessway width	Car park width	Car park length	Parallel	3.6 m	2.3 m	6.7 m	45°	3.5 m	2.6 m	4.9 m	60°	4.9 m	2.6 m	4.9 m	90°	6.4 m	2.6 m	4.9 m	5.8 m	2.8 m	4.9 m	5.2 m	3.0 m	4.9 m	4.8 m	3.2 m	4.9 m	Access to and from the car spaces within the basement carpark has been checked for access by the B85 design car (specified at Appendix B of AS2890.1-2004).
Angle of car spaces to accessway		Accessway width	Car park width	Car park length																											
Parallel		3.6 m	2.3 m	6.7 m																											
45°		3.5 m	2.6 m	4.9 m																											
60°		4.9 m	2.6 m	4.9 m																											
90°		6.4 m	2.6 m	4.9 m																											
		5.8 m	2.8 m	4.9 m																											
	5.2 m	3.0 m	4.9 m																												
	4.8 m	3.2 m	4.9 m																												
Note to Table 2: Some dimensions in Table 2 vary from those shown in the Australian Standard AS2890.1-2004 (off street). The dimensions shown in Table 2 allocate more space to aisle widths and less to marked spaces to provide improved operation and access. The dimensions in Table 2 are to be used in preference to the Australian Standard AS2890.1-2004 (off street) except for disabled spaces which must achieve Australian Standard AS2890.6-2009 (disabled).																															

Requirement	Assessment	Design Response
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, other than: - 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. - A structure, which may project into the space if it is at least 2.1 metres above the space. Diagram 1 Clearance to car parking spaces Dimensions in millimetres Clearance required Tree or column permitted	✓	The required clearance under Diagram 1 is provided for all car spaces.
Car spaces in garages/carports must be at least 6m long and 3.5m wide for a single space and 5.5m wide for a double space measured inside the garage/carport.	N/A	No garages proposed.
Where parking spaces are provided in tandem, an additional 0.5m in length must be provided between each space.	N/A	No tandem car spaces.
Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover.	✓	All spaces are under cover.
Disabled car parking spaces must be designed in accordance with AS2890.6-2009 and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 by 0.5m. A minimum headroom of 2.5m is to be provided above the disabled car space in accordance with AS2890.6-2009.	✓	DDA space is provided in accordance with AS2890.6-2022.

Requirement	Assessment	Design Response													
Clause 52.06-9 Design Standard 3 - Gradients															
Accessway grades must not be steeper than 1:10 (10 per cent) 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.	✓	The grades are flat for the first 3.5m into the site, followed by 1:8 for the next 1.5m. This results in an average grade of 1:26 over the first 5m. This is well below the required grade of 1:10.													
Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 and be designed for vehicles travelling in a forward direction.	✓	Maximum grade of 1:4 is provided.													
<table border="1"> <thead> <tr> <th>Type of car park</th><th>Length of ramp</th><th>Maximum grade</th></tr> </thead> <tbody> <tr> <td rowspan="2">Public car parks</td><td>20 metres or less</td><td>1:5 (20%)</td></tr> <tr> <td>longer than 20 metres</td><td>1:6 (16.7%)</td></tr> <tr> <td rowspan="2">Private or residential car parks</td><td>20 metres or less</td><td>1:4 (25%)</td></tr> <tr> <td>longer than 20 metres</td><td>1:5 (20%)</td></tr> </tbody> </table>	Type of car park	Length of ramp	Maximum grade	Public car parks	20 metres or less	1:5 (20%)	longer than 20 metres	1:6 (16.7%)	Private or residential car parks	20 metres or less	1:4 (25%)	longer than 20 metres	1:5 (20%)		
Type of car park	Length of ramp	Maximum grade													
Public car parks	20 metres or less	1:5 (20%)													
	longer than 20 metres	1:6 (16.7%)													
Private or residential car parks	20 metres or less	1:4 (25%)													
	longer than 20 metres	1:5 (20%)													
Where the difference in grade between two sections of ramp or floor is greater than 1:8 (12.5 per cent) for a summit grade change, or greater than 1:6.7 (15 per cent) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming.	✓	Grade transitions comply.													
Plans must include an assessment of grade changes of greater than 1:5.6 (18 per cent) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority	✓	Complies.													
Clause 52.06-9 Design Standard 4 – Mechanical Parking															
At least 25 per cent of the mechanical car parking spaces can accommodate a vehicle height of at least 1.8 metres.	N/A	No mechanical parking proposed.													
Car parking spaces that require the operation of the system are not allocated to visitors unless used in a valet parking situation.	N/A														
The design and operation is to the satisfaction of the responsible authority.	N/A														

Requirement	Assessment	Design Response
Clause 52.06-9 Design Standard 5 – Urban Design		
Ground level car parking, garage doors and accessways must not visually dominate public space.	N/A	These matters are more related to urban design, rather than specifically traffic engineering.
Car parking within buildings (including visible portions of partly submerged basements) must be screened or obscured where possible, including through the use of occupied tenancies, landscaping, architectural treatments and artworks.		
Design of car parks must take into account their use as entry points to the site.		
Design of new internal streets in developments must maximise on street parking opportunities.	N/A	No internal streets proposed.
Clause 52.06-9 Design Standard 6 – Safety		
Car parking must be well lit and clearly signed.	✓	Car parking is for use by residents and the medical centre. The carpark will be adequately lit at all times.
The design of car parks must maximise natural surveillance and pedestrian visibility from adjacent buildings.	N/A	Carpark is secured within a basement.
Pedestrian access to car parking areas from the street must be convenient.	✓	Pedestrian access to the basement carpark is available via the lift core.
Pedestrian routes through car parking areas and building entries and other destination points must be clearly marked and separated from traffic in high activity parking areas.	✓	The accessways are shared between vehicles and cars. This is appropriate for a carpark the scale of that proposed.
Clause 52.06-9 Design Standard 7 - Landscaping		
The layout of car parking areas must provide for water sensitive urban design treatment and landscaping.	N/A	These requirements are not strictly related to

Requirement	Assessment	Design Response
Landscaping and trees must be planted to provide shade and shelter, soften the appearance of ground level car parking and aid in the clear identification of pedestrian paths.		traffic engineering matters.
Ground level car parking spaces must include trees planted with flush grilles. Spacing of trees must be determined having regard to the expected size of the selected species at maturity.		

4.4. Land Adjacent to The Principal Road Network

Clause 52.29 applies to land adjacent to a Transport Zone 2, or a Public Acquisition Overlay.

The purpose of this clause is to:

- *To ensure appropriate access to identified roads.*
- *To ensure appropriate subdivision of land adjacent to identified roads.*

A permit is required to:

- *Create or alter access to:*
 - *A road in a Transport Zone 2.*
 - *Land in a Public Acquisition Overlay if a transport manager (other than a municipal council) is the acquiring authority and the acquisition is for the purpose of a road.*
- *Subdivide land adjacent to:*
 - *A road in a Transport Zone 2.*
 - *Land in a Public Acquisition Overlay if a transport manager (other than a municipal council) is the acquiring authority and the acquisition is for the purpose of a road.*

Riversdale Road is a road in a Transport Zone 2, and the proposal seeks to alter access. Specifically, the proposal seeks to remove the single width crossover to Riversdale Road, reinstate the kerb and channel and provide additional on-street parking.

4.4.1. Decision Guidelines

Before deciding on an application, in addition to the decision guidelines in Clause 65, the responsible authority must consider:

- *The Municipal Planning Strategy and the Planning Policy Framework.*
- *The views of the relevant road authority.*
- *The effect of the proposal on the operation of the road and on public safety.*

- *Any policy made by the relevant road authority pursuant to Schedule 2, Clause 3 of the Road Management Act 2004 regarding access between a controlled access road and adjacent land.*

4.4.2. Assessment

The proposal seeks to remove the single width crossover to Riversdale Road, reinstate the kerb and channel and provide additional on-street parking.

We are satisfied that the vehicle access arrangements achieve the objectives of Clause 52.29 and will provide for appropriate vehicle access to the development.

4.5. Loading and Waste Collection Arrangements

Clause 65.01 of the Planning Scheme states that the Responsible Authority must consider a number of matters as appropriate including:

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

4.5.1. Loading

For the residential component, loading associated with the proposal will typically be associated with residents moving in/out.

A dedicated on-site loading bay is not considered necessary for a residential development of this scale, with loading demands to be accommodated on-street in the nearby area.

Loading associated with the medical centre is also not expected to be significant, and can also readily be undertaken on-street in the nearby area, or small vans/couriers (pathology etc.) can use the on-site carpark.

4.5.2. Waste Collection

A Waste Management Plan (WMP) has been prepared by our office (Ref: G38194R-02A, dated May, 2026).

A bin store room is located within the basement carpark. Waste collection is to be undertaken on-site by a private contractor using a 6.4m mini waste collection vehicle.

The waste collection vehicle will turnaround within the carpark access aisle and exit the site in a forwards direction.

Swept path diagrams of the nominated waste collection vehicle accessing the site and basement are attached at Appendix D.

We are satisfied the waste collection arrangements are satisfactory from a traffic engineering perspective.

4.6. Traffic Impact Assessment

Residential

For the residential component of the site, we have adopted the following traffic generation rates for each dwelling (based on data collected by our office and other consultants of medium-sized dwellings, noting each dwelling is provided at least 2 car spaces):

- Dwellings will generate an average of 5 vehicle trips per day.
- 10% of the daily traffic generation occurs during the road network peak hours.

This results in a traffic generation of 21 peak hour trips, and 210 daily trips generated by the 42 dwellings.

As discussed previously, in our view the 4 apartments with 3 car spaces will not generate a meaningful additional level of traffic compared to the larger dwellings that already have 2 car spaces.

Medical Centre

The medical centre provides a total of 7 spaces on-site, including 3 spaces allocated to staff, and 4 spaces allocated to patients.

This carpark will be separated from the residential carpark, meaning that no additional staff or patients will be able to park on-site (also noting that the car parking provision still does meet the requirements set out under Clause 52.06-5).

Given the low number of car spaces provided, we consider a first-principles assessment appropriate to assess the site traffic generation. There will also be other patients and staff that travel to the site via car, however these other trips will be dispersed across the local roads. Most of these trips will be confined to Riversdale Road.

We consider that 50% of staff spaces will turn over in each peak hour period, meaning that the three staff spaces will generate 2 vehicle trips.

We also expect that each patient space will turnover once during the peak hour period, meaning that there will be 4 vehicle movements (2 in and 2 out movements). Based on the provision of 4 patient spaces, there will be 16 vehicle trips to the site associated with patients.

Accordingly, overall the medical centre will generate 18 vehicle trips to/from the site during the peak hour periods.

For a daily traffic volume, we expect that each staff space will have an arrival and departure, or a total of 2 trips, while each patient space will generate 4 vehicle trips for each hour of operation (i.e. 10 hours), equating to 160 trips.

This results in a total daily traffic volume of 166 trips.

Summary

Based on the abovementioned traffic generation rates, we expect the development to have the following volumes:

- 39 peak hour vehicle trips

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

- 376 daily vehicle trips

This traffic will generally be limited to the first 50m of Glen Street, before dispersing along Riversdale Road (i.e. a higher order road).

Given the level of traffic is moderate, we expect that the traffic volumes can be readily accommodated by the surrounding road network.

It is also of note that the site has most recently operated as a medical centre, and accordingly, this portion of traffic generated by the site will not necessarily be 'new trips'.

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

5. Conclusions

Having undertaken a detailed traffic engineering assessment of the proposed mixed use development at 98-104 Riversdale Road, Hawthorn, we are of the opinion that:

- a) the proposed development has a statutory car parking requirement to provide:
 - i) between 0-84 car spaces for the dwellings
 - ii) between 0-11 car spaces for the medical centre
- b) based on the provision and allocation of car parking, the development meets the statutory requirement for the medical centre, but exceeds the maximum requirement for the residential component by 4 spaces,
- c) the exceedance of the car parking requirements by 4 dwelling spaces is considered acceptable under the decision factors of Clause 52.06-7, given that this exceedance is minor, is not expected to have any perceivable traffic impacts and does not meaningfully change the design/impact of the basement carpark,
- d) the proposed parking layout and vehicle access arrangements generally accord with the requirements of the Planning Scheme, Australian Standards (where relevant) and current practice,
- e) it is recommended a parking sensor system and associated display is provided to advise patients at the entrance to the carpark whether any on-site car parking is available to them,
- f) removal of the vehicle access to Riversdale Road accords with the objectives of Clause 52.29,
- g) bicycle parking is provided in excess of the Clause 52.34 requirements,
- h) a dedicated on-site loading bay is not necessary for this development,
- i) waste collection can be undertaken via a private contractor from the basement,
- j) the level of traffic generated by the proposal can be accommodated without any adverse impacts to the operation of the local road network, and
- k) there are no traffic engineering reasons why a planning permit for the proposed mixed use development at 98-104 Riversdale Road, Hawthorn should be refused.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Traffic Engineering Assessment

98-104 Riversdale Road, Hawthorn

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Appendix A

Development Plans

ADVERTISED
PLAN

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright



Project
98-104 Riversdale Road, Hawthorn

Revisions		
Rev	Date	Revision
1	13/05/26	ISSUED FOR TOWN PLANNING

General Notes		
Rev	Date	Revision

Drawing Notes & Copyright

Do not scale drawings. Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by Tristan Wong Architecture before manufacture. Any extra entailed work shown on this drawing must be claimed and approved before proceeding.

All rights reserved. This document is the property of Tristan Wong Architecture (TWA) and is intended solely for the commissioned purpose. No portion of this document may be reproduced, altered, or transmitted in any form or by any means without the prior written consent of Tristan Wong Architecture (TWA). Any unauthorized use of this document in any manner is strictly prohibited.

Drawing Details

Job No.
25014

Scale
1:150 @A1 OR 1:300 @A3

0 1.5 3 4.5 6 7.5 m

Drawing No.
SD02_01

Rev.
1

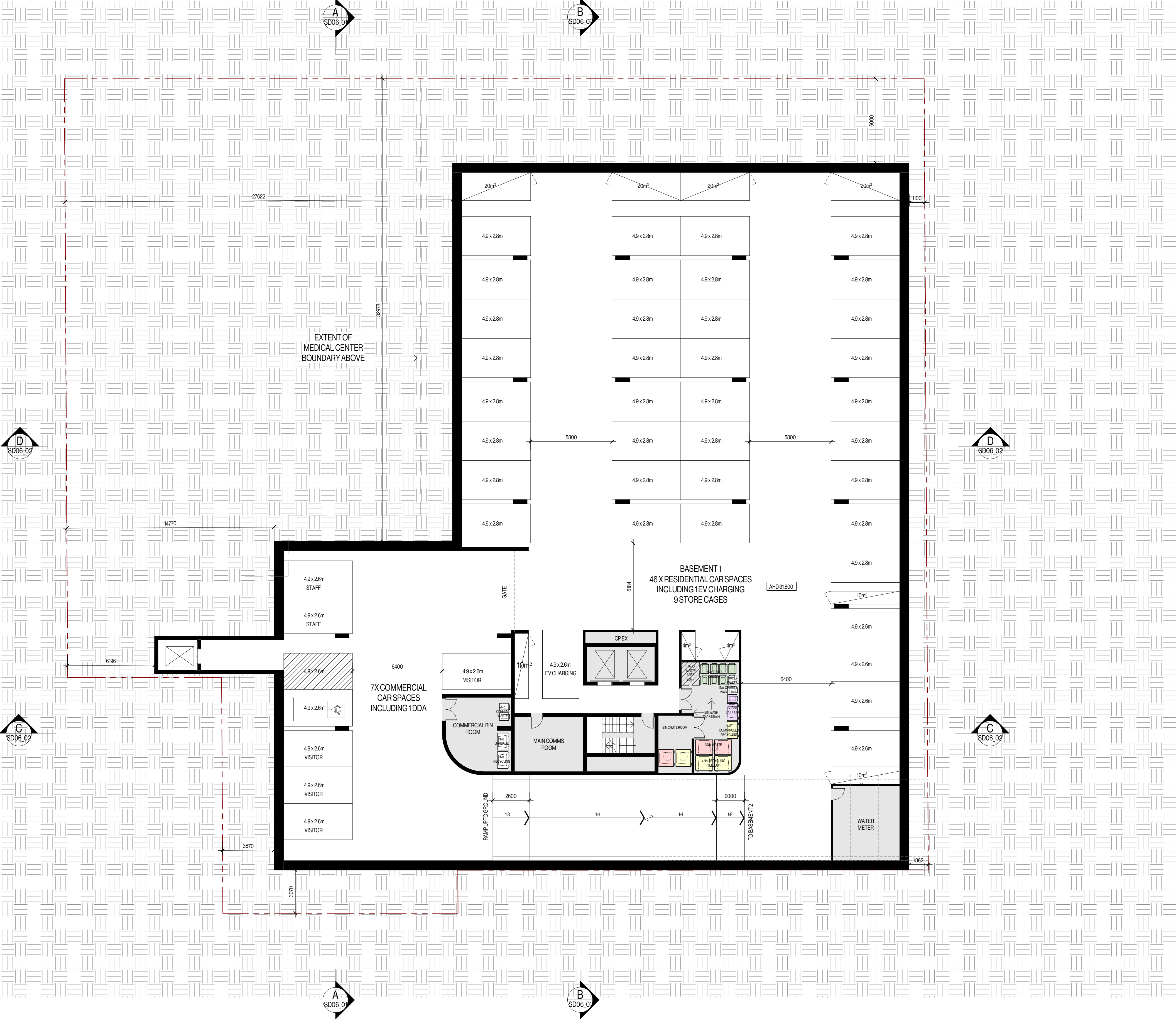
Drawing Title
BASEMENT 02

Tristan Wong Architecture

89 Islington St. Collingwood
www.tristanwong.com.au

ADVERTISED
PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



Project
98-104 Riversdale Road, Hawthorn

Revisions		
Rev	Date	Revision
1	13/05/26	ISSUED FOR TOWN PLANNING

General Notes		
Rev	Date	Revision

Drawing Notes & Copyright

Do not scale drawings. Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by Tristan Wong Architecture before manufacture. Any extra entailed work shown on this drawing must be claimed and approved before proceeding.

All rights reserved. This document is the property of Tristan Wong Architecture (TWA) and is intended solely for the commissioned purpose. No portion of this document may be reproduced, altered, or transmitted in any form or by any means without the prior written consent of Tristan Wong Architecture (TWA). Any unauthorized use of this document in any manner is strictly prohibited.

Drawing Details

Job No.
25014

Scale
1:150 @A1 OR 1:300 @A3

0 1.5 3 4.5 6 7.5 m

Drawing No.
SD02_02

Rev.
1

Drawing Title
BASEMENT 01

Tristan Wong Architecture

89 Islington St. Collingwood
www.tristanwong.com.au

ADVERTISED
PLAN

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright



Project
98-104 Riversdale Road, Hawthorn

Revisions		
Rev	Date	Revision
1	13/05/26	ISSUED FOR TOWN PLANNING

General Notes		
Rev	Date	Revision

Drawing Notes & Copyright

Do not scale drawings. Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by Tristan Wong Architecture before manufacture. Any extra entailed work shown on this drawing must be claimed and approved before proceeding.

All rights reserved. This document is the property of Tristan Wong Architecture (TWA) and is intended solely for the commissioned purpose. No portion of this document may be reproduced, altered, or transmitted in any form or by any means without the prior written consent of Tristan Wong Architecture (TWA). Any unauthorized use of this document in any manner is strictly prohibited.

Drawing Details

Job No.
25014

Scale
1:150 @A1 OR 1:300 @A3

0 1.5 3 4.5 6 7.5
m

Drawing No.
SD02_03

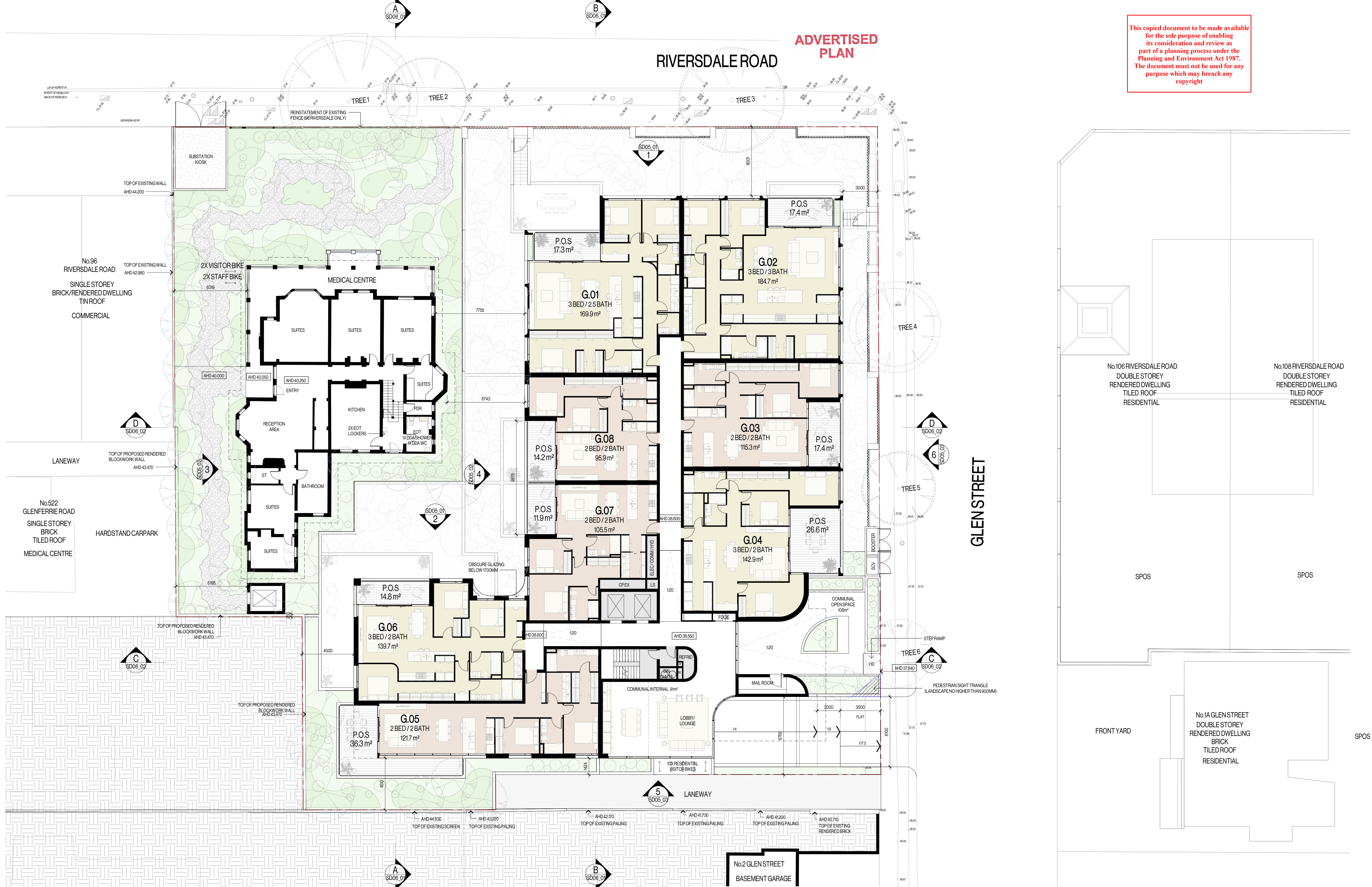
Rev.
1

Drawing Title
LOWER GROUND FLOOR PLAN

Tristan Wong Architecture

89 Islington St, Collingwood
www.tristanwong.com.au

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



Project

98-104 Riversdale Road, Hawthorn

Revisions		
Rev	Date	Revision
1	13/05/26	ISSUED FOR TOWN PLANNING

Rev	Date	Revision

General Notes

Drawing Notes & Copyright

Do not scale drawings. Contractor must verify all dimensions on site before commencing any work or preparing shop drawings which must be approved by Tristan Wong Architecture before manufacture. Any extra entailed work shown on this drawing must be claimed and approved before proceeding.

All rights reserved. This document is the property of Tristan Wong Architecture (TWA) and is intended solely for the commissioned purpose. No portion of this document may be reproduced, altered, or transmitted in any form or by any means without the prior written consent of Tristan Wong Architecture (TWA). Any unauthorized use of this document in any manner is strictly prohibited.

Drawing Details

Job No.
25014

Scale
1:150 @A1 OR 1:300 @A3

Drawing No.	Rev.
SD02_04	1

Drawing Title

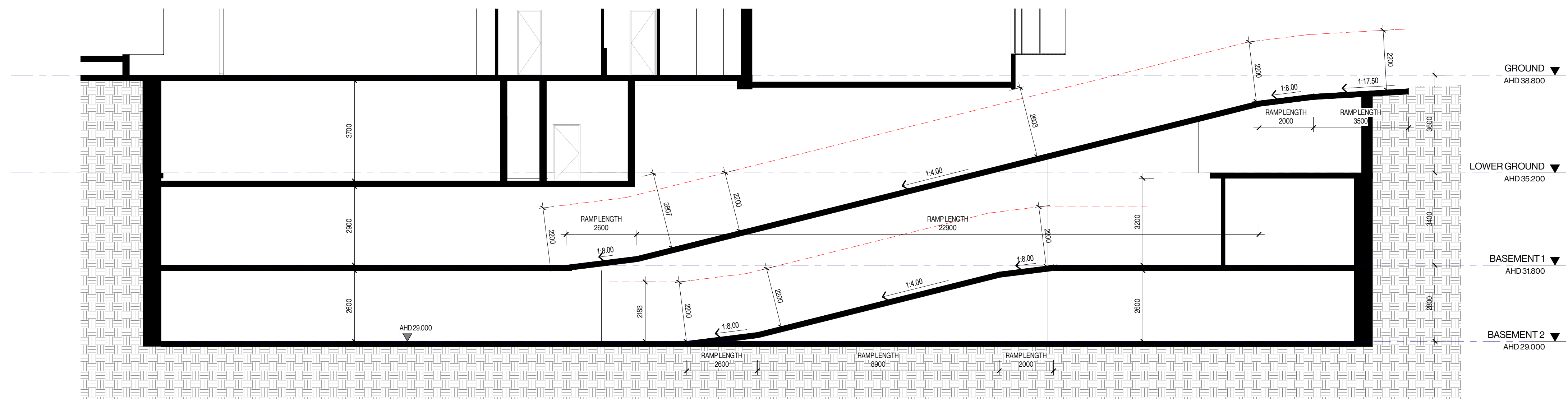
GROUND FLOOR PLAN

Tristan Wong Architecture



89 Islington St, Collingwood
www.tristanwong.com.au

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright



98-104 Riversdale Road, Hawthorn

Rev	Date	Revision

All rights reserved. This document is the property of Tristan Wong Architecture (TWA) and is intended solely for the commissioned purpose. No portion of this document may be reproduced, altered, or transmitted in any form or by any means without the prior written consent of Tristan Wong Architecture (TWA). Any unauthorized use of this document in any manner is strictly prohibited.

Scale
1:100 @A1 OR 1:200 @A3
0 1 2 3 4 5
m

Drawing Title
RAMP SECTION



89 Islington St, Collingwood
www.tristanwong.com.au

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

Appendix B

Parking Inventory

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Surveyed By: Kaitlyn Oldaker

Survey Dates & Times: See below

Location		Restriction	Capacity Min - Max	March 9am - 5pm
ON-STREET CARPARKING				
Map Ref.	GLEN STREET			
	West Side			
A	Riversdale Road - North Boundary #2 (Subject Site)	No Stopping (10m)	-	0
		2P 9am-5pm Monday - Friday	6	3
	North Boundary #2 - Crossover #6	2P 9am-5pm Monday - Friday	4	4
	Crossover #6 - North Boundary #18	2P 9am-5pm Monday-Friday	11	11
	East Side			
B	Crossover #25/#27 - Crossover #9	Unrestricted Parking	11	10
	Crossover #9 - Riversdale Road	Unrestricted Parking	7	6
GLEN STREET		Capacity	39 - 39	39
		Total Number of Cars Parked		34
		Total Number of Vacant Spaces		5
		Percentage Occupancy		87%
Map Ref.	RIVERSDALE ROAD			
	North Side			
		Clearway 4:30pm-6:30pm Monday-Friday		
C	Glenferrie Road - Dalley Street	No Stopping (10m)	-	0
		1P 8am-4:30pm Monday-Friday, 8am-12noon Saturday	6	2
		2P 9am-4:30pm Monday-Friday, 8am-12noon Saturday, Taxi Zone 7am-9am Monday-Friday	2	2
		2P 8am-4:30pm Monday-Friday, 8am-12noon Saturday	8	4
		No Stopping (10m)	-	0
	South Side			
		Clearway 7am-9am Monday-Friday		
D	Berkeley Street - Glen Street	No Stopping (10m)	-	0
		Unrestricted Parking	8	7
		No Stopping (10m)	-	0
E	Glen Street - Glenferrie Road	No Stopping (10m)	-	0
		Taxi Zone 9am-6pm Monday-Sunday	2	0
		2P 9am-6pm Monday - Friday, 9am-12noon Saturday	6	1
		No Stopping (10m)	-	0
RIVERSDALE ROAD		Capacity	32 - 32	32
		Total Number of Cars Parked		16
		Total Number of Vacant Spaces		16
		Percentage Occupancy		50%

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

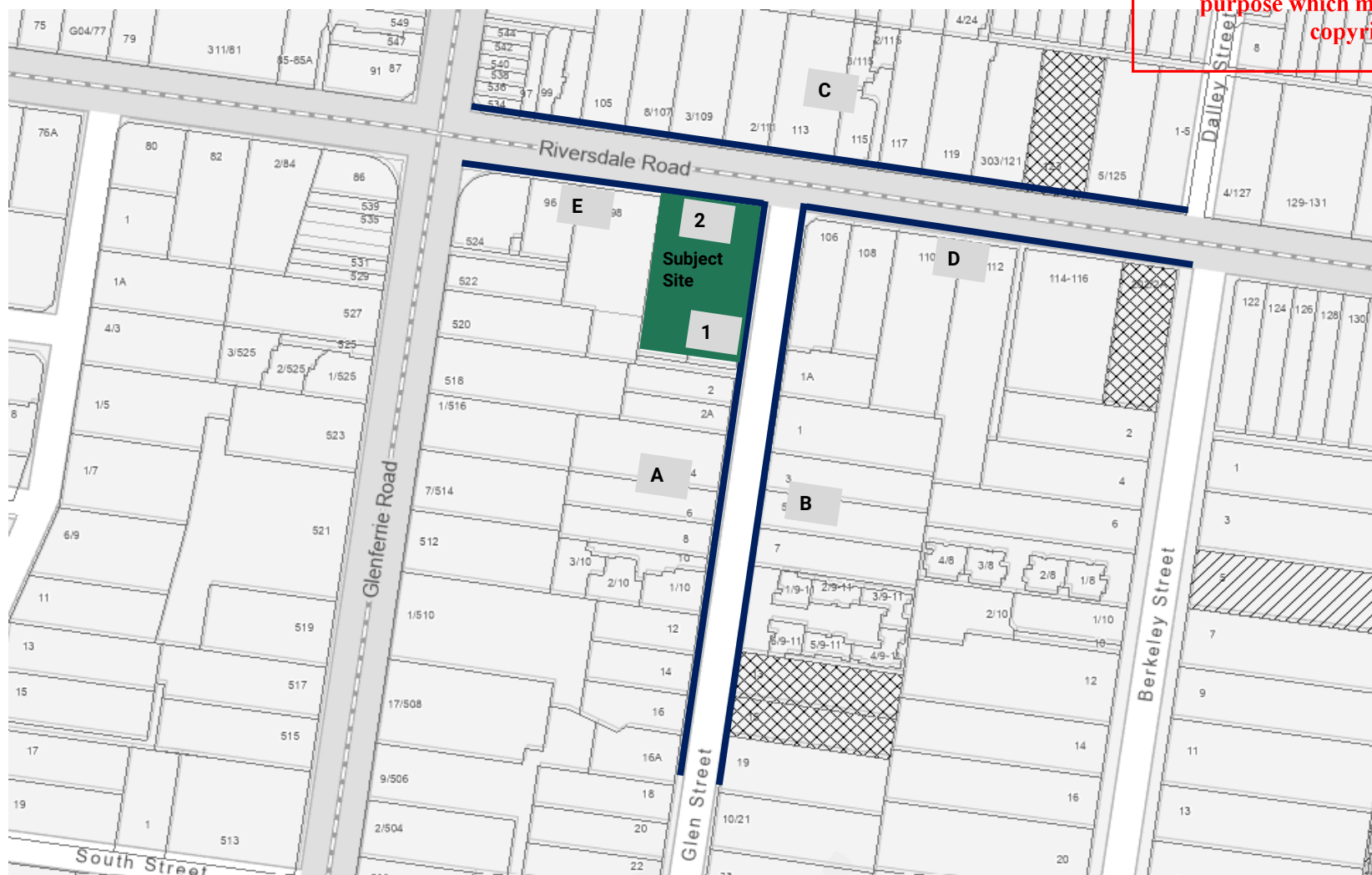
Surveyed By: Kaitlyn Oldaker

Survey Dates & Times: See below

Location		Restriction	The document is for information purposes only - copyright	
Capacity Min - Max				
Weeks 1 to 10 March 9am - 5pm				
SUMMARY ==> ON-STREET CARPARKING				
Car Parking Supply			71 - 71	71
Total Number of Cars Parked				50
Total Number of Vacant Spaces				21
Percentage Occupancy				70%
Map Ref.	100-104 Riversdale Road (SUBJECT SITE) CARPARK			
	Rear Carpark			
1	Back Aisle	Unrestricted Parking	6	0
		DDA Parking	1	0
	Middle Aisle	Unrestricted Parking	11	0
		Fleet Parking	5	0
	Front Aisle	Volunteer Parking	1	0
		Exit Aisle	Reserved Parking	4
	Reception Carpark			
2	Right Aisle	Unrestricted Parking	2	0
	Left Aisle	Unrestricted Parking	2	0
100-104 Riversdale Road (SUBJECT SITE) CARPARK		Capacity	32 - 32	32
		Total Number of Cars Parked		0
		Total Number of Vacant Spaces		32
		Percentage Occupancy		0%
SUMMARY ==> OFF-STREET CARPARKING				
Car Parking Supply			32 - 32	32
Total Number of Cars Parked				0
Total Number of Vacant Spaces				32
Percentage Occupancy				0%
Note: Public parking includes spaces that are available to the general public and excludes 'No Stopping', 'Loading Zones','Pick Up and Drop Off Only Zones', 'Permitted Zones' and 'No Parking' areas, etc., during the relevant enforcement periods				
LEGEND: Public Parking				
			Not available to the general public	
			Not Available, illegally parked cars included in analysis	
			No Stopping/ Other No Parking	

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

Appendix C

Bicycle Rack Specification Sheet

CORA BIKE RACK

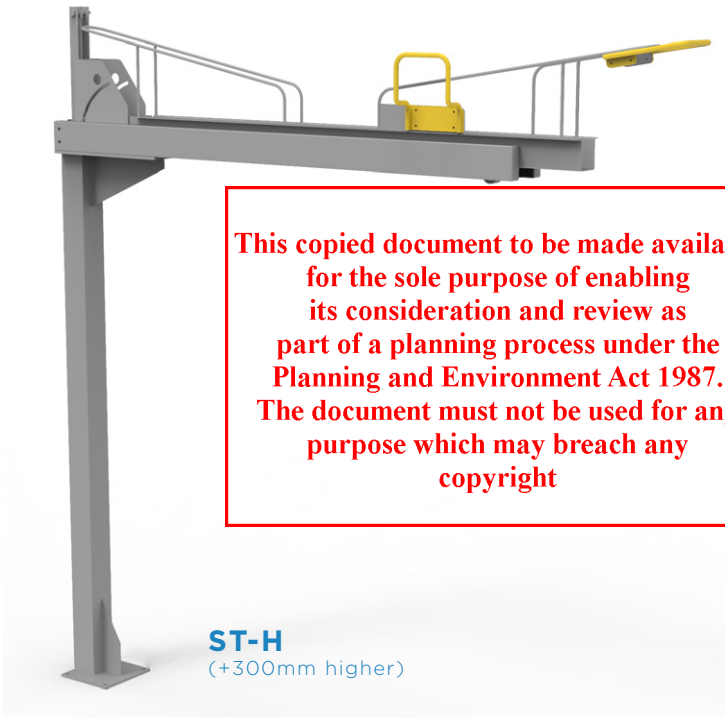
PRODUCT SPECIFICATION SHEET

ADVERTISED
PLAN

SKY TIER - DYNAMIC UPPER TIERS

- The **ST-L** (low) and **ST-H** (high) are dynamic upper tier bike racks
- Gas strut assist lift mechanism makes access a breeze
- Strategically positioned lock points
- Ideal for bike rooms and EOT areas where maximum capacity is critical
- Suitable for indoor installations with no weather exposure

AUSTRALIA’S MOST **VERSATILE** DOUBLE TIER SYSTEM

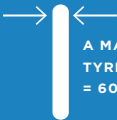


This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

DESIGNED FOR
BIKES WITH



A WHEEL
DIAMETER OF
= 20-29"



A MAXIMUM
TYRE WIDTH OF
= 60mm / 2.35"



A MAXIMUM
WEIGHT OF = 25KG

FENDERS /
MUDGUARDS
= YES

SPECIFICATIONS

Capacity	Finish	Fixings	Assembly	Construction	Compliance
1 bike per rack	Main frame - Cora ceramic powder coat Handle and lock bar - Cora powder coat	Post: 4 x M12 x 80mm anchor bolts Rack: 4 x M10 bolts	Fix post to concrete surface Fix rack to top of post	Mild steel	AS2890.3 (2015) compliant

CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

GROUND PIVOT - DYNAMIC LOWER TIERS

- The **GP-F** (front-in) and **GP-B** (back-in) are dynamic lower tier bike racks
- Dynamic pivot motion allows ease of use with reduced spacing requirements
- Strategically positioned lock points
- Ideal for bike rooms and EOT areas where maximum capacity is critical
- Suitable for indoor installations with no weather exposure

ALTERNATING HEAD TO TAIL MODELS FOR **MAXIMUM** CAPACITY

ADVERTISED PLAN



DESIGNED FOR
BIKES WITH



A WHEEL
DIAMETER OF
= 20-29"



A MAXIMUM
TYRE WIDTH OF
= 60mm / 2.35"



KG

A MAXIMUM
WEIGHT OF = 25KG

FENDERS /
MUDGUARDS
= YES

SPECIFICATIONS

Capacity	Finish	Fixings	Assembly	Construction	Compliance
1 bike per rack	Main frame - Cora ceramic powder coat Handle and lock bar - Cora powder coat	4 x M10 x 60mm anchor bolts	Fix rack to concrete surface	Mild steel	AS2890.3 (2015) compliant

CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

STATIC LOWER TIER OPTIONS

- The **CBR1B** and **SG-E** are static bicycle parking rails
- Easy lean and lock system for 1 or 2 bicycles
- Great choice for bike rooms where high capacity and budget are important
- Suitable for indoor installations with no weather exposure

COST EFFECTIVE BIKE RAILS OR E-BIKE CHARGING RACKS

ADVERTISED PLAN



CBR1B



SG-E
(e-bike charging rack)

**see product specification sheet for additional product details*

DESIGNED FOR
BIKES WITH



ANY WHEEL
DIAMETER



ANY TYRE
WIDTH



KG

ANY WEIGHT



FENDERS /
MUDGUARDS
= YES

SPECIFICATIONS

Capacity	Finish	Fixings	Assembly	Construction	Compliance
2 bikes per rack	Cora ceramic or powder coat colours	4 x M12 x 80mm anchor bolts with tamper resistant fasteners	Fix rack to concrete surface	Mild steel	AS2890.3 (2015) compliant

CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

STAGGERED HEIGHT LAYOUT GUIDE

DYNAMIC UPPER TIERS / DYNAMIC LOWER TIERS

There are numerous configuration possibilities for double tier systems. Options shown are compliant with AS2890.3 (2015)

ADVERTISED PLAN

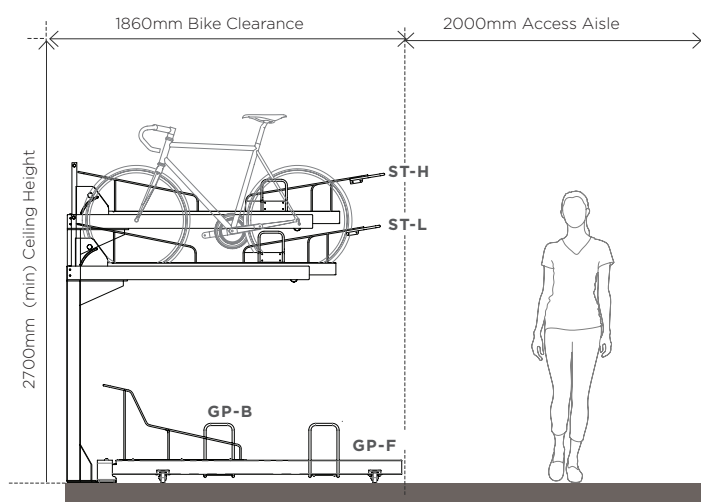


DYNAMIC UPPER/ DYNAMIC LOWER

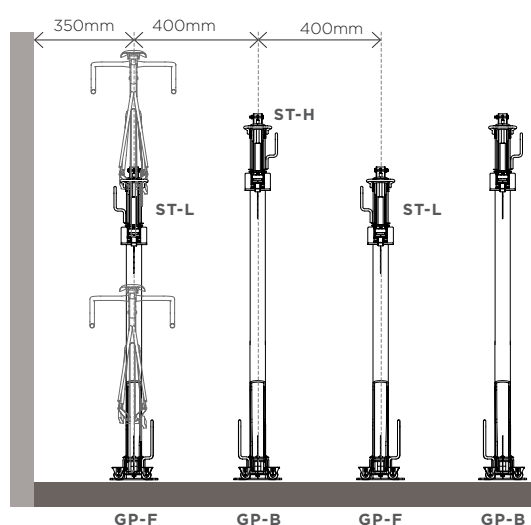
To comply with AS2890.3 (2015), minimum spacing between rack centres is:

- ▶ ST Upper Tiers: 400mm if adjacent racks are offset in height by 300mm;
- ▶ GP Lower Tiers: 400mm if adjacent racks provide head to tail parking

PERSPECTIVE VIEW WITH GP LOWER TIERS



SIDE VIEW WITH GP LOWER TIERS



FRONT VIEW WITH GP LOWER TIERS

Refer to Installation Instructions sheet for specific installation and assembly guidelines. Racks should **NOT** be installed based on this sheet alone.

CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

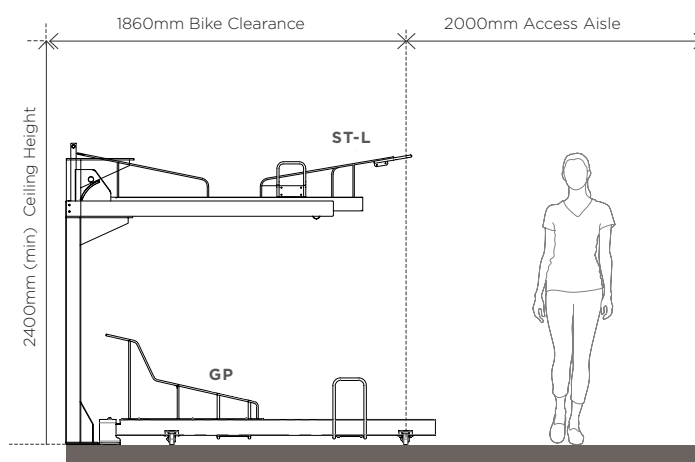
SINGLE HEIGHT LAYOUT GUIDE

DYNAMIC UPPER TIERS / DYNAMIC LOWER TIERS

There are numerous configuration possibilities for double tier systems. **Options shown are compliant with AS2890.3 (2015)**



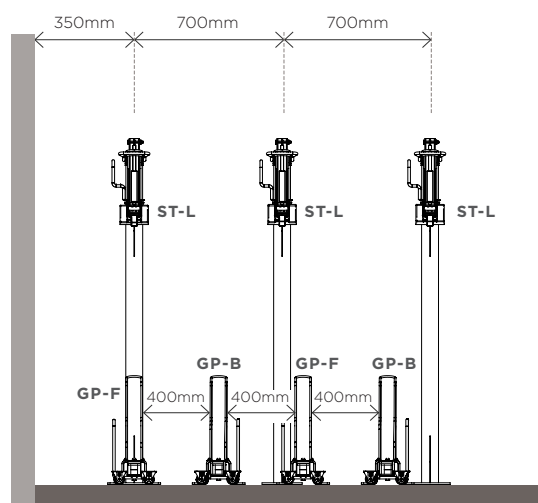
PERSPECTIVE VIEW WITH GP LOWER TIERS



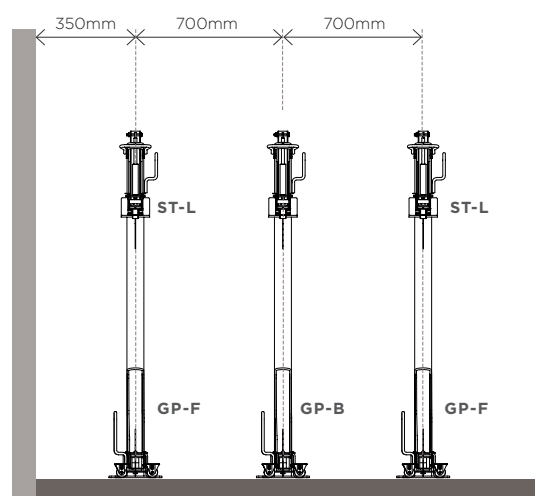
SIDE VIEW WITH GP LOWER TIERS

To comply with AS2890.3 (2015), minimum spacing between rack centres is:

- ▶ Where adjacent upper tier racks cannot be offset in height due to low ceiling clearance, single level racks can be used if spaced a minimum of 700mm apart
- ▶ GP Lower Tiers: - 400mm for maximum density; or 700mm for a symmetrical appearance



FRONT VIEW MAXIMUM DENSITY



FRONT VIEW SYMMETRICAL APPEARANCE

Refer to Installation Instructions sheet for specific installation and assembly guidelines. Racks should **NOT** be installed based on this sheet alone.

CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

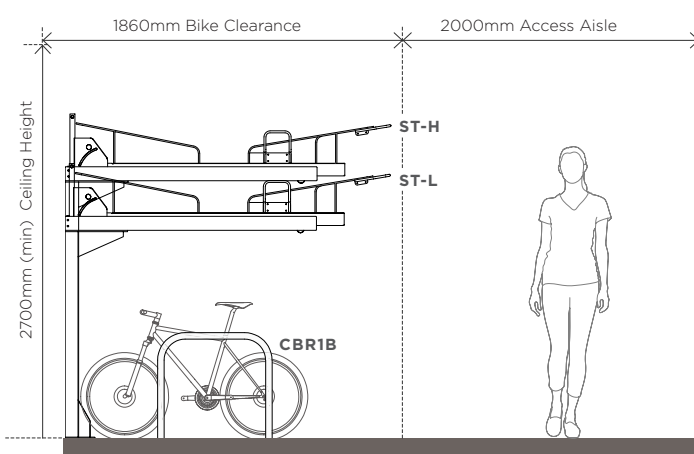
STAGGERED HEIGHT LAYOUT GUIDE

DYNAMIC UPPER TIERS / STATIC LOWER TIER

There are numerous configuration possibilities for double tier systems. Options shown are compliant with AS2890.3 (2015)



PERSPECTIVE VIEW WITH CBR1B LOWER TIERS

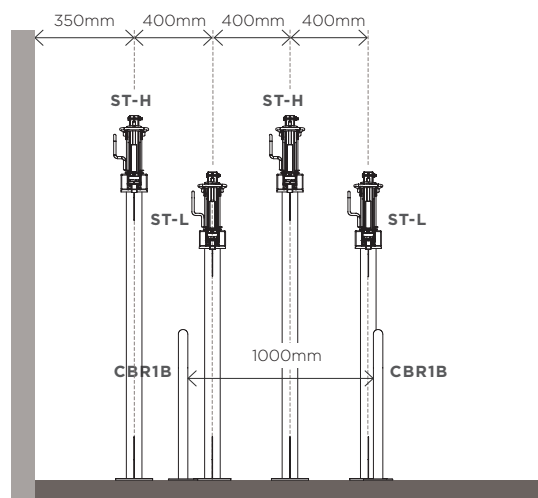


SIDE VIEW WITH CBR1B LOWER TIERS

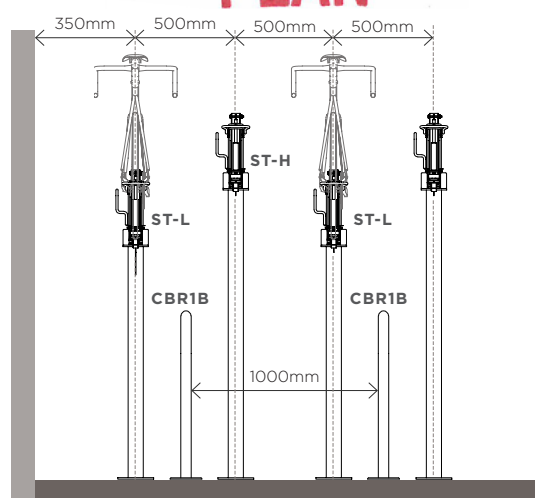
To comply with AS2890.3 (2015), minimum spacing between rack centres is:

- ▶ ST Upper Tiers: 400mm for maximum density; or 500mm for a symmetrical appearance
- ▶ CBR1B or lower bike rails: 1000mm (500mm per bike space)

ADVERTISED PLAN



FRONT VIEW MAXIMUM DENSITY



FRONT VIEW SYMMETRICAL APPEARANCE

Refer to Installation Instructions sheet for specific installation and assembly guidelines. Racks should **NOT** be installed based on this sheet alone.

CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

SINGLE HEIGHT LAYOUT GUIDE

DYNAMIC UPPER TIERS / STATIC LOWER TIER OPTIONS

There are numerous configuration possibilities for double tier systems. Options shown are compliant with AS2890.3 (2015)

ADVERTISED PLAN

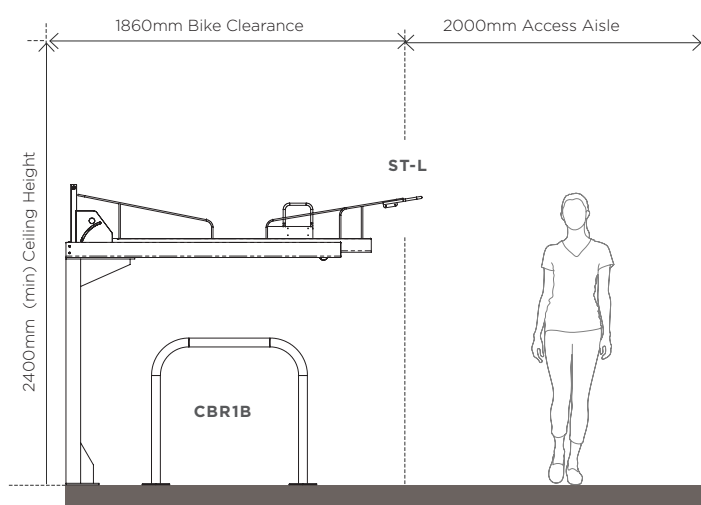
SINGLE HEIGHT DYNAMIC UPPER/ STATIC LOWER TIERS

To comply with AS2890.3 (2015), minimum spacing between rack centres is:

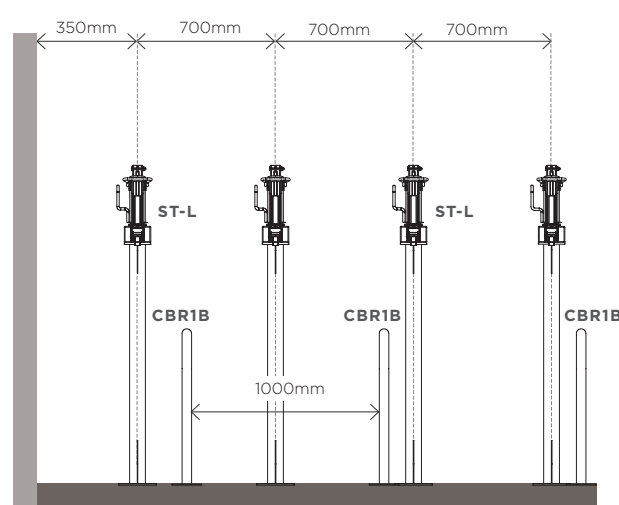
- ▶ Where adjacent upper tier racks cannot be offset in height due to low ceiling clearance, single level racks can be used if spaced a minimum of 700mm apart
- ▶ CBR1B or lower bike rails: 1000mm



PERSPECTIVE VIEW WITH CBR1B LOWER TIERS



SIDE VIEW WITH GP LOWER TIERS



FRONT VIEW WITH CBR1B LOWER TIERS

Refer to Installation Instructions sheet for specific installation and assembly guidelines. Racks should **NOT** be installed based on this sheet alone.

CORA BIKE RACK

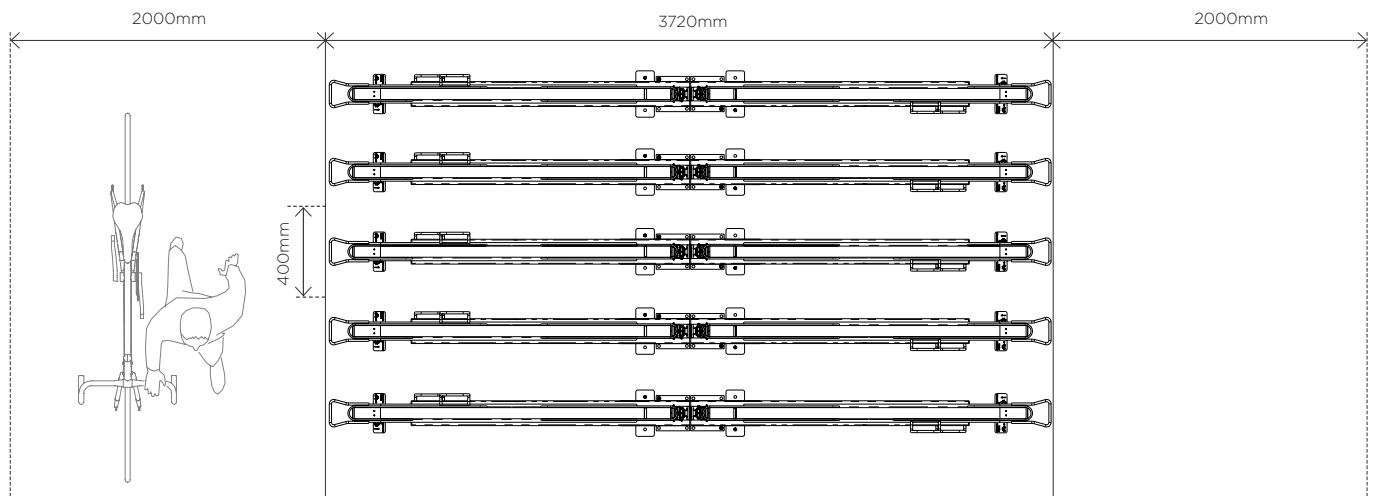
PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

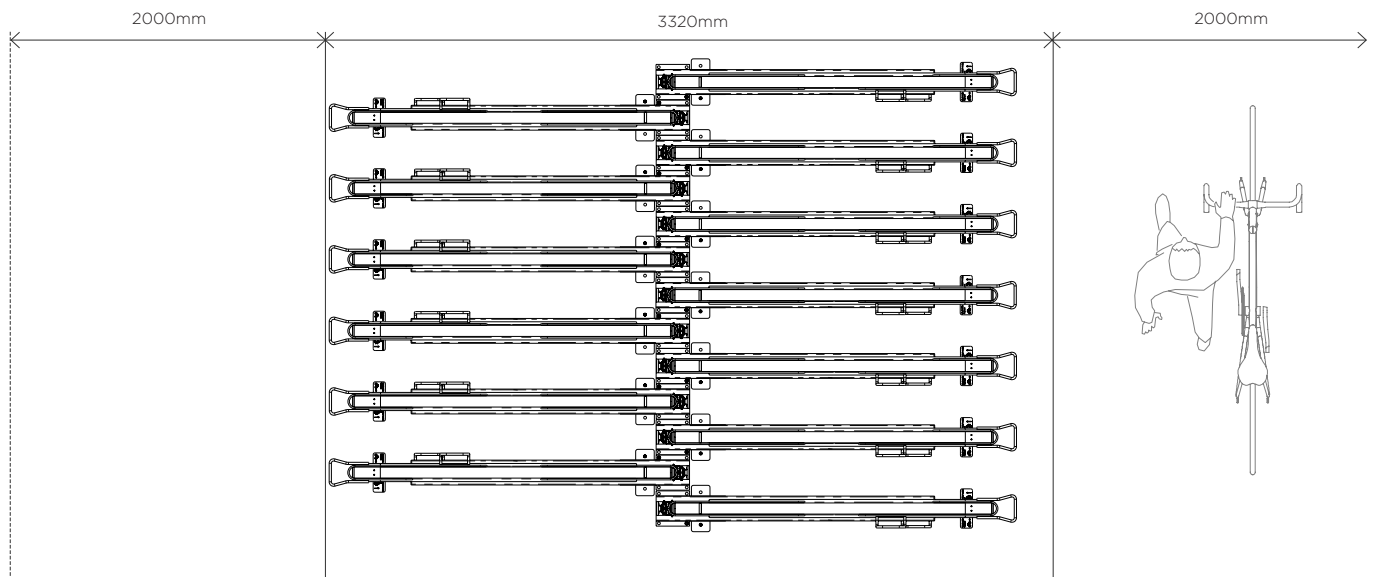
BACK TO BACK & NESTED LAYOUTS

ADVERTISED PLAN

BACK TO BACK LAYOUT



NESTED LAYOUT



Refer to Installation Instructions sheet for specific installation and assembly guidelines. Racks should **NOT** be installed based on this sheet alone.

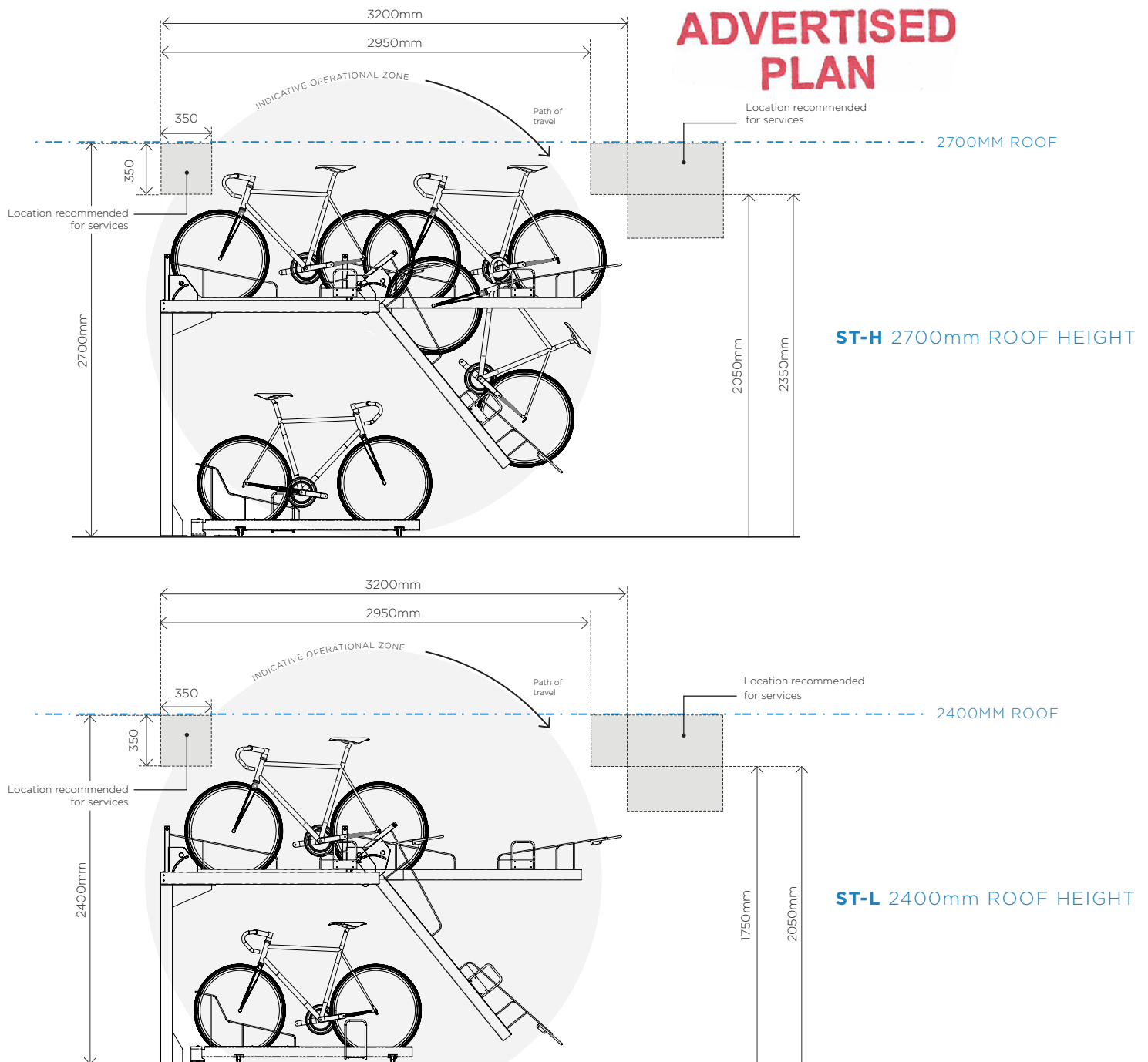
CORA BIKE RACK

PRODUCT SPECIFICATION SHEET

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ST-L & ST-H

ACCESS CLEARANCE



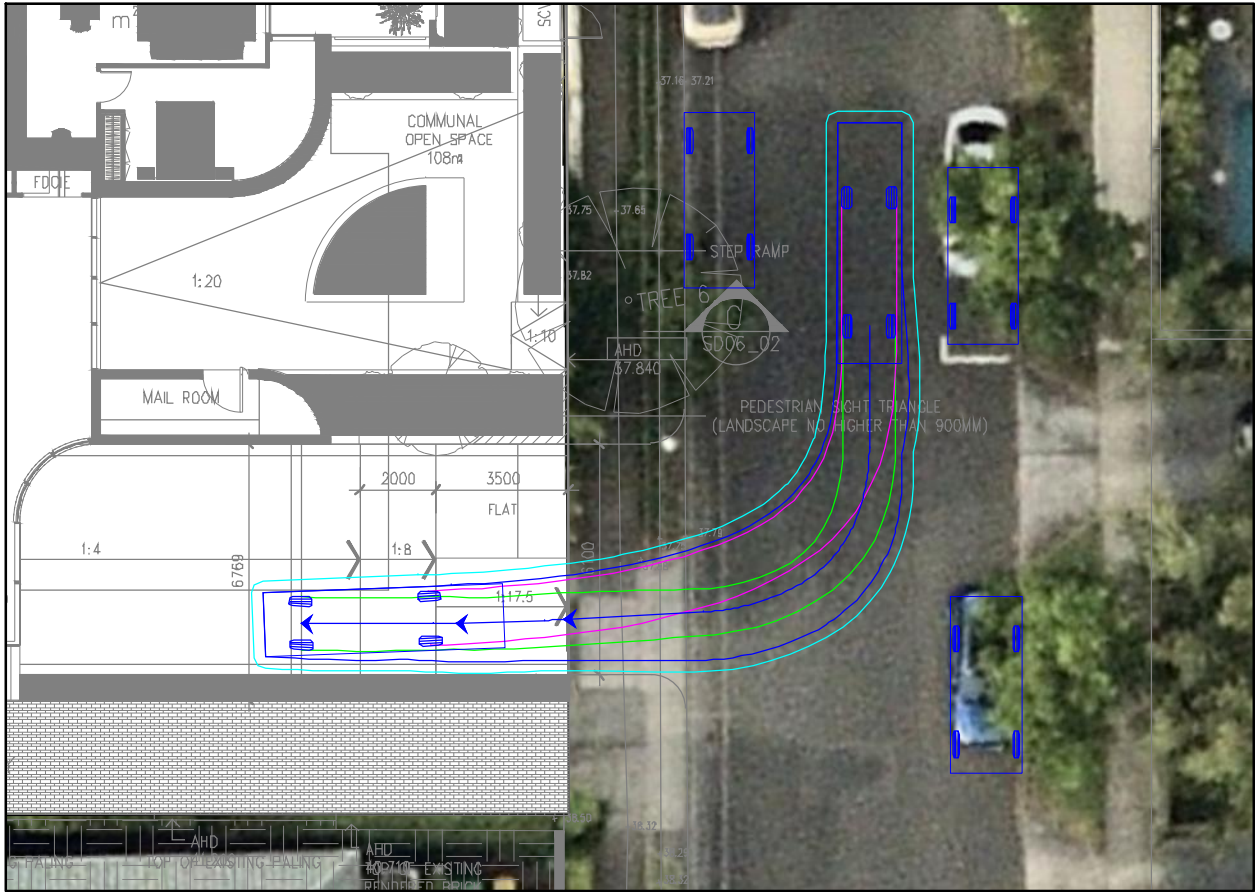
Refer to Installation Instructions sheet for specific installation and assembly guidelines. Racks should **NOT** be installed based on this sheet alone.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

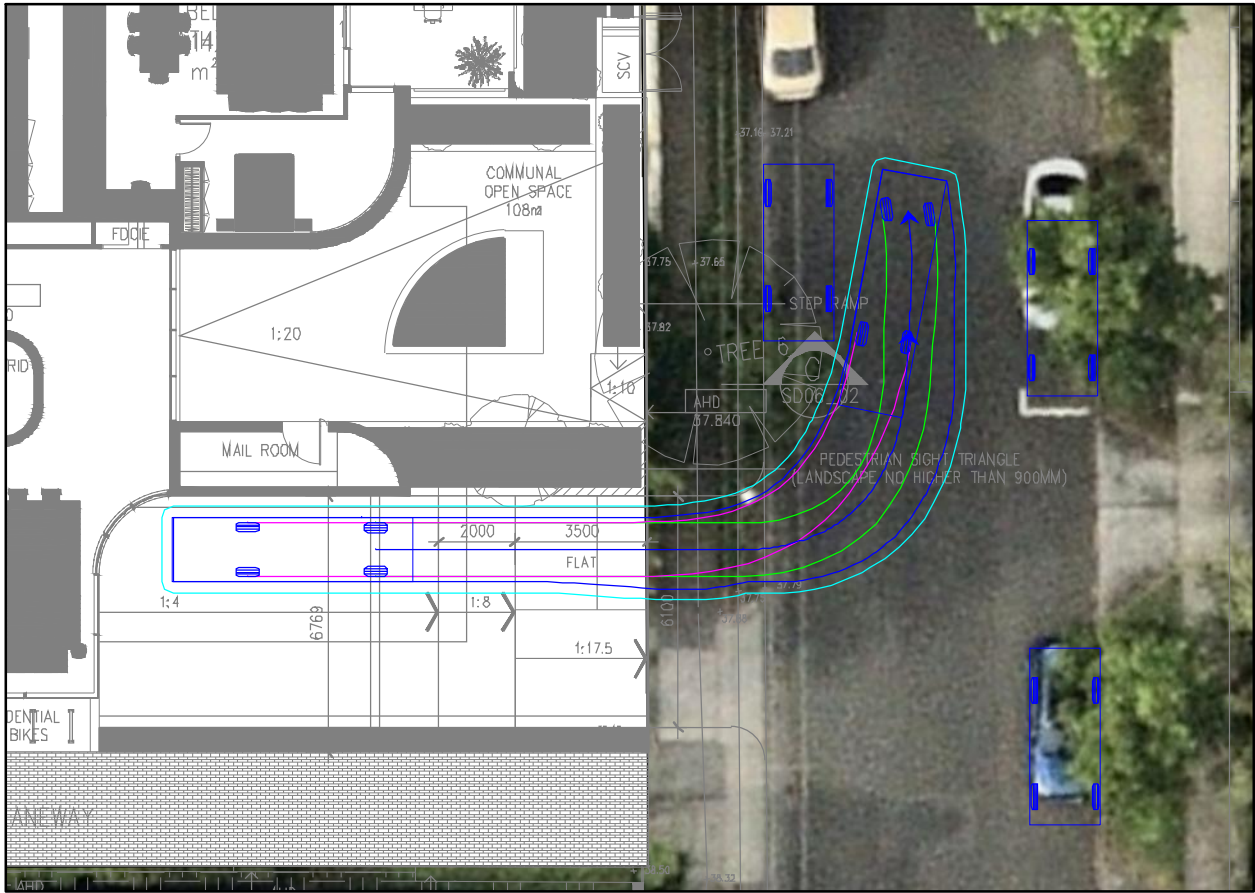
Appendix D

Swept Path Diagrams

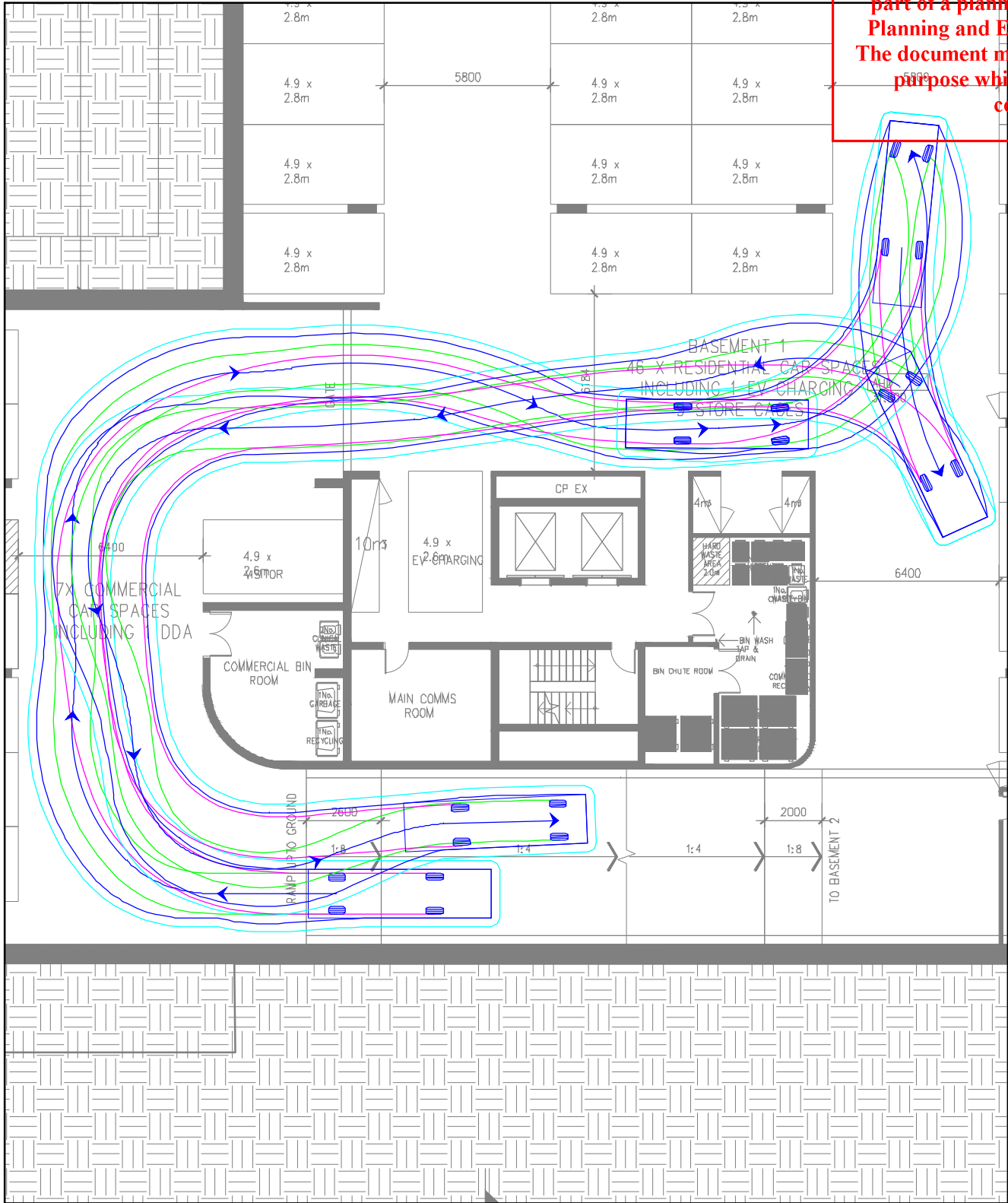
WASTE TRUCK - INGRESS



WASTE TRUCK - EGRESS



WASTE TRUCK - BASEMENT TURNAROUND



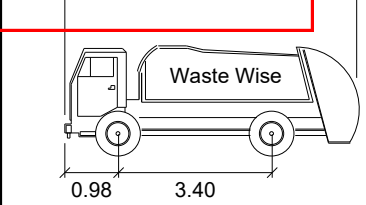
ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

VEHICLE PROFILE

VEHICLE USED IN SIMULATION

6.345



Waste Wise Mini (Hino 300)

Width : 1.7m
Front Track : 1.4m
Rear Track : 1.44m
Kerb to Kerb Radius : 12.4m

LEGEND
REAR WHEELS (magenta line)
FRONT WHEELS (green line)
VEHICLE BODY (blue line)
BODY CLEARANCE (cyan line)



ADVERTISED PLAN

[illegible][illegible]

— REAR WHEELS — VEHICLE BODY
— FRONT WHEELS — BODY CLEARANCE

The 1st floor plan includes the following areas and dimensions:

- Parking Spaces:**
 - Top left: 4.9 x 2.6m (2 spaces)
 - Bottom left: 4.9 x 2.6m (1 space), 4.9 x 2.6m (1 space), 4.9 x 2.6m (1 space)
- Commercial Car Spaces:** 7X COMMERCIAL CAR SPACES INCLUDING 1 DDA (indicated by a blue arrow pointing to a curved parking area).
- Commercial Bin Room:** 4.9 x 2.6m.
- Main Comms Room:** 4.9 x 2.6m.
- CP EX:** 4.9 x 2.6m.
- EV CHARGING:** 4.9 x 2.6m.
- Other Features:**
 - Gate (top center)
 - Ramp to Ground (bottom center)
 - Stairs (bottom right)
 - BN (bottom right)
- Dimensions:**
 - Overall width: 6184
 - Overall length: 46 X INCL
 - Internal width: 6400
 - Internal length: 2600
 - Internal width: 10m
 - Internal width: 1:8
 - Internal width: 1:4

[illegible]

part of a planning application. The documents are for information purposes only. NOT FOR CONSTRUCTION.

[illegible]