

Attachment 4 - PLN15/0355.02 - 50 Gough Street Cremorne (formerly known as 2 Gough Street Cremorne) - S52 Advertising Traffic Assessment Report Part 2

1 Preamble

1.1 Introduction

Irwinconsult has been engaged by Caydon to undertake a traffic impact assessment for the proposed revised mixed-use development located on part of the land at 2-6 Gough Street in Cremorne, forming Stage 2 of The Malt District development.

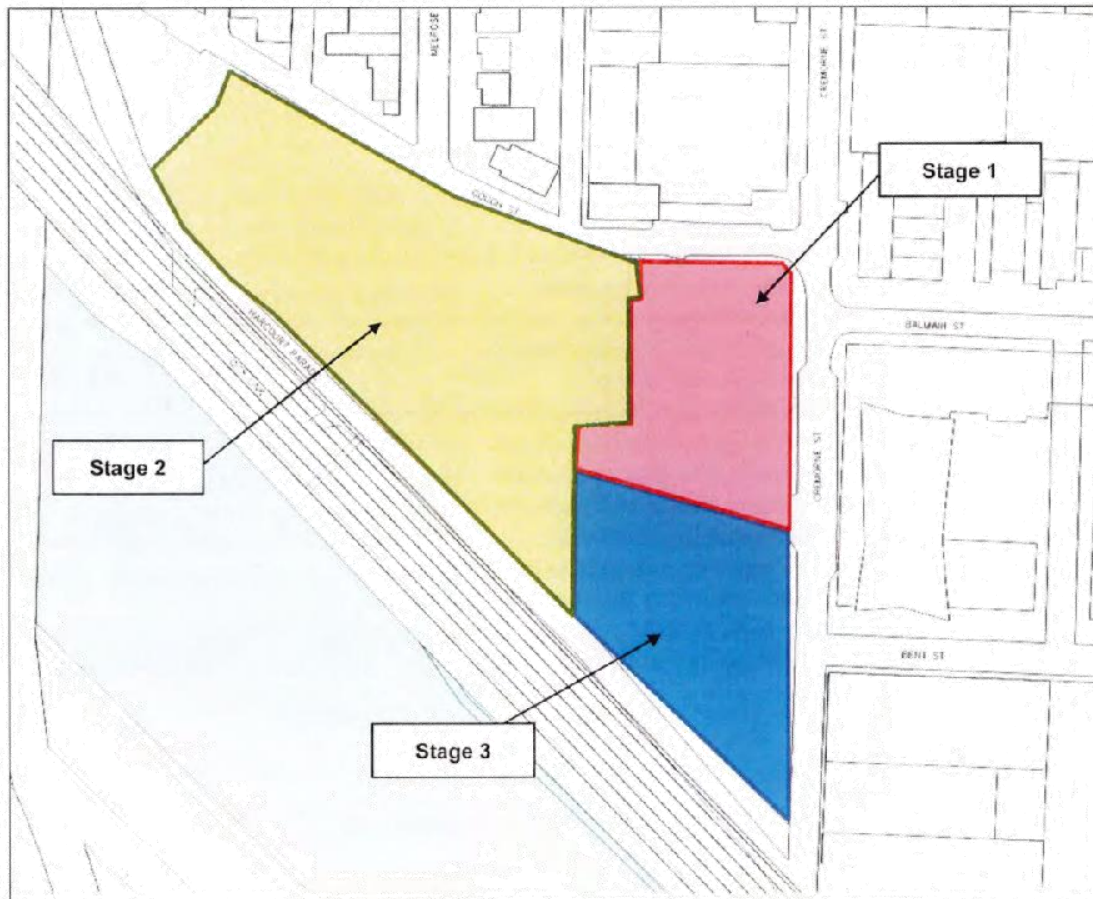
This report discusses the traffic implications of the proposal, including the adequacy of parking provision, the suitability of the site access arrangements and the likely impacts on the existing proximate traffic conditions.

The report concludes that subject to the recommended design modifications shown in Appendix A there are no traffic or parking grounds which should warrant refusal of the sought amended planning permit.

1.2 Overview

The proposed development represents the second stage (Stage 2) of a multi-stage development for the overall site (referred to as The Malt District). A summary of the various stages of the overall development site is generally shown in Figure 1.

Figure 1 Overview of Development Stages



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It is understood that planning permits have been issued by Council for the Stage 1, 2 and 3 developments, as per Planning Permit no. PLN15/0355, PLN15/1176 and PL08/0921 respectively. A summary of the permitted land uses is presented in Table 1.

Table 1 Summary of Permitted Land Uses – Stages 1, 2 and 3

Residential Apartment	One-bedroom	100 dwellings	107 dwellings	-
	Two-bedroom	89 dwellings	109 dwellings	-
	Three-bedroom	16 dwellings	42 dwellings	-
SOHO Apartment	Two-bedroom	3 dwellings	-	-
	Three-bedroom	3 dwellings	-	-
Office		415 m ²	2,423 m ²	8,520 m ²
Retail		655 m ² [2]	223 m ²	-
Showroom		-	-	363 m ²
Café		-	84 seats [4]	32 seats
Residential Hotel		-	43 rooms	-
Gallery		-	50 patrons	-
Restaurant		-	295 seats [4]	-
Function Centre		-	100 seats	-
Car Parking		216 spaces [3]	236 spaces	174 spaces
		1 car share space	5 car share spaces [4]	-

- [1] The Stage 1 and 3 land uses are based on the current Council endorsed drawings.
- [2] Includes supermarket use.
- [3] Includes 40 spaces to be provided to Stage 2 as part of the Stage 1 approved plans.
- [4] As per Planning Permit PLN15/1176

1.3 History of Stage 2 Proposal

A corrected Planning Permit (ref. PLN15/1176) was issued by the City of Yarra on 10 April 2018 at the direction of the Victorian Civil and Administrative Tribunal for:

Development of the land for buildings and works, including the construction of three buildings, use of the land as accommodation (dwellings and serviced apartments), function centre, shop and restaurant, food and drink premises (café), art gallery, reduction in the car parking requirements and construction and display of signs (relocation of Nylex and Victoria Bitter signs on top of silos B8 and B9).

Having consideration for the Planning Permit conditions, a summary of the current permitted Stage 2 development is shown in Table 2.

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Table 2 Approved Stage 2 Development Summary

Residential Apartment	One-bedroom	107 dwellings
	Two-bedroom	109 dwellings
	Three-bedroom	42 dwellings
Office		2,423 m ²
Retail (incl. Bakery)		223 m ²
Café		84 seats
Residential Hotel		43 rooms
Gallery		50 patrons
Restaurant		295 seats
Function Centre		100 seats
Car Parking		236 spaces ^[1]
		5 car share spaces

[1] In addition to 40 spaces quarantined as part of The Malt District – Stage 1 permitted development as per the amended Planning Permit (ref. PLN15/0355) and Malt - Stage 1 Car Parking Management Plan endorsed by Yarra City Council on 9 August 2018.

1.4 Stage 2 Revised Proposal

The Revised Stage 2 proposal which forms the basis of this assessment includes a number of changes to the current permitted development, generally described as follows:

- A reduction in the number of conventional residential apartments;
- Increase in the number of residential hotel rooms;
- An increase in the floor area of office;
- Reduction in the floor area of retail / bakery;
- Increase in the number of restaurant seats;
- Increase in the number of function and meeting room seats;
- Modifications to the internal car parking design; and
- Reduction in the overall number of car parking spaces allocated for the Stage 2 development.

A tabulated comparison of the current proposal and the permitted development is provided in Section 3 of this report.

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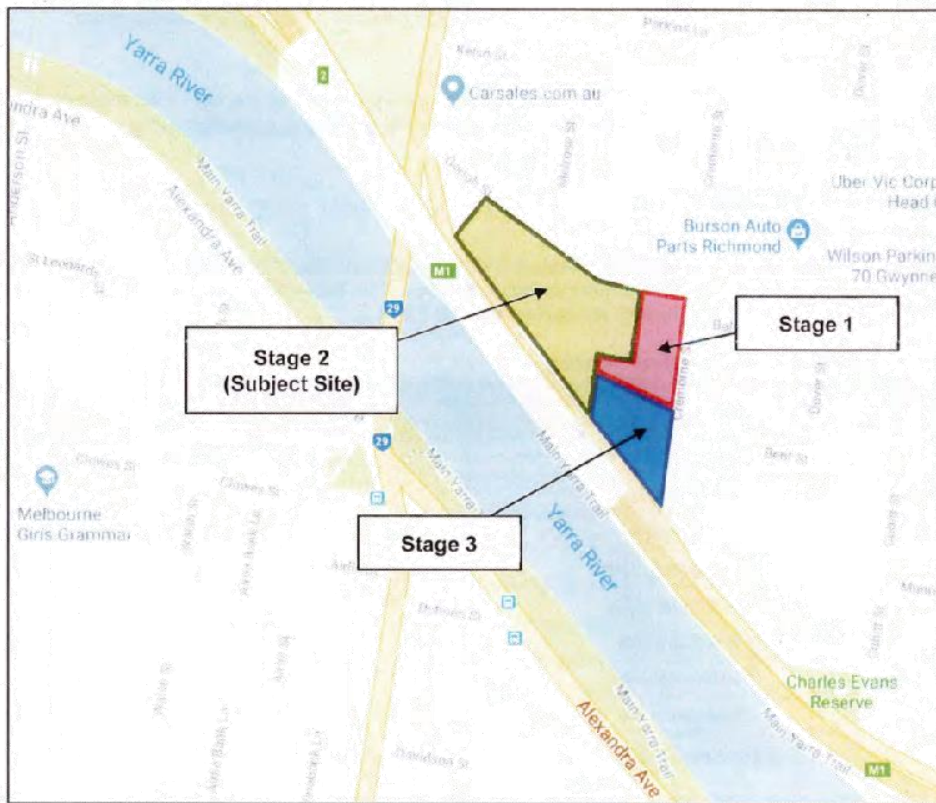
2 Background and Existing Conditions

2.1 Site Location and Land Use

The subject site occupies part of the land at 2-6 Gough Street, Cremorne which falls within the Comprehensive Development Zone (CDZ3) under the Yarra Planning Scheme. Further, the site is also situated within the Principal Public Transport Network (PPTN) area. The development site forms Stage 2 of the wider Malt District site which is divided into three development stages as illustrated in Figure 2.

The site is bound by Gough Street to the north, Cremorne Street to the east and Harcourt Parade to the south. Land uses surrounding the site comprise a mix of residential, commercial and public open space. A privately operated car park abuts the northwestern boundary of the site. The location of the subject site in the context of the surrounding road network is generally shown in Figure 2.

Figure 2 Site Location (source: Google Maps)



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2.2 Road Network

2.2.1 Gough Street

Gough Street is classified as a local road and is managed by Yarra City Council. It is a two-way road generally aligned east-west between Punt Road and Cremorne Street. At the site frontage, Gough Street provides an approximate 7 metre wide carriageway set within an approximate 10.5 metre wide road reserve. Proximate to the site, kerbside parking is only permitted along the southern side of the carriageway, and is subject to time restrictions, with no restrictions further to the west.

2.2.2 Cremorne Street

Cremorne Street is classified as a collector road and is managed by Yarra City Council. It is a two-way road generally aligned north-south between Swan Street and Harcourt Parade. At the site frontage, Cremorne Street provides an approximate 10 metre wide carriageway set within an approximate 15 metre wide road reserve. Proximate to the site, kerbside parking is permitted, generally subject to time based restrictions along the western side and time based and permit based parking restriction along the eastern side. The southern extent of Cremorne Street provides direct access to the CityLink (Monash Freeway) eastbound carriageway.

2.2.3 Harcourt Parade

Harcourt Parade is generally aligned east-west and operates as a one-way, single lane road managed by CityLink providing direct access to the CityLink eastbound carriageway. No parking is permitted along the road and pedestrian access is restricted along the northern side.

2.3 Sustainable Transport

2.3.1 Public Transport

The subject site is well situated to take advantage of the local public transport network. In particular, Richmond Station offers train services to numerous metropolitan train lines. The public transport services which are within a convenient walking distance from the site are summarised in Table 3.

Table 3 Nearby Public Transport Services

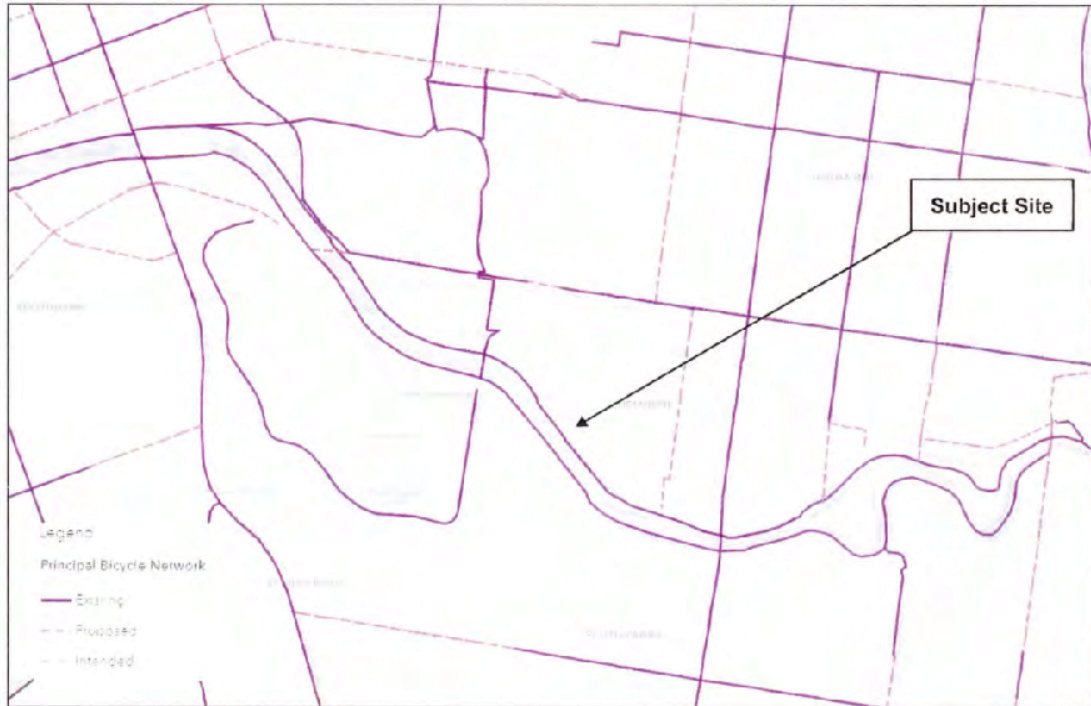
Mode	Route	Location	Distance	Walking Time
Train	Alamein Line	Richmond Station	700m (8 mins walk)	12-15 mins
	Belgrave Line			4-5 mins
	Lilydale Line			4-5 mins
	Glen Waverley Line			7-8 mins
	Sandringham Line			7-8 mins
	Pakenham Line			3-5 mins
	Cranbourne Line			3-5 mins
	Frankston Line			10 mins
Tram	70 Waterfront City Docklands – Wattle Park	Punt Road/ Swan Street	600m (7 mins walk)	10-12 mins
Bus	246 Elsternwick – Clifton Hill	Alexandra Ave/ Punt Road	450m (5 mins walk)	10-12 mins
	605 Gardenvale – Flagstaff Station			15 mins

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2.3.2 Cycling

The subject site is excellently located to take advantage of the local bicycle network. In particular, the site is situated within close proximity to the Main Yarra Trail, a major shared use path along the Yarra River that provides a direct route to the Melbourne CBD, approximately 3km or a 10-15 minute cycle from the subject site. Figure 3 shows an extract from the Principal Bicycle Network and illustrates the extensive network of bicycle routes that is conveniently accessible from the site.

Figure 3 Principal Bicycle Network



2.3.3 Walking

Walking is a fundamental form of transport, and given that the subject site is located within reasonable walking distance from the public transport options discussed above, the pedestrian walkability of the surrounding area is crucial.

The subject site is well serviced by walking facilities, with pedestrian footpaths and pram ramps provided along all street frontages. Pedestrian connectivity is provided between the site and all nearby public transport nodes, as well as other local destinations such as the Swan Street retail precinct.

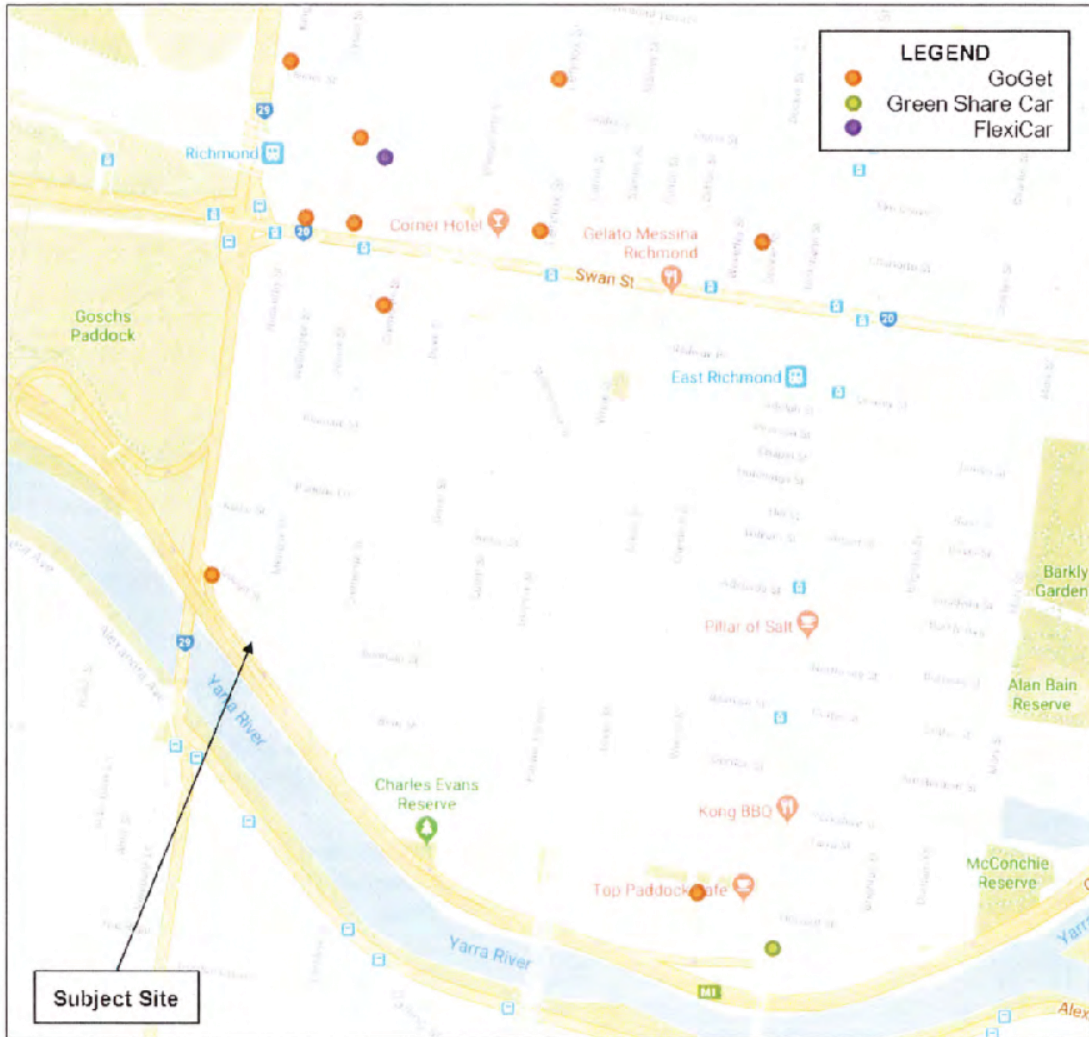
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2.3.4 Car Share

In addition to the public transport services listed above, the subject site is also within a reasonable walking distance of multiple car share pods near Richmond Station, operated by Flexicar and GoGet. Car share schemes allow registered users to hire a motor vehicle on a short term basis, offering a convenient and cost-effective alternative to private motor vehicle ownership for many people.

Figure 4 shows the car share pods located proximate to the site.

Figure 4 Local Care Share Pods



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3 Proposal

The Applicant seeks an amended Planning Permit for a revised development scheme for Stage 2 of the proposed mixed-use development on part of the land commonly referred to as The Malt District located at 2-6 Gough Street in Cremorne. Figure 5 shows the general layout of the proposed buildings for the Stage 2 development.

Figure 5 Proposed Building Locations within Stage 2



An existing planning permit allows the development of the site for the purposes of a mixed-use development. A revised set of plans has been prepared by Caydon. The revised plans include a number of changes to the proposal, including:

- A reduction in the number of conventional residential apartments;
- Increase in the number of residential hotel rooms;
- An increase in the floor area of office;
- Reduction in the floor area of retail / bakery;
- Increase in the number of restaurant seats;
- Increase in the number of function and meeting room seats;
- Modifications to the internal car parking design; and
- Reduction in the overall number of car parking spaces allocated for the Stage 2 development.

Table 4 shows a summary of the proposed changes to the development composition when compared to the permitted schedule.

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Table 4 Development Composition Summary – Stage 2

		Stage 1	Stage 2	Change
Residential Apartment	One-Bedroom	107 dwellings	65 dwellings	-42 dwellings
	Two-Bedroom	109 dwellings	80 dwellings	-29 dwellings
	Three-Bedroom	42 dwellings	28 dwellings	-14 dwellings
Residential Hotel	43 rooms	200 rooms	+157 rooms	
Office	2,423 m ²	4,571 m ²	+2,148 m ²	
Retail / Bakery	223 m ²	84 m ²	-139 m ²	
Café	84 seats	130 m ² (84 seats)	No change	
Food & Beverage (Restaurant)	295 seats	1,756 m ² (595 seats)	+300 seats	
Function & Meeting Room	-	281 m ² (100 seats)	+100 seats	
Function Centre	100 seats	220 m ² (100 seats)	No change	
Gallery	50 patrons	647 m ² (50 patrons)	No change	
Car Parking – On-site	236 spaces	245 spaces	+9 spaces	
Car Parking – Quarantined Stage 1	40 spaces	None	-40 spaces	

As part of the revised Stage 2 development, it is proposed to provide a total of 245 car parking spaces over four basement levels and a loading area at ground level. There are also an additional 40 car spaces currently quarantined for Stage 2 as part of the Stage 1 development. It is proposed for these 40 spaces to be returned to Stage 1. It is understood that this amendment to the existing Stage 1 planning permit is to be undertaken as a separate application to Council.

Vehicle access to the basement car park and loading area is to be via a crossover to Gough Street at the northwestern corner of the site.

3.1 Loading and Waste Collection

Waste collection for the proposed Stage 2 development is to occur via a loading dock to be located at the Ground Floor of Building B9 and accessed via a crossover to Gough Street. It is understood that waste collection will typically occur five days per week with vehicles staying for up to one hour. Refer to Irwinconsult Waste Management Plan for further information.

Loading/unloading requirements for residents of the apartments is to be serviced by the proposed Building B9 loading dock, where the loading dock will be available for residential use during most of the day and restricted during waste collection periods.

The hotel and other commercial uses will be serviced by the Stage 1 loading dock or via a proposed on-street Loading Zone to be implemented on Cremorne Street following completion of Stage 1 construction.

3.2 Drop Off / Pick Up

Four (4 no.) drop off / pick up bays are proposed on Gough Street along the site's frontage. It is expected that these bays will predominately service taxis, Uber etc and will be marked as either No Parking, or 2 Minute Parking.

In addition, a further four (4 no.) bays are proposed along the Cremorne Street site frontage which will service guests of the hotel.

Concept design layouts for the proposed drop-off / pick-up and loading zones are provided in Appendix B.

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4 Car Parking Considerations

4.1 Statutory Car Parking Requirements

Table 1 to Clause 52.06 of the Yarra Planning Scheme specifies car parking requirements for various land uses. Car parking measures are multiplied by the rates listed in either Column A or Column B.

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 Area Maps* (State Government of Victoria, 2018); or
- A schedule to the Parking Overlay or another provision of the planning scheme specifies that Column B applies.

The car parking requirement specified for a use listed in Table 1 does not apply if:

- A car parking requirement for the use is specified under another provision of the planning scheme; or
- A schedule to the Parking Overlay specifies the number of car parking spaces required for the use.

As the subject site is situated within the Comprehensive Development Zone (CDZ3) the applicable statutory rates are specified under Schedule 3 to Clause 37.02 (CDZ3).

Where a use of land is not specified under CDZ3, Column B of Table 1 to Clause 52.06 applies given the site is situated in the Principal Public Transport Network Area.

It is also noted that, if a use of land is not specified in CDZ3 or Table 1 of Clause 52.06, car parking spaces must be provided to the satisfaction of the responsible authority.

The statutory parking requirement for the development is shown in Table 1.

Table 1 Statutory Car Parking Requirements

B4	Retail / Bakery	84 m ²	4 spaces per 100m ²	3 spaces
	Office	933 m ²	2.6 spaces to each 100 m ²	24 spaces
	Gallery	197 m ² (15 patrons)	0.3 spaces to each patron permitted	4 spaces
Sub Total				31 spaces
B5	Restaurant	241 m ² (195 patrons)	0.3 spaces to each seat	58 spaces
	Café	130 m ² (84 patrons)	0.3 spaces to each seat	25 spaces
	Office	165 m ²	2.6 spaces to each 100 m ²	4 spaces
Sub Total				87 spaces
B6	Office	1,492 m ²	2.6 spaces to each 100 m ²	38 spaces
	Food & Beverage (Restaurant / Café)	695 m ² (300 patrons)	0.3 spaces to each seat	90 spaces
	Function & Meeting Room (Place of Assembly)	281 m ² (100 patrons)	0.3 spaces to each patron permitted	30 spaces
Sub Total				158 spaces
B8	Office	1,697 m ²	2.6 spaces to each 100 m ²	44 spaces
Sub Total				44 spaces

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B9	Residential Apartments	One-Bedroom	65 no.	1 space to each one-bedroom dwelling	65 spaces
		Two-Bedroom	80 no.	1 space to each two-bedroom dwelling	80 spaces
		Three-Bedrooms or more	28 no.	2 spaces to each three or more bedroom dwelling	56 spaces
		Visitors	173 no.	0.12 visitor spaces per apartment	20 spaces
	Restaurant	530 m ² (66 patrons)	0.3 spaces to each seat	19 spaces	
				Sub Total	240 spaces
B9 Silos	Art Gallery	450 m ² (35 patrons)	0.3 spaces to each patron permitted	10 spaces	
	Office	284 m ²	2.6 spaces to each 100 m ²	7 spaces	
	Food & Beverage (Restaurant)	290 m ² (34 patrons)	0.3 spaces to each seat	10 spaces	
	Function Venue (Place of Assembly)	220 m ² (100 patrons)	0.3 spaces to each patron permitted	30 spaces	
				Sub Total	57 spaces
				Grand Total	617 spaces
B6	Residential Hotel	200 rooms (keys)	None specified	To the satisfaction of the Responsible Authority	

Based on the preceding, there is a statutory requirement to provide 617 car parking spaces for the development, plus parking for the residential hotel to the satisfaction of the responsible authority.

The statutory requirement outlined above is not considered representative of the likely parking demands for the development. In view of this, Clause 52.06-7 allows for the statutory car parking provision to be reduced (including to zero) subject to the provision of a Car Parking Demand Assessment.

The Car Parking Demand Assessment must assess the car parking demands likely to be generated by the proposal with regards to the following:

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

Clause 52.06-7 of the Planning Scheme further provides decision guidelines to reduce or waive the statutory parking requirement as follows. They are also useful for consideration when a statutory rate is not nominated in the scheme for the proposed use.

- *The Car Parking Demand Assessment.*
- *Any relevant local planning policy or incorporated plan.*
- *The availability of alternative car parking in the locality of the land, including:*

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- *Efficiencies gained from the consolidation of shared car parking spaces.*
 - *Public car parks intended to serve the land.*
 - *On street parking in non-residential zones.*
 - *Streets in residential zones specifically managed for non-residential parking.*
 - *On street parking in residential zones in the locality of the land that is intended to be for residential use.*
- *The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.*
 - *Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.*
 - *The future growth and development of any nearby activity centre.*
 - *Any car parking deficiency associated with the existing use of the land.*
 - *Any credit that should be allowed for car parking spaces provided on common land or by a Special Charge Scheme or cash-in-lieu payment.*
 - *Local traffic management in the locality of the land.*
 - *The impact of fewer car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.*
 - *The need to create safe, functional and attractive parking areas.*
 - *Access to or provision of alternative transport modes to and from the land.*
 - *The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.*
 - *The character of the surrounding area and whether reducing the car parking provision would result in a quality / positive urban design outcome.*
 - *Any other matter specified in a schedule to the Parking Overlay.*
 - *Any other relevant consideration.*

Each of the above guidelines relevant in this instance is discussed below.

4.2 Car Parking Demand Assessment

4.2.1 Case Study

As previously discussed, Council has issued planning permits for development Stages 1, 2 and 3 of The Malt District. Table 2 summarises the relevant car parking rates approved under the existing planning permits. These approved rates have taken into consideration the likely car ownership and parking demands for the development.

Table 2 Car Parking Rates Approved by Existing Planning Permits

Residential Apartments	One-Bedroom	0.5 spaces per apartment	0.5 spaces per apartment	N/a
	Two-Bedroom	0.7 spaces per apartment	0.7 spaces per apartment	N/a
	Three-Bedrooms or more	1 space per apartment	1 space per apartment	N/a
	Visitors	0.12 spaces per apartment	0.08 spaces per dwelling	N/a
Office	Staff	2.34 spaces per 100 m ²	1 space per 100 m ²	1.87 spaces per 100 m ²
	Visitors	0.26 spaces per 100 m ²		N/a
Food and Beverage (Restaurant)	Staff	N/a	0.2 spaces per seat	N/a
	Visitors	N/a		N/a

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Café	Staff	N/a	0.1 spaces per seat	0.03 spaces to each patron permitted
	Visitors	N/a		No spaces required
Function and Meeting Room (Place of Assembly)	Staff	N/a	0.2 spaces per seat	N/a
	Visitors	N/a		N/a
Residential Hotel	Staff	N/a	0.05 spaces per room	N/a
	Visitors	N/a	No spaces required	N/a
Retail [2]	Staff	1 space per 100 m ²	1 space per 100 m ²	N/a
	Visitors	None		N/a
Gallery	Staff	N/a	0.2 spaces per patron	N/a
	Visitors	N/a		N/a

[2] Includes Supermarket use.

Having regards for the above, it is considered appropriate to adopt the following car parking rates for the purposes of this assessment:

- Residential apartment – one-bedroom 0.5 car spaces per apartment
- Residential apartment – two-bedrooms 0.7 car spaces per apartment
- Residential apartment – three-bedrooms or more 1 car space per apartment
- Residential apartment visitors 0.08 spaces per dwelling
- Residential hotel staff 0.05 spaces per room
- Retail staff 1 space per 100 m²

Residential Hotel – Guests

Residential hotels have a low parking demand, which is typically driven by consumer demand. Guests are advised on the availability of car parking at the time of the booking, and if parking is required (and not available), guests typically choose alternative accommodation.

However, it is envisaged that there will be demand for short-term drop off / pick up when guests arrive or depart via car i.e. taxi, Uber etc.

The RTA NSW Guide to Traffic Generating Developments (version 2.2) lists motels (casual accommodation) with a daily traffic generation rate of 3 trips per unit and evening peak hour traffic generation of 0.4 trips per unit. It is noted that these rates are based on 100% occupancy of units and that, drawing a comparison between similar developments where occupancy data is provided, an 85% occupancy may be more appropriate. Applying an 85% factor to the above rates equates to daily traffic generation rates of 2.55 trips per unit and an evening peak hour traffic generation of 0.34 trips per unit.

Further, industry case studies also indicate a typical traffic generation rate of 0.3 - 0.35 vehicle movements per serviced apartment during peak hours.

In this regard, given the similarities between a residential hotel and motel / serviced apartment use it is expected that the residential hotel would generate 0.3 – 0.35 vehicle movements per hotel room. For the purposes of this assessment a conservative rate of 0.35 vehicle movements has been adopted, split evenly between inbound and outbound movements. Based on the proposed provision of 200 rooms within the hotel, the proposed development is anticipated to generate up to 70 peak hour traffic movements (35 inbound and 35 outbound).

Assuming a drop off / pick up time of five minutes this equates to a capacity of 12 vehicles per bay per hour. Therefore, it is envisaged that three drop off / pick up bays are required to service guests of the proposed residential hotel use.

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Office

In line with local government and state government policy, office is one land use where car parking should be minimised as much as possible as travel to / from office uses has the largest impact on the road network.

By not providing car parking in areas that have constrained parking restrictions (i.e. short-term restrictions that do not facilitate all day parking), staff are forced to utilise alternative transport modes, which reduces the strain on the road network.

The site is well situated to take advantage of sustainable transport options as previously discussed in Section 2.3. In particular, accessibility to public transport is convenient and excellent bicycle connections are available such as the Main Yarra Trail.

Further, the development also proposes to provide bicycle parking and end-of-trip facilities for office employees in excess of the statutory requirements.

Thus, it is expected that there will be no demand for car parking from the office use.

Restaurant

Studies done by others of similar venues in the vicinity of the site including Richmond Hotel Club and The Precinct Hotel have revealed a peak car parking demand generation rate of 0.09 - 0.11 spaces per patron.

In addition, it is expected that the demand for restaurants would be further reduced given that a significant portion (at least 50%) of patrons to these uses will likely be 'walk by' patrons being either residents living at the site, office staff working at the site, or hotel guests. In this regard, the peak car parking demand generated by restaurants is anticipated to be 0.05 spaces per patron.

Café, Function Venue and Art Gallery

Given the nature of the proposed café, function venue and art gallery uses within the wider Malt District, it is envisaged that the patronage and demand for car parking from these uses will be similar to a restaurant.

Similarly, demand for café, function venue and gallery car parking would also be further reduced given that a significant portion (at least 50%) of patrons to these uses will be 'walk by' patrons being either residents living at the site, office staff working at the site, or hotel guests.

Thus, a peak car parking demand rate of 0.05 spaces per patron is anticipated.

4.2.2 The Availability of Public Transport in the Locality

As discussed in Section 2.3, there are numerous public transport options within 700 metres of the subject site, including the Richmond Railway Station, providing commuters with excellent connectivity to the wider public transport network. Public transport availability and accessibility would therefore be a significant contributor in the reduction in private motor vehicle travel to and from the site.

4.2.3 The Convenience of Pedestrian and Cyclist Access to the Site

The subject site is serviced with a network of pedestrian footpaths, providing walking access to local destinations and several public transport options as noted previously in Section 2.3.

In addition, the Main Yarra Trail is situated in close proximity of the subject site which allows riders to connect to the Melbourne CBD and inner Melbourne regions.

The surrounding infrastructure provides pedestrians and cyclists with connections to local destinations, public transport as well as the wider bicycle network and encourages uptake of these travel modes over private motor vehicle travel.

4.2.4 The Provision of Bicycle Parking and End of Trip Facilities for Cyclists

The proposal includes the provision of 330 bicycle parking spaces, which is in excess of the minimum statutory requirements (refer Section 5).

End of trip facilities are not required for the residential use, however end of trip facilities have been provided for employees of the proposed commercial uses.

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The proposed bicycle parking and end of trip facilities will further encourage the uptake of cycling to and from the site, and reduce reliance on private motor vehicle travel.

4.2.5 The Variation of Parking Demand Over Time

Having consideration for the preceding, the anticipated car parking demand for the revised Stage 2 development is summarised in Table 3 and Table 4, including a temporal distribution which considers sharing of spaces.

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Table 3 Car Parking Demand and Sharing Assessment – Weekday

Building	Proposed Use	Quantity	Car Parking Rate	Total Demand (Simultaneous)	Temporal Profile		Residual Demand	
					Daytime	Evening	Daytime	Evening
B4	Retail / Bakery	84 m ²	1 space per 100 m ²	0	100%	0%	0	0
	Office	333 m ²	Nil	0	100%	0%	0	0
	Gallery	197 m ² (15 patrons)	0.05 spaces per patron	1	100%	0%	1	0
Sub Total				1 space			1 space	0 spaces
B5	Restaurant	241 m ² (155 patrons)	0.05 spaces per patron	9	50%	100%	4	9
	Cafe	130 m ² (84 patrons)	0.05 spaces per patron	4	100%	0%	4	0
	Office	165 m ²	Nil	0	100%	0%	0	0
Sub Total				9 spaces			8 spaces	9 spaces
B6	Office	1,492 m ²	Nil	0	100%	0%	0	0
	Food & Beverage (Restaurant / Cafe)	595 m ² (300 patrons)	0.05 spaces per patron	15	50%	100%	7	15
	Function & Meeting Room (Place of Assembly)	281 m ² (100 patrons)	0.05 spaces per patron	5	100%	100%	5	5
	Residential Hotel	200 rooms (keys)	0.05 spaces per room	10	100%	100%	10	10
Sub Total				30 spaces			22 spaces	30 spaces
B8	Office	1,597 m ²	Nil	0	100%	0%	0	0
Sub Total				0 spaces			0 spaces	0 spaces
B9	One-Bedroom	65 no.	0.5 car spaces per apartment	32	100%	100%	32	32
	Two-Bedroom	80 no.	0.7 car spaces per apartment	56	100%	100%	56	56
	Three-Bedrooms or more	28 no.	1 car space per apartment	28	100%	100%	28	28
	Visitors	173 no.	0.08 spaces per dwelling	13	25%	100%	3	13
	Restaurant	530 m ² (66 patrons)	0.05 spaces per patron	3	50%	100%	1	3
Sub Total				141 spaces			120 spaces	132 spaces
B9 Silos	Art Gallery	450 m ² (35 patrons)	0.05 spaces per patron	1	100%	0%	1	0
	Office	284 m ²	Nil	0	100%	0%	0	0
	Food & Beverage (Restaurant)	250 m ² (34 patrons)	0.05 spaces per patron	1	50%	100%	0	1
Function Venue (Place of Assembly)	220 m ² (100 patrons)	0.05 spaces per patron	5	100%	100%	5	5	
Sub Total				11 spaces			6 spaces	6 spaces
Grand Total				192 spaces			157 spaces	177 spaces

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Table 4 Car Parking Demand and Sharing Assessment – Saturday

Category	Use	Area (m ²)	Patrons / Keys	Spaces per Patron / Key	Total Spaces	Percentage	Percentage	Total Spaces	Percentage	
										0 spaces
B4	Retail / Bakery	84 m ²		1 space per 100 m ²	0	100%	0%	0	0%	
	Office	933 m ²		Nil	0	0%	0%	0	0%	
	Gallery	197 m ² (15 patrons)		0.05 spaces per patron	1	100%	0%	1	0%	
Sub Total					1 space			1 space	0 spaces	
B5	Restaurant	241 m ² (195 patrons)		0.05 spaces per patron	9	50%	100%	4	9	
	Café	130 m ² (84 patrons)		0.05 spaces per patron	4	100%	0%	4	0	
	Office	165 m ²		Nil	0	0%	0%	0	0	
Sub Total					9 spaces			8 spaces	9 spaces	
B6	Office	1,452 m ²		Nil	0	0%	0%	0	0	
	Food & Beverage (Restaurant / Café)	695 m ² (300 patrons)		0.05 spaces per patron	15	50%	100%	7	15	
	Function & Meeting Room (Place of Assembly)	281 m ² (100 patrons)		0.05 spaces per patron	5	100%	100%	5	5	
	Residential Hotel	200 rooms (keys)		0.05 spaces per room	10	100%	100%	10	10	
Sub Total					30 spaces			22 spaces	30 spaces	
B8	Office	1,697 m ²		Nil	0	0%	0%	0	0	
Sub Total					0 spaces			0 spaces	0 spaces	
B9	Residential Apartments	One-Bedroom	65 no	0.5 car spaces per apartment	32	100%	100%	32	32	
		Two-Bedroom	80 no	0.7 car spaces per apartment	56	100%	100%	56	56	
		Three-Bedrooms or more	28 no	1 car space per apartment	28	100%	100%	28	28	
	Restaurant	Visitors	173 no		0.08 spaces per dwelling	13	50%	100%	6	13
			530 m ² (66 patrons)		0.05 spaces per patron	3	50%	100%	1	3
Sub Total					141 spaces			123 spaces	132 spaces	
B9 Silos	Art Gallery	450 m ² (35 patrons)		0.05 spaces per patron	1	100%	0%	0	0	
	Office	284 m ²		Nil	0	0%	0%	0	0	
	Food & Beverage (Restaurant)	290 m ² (34 patrons)		0.05 spaces per patron	1	50%	100%	0	1	
Sub Total					5 spaces			5 spaces	5 spaces	
Grand Total					192 spaces			159 spaces	177 spaces	

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Irwinconsult confirms that the proposed car parking within Stage 2 is to provide an allocation of parking to land uses on the site, summarised as follows:

- Residential Apartments: 170 spaces
- Visitors (incl. staff): 70 spaces
- Car Share: 5 spaces

This includes a permanent allocation of 170 spaces for the residential apartments, 5 spaces to Car Share and the remaining 70 spaces to be shared by visitors (including staff), which can accommodate the peak demand from the temporal assessment as presented in Table 3 and Table 4. Noting that the peak parking demand for visitors (incl. staff) is expected to occur during the evening when the restaurants and function venues will be operating at their peak.

4.3 Disabled Parking

In addition to the statutory car parking requirements in the Planning Scheme, the Building Code of Australia (BCA) outlines requirements for the provision of car parking for people with disabilities. An assessment of the BCA disabled car parking requirements for the development proposal is set out in Table 5.

Table 5 BCA Car Parking Requirements for People with Disabilities

Residential Dwellings	Class 2	None
Residential Hotel	Class 3	To be calculated by multiplying the total number of carparking spaces by the percentage of - (i) accessible sole-occupancy units to the total number of sole-occupancy units; or (ii) accessible bedrooms to the total number of bedrooms; and the calculated number is to be taken to the next whole figure.
Restaurant / Retail	Class 6	1 space for every 50 carparking spaces or part thereof.
Office	Class 5	1 space for every 100 carparking spaces or part thereof.
Function Room (Place of Assembly)	Class 9b	1 space for every 50 carparking spaces or part thereof.
Art Gallery	Class 6	1 space for every 50 carparking spaces or part thereof.
Total		

Based on Table 5, the critical parking rate is considered to be 1 space for every 50 car parking spaces or part thereof. Given that the development is to provide 70 shared visitor spaces this equates to a requirement for two disabled spaces. It is noted that parking spaces for people with disabilities can be included in the total number of spaces required by the Planning Scheme.

Irwinconsult is satisfied that two disabled spaces can be provided on-site and a possible location is at Basement Level B1 (car spaces no. 34 and 36) as shown in Appendix A.

4.4 Adequacy of Car Parking Provisions

The proposal is able to provide 245 on-site car parking spaces, which is considered appropriate given:

- 170 spaces can be allocated to residents which satisfies the anticipated demand;
- 70 visitor spaces (incl. staff) are to be provided which can accommodate the peak demand entirely on-site;
- The convenient accessibility to several public transport options surrounding the site reduces the likely parking demands for staff and visitors;
- The provision of bicycle facilities above and beyond the Planning Scheme requirements further encourages the uptake of cycling as a mode of transport over private motor vehicle trips; and
- The prevalence of the local walking and cycling infrastructure, along with convenient connections to local services, amenities and employment centres, facilitate alternative travel modes to and from the site, reducing reliance on private motor vehicle ownership or travel.

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5 Bicycle Facilities Considerations

5.1 Statutory Bicycle Parking Requirements

Table 1 to Clause 52.34 of the Yarra Planning Scheme specifies the statutory requirements for bicycle parking given various land uses. These requirements are outlined in Table 6. There is a requirement to provide a total 106 bicycle spaces for the development (68 spaces for employees / residents and 38 spaces for visitors). The statutory requirements are satisfied with a provision of 330 bicycle spaces which are proposed to encourage the uptake of cycling as a mode of transport to the development.

Table 6 Statutory Bicycle Parking Requirements

Building	Proposed Use	Quantity	Statutory Parking Rate		Required Spaces	
			Employee/Resident	Visitor	Employee/Resident	Visitor
B4	Retail / Bakery	84 m ²	1 to each 300 m ² of leasable floor area	1 to each 500 m ² of leasable floor area	0	0
	Office	933 m ²	1 to each 300 m ² of net floor area if the net floor area exceeds 1,000 m ²	1 to each 1,000 m ² of net floor area if the net floor area exceeds 1,000 m ²	0	0
	Gallery	197 m ²	1 to each 1,500 m ² of net floor area	2 plus 1 to each 1500 m ² of net floor area	0	2
Sub Total					0 spaces	2 spaces
B5	Restaurant	241 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	2	0
	Café	130 m ²	1 to each 300 m ² of leasable floor area	1 to each 500 m ² of leasable floor area	0	0
	Office	165 m ²	1 to each 300 m ² of net floor area if the net floor area exceeds 1,000 m ²	1 to each 1,000 m ² of net floor area if the net floor area exceeds 1,000 m ²	0	0
Sub Total					2 spaces	0 spaces
B6	Office	1,492 m ²	1 to each 300 m ² of net floor area if the net floor area exceeds 1,000 m ²	1 to each 1,000 m ² of net floor area if the net floor area exceeds 1,000 m ²	5	1
	Food & Beverage (Restaurant / Café)	695 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	7	5
	Function & Meeting Room (Place of Assembly)	281 m ²	1 to each 1,500 m ² of net floor area	2 plus 1 to each 1,500 m ² of net floor area	0	2
	Residential Hotel	200 rooms (keys)	1 to each 40 rooms	Not required	5	0
Sub Total					17 spaces	8 spaces

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B8	Office	1,697 m ²	1 to each 300 m ² of net floor area if the net floor area exceeds 1,000 m ²	1 to each 1,000 m ² of net floor area if the net floor area exceeds 1,000 m ²	6	2
Sub Total					6 spaces	2 spaces
B9	Residential Apartments	173 apartments	In developments of four or more storeys, 1 to each 5 dwellings	In developments of four or more storeys, 1 to each 10 dwellings	35	17
	Restaurant	530 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	5	5
Sub Total					40 spaces	22 spaces
B9 Silos	Art Gallery	450 m ²	1 to each 1,500 m ² of net floor area	2 plus 1 to each 1500 m ² of net floor area	0	2
	Office	284 m ²	1 to each 300 m ² of net floor area if the net floor area exceeds 1,000 m ²	1 to each 1,000 m ² of net floor area if the net floor area exceeds 1,000 m ²	0	0
	Food & Beverage (Restaurant)	290 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	3	0
	Function Venue (Place of Assembly)	220 m ²	1 to each 1,500 m ² of net floor area	2 plus 1 to each 1,500 m ² of net floor area	0	2
Sub Total					3 spaces	4 spaces
Grand Total					68 spaces	38 spaces

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5.2 Statutory Bicycle Shower and Change Room Facilities

Table 2 and 3 to Clause 52.34 of the Yarra Planning Scheme specifies the statutory requirements for bicycle shower and change room facilities. These requirements are:

- If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter; and
- 1 change room or direct access to a communal change room to each employee shower. The change room may be a combined shower and change room.

The development requires 33 employee bicycle spaces which attracts a requirement for four employee showers and four employee change room facilities.

This requirement has been satisfied with development drawings showing the provision of eight employee showers and eight employee change rooms at Ground Floor of Building B9.

5.3 Recommended Bicycle Facility Provisions

Given the site's location and excellent access to the Main Yarra Trail, the development proposes to provide bicycle facilities above and beyond the statutory requirements to encourage cycling as a mode of transport to the site, and reduce the reliance on private motor vehicle trips, more specifically for the residential apartment and office uses.

As such a bench marking assessment has been undertaken against current industry guidelines / practices and the following minimum bicycle parking provision rates have generally been adopted:

- The current Planning Permit (Permit No. PLN15/1176) for which a bicycle parking rate of 1 resident space per dwelling has been endorsed by Council.
- City of Yarra Sustainable Design Assessment in the Planning Process for which a bicycle parking rate of 1 resident space per dwelling is recommended.
- City of Yarra Sustainable Design Assessment in the Planning Process for which an office visitor bicycle parking rate of 1 to each 500 m² of leasable floor area is recommended.
- Green Star – Design & As-Built v1.2 Submission Guidelines for which an office staff bicycle parking rate of 10% of building occupants is required.

Having regard for the above, Table 7 sets out the recommended minimum bicycle parking provisions for the development. It is noted that for the purposes of this assessment a ratio of 1 staff to each 10 m² of floor area has been estimated for office use which is considered consistent with industry practice.

The development drawings show a bicycle parking provision of 223 spaces to residents, 65 spaces to employees and 42 spaces to visitors which equates to a total provision of 330 bicycle spaces. This exceeds the recommended minimum provisions of 281 spaces.

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Table 7 Recommended Minimum Bicycle Parking Provisions

B4	Retail / Bakery	84 m ²	1 to each 300 m ² of leasable floor area	1 to each 500 m ² of leasable floor area	0	0
	Office	933 m ²	10% of building occupants	1 to each 500 m ² net leasable floor area	9	2
	Gallery	197 m ²	1 to each 1500 m ² of net floor area	2 plus 1 to each 1500 m ² of net floor area	0	0
Sub Total					9	2
B5	Restaurant	241 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	2	0
	Café	130 m ²	1 to each 300 m ² of leasable floor area	1 to each 500 m ² of leasable floor area	0	0
	Office	165 m ²	10% of building occupants	1 to each 500 m ² net leasable floor area	2	0
Sub Total					4	0
B6	Office	1,492 m ²	10% of building occupants	1 to each 500 m ² net leasable floor area	15	3
	Food & Beverage (Restaurant / Café)	695 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	7	5
	Function & Meeting Room (Place of Assembly)	281 m ²	1 to each 1500 m ² of net floor area	2 plus 1 to each 1500 m ² of net floor area	0	2
	Residential Hotel	200 rooms (keys)	1 to each 40 rooms	None	5	0
Sub Total					27	10
B8	Office	1,697 m ²	10% of building occupants	5% of visitors	13	9
Sub Total					13	9
B9	Residential Apartments	173 apartments	1 space to each dwelling	1 to each 10 dwellings	173	17
	Restaurant	530 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	5	5
Sub Total					178	22
B9 Silos	Art Gallery	450 m ²	1 to each 1500 m ² of net floor area	2 plus 1 to each 1500 m ² of net floor area	0	0
	Office	284 m ²	10% of building occupants	1 to each 500 m ² net leasable floor area	3	1
	Food & Beverage (Restaurant)	290 m ²	1 to each 100 m ² of floor area available to the public	2 plus 1 to each 200 m ² of floor area available to the public if the floor area available to the public exceeds 400 m ²	3	0

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	Function Venue (Place of Assembly)	220 m ²	1 to each 1500 m ² of net floor area	2 plus 1 to each 1500 m ² of net floor area	0	0
Sub Total					6	1
Grand Total					237	44

For the purposes of this assessment the following employee bicycle shower and change room requirements, as set out in Clause 52.34 of the Planning Scheme, have been applied to the proposed bicycle parking provisions:

- If 5 or more employee bicycle spaces are required, 1 shower for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter; and
- 1 change room or direct access to a communal change room to each employee shower. The change room may be a combined shower and change room.

It is noted that the development drawings show the provision of eight employee showers and eight change rooms within an end of trip facility at Ground Floor of building B9, which is satisfactory for the development.

5.4 Design of Bicycle Spaces

Permit condition (nn) of the exiting planning permit (PLN15/1176) requires:

At least 25% of the provided bicycle parking accessible at ground level (i.e. not hanging systems)

The provision of 175 bicycle parking spaces (53%) as horizontal rails satisfies the current permit condition requirement.

Further, in accordance with AS2890.3:2015:

- Vertical bicycle spaces are provided with dimensions of 1.8 metre length, 1.2 metre depth and spaced at 0.5 metre centres, and accessible from a minimum 1.5 metre wide aisle; and
- Horizontal bicycle spaces are provided in the form of multi-parking bicycle racks with dimensions of 1.8 metre length and spaced 0.5 meter centres, and accessed from a minimum 1.5 metre wide aisle.

The proposed bicycle parking dimensions are therefore satisfactory in accordance with AS2890.3:2015.

5.5 Bicycle Network Improvements

It is understood that there a number of proposed improvements to the surrounding bicycle network which will be implemented by the Applicant (sourced from the GTA VCAT Transport Evidence VCAT No. P1604/2016). These improvements include:

- Creation of a 'mixed traffic' environment along Gough Street between Punt Road and Cremorne Street to fill the missing link between the Main Yarra Trail and "sharrow" bicycle route on Cremorne Street. This is to include:
 - Narrowing the roadway width by widening the footpath on the southern side of the road.
 - Remove existing on-street car parking on the southern side of the road, albeit the introduction of indented parking for three cars. However, the works will result in a loss of approximately 20 on-street spaces.
 - Provision of raised threshold treatments along Gough Street at the intersections of Cremorne Street, Melrose Street and Punt Road.
 - Provision of associated signage and line-markings.
- Provision of 'shared path' line marking and associated signage between the Main Yarra Trail and Gough Street.
- Installation of bicycle lanterns and potentially building out the kerb on the northern side of Harcourt Parade at the signalised pedestrian crossing.
- Installation of pedestrian fencing along the edge of Punt Road adjacent the path, if supported by Council.

These works will further improve pedestrian and cyclist accessibly and amenity for the proposed development.

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6 Traffic Generation and Impacts

6.1 Traffic Generation

A comparison of the forecasted traffic generation for the permitted Stage 2 development previously presented within the GTA VCAT Transport Evidence (VCAT No. P1604/2016) and the revised traffic generation for the proposal is summarised in Table 8.

Table 8 shows that, in comparison to the existing permitted development, the proposed revised development is anticipated to result in a net reduction of 31 vehicle movements during the typical AM and PM road network peak hours.

Table 8 Development Traffic Generation Comparison

			Permitted Development		Proposed Development		Difference
			Spaces	Movements	Spaces	Movements	
2	Residential	0.2 movements Peak Hour Traffic Generation per space	182 spaces ^[1]	36	171 spaces ^[1]	34	-2
	Office (Staff)	0.5 movements per spaces	22 spaces	11	0 spaces	0	-11
	Retail (Staff)	1.0 movement per space	1 space	1	0 spaces	0	-1
	Remaining Land Uses	0.5 movements per occupied space	71 spaces ^[2]	36	38 spaces	19	-17
Total			276 spaces	84	209 spaces	53	-31

[1] Includes residential visitor parking spaces at 50% of peak demand.

6.2 Traffic Impacts

Based on the permitted development, the proposed revisions are expected to result in a net reduction of 31 vehicle movements during the typical AM and PM road network peak hours, resulting in an overall net improvement to the surrounding road network operating conditions when compared to the permitted development.

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7 Design Considerations

7.1 Car Parking Design

Car parking spaces have generally been provided at least 2.6 metres width and 4.9 metres length accessed from an aisle of at least 6.4 metres width.

Four (4 no.) small car bays are proposed at 2.3 metres width and 4.9 metres length accessed from an aisle of at least 6.4 metres width.

There are 23 pairs of tandem bays (46 no. car spaces) all of which include an additional 500mm length provided between each space.

Four (4 no.) drop off / pick up bays are to be provided on Gough Street, each is provided at least 2.3 metres width and 6.7 metres length.

Four (4 no.) drop off / pick up bays are to be provided on Cremorne Street, each is provided at least 2.3 metres width and 6.7 metres length.

7.2 Site Access and Vehicle Circulation

Access to the site is to be via a vehicle crossing located at the northwestern corner of the development to Gough Street, providing a driveway width of approximately 10.9 metres.

Swept path diagrams attached in Appendix A show that the B99 car can enter and exit the site in a forward direction and that the B85 car can access critical bays in an appropriate manner, subject to the recommended design modifications shown in Appendix A.

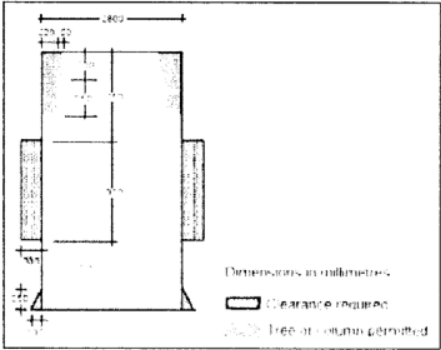
7.3 Compliance with Clause 52.06-9

Design Standard 1, 2, 3, and 4 of Clause 52.06-9 of the Yarra Planning Scheme lists various requirements in relation to car park accessways, car parking spaces, gradients, and mechanical parking. Table 9 provides a summary of the suitability of the proposal against these requirements.

Table 9 Compliance with Clause 52.06-9

Design Standard	Requirement	Compliance
Design Standard 1 - Accessways		
	Be at least 3 metres wide	Satisfied.
	Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide.	Satisfied - Refer to swept path diagrams attached which confirm access is appropriate, subject to the recommended design modifications shown in Appendix A.
	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.	Satisfied – dead-end accessway (blind aisle) lengths are no more than six 90 degree spaces as per AS2890.1:2004.
	Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres.	Satisfied – proposed 2.1m minimum headroom clearance.
	If the accessway serves 4 or more car spaces or connects to a road in a Road Zone, the accessway must be designed so that cars can exit the site in a forward direction.	Satisfied – Cars can exit the site in a forward direction, subject to the recommended design modifications shown in Appendix A. Refer swept path diagrams attached.
	Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves 10 or more car parking spaces and is either more than 50 metres long or connects to a road in a Road Zone.	Satisfied.
	Have a corner splay or area at least 50 percent clear of visual obstructions extending at least 2	Variation – Convex mirrors, warning sign and flashing light systems are to be installed to warn

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<p>metres along the frontage road from the edge of an exit lane and 2.5 metres 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 1 lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.</p>	<p>pedestrians of exiting vehicles. This is considered satisfactory for the development.</p>
<ul style="list-style-type: none"> If an accessway to 4 or more car parking spaces is from land in a Road Zone, the access to the car spaces must be at least 6 metres from the road carriageway. 	<p>Not applicable – Accessway does not connect to a road in a Road Zone.</p>
<p>Design Standard 2 – Car parking spaces</p>	
<ul style="list-style-type: none"> Dimensions of car parking spaces and accessways – Table 2. 	<p>Satisfied – Subject to the recommended design modifications shown in Appendix A, parking spaces generally have a length of 4.9m and a width of at least 2.6m, and are accessed from an aisle width of minimum 6.4m, otherwise the parking dimensions are in accordance with an acceptable variation consistent with AS2890.1:2004 or as demonstrated by swept path diagrams attached.</p>
<ul style="list-style-type: none"> Car spaces in garages or carports 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 or carport. 	<p>Not applicable – No garage or carports proposed in design.</p>
<ul style="list-style-type: none"> Where parking spaces are provided in tandem (one space behind the other) an additional 500 mm in length must be provided between each space. 	<p>Satisfied.</p>
<ul style="list-style-type: none"> Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover. 	<p>Satisfied – All car parking spaces for dwellings have been provided under cover.</p>
<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, other than:</p> <ul style="list-style-type: none"> 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. <p>Diagram 1 Clearance to car parking spaces</p>  <p>Dimensions in millimetres</p> <p>Clearance required</p> <p>Tree or column permitted</p>	<p>Satisfied – Subject to recommended design modifications shown in Appendix A.</p>

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<ul style="list-style-type: none"> 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 by 500mm. 	Satisfied.													
Design Standard 3 – Gradients														
<ul style="list-style-type: none"> 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. 	Satisfied.													
<ul style="list-style-type: none"> Ramps must have the maximum grades as outlined below and be designed for vehicles travelling in a forward direction. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Type</th> <th>Length Ramp</th> <th>Max Grade</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Public</td> <td><20m</td> <td>1:5</td> </tr> <tr> <td>>20m</td> <td>1:6</td> </tr> <tr> <td rowspan="2">Private</td> <td><20m</td> <td>1:4</td> </tr> <tr> <td>>20m</td> <td>1:5</td> </tr> </tbody> </table>	Type	Length Ramp	Max Grade	Public	<20m	1:5	>20m	1:6	Private	<20m	1:4	>20m	1:5	Satisfied.
Type	Length Ramp	Max Grade												
Public	<20m	1:5												
	>20m	1:6												
Private	<20m	1:4												
	>20m	1:5												
<ul style="list-style-type: none"> Transitions provided where grade change of 12.5% or more for summit grade change and 15% for a sag grade change. 	Satisfied.													
Design Standard 4 – Mechanical Parking														
<ul style="list-style-type: none"> At least 25 per cent of the mechanical car parking spaces can accommodate a vehicle clearance height of at least 1.8 metres 	Not applicable – No mechanical parking provided.													
<ul style="list-style-type: none"> Car parking spaces that require the operation of the system are not allocated to visitors unless used in a valet parking situation. 	Not applicable – No mechanical parking provided.													

Subject to the recommended design modifications shown in Appendix A, the accessways and car parking spaces are designed appropriately based on the design criteria specified in Clause 52.06-9 of the Planning Scheme.

7.4 Loading and Waste Collection

7.4.1 Stage 2 - Building B9 Loading Dock

Irwinconsult has been advised that waste collection for the proposed Stage 2 development is to occur via the loading dock at Ground Floor of Building B9 and accessed via a crossover to Gough Street. It is understood that waste collection is to occur via an Austroads 8.8m MRV or similar (refer to Irwinconsult Waste Management Plan for further information).

Loading/unloading requirements for residents of the apartments is also to be serviced by the proposed Building B9 loading dock. It is expected that residential deliveries will typically be via van or small truck (Austroads 6.4m SRV).

Swept path diagrams attached show that the largest expected vehicle (Austroads 8.8m MRV) can enter and exit the loading dock in a satisfactory manner, subject to the recommended design modifications shown in Appendix A.

Attachment 4 - PLN15/0355.02 - 50 Gough Street Cremorne (formerly known as 2 Gough Street Cremorne) - S52 Advertising Traffic Assessment Report Part 2

Further, the Building B9 loading dock is to have a headroom clearance of 4.5 metres, satisfying requirements set out in AS2890.2-2002 Parking facilities Part 2: Off-street commercial vehicle facilities.

7.4.2 Stage 1 - Loading Dock

The hotel and other commercial uses will be serviced by the Stage 1 loading dock accessed via a crossover on Cremorne Street. A review of the Richmond Malt – Stage 1 Car Parking Management Plan (Prepared by GTA dated 9 July 2018) shows that the largest design vehicle that can access the Stage 1 loading dock is a 6.4m Junior Rear Loader Waste Truck, which has a vehicle design width of 1.7 metres.

It is expected that deliveries to the hotel and other Stage 2 commercial uses will typically be via vans or small trucks. Swept path diagrams provided in Appendix A show that the largest delivery vehicle that can access the Stage 1 loading dock is an Austroads 6.4m SRV, subject to the relocation of a 'Loading Zone' sign and post.

Where larger delivery vehicles are expected, an on-street loading zone is proposed on Cremorne Street.

7.4.3 Cremorne Street Loading Zone

It is our understanding that there is currently a 'Construction Zone' implemented on the western side of Cremorne Street abutting The Malt District site as part of the Stage 1 works. It is proposed that upon completion of Stage 1, the current on-street parking conditions is to be revised to accommodate a 'Loading Zone' of 26.8 metres in length.

The loading zone is to be time restricted from 7:00am to 9:00am. Outside of these times the loading zone will be restricted to 5-minute parking for hotel drop-offs / pick-ups. A concept design of the proposed on-street loading zone is provided in Appendix B which will cater for delivery vehicles of up to 12.5 metres in length.

During the 5-minute parking periods up to four B99 vehicles or a 14m Bus can be accommodated.

Swept path diagrams provided in Appendix A demonstrate that the largest expected vehicles can access the loading / drop-off / pick-up zone in a satisfactory manner.

Attachment 4 - PLN15/0355.02 - 50 Gough Street Cremorne (formerly known as 2 Gough Street Cremorne) - S52 Advertising Traffic Assessment Report Part 2

8 Review of Planning Permit Conditions

Irwinconsult has undertaken a review of the proposed amended development against the current conditions of Planning Permit PLN15/1176. A summary of the relevant permit conditions and Irwinconsult responses is provided in Table 10.

Table 10 Review of Current Planning Permit Conditions

Permit Condition		Irwinconsult Response
1 (g)	No works within the Road Zone, Category 1.	Satisfied
1 (cc)	Car parking provision as per the project area summary on page TP004 but not exceeding 236 car parking spaces.	Variation – The proposed amendment results in a total provision of 245 car parking spaces. This condition will need to be amended.
1 (nn)	At least 25% of the provided bicycle parking accessible at ground level (i.e. not hanging systems).	Satisfied – The proposal is to provide 53% of bicycle spaces at ground level.
1 (oo)	An overall provision of 300 bicycle spaces including provision for non residential use.	Satisfied – 330 bicycle spaces are to be provided including 90 spaces for non residential use.
1 (pp)	All resident and staff bicycle parking spaces secured behind lockable gates.	Satisfied
1 (qq)	A convex mirror adjacent to the vehicular exit.	Satisfied
1 (tt)	The length of the loading bay, with a minimum overhead clearance of 4.5m.	Satisfied – A minimum 4.5m overhead clearance is provided.
1 (xx)	At least 5 car share spaces provided on site.	Satisfied – 5 car share spaces can be provided on site.
18	Except with the written consent of the responsible authority no more than 84 patrons are permitted in the B5 café at any one time.	Satisfied
20	Except with the written consent of the responsible authority no more than 195 patrons are permitted in the B5 restaurant at any one time.	Satisfied
22	Except with the written consent of the responsible authority no more than 100 patrons are permitted in the B9 restaurant at any one time.	Satisfied
24	Except with the written consent of the responsible authority no more than 100 patrons are permitted in the function centre at any one time.	Satisfied
26	Except with the written consent of the responsible authority no more than 50 patrons are permitted in the art gallery at any one time.	Satisfied
62	Before the development starts, a Car Park Management Plan prepared to the satisfaction of the responsible authority must be submitted to, and approved by, the responsible authority.	Noted – To be provided pending approval of amended development.
67	Before the development is occupied, a Green Travel Plan to the satisfaction of the responsible authority must be submitted to, and approved by, the responsible authority.	Noted – To be provided pending approval of amended development.

Attachment 4 - PLN15/0355.02 - 50 Gough Street Cremorne (formerly known as 2 Gough Street Cremorne) - S52 Advertising Traffic Assessment Report Part 2

9 Conclusion

The applicant seeks to revise the proposed development for Stage 2 on part of the land commonly referred to as The Malt District located at 2-6 Gough Street in Cremorne. The revised development is proposed to accommodate the following:

- One hundred and seventy-three (173 no.) residential dwellings, comprising:
 - 65 one-bedroom dwellings
 - 80 two-bedroom dwellings
 - 28 three bedroom dwellings
- Two hundred (200 no.) residential hotel rooms;
- 4,571 m² of office use;
- 84 m² of retail / bakery use;
- 130 m² of café use;
- 1,756 m² of food and beverage (restaurant) use;
- 501 m² function and meeting room; and
- 647 m² art gallery.

In addition to the above, the development will provide 245 car parking spaces and 330 bicycle spaces on-site.

The development is considered satisfactory from a traffic engineering perspective, given the following:

- 170 spaces can be allocated to residents which satisfies the anticipated demand;
- 70 visitor spaces (incl. staff) are to be provided which can accommodate the peak demand entirely on-site;
- Five spaces are to be allocated to car share;
- The convenient accessibility to several public transport options surrounding the site reduces the likely parking demands for staff and visitors;
- The provision of bicycle facilities above and beyond the Planning Scheme requirements further encourages the uptake of cycling as a mode of transport over private motor vehicle trips;
- The prevalence of the local walking and cycling infrastructure, along with convenient connections to local services, amenities and employment centres, facilitate alternative travel modes to and from the site, reducing reliance on private motor vehicle ownership or travel;
- The revised proposal is expected to result in a net reduction of 31 vehicle movements during the typical AM and PM road network peak hours.
- Swept path diagrams demonstrate that vehicle site circulation is appropriate and critical parking bays can be appropriately accessed, subject to the recommended design modifications shown in Appendix A; and
- The design of the accessway and car parking spaces is appropriate based on the design criteria specified in Clause 52.06 of the Planning Scheme or acceptable variations consistent with AS2890.1:2004, and is appropriate and considered adequate to serve the needs of the development, subject to the recommended design modifications shown in Appendix A.

Having regard for the above, it is concluded that there are no traffic engineering grounds as to why an amended permit should not be granted for the proposed amended development.

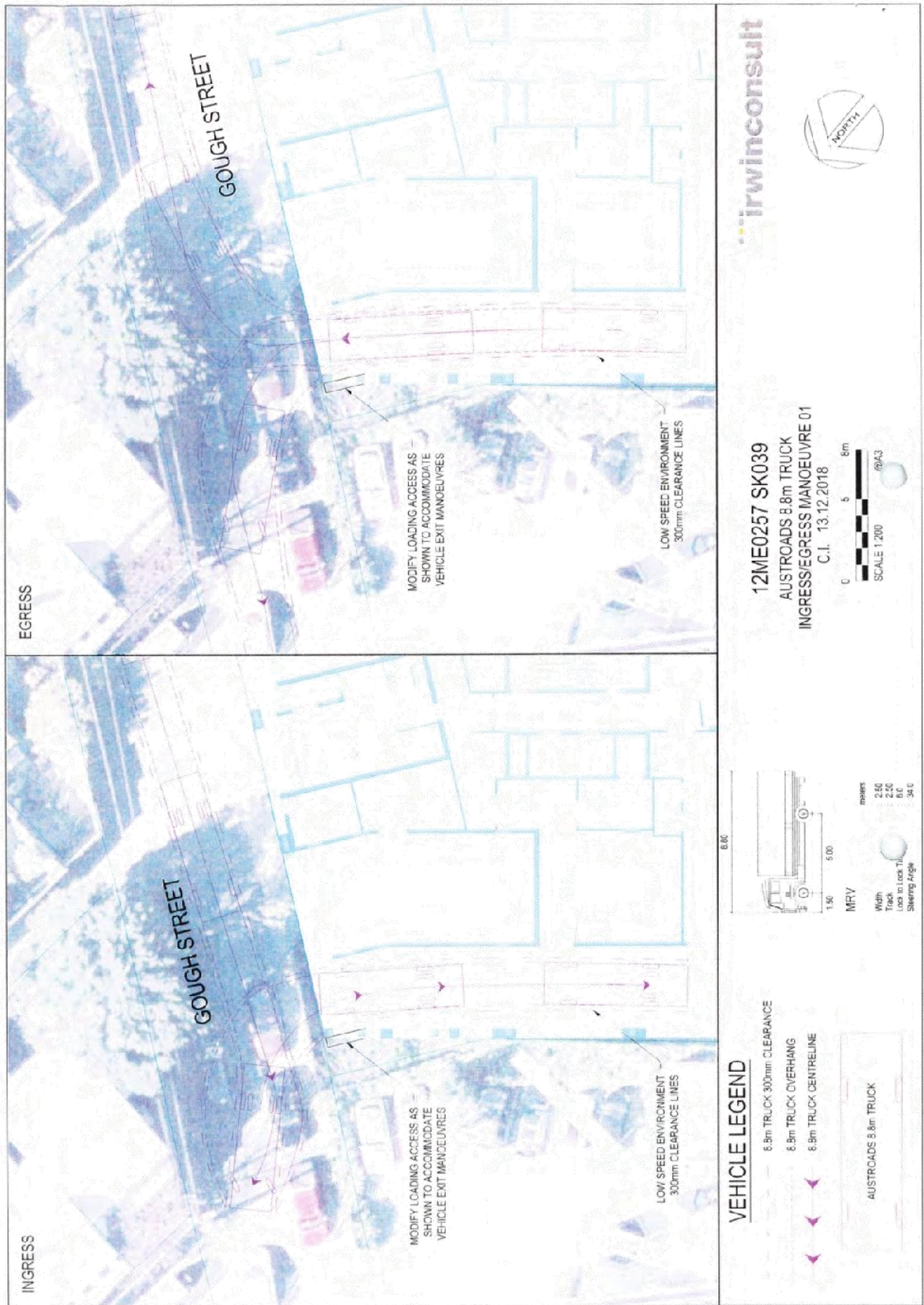
Attachment 4 - PLN15/0355.02 - 50 Gough Street Cremorne (formerly known as 2 Gough Street Cremorne) - S52 Advertising Traffic Assessment Report Part 2

Appendix A Swept Path Diagrams

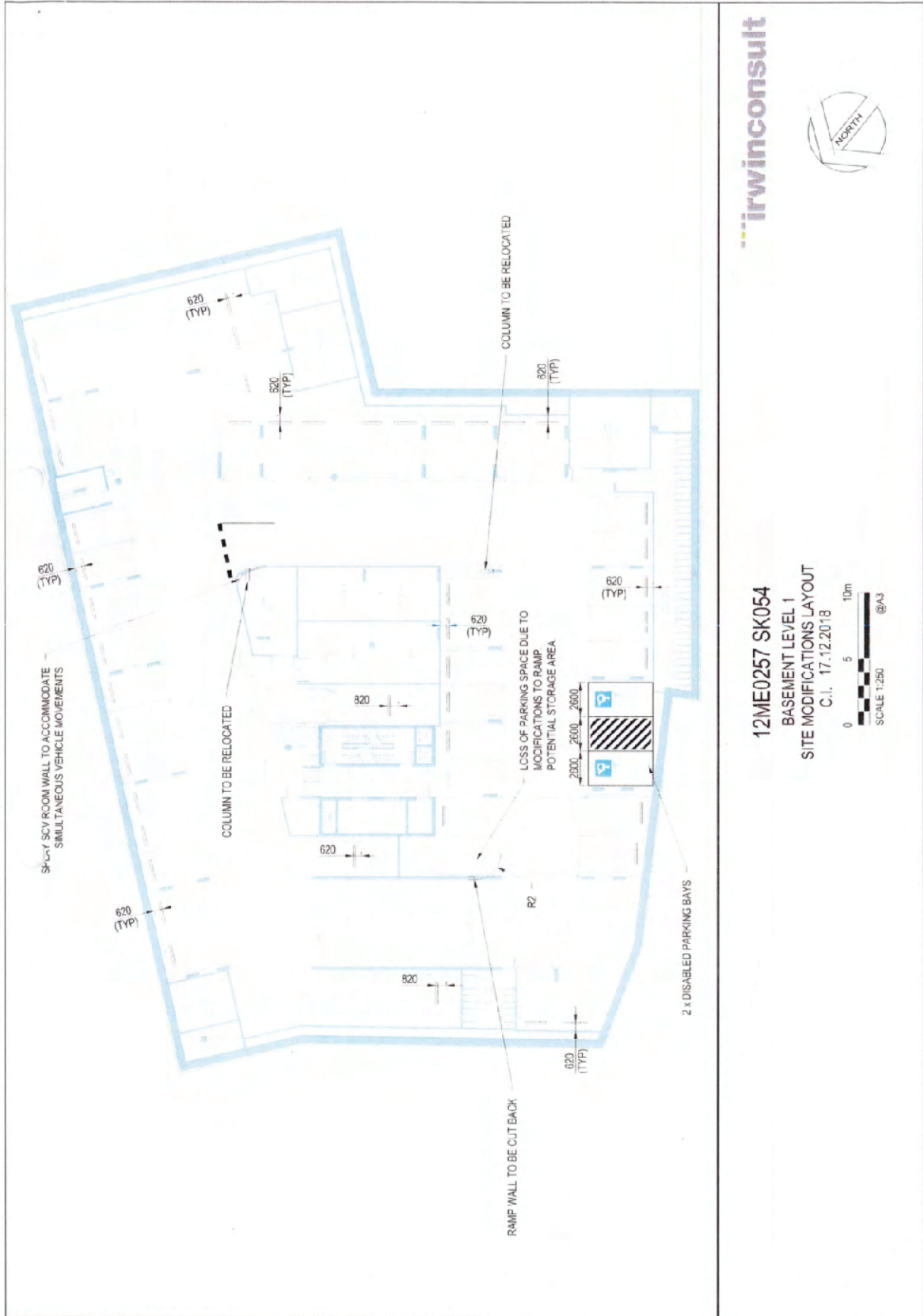
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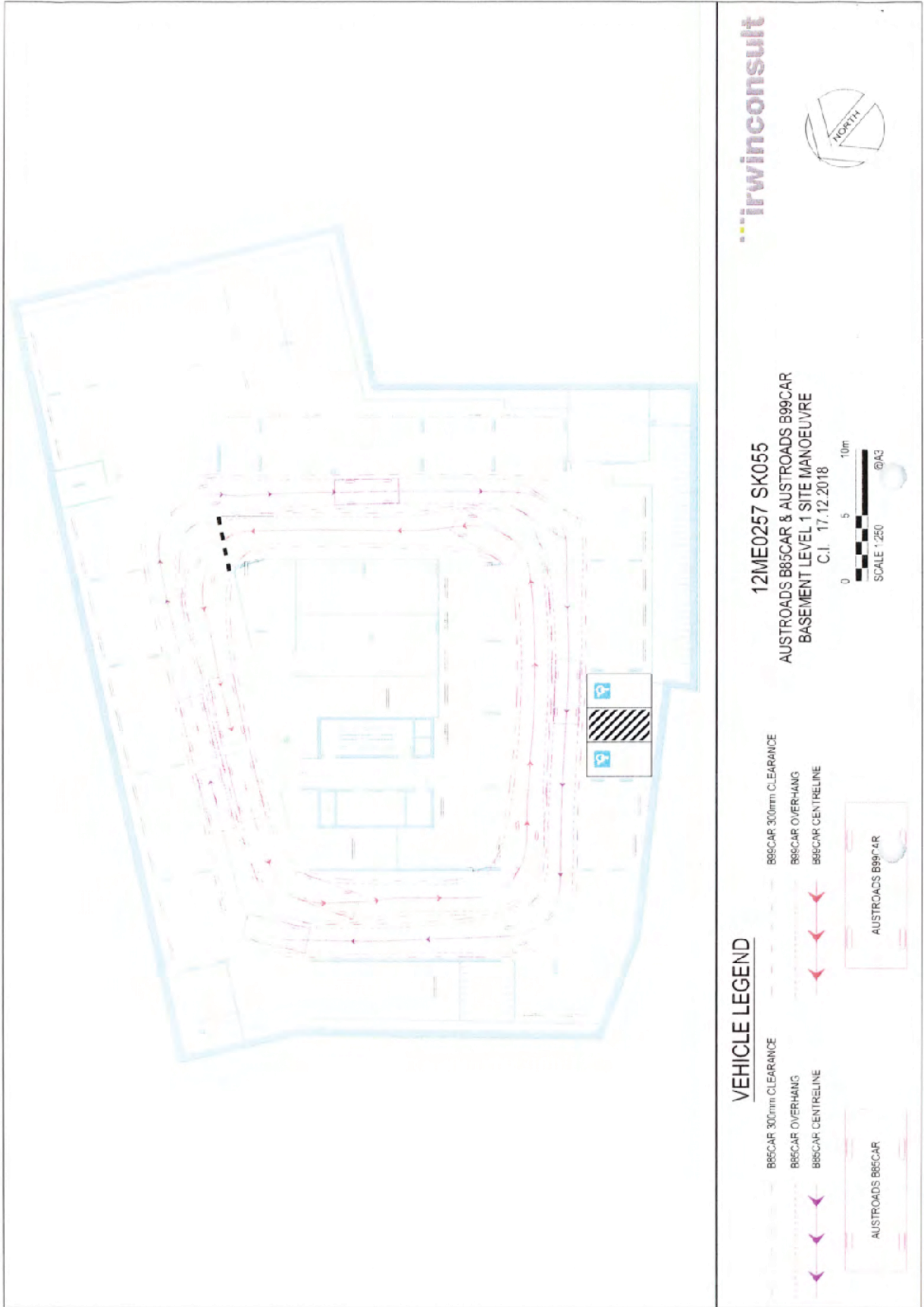
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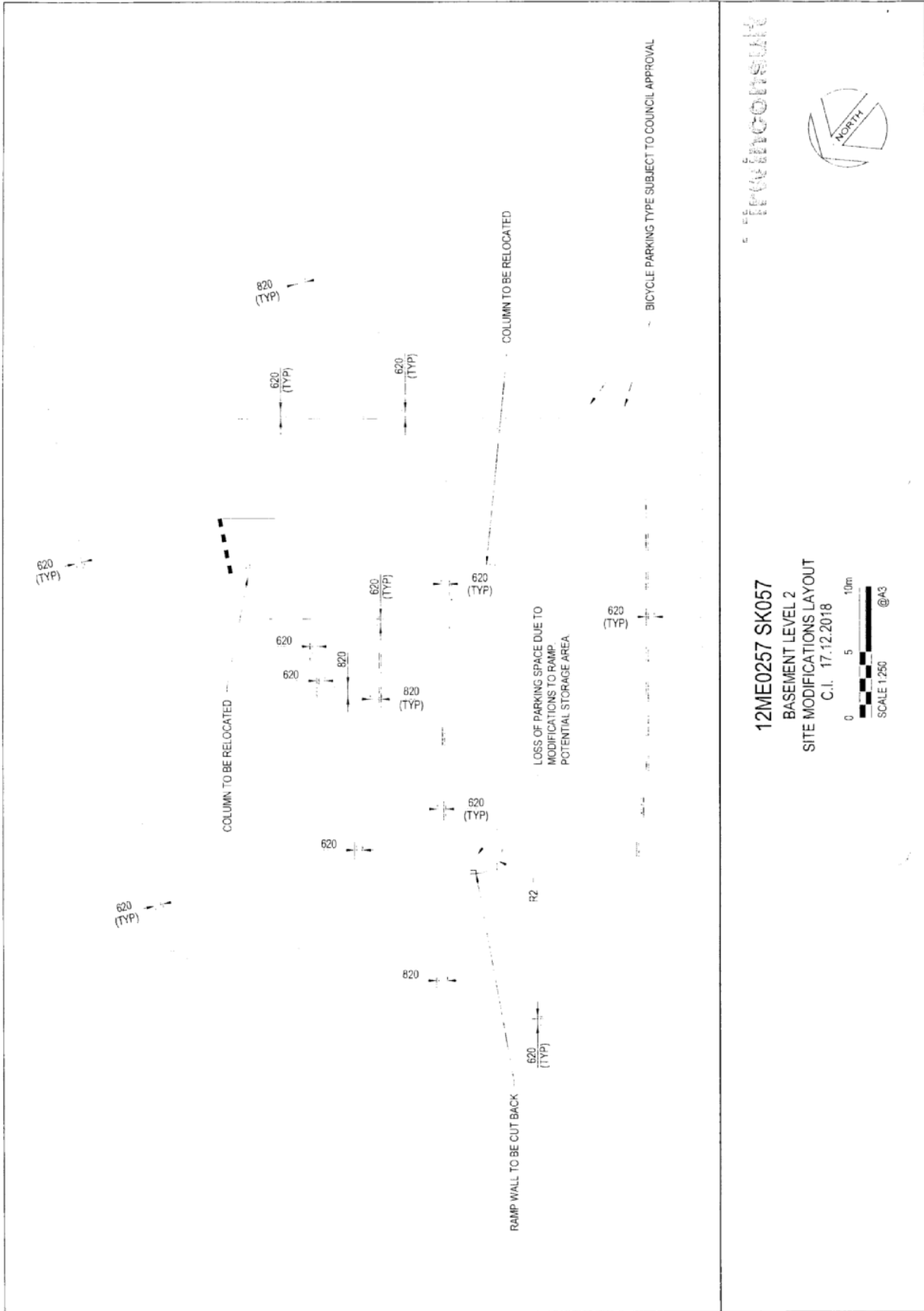
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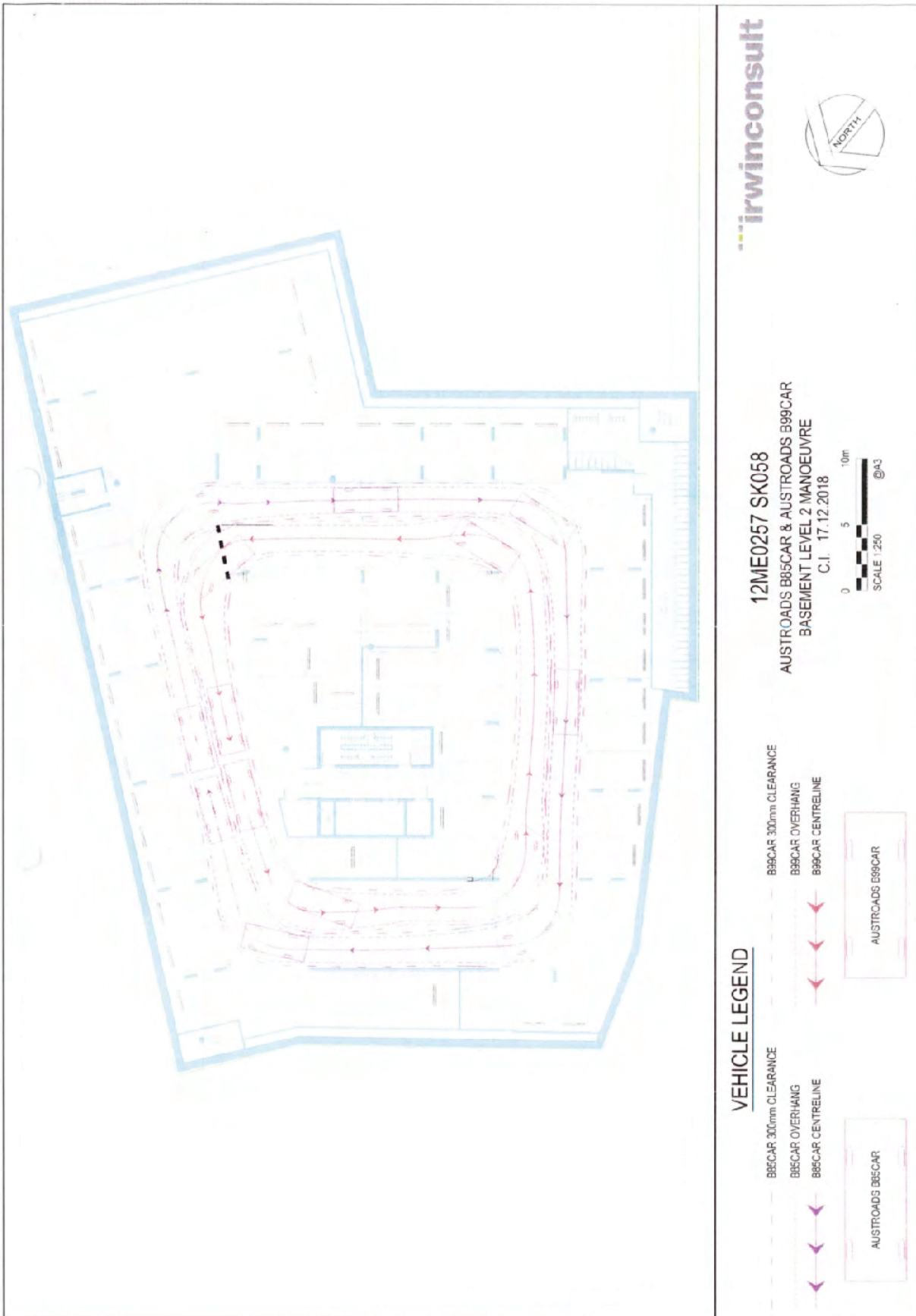


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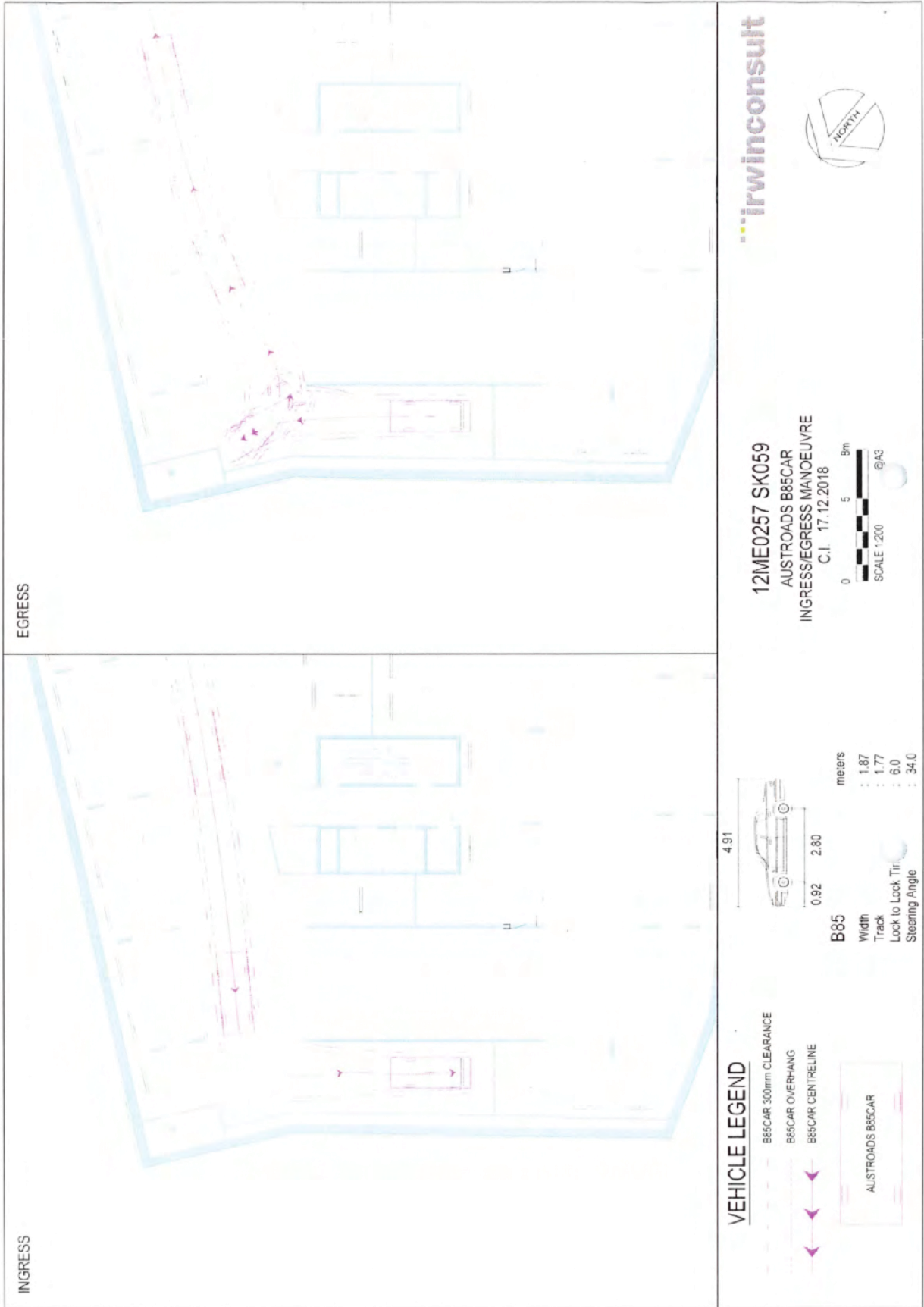


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BASEMENT LEVEL 2
SITE MODIFICATIONS LAYOUT
 C.I. 17.12.2018
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 SCALE 1:250 @A3

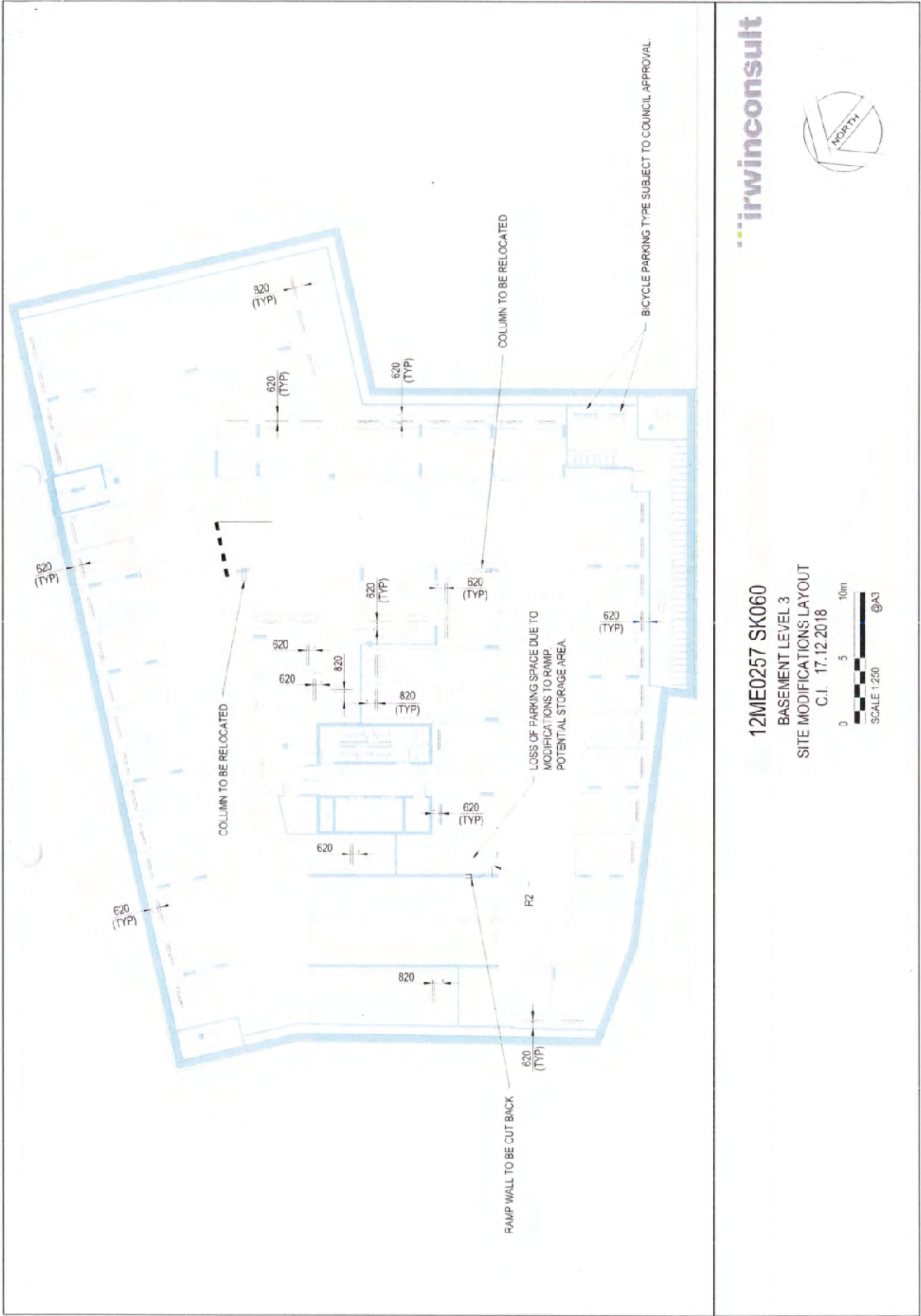
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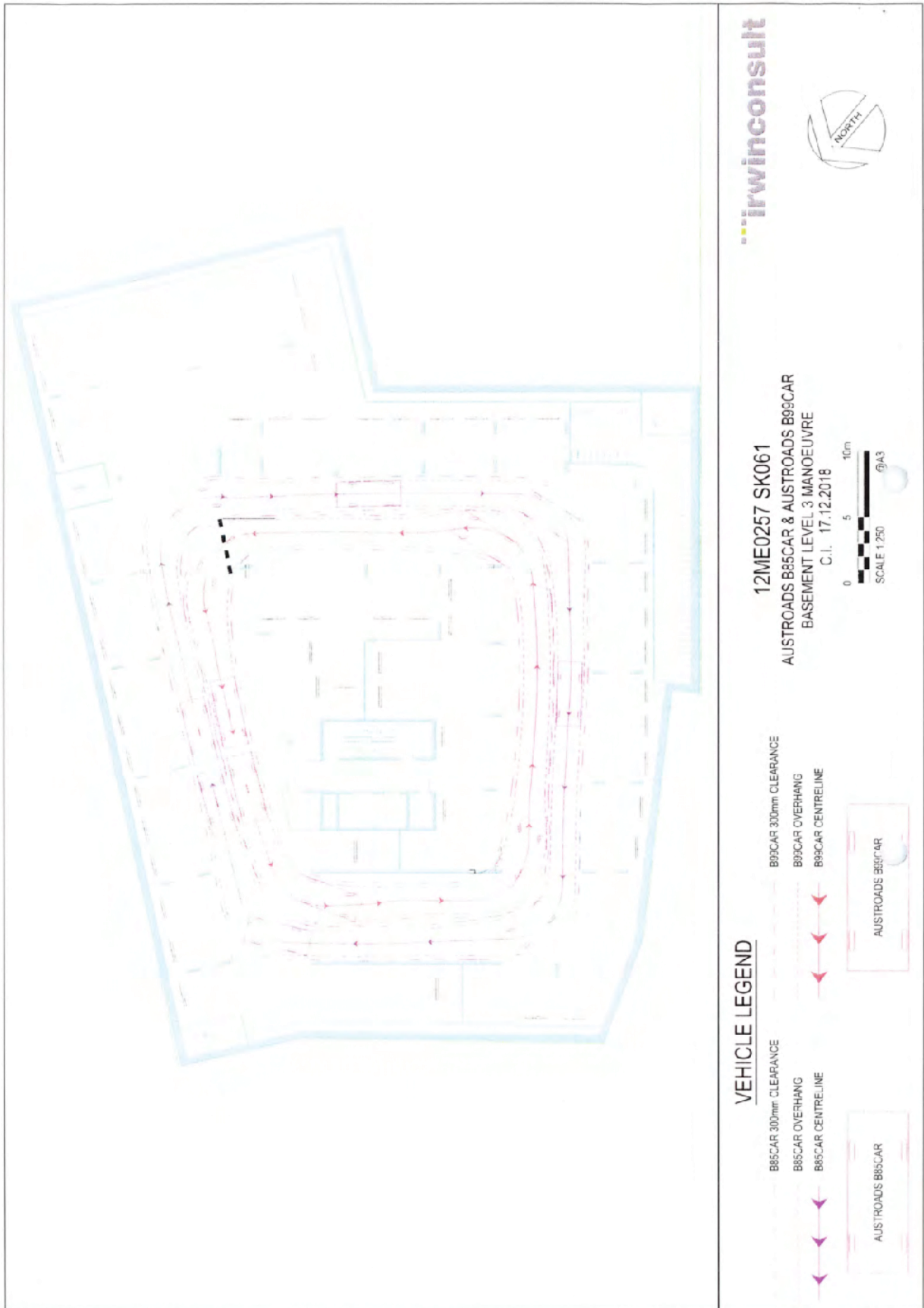
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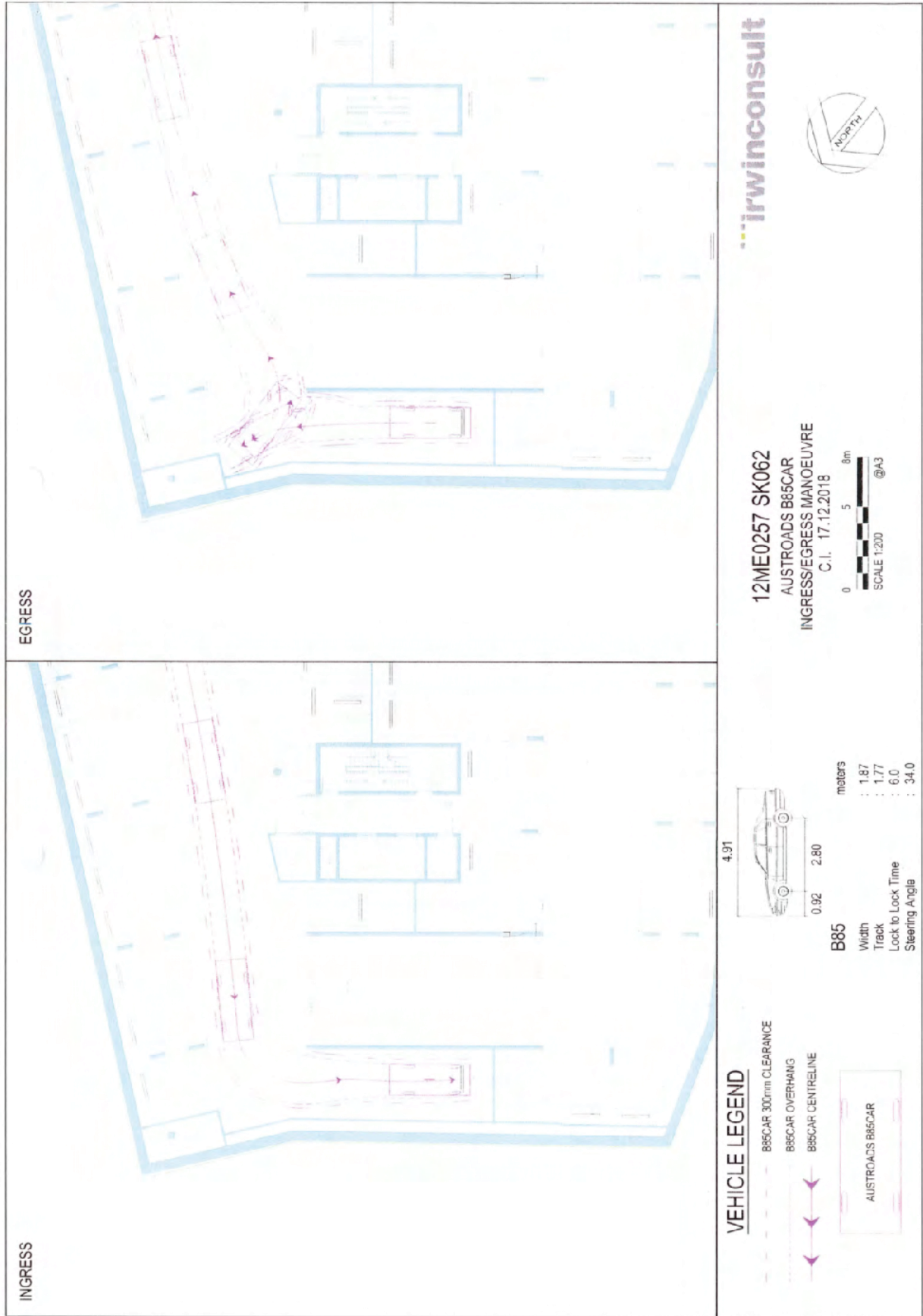
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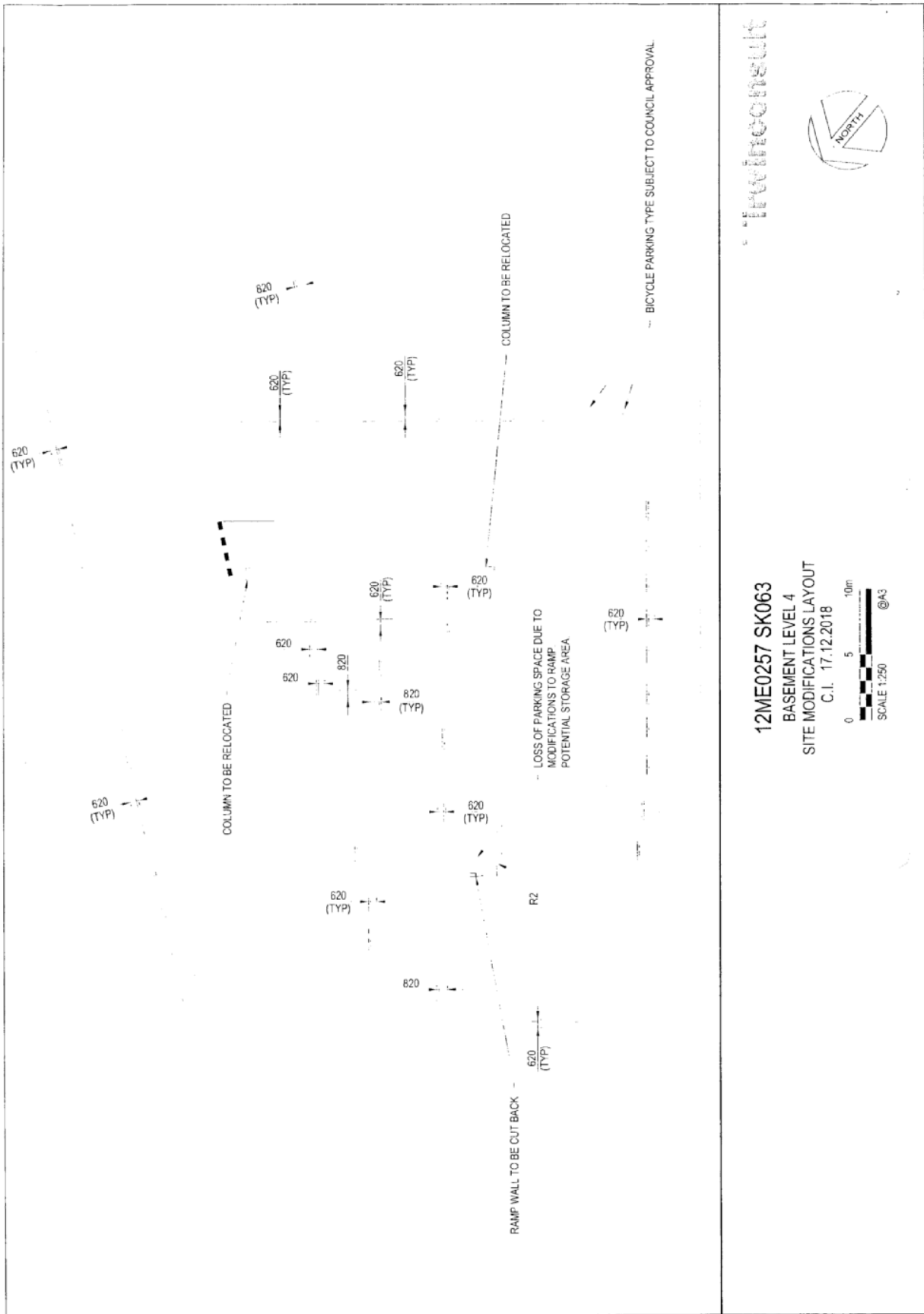
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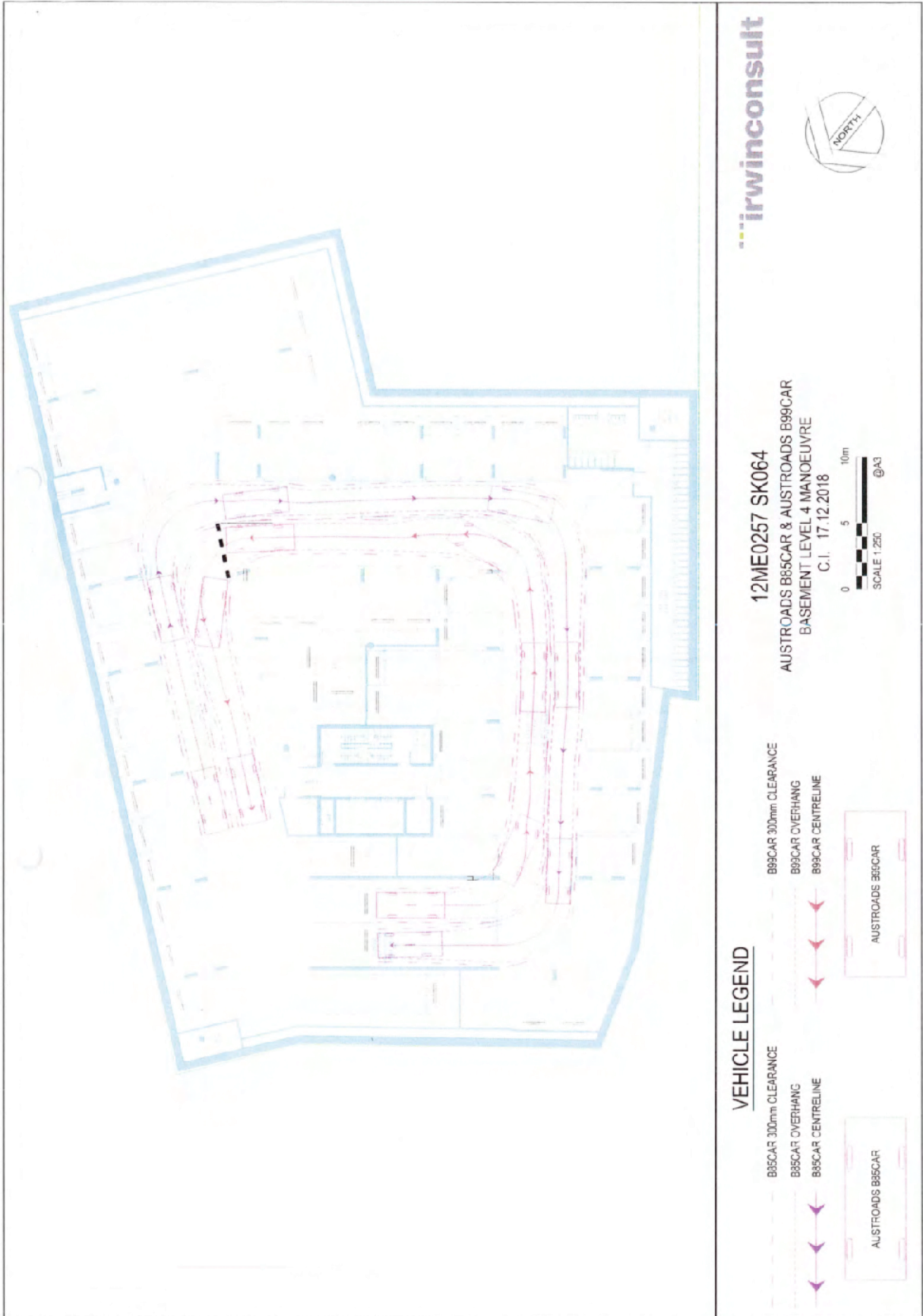
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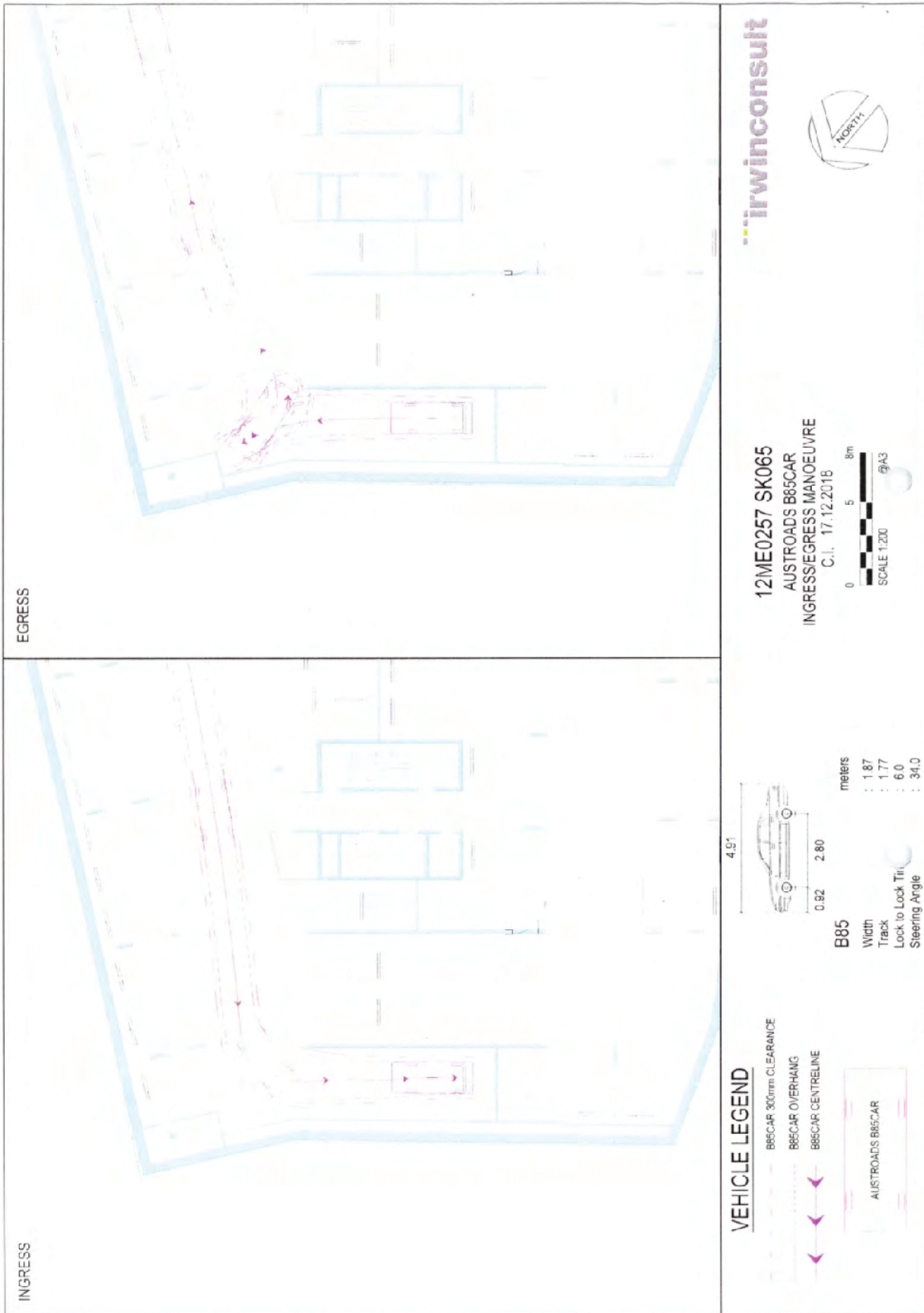
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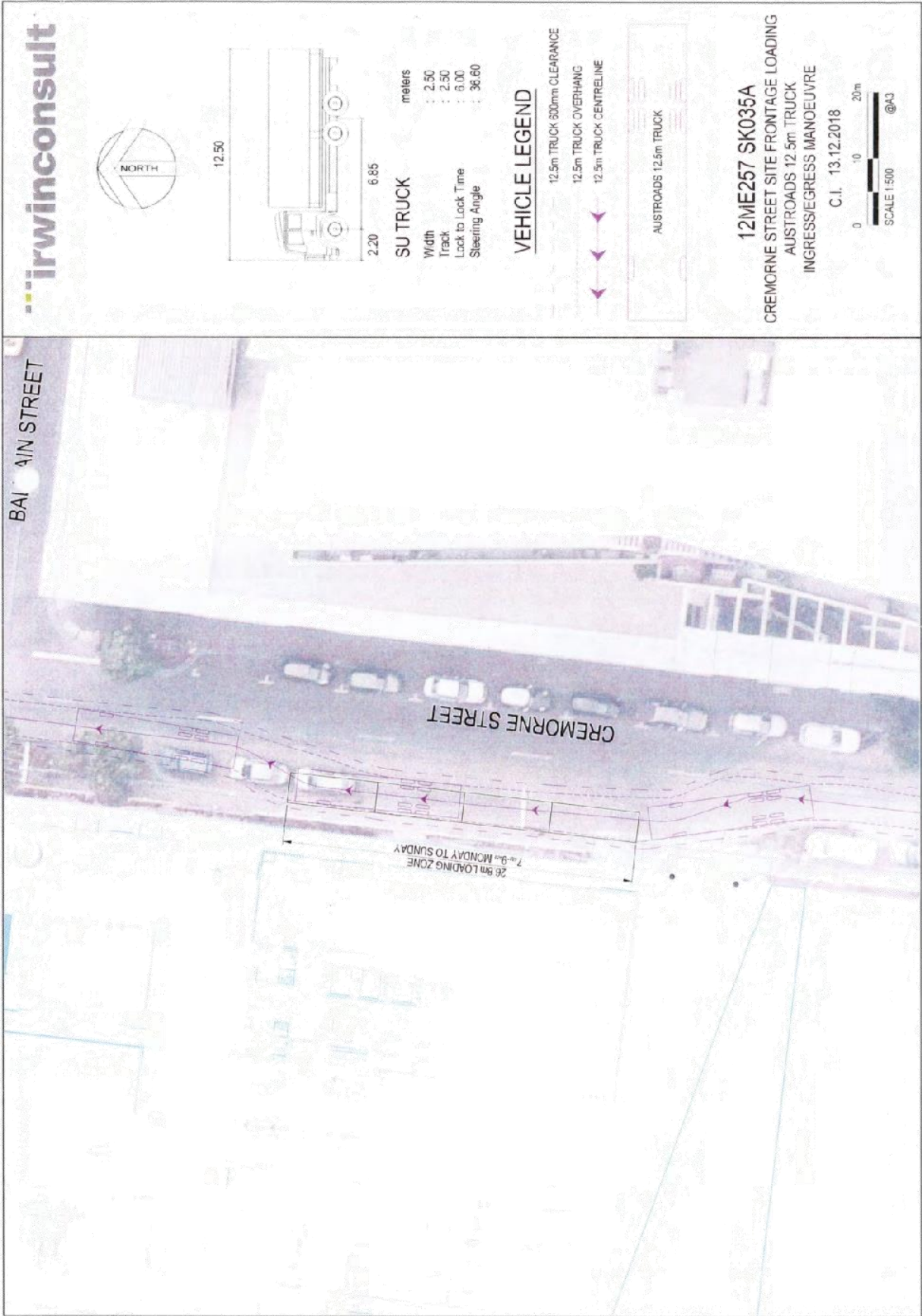
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**Appendix B Drop-Off / Pick-Up & Loading Zone
Concept Designs**

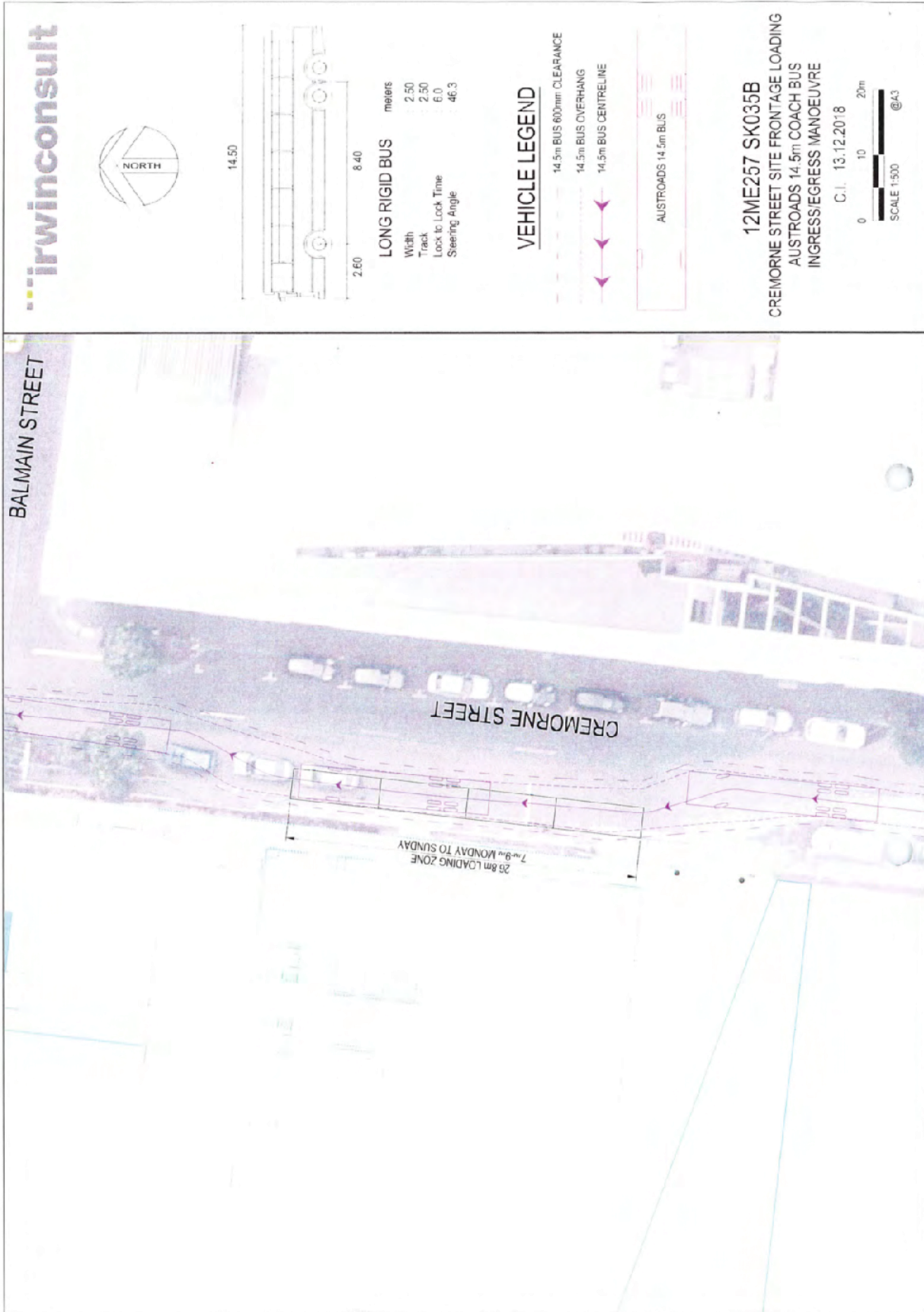
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Attachment 5 - PLN15/0355 - 50 Gough Street Cremorne - Stage 1 of Nylex Site - Engineering comments



MEMO

To: Mary Osman
From: Mark Pisani
Date: 9 May 2019
Subject: Application No: PLN15/0355
 Description: Amendment to Stage 1 of the Richmond Malting Site
 Site Address: 50 Gough Street, Cremorne (formerly 2 Gough Street)

I refer to the above Planning Application received on 6 March 2019 and the accompanying reports prepared by Irwinconsult in relation to the proposed development at 50 Gough Street, Cremorne. Council's Civil Engineering unit provides the following information:

CAR PARKING PROVISION

Irwinconsult *Car Parking Assessment report* dated 23 January 2019
The Malt District Stage 2 2-6 Gough Street Cremorne dated 20 December 2018
Traffic Engineering Report Revision 05

Item	Details
Background	
Revised Development Proposal <i>Secondary Consent</i> Caydon Property Group drawings 17 December 2018	Proposed Revised On-site Parking Allocation for Stage 1: Residential (197 dwellings): 173 spaces (an increase of 40 spaces) Supermarket and Retail: 7 spaces, no change Office (1,700 m ²): 10 spaces (office area increase by 1.239 m ²) Visitor parking: 26 spaces, no change Car share: 1 space, no change Essentially, the amended proposal would allocate the 40 originally approved quarantined spaces to the dwellings. The office area would increase, with no change to the allocated car parking.
Car Parking Considerations	
Office Use	The increase in office floor space would equate to an on-site car parking rate of 0.6 spaces per 100 m ² of office floor space. This rate is considered appropriate for the Cremorne area. The lack of available long-stay on-street parking would be a disincentive for employees to drive to and from the site. Council has approved reduce office parking rates in the Cremorne area. One such site is the office development at 60-88 Cremorne Street, Cremorne (PLN17/0626 issued 21 June 2018), which was approved with a rate of 0.72 spaces per 100 m ² (200 on-site spaces; 27,653 m ²).
40 Additional Spaces	According to Irwinconsult engineers, the 40 quarantined spaces were originally intended to be used by Stage 2 and are now no longer required for that stage. For the 197 dwellings, the new parking rate for each dwelling would be 0.88 spaces per dwelling. This residential parking is considered appropriate.

Attachment 5 - PLN15/0355 - 50 Gough Street Cremorne - Stage 1 of Nylex Site - Engineering comments

Item	Details
Availability of Public Transport in the Locality of the Land.	The site is within walking distance of bus services along Punt Road and tram services operating on Church Street. The Richmond railway station and Swan Street trams can also be accessed on foot.
Stage 2 2-6 Cremorne Street, Cremorne	Irwinconsult had prepared a traffic engineering report for an amendment to Stage 2 of the Richmond Malting site in December 2018. Stage 2 was approved with 236 on-site spaces plus 40 quarantined spaces. Under the amended scheme, Stage 2 would now have 245 on-site spaces. Some 170 spaces would be allocated to the 173 dwellings and 10 spaces would be used by visitors and staff of the various uses in the development. The five remaining spaces would continue to be used as car share spaces. The 40 quarantined spaces would no longer be required.
Adequacy of Amended Car Parking Proposal for Stage 1	
Office and Resident Parking	The allocation of the 40 quarantined spaces to the residential dwellings and the further reduction in the office car parking provision are considered appropriate in the context of development and the surrounding area. The amended proposal should not adversely impact existing on-street parking conditions in the Cremorne area, which are already strained.

DEVELOPMENT LAYOUT DESIGN

Caydon Property Group Drawing Nos. TP-100, TP-101, TP-102 and TP-204 Revision 14 dated 17 December 2018

Layout Design Assessment

Item	Assessment
Access Arrangements	
Development Entrance – Cremorne Street	The 6.4 metre entrance width satisfies the Australian/New Zealand Standard AS/NZS 2890.1:2004.
Visibility	Sight triangles at the development entrance are consistent with the endorsed drawings (dated 9 August 2018).
Internal Ramped Accessways	The internal ramps have minimum wall-to-wall widths of 6.1 metres and satisfy AS/NZS 2890.1:2004.
Circulating Accessway servicing Levels 1 and 2	The 3.2 metre wide laneways of the circulating accessway are consistent with the endorsed proposal.
Car Parking Modules	
At-grade Parking Spaces	The dimensions of the parking spaces (2.6 to 3.0 metres by 4.9 metres) satisfy <i>Design standard 2: Car parking spaces</i> of Clause 52.06-9.
Aisles	The aisle widths range from 5.2 metres to 6.4 metres and satisfy <i>Table 2: Minimum dimensions of car parking spaces and accessways</i> of Clause 52.06-9.
Column Depths and Setbacks	Consistent with endorsed proposal.
Clearances to Walls	Consistent with endorsed proposal.

Attachment 5 - PLN15/0355 - 50 Gough Street Cremorne - Stage 1 of Nylex Site - Engineering comments

Item	Assessment
Gradients	
Ramp Grade for first 5.0 metres inside Property	The ramp grades for the first 5.0 metres inside the development are consistent with the endorsed proposal.
Ramp Grades and Changes of Grade	Consistent with the endorsed proposal.