



CKDS Architecture

# Traffic Impact Assessment Report

50 Lawrence Street, Freshwater

April 2020

© Copyright Barker Ryan Stewart Pty Ltd  
2020 All Rights Reserved

Project No.	SY190124
Author	AJ
Checked	AJ
Approved	RD

Rev No.	Status	Date	Comments
1	Draft	30/03/20	
2	Final	15/04/20	
3	Final	20/04/20	

**COPYRIGHT**

Barker Ryan Stewart reserves all copyright of intellectual property in any or all of Barker Ryan Stewart's documents. No permission, licence or authority is granted by Barker Ryan Stewart to any person or organisation to use any of Barker Ryan Stewart's documents for any purpose without the written consent of Barker Ryan Stewart.

**REPORT DISCLAIMER**

This report has been prepared for the client identified in section 1.0 only and cannot be relied on or used by any third party. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Barker Ryan Stewart are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.

## TABLE OF CONTENTS

List of Abbreviations.....	4
1 Introduction .....	5
2 Existing Conditions.....	6
2.1 Site Location.....	6
2.2 Existing Road Conditions .....	6
2.3 Public Transport .....	7
3 Proposed Development .....	8
3.1 Development Yield .....	8
3.2 Access.....	8
3.3 Waste Collection.....	8
4 Car Parking Assessment.....	9
4.1 Parking Provision and Requirements .....	9
4.2 Parking Compliance Check .....	9
5 Traffic Assessment .....	11
5.1 Traffic Generation .....	11
6 Conclusion .....	12
7 References.....	13
Appendix A – Bus Network	
Appendix B – Site Plan	
Appendix C – Swept Path Analysis	

## List of Abbreviations

### Abbreviations

DCP .....	Warringah Development Control Plan
LEP .....	Warringah Local Environmental Plan
AS/NZS2890.1 .....	Australian Standards, 'AS/NZS 2890.1:2004 Off-Street Car Parking'
AS2890.2.....	Australian Standards, 'AS 2890.2:2002 Off-Street Commercial Vehicle Facilities'
AS/NZS2890.6.....	Australian Standards, 'AS/NZS 2890.6:2002 Off-Street Parking for People with Disabilities'
RMS.....	Roads and Maritime Services
RMS Guide .....	RMS Guide to Traffic Generating Developments, Version 2.2, October 2002
RMS Guide Update .....	RMS Guide to Traffic Generating Developments, Updated Traffic Surveys

## 1 Introduction

Barker Ryan Stewart have been engaged by CKDS Architecture to prepare a Traffic Impact Assessment in accordance with the requirements of the Warringah DCP and LEP and the Road and Maritime Services (RMS) 'Guide to Traffic Generating Developments' to accompany a proposal for a development comprised of 11 residential apartments, one business tenancy and one retail tenancy at the ground floor level. It will be serviced by 19 parking spaces and a loading bay.

The purpose of this report is to assess and address traffic, access, car parking and pedestrian impacts generated by the proposed development. This can be briefly outlined as follows:

- The expected traffic generation to/from the proposed development.
- The impact of the proposed development on the road network.
- Vehicle parking provisions.
- Access design requirements.
- Vehicular requirements for delivery and waste collection.
- Provision for pedestrians.
- Availability of public transport.



## 2 Existing Conditions

### 2.1 Site Location

The site is located within a B2 local centre at 50 Lawrence Street, Freshwater (Lot 1 / DP 571975). It is currently occupied by retail / commercial development. The site is bounded by Lawrence Street to the north, Dowling Street to the east, Oliver street to the west and a residential dwelling to the south.



Figure 1: Site Location (source: NearMap February 2020)

### 2.2 Existing Road Conditions

At present, there are two vehicle access to the site, one at Dowling Street and one at Oliver Street. The following describes the local road network surrounding the site.

#### Dowling Street

A two-way local road generally consisting of a single lane in each direction and on-street parking on either side within a 9.5m wide carriageway. It generally runs in a north-south direction to the east of the site and is posted as a 40km/hr road. It forms a priority-controlled intersection with Lawrence Street.

#### Oliver Street

A two-way local road generally consisting of two lanes in each direction and on-street parking on either side within a 11.8m wide carriageway. It generally runs in a north-south direction to the west of the site and is posted as a 50km/hr road. It forms a signalised controlled intersection with Lawrence Street.

#### Lawrence Street

A two-way local road generally consisting of one lane in each direction and on-street parking on either side within a 11.8m wide carriageway. It generally runs in a east-west direction to the north of the site and is posted as a 50km/hr road.

## 2.3 Public Transport

The area is serviced by public transport with numerous bus stops located within 400m of the site. These bus stops service the following routes:

- Route 139                      Warringah Mall to Manly via South Curl Curl
- Route 136                      Chatswood to Manly
- Route E65                      South Curl Curl to City Wynyard

The full bus network map is attached at **Appendix A**. Overall the existing site has good access and connectivity to public transport.

## 3 Proposed Development

### 3.1 Development Yield

The proposed development comprises of 11 residential dwellings as follows:

- Studio 2 dwellings
- 1-bed 3 dwellings
- 2-bed 5 dwellings
- 3-bed 1 dwelling
- Business 34.48m<sup>2</sup> GFA
- Retail 38.8m<sup>2</sup> GFA

The development consists of two levels of car parking, where one level is accessed via Oliver Street and the other level is access via Dowling Street. A service bay is located within the ground floor level (with access provided via Oliver Street) that caters for 6.4m Small Rigid Vehicles (SRV).

A copy of the site plan is attached as **Appendix B**.

### 3.2 Access

Access to the site will be provided via a 6.6m wide driveway at Oliver Street and a 3.5m wide driveway at Dowling Street. Swept path analysis at **Appendix C** providing a swept path analysis demonstrating access to the service bay for a 6.4m SRV. It should be noted that the Dowling Street access is design for two-way use which is considered acceptable in this instance as it serves a relatively low number of parking (10 parking spaces), therefore the chances of vehicles conflicting at the driveway is considered low. In the case that the driveway is occupied then there is sufficient room for vehicles to wait on Dowling Street or internal to the development as the internal carriageways have been designed for two-way use.

The entry/exit driveways comply with *AS/NZS 2890.1-2004 Parking Facilities – Off Street Car Parking*. The proposed driveway locations comply with *Figure 3.3 – Minimum Sight Distance for Pedestrian Safety AS/NZS 2890.1* and the proposed driveway gradients comply with *AS/NZS 2890.1 and AS2890.2*. More details are available in Section 4.2 of this report.

### 3.3 Waste Collection

Garbage bin storage has been provided near the site frontage and residents are expected to place rubbish in the waste room and the bins will then be shifted to the kerb for kerb-side waste collection on collection day.



## 4 Car Parking Assessment

### 4.1 Parking Provision and Requirements

The proposed parking provision has been assessed against the Warringah DCP, which provides the parking requirement rates for the uses applicable to the development:

- 1 space per 1-bedroom dwelling / studios
- 1.2 spaces per 2-bedroom unit
- 1.5 space per 3-bedroom unit
- 1 visitor spaces per 5 dwellings
- 1 space per 16.4m<sup>2</sup> GLFA retail floor area
- 1 space per 16.4m<sup>2</sup> GFA business floor area

The table below provides a summary of the development parking requirements.

**Table 1:** Car parking requirements

Land Use	Yield	Parking Rate	Total Parking Requirement
Studio Units	2 dwellings	1 space per dwelling	2
1-bedroom units	3 dwellings	1 space per dwelling	3
2-bedroom units	5 dwellings	1.2 spaces per dwelling	6
3-bedroom units	1 dwelling	1.5 spaces per dwelling	1.5
Visitor spaces	11 dwellings total	1 space per 5 dwelling	2.2
Retail	38.0m <sup>2</sup>	1 space per 16.4m <sup>2</sup>	2.3
Business	34.48m <sup>2</sup>	1 space per 16.4m <sup>2</sup>	2.1
<b>Total</b>	-	-	<b>19 (19.1*) spaces</b>

\*Partial spaces have been rounded down

In response, the development provides a total of 19 spaces (nine spaces within ground floor level and 10 spaces within level 1). Adaptable spaces are not required under Warringah DCP, however two spaces are included on-site for adaptable units. Please refer to the access consultant report for a detailed assessment of the accessible parking requirements.

Overall, the table above shows that the proposed car parking spaces comply with the requirements set out in the Council DCP. The parking provision is supportable under transport planning grounds.

### 4.2 Parking Compliance Check

Barker Ryan Stewart has reviewed the plans as provided by CKDS Architecture. This review included the layout of car parking and internal roadways and overall, we are satisfied that the design is consistent with the requirements of Standards AS/NZS 2890.1, and the Gosford DCP. It is anticipated that the car park will function in a satisfactory manner and in accordance with the design intent. A summary of critical parameters assessed regarding the Australian Standards is included below.

**Table 2:** Compliance Table

Control	Requirement	Compliance
<b>The Australian Standards and Council DCP</b>		
<b>2.4.1</b> Car Space Dimensions:	Class 1A: Min 2.4m width, 5.4m space length and minimum 5.8m aisle width Adaptable spaces: 3.8m wide	Yes
<b>2.5.2</b> Layout Roadways/Ramps	Minimum 5.5m wide for two-way flow	Yes

<b>3.2.2</b> Driveway Width	Minimum 3m-5.5m wide (Category 1)	Yes
<b>3.3</b> Ramp	Maximum 1:4 for passenger vehicles and maximum 1:6.5 for small rigid vehicles	Yes

As shown in the table above, the development car park and access design generally comply with the Australian Standards.

## 5 Traffic Assessment

### 5.1 Traffic Generation

The existing and proposed development has been assessed based on the traffic generation rates provided in the RMS Guide Update and RMS Guide, respectively. The traffic generation rates are as follows:

- Medium density dwelling
  - 0.65 trips per dwelling (morning and afternoon peak hours)
- Office
  - 1.6 trips per 100m<sup>2</sup> GFA (morning) and 1.2 trips per 100m<sup>2</sup> GFA (afternoon)
- Retail
  - 4.6 trips per 100m<sup>2</sup> GLFA

The table below shows the total traffic generated by the proposed development.

**Table 3:** Proposed development – traffic generation

Use	Yield	AM peak hour trips	PM peak hour trips
Residential	11 dwellings	7.15 trips	7.15 trips
Business	34.48m <sup>2</sup>	0.6 trips	0.4 trips
Retail	38.8m <sup>2</sup>	2 trips	2 trips
<b>Total</b>	-	<b>10 (9.8) trips</b>	<b>10 (9.5) trips</b>

As shown in the table above, the proposal is expected to increase the traffic on the external road network by 10 trips in each peak period. Accordingly, this is considered as an insignificant increase as an additional vehicle is expected every 6 minutes in each peak hour (note, this does not include the effect of the traffic generated from the existing development). As such, this does not warrant the need to undertake modelling analysis and the development can be supported under traffic generation grounds.

## 6 Conclusion

This Traffic and Parking Impact Assessment has been prepared in accordance with the requirements of the Warringah DCP and the Road and Maritime Services (RMS) 'Guide to Traffic Generating Developments' to accompany a Development Application to the Northern Beaches Council for a proposed development comprising of residential units, and retail and business tenancies.

Parking has been provided based on the requirements of Warringah DCP, which requires parking to be provided for 19 vehicles. Accordingly, the development car parking has been provided 19 spaces in accordance with the Councils DCP, and a loading bay catering for small rigid vehicles. The 19 spaces include two adaptable spaces for the two adaptable units.

The traffic generation assessment has determined that the net traffic generation will not have detrimental impact upon the external road network as the net traffic generation is considered to be insignificant (an additional 10 trips in each peak hour). The proposed parking facilities have been designed in accordance with the requirements of AS/NZS 2890.1 – *Off Street Car Parking*.

The Traffic and Parking Impact Assessment concludes that the subject site is suitable for the proposed residential development in relation to the impact of traffic, vehicle access, and parking. The development is considered to have negligible effect on the safety and operating outcome of the surrounding transport network.

## 7 References

Australian Standards, '*AS/NZS 2890.1:2004 Off-Street Car Parking*'.

Warringah DCP.

Roads and Maritime Services, '*Guide to Traffic Generating Developments*' Version 2.2 dated October 2002.

Roads and Maritime Services, '*Guide to Traffic Modelling*' Version 1.0 dated February 2013.

## **Appendix A**

### **Bus Network**



# Buses around the Northern Beaches



## City

- B** Catch a B1 B-Line bus from Warringah Mall, Pittwater Rd, Stand B to City Wynyard.
- F** Catch an F1 ferry from Manly Wharf to Circular Quay.



## Manly

- B** Catch a bus from Warringah Mall, Pittwater Rd, Stand A to Manly.



## Palm Beach

- B** Catch a B1 B-Line bus from Warringah Mall, Pittwater Rd, Stand C to Mona Vale. Change at Mona Vale for connecting bus services to Palm Beach.



## Chatswood

- B** Catch a B1 B-Line bus to Neutral Bay Junction. Change at Neutral Bay Junction for a 143, 144 or 257 bus to Chatswood.

\*Images from Destination NSW



- B-Line route / stop**
- Regular bus route / start and end of route**
- Bus route number**
- Metro line / station**
- Train line / station**
- Ferry route / wharf**
- Light rail line / stop**

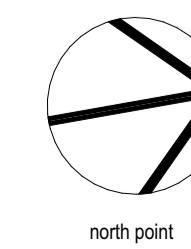
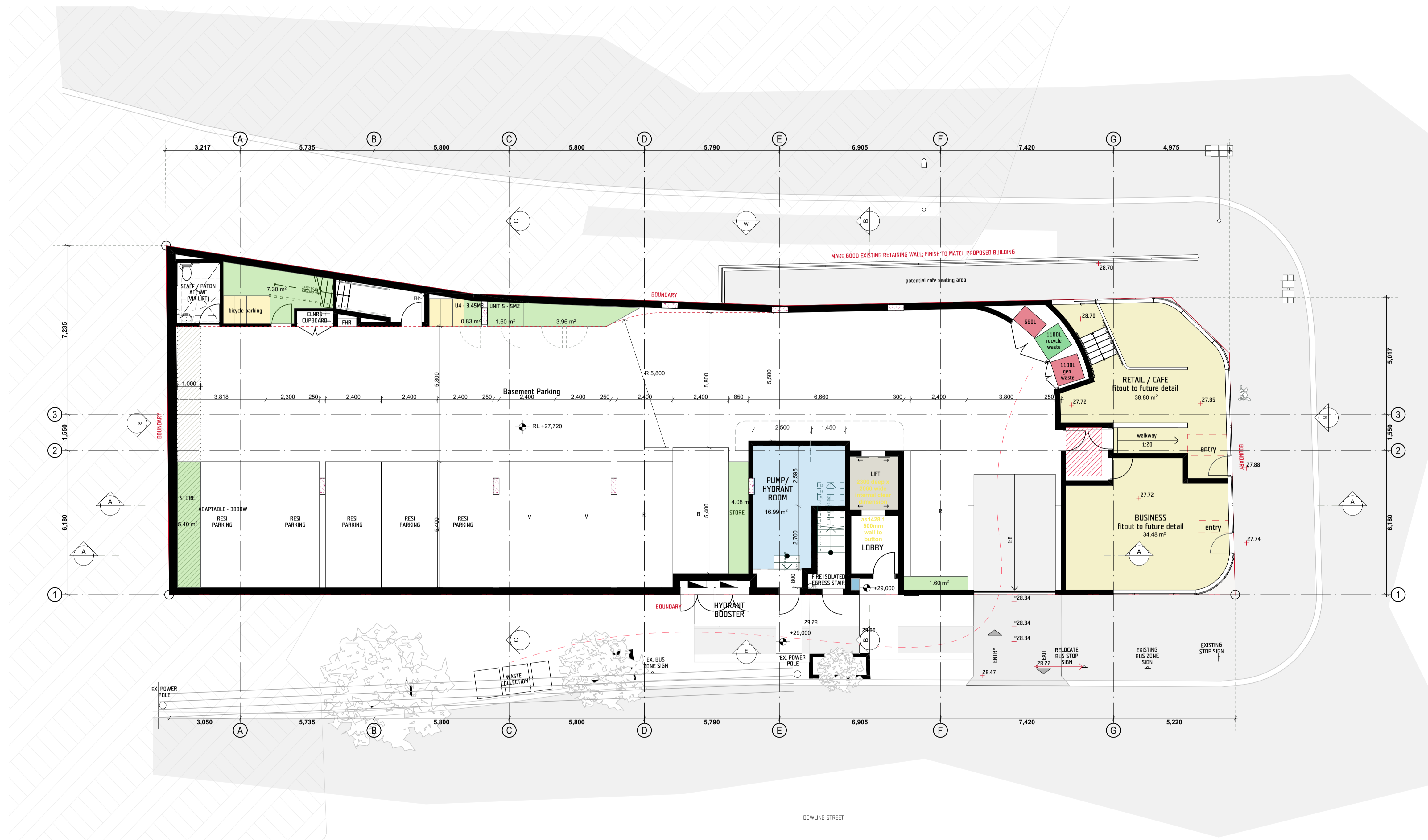
\*Not all routes shown on this map

For real time service and connection information plan your trip at [transportsw.info](http://transportsw.info)



## **Appendix B**

### **Proposed Development Site Plan**

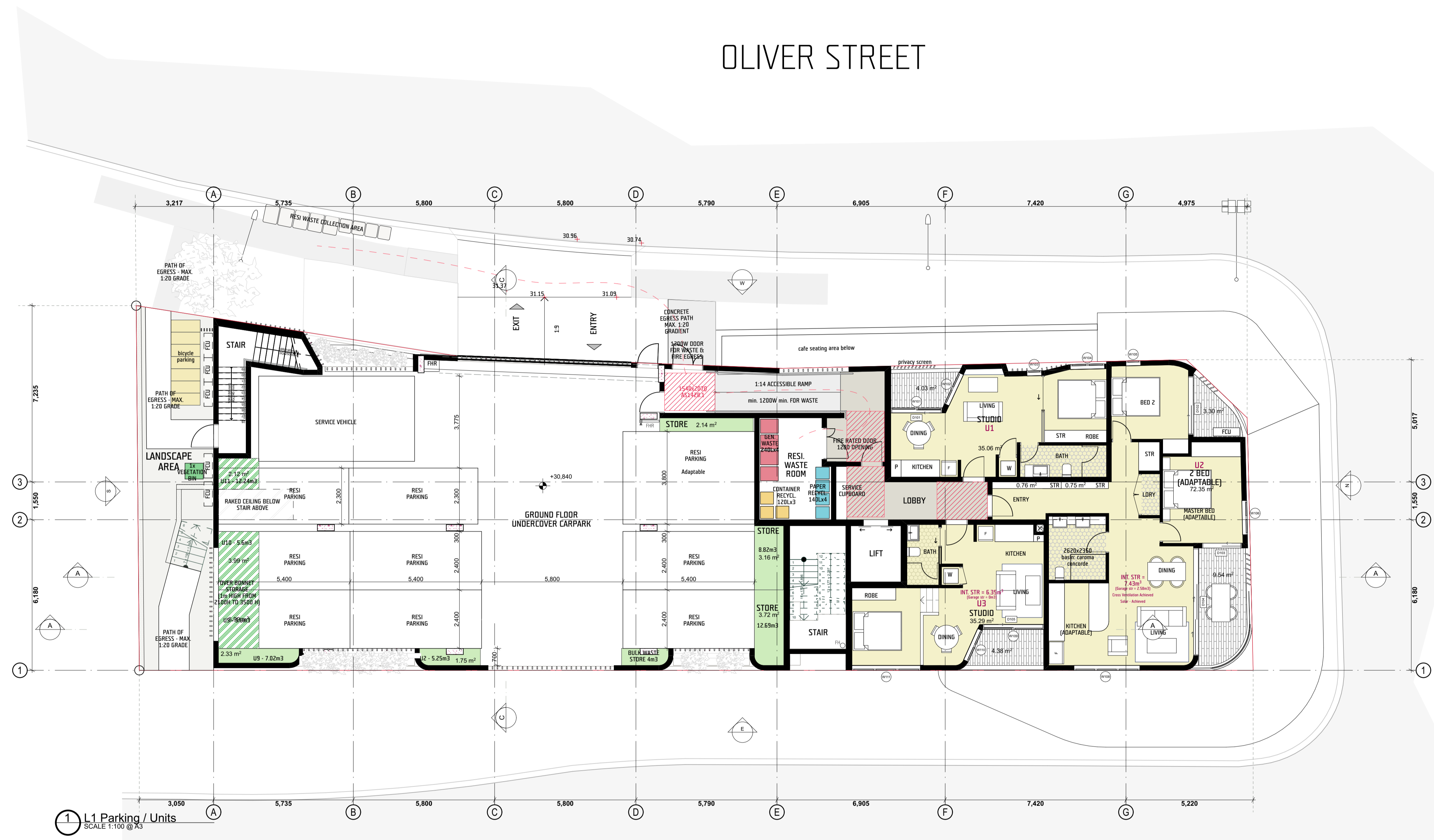


this document is the copyright of CKDS Architecture PTY LTD check and verify all dimensions on site. refer any discrepancies to the designer before proceeding with the work. do not scale drawings manually or electronically. drawing shall not be used for construction until issued for construction by designer.



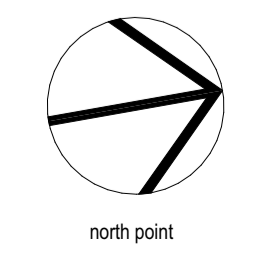
OLIVER STREET

LAWRENCE STREET



1 L1 Parking / Units  
SCALE 1:100 @ A3

DEVELOPMENT APPLICATION DRAFT



this document is the copyright of CKDS Architecture PTY LTD check and verify all dimensions on site. refer any discrepancies to the designer before proceeding with the work. do not scale drawings manually or electronically. drawing shall not be used for construction until issued for construction by designer.

## **Appendix C**

### **Swept Path Analysis**

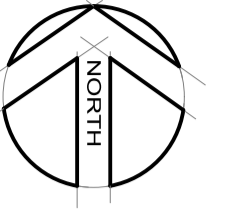
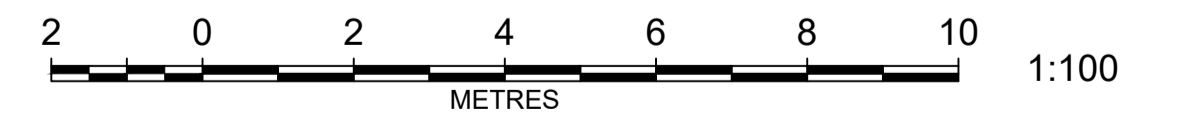


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	15/04/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
**CKDS ARCHITECTURE**

**50 LAWRENCE STREET, FRESHWATER**

LOADING BAY ACCESS - 6.4M SRV

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ

Scales: Plan  
Horiz.  
Vert.  
X-Sect.

Datum: A.H.D.

Plan No.  
**SY190124TR01**  
File Ref.  
SY190124D01A  
SHEET 1 OF 1 SHEETS  
REV. **A**