

Traffic Assessment Report

43 Old Pittwater Road, Brookvale
NSW 2100

Prepared by

Stronghold Engineers Pty Ltd

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Revision A



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1. Introduction

Stronghold Engineers has been engaged by the client to prepare a traffic report to accompany a development application for the property at 43 Old Pittwater Road, Brookvale NSW 2100 (See Figure 1-1).

The purpose of this report is to:

- Assess the adequacy and suitability of the off-site car parking provision.
- Ensure that the design of carparking areas meet relevant adopted standards.
- Assess vehicle access arrangement as per relevant Australian Standards and Council DCP
- Assess the traffic generation for the proposed development and its impact.



Figure 1-1: Site Map (From Google Map)

2. Proposed Development

The proposal is to demolish the existing structure and construct 1 level basement car park and two storey townhouses, comprising 4 units having the following components:

- 4 x 3 bedroom unit

3. Off Street Car Parking Provision and Layout

3.1 Parking Provision

All new developments within the Northern beaches Council shall comply with the land use parking requirement. Council's Development Control Plan (DCP) 2011 – 'Appendix 1 Car Parking Requirements' specific the following minimum car parking requirements for Multi Dwelling Housing:

- 1 space per 1 bedroom dwelling*
- 1.2 spaces per 2 bedroom dwelling*
- 1.5 spaces per 3 bedroom dwelling*
- 1 visitor space per 5 units or part of dwellings*

The minimum car parking required for this development is calculated as:

- 4 x 3 bedroom unit @ 1.5 space/dwelling = 6 spaces
- 4 units @ 1 space per 5 units = 1 space

Accordingly, the proposed Multi Dwelling Housing development provides **7** car parking spaces, including 1 visitor parking and 6 residential parking, which complies with Council's parking requirements.

3.2 Parking layout

The parking modules, layout and head room shall be in accordance with design requirement in Council DCP as well as relevant Australian Standards ('AS/NZS 2890.1:2004 – Part 1 Off Street Car Parking', and 'AS/NZS 2890.6:2009 – Part 6 Off Street Car Parking for parking with disabilities'). Table 3.2 describes the design requirement for the parking space layout.

Table 3.2 Parking layout arrangement

Elements	Australian Standards and Council Code	Architectural plan	Compliance
Parking space dimension	2.4m x 5.4m minimum	2.4m x 5.4m	Yes

Aisle Width	5.8m minimum	5.8m	Yes
Blind aisle	1m extension beyond the last parking space	1.6m	Yes
Headroom	2.2m minimum for normal parking spaces	2.2m	Yes

4. Bicycle parking facility

The number of bicycle parking shall be provided in accordance with Council DCP:-

1 per dwelling for Residential Accommodation containing 3 or more dwellings
1 per 12 dwelling for visitors

Accordingly, the minimum bicycle parking required for this development is calculated as:

1 x 4 = 4 for residents
 1 x 4/12 = 1 for visitors

The proposed Multi Dwelling Housing provides 5 bicycle parking, which complies with council's requirement. Bicycle parking shall be designed and constructed in accordance with Australian Standard AS 2890.3 – Bicycle Parking Facilities.

5. Access driveway and ramp arrangement

The design of internal roadway & ramps shall be in accordance with relevant Australian Standard and Council DCP. Table 5.1 indicate design requirement for the proposed development.

Table 5.1 Design requirement for access driveway and ramp

Elements	Australian Standards and Council Code	Architectural plan	Compliance
Ramp width	3.0m minimum between kerbs – one way roadways 5.5m minimum between kerbs – two way roadways	One way roadway – 3.0m between kerbs	Yes
Grade transition	2m transition (12.5%) to correct scraping at grade changes up to 18%	2m transition (12.5%) provided both downhill and uphill	Yes
Maximum Grade	20% for straight ramp longer than 20m 25% for straight ramps less than 20m	1: Straight ramp less than 20m (25% maximum) 2: Curved ramp less than 20m (25% maximum)	Yes

6. Traffic Control Devices

6.1 Traffic mirror

To facilitate the driver, traffic mirror will be installed at the corner of ramp to improve the visibility.

6.2 Traffic signal system

Traffic signal system will be provided for the one-way ramp to avoid conflicts between opposing traffic. Red and Green Traffic lights will be installed within the basement as well as the driveway entrance. Accordingly, vehicle detectors (i.e. inductive loop detector) will be installed. The Default setting of traffic signal is 'Green Light'. Once the vehicle detector detects entering vehicles from Funda Place, red lights within the basement will turn on, holding vehicles within the car parking. Similarly, when vehicle detectors detect vehicles exiting from basement car parking, red light at the driveway entrance will be activated, stopping entering vehicles at kerbside. Traffic signal system will be detailed at CC stage.

7. Turning path analysis

Turning path analysis has been conducted to ensure adequate space is provided for the manoeuvring of vehicles within the basement. The result of turning path analysis is attached in Appendix A.

According to the result of the turning path, the car parking arrangement can provide adequate space for vehicle manoeuvring.

8. Sight distance at access driveway exits

8.1 Sight distance for pedestrian's safety

Access driveways shall be located and constructed so that there is adequate visibility between vehicles leaving the car park and pedestrians on the frontage road footpath to ensure pedestrians safety (See Figure 8.1).

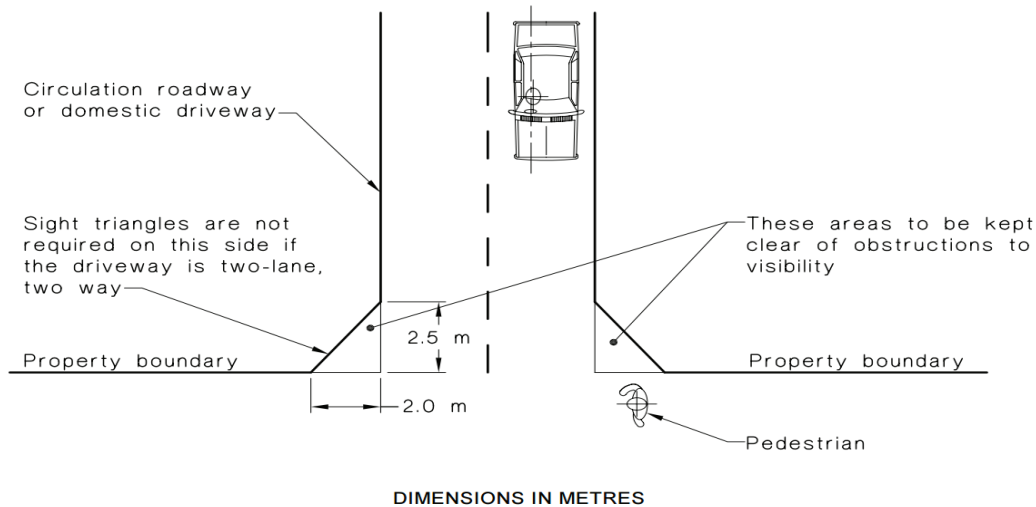


Figure 8.1: Sight lines for pedestrian safety

9. Traffic Generation and Impact

The Roads and Maritime Service (RMS) 'Guide to Traffic Generating Developments-2002' provides guideline on traffic generation rate for different types of land use.

For Medium density residential building

Rates.

Smaller units and flats (up to two bedrooms):

Weekday peak hour vehicle trips = 0.4-0.5 per dwelling.

Large units and townhouses (three or more bedrooms):

Weekday peak hour vehicle trips = 0.5-0.65 per dwelling

Using the higher rate to conduct the worst scenario assessment for the proposed development, the future traffic generation is calculation as below:

Traffic generation from post development = $4 \times 0.65 = 2.60$, say 3 trips per hour

However, the traffic generation of the proposed development shall be discounted by the traffic generation from the existing development.

Traffic generation from existing single dwelling = $1 \times 0.65 = 1$ trip per hour.

Therefore, the proposed development will result in a net increase of 2 peak hour trips or 1 trip every 30 minutes. The net increase of traffic flow over existing circumstances is minimal and will clearly not have any detrimental impact on the existing road network.

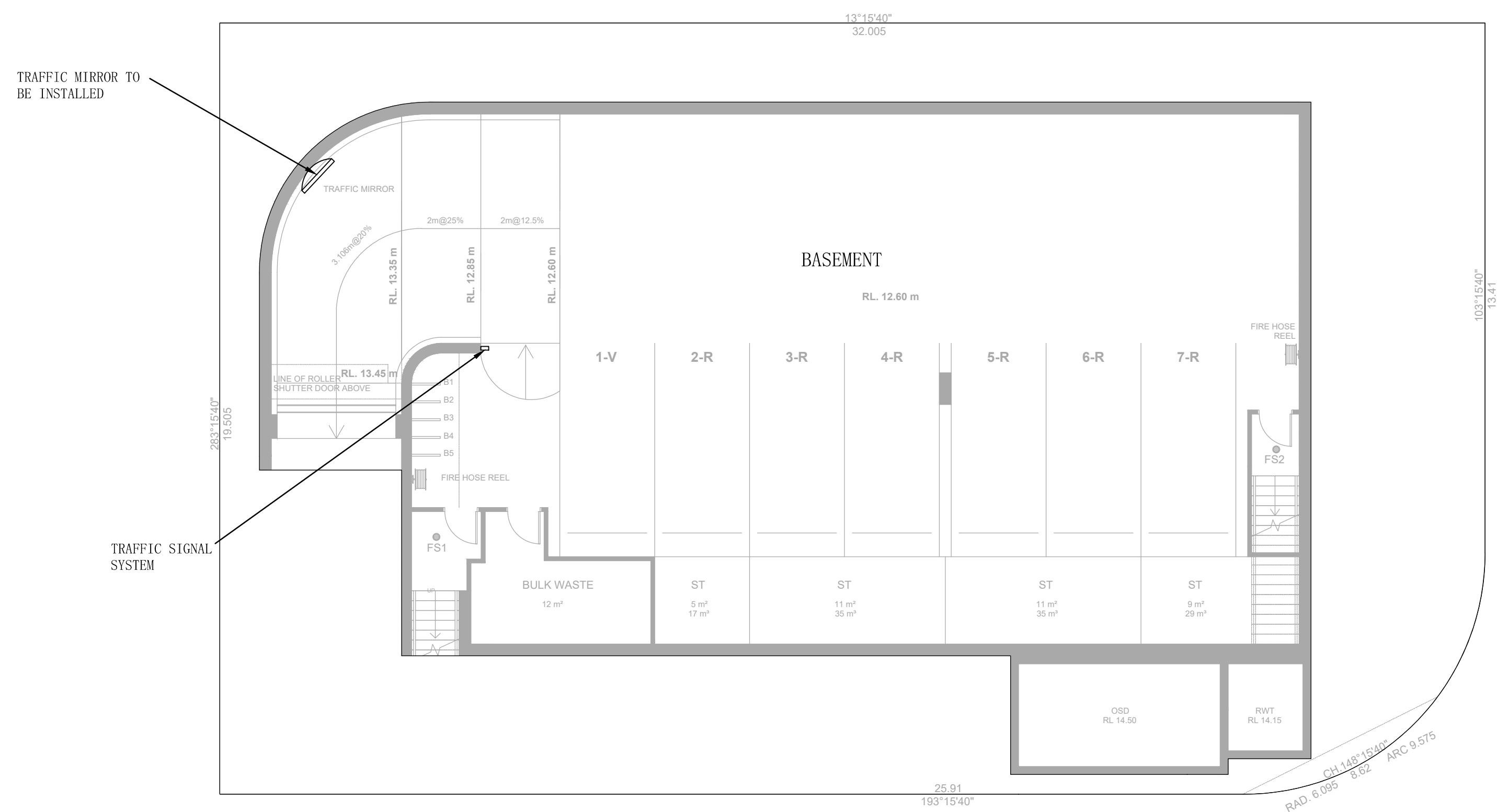
10. Conclusions

1. The car parking provision, layout and vehicle access arrangement of the proposed development complies with relevant Australian Standard and Council DCP.
2. The proposed development will result in a net increase of 2 peak hour trips with no adverse impact on the surrounding road network.
3. Adequate space is provided for the manoeuvring of vehicles within the subject site.



APPENDIX A

SWEPT PATH ANALYSIS



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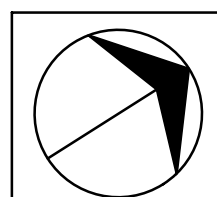


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43 OLD PITTWATER ROAD,
BROOKVALE NSW 2100

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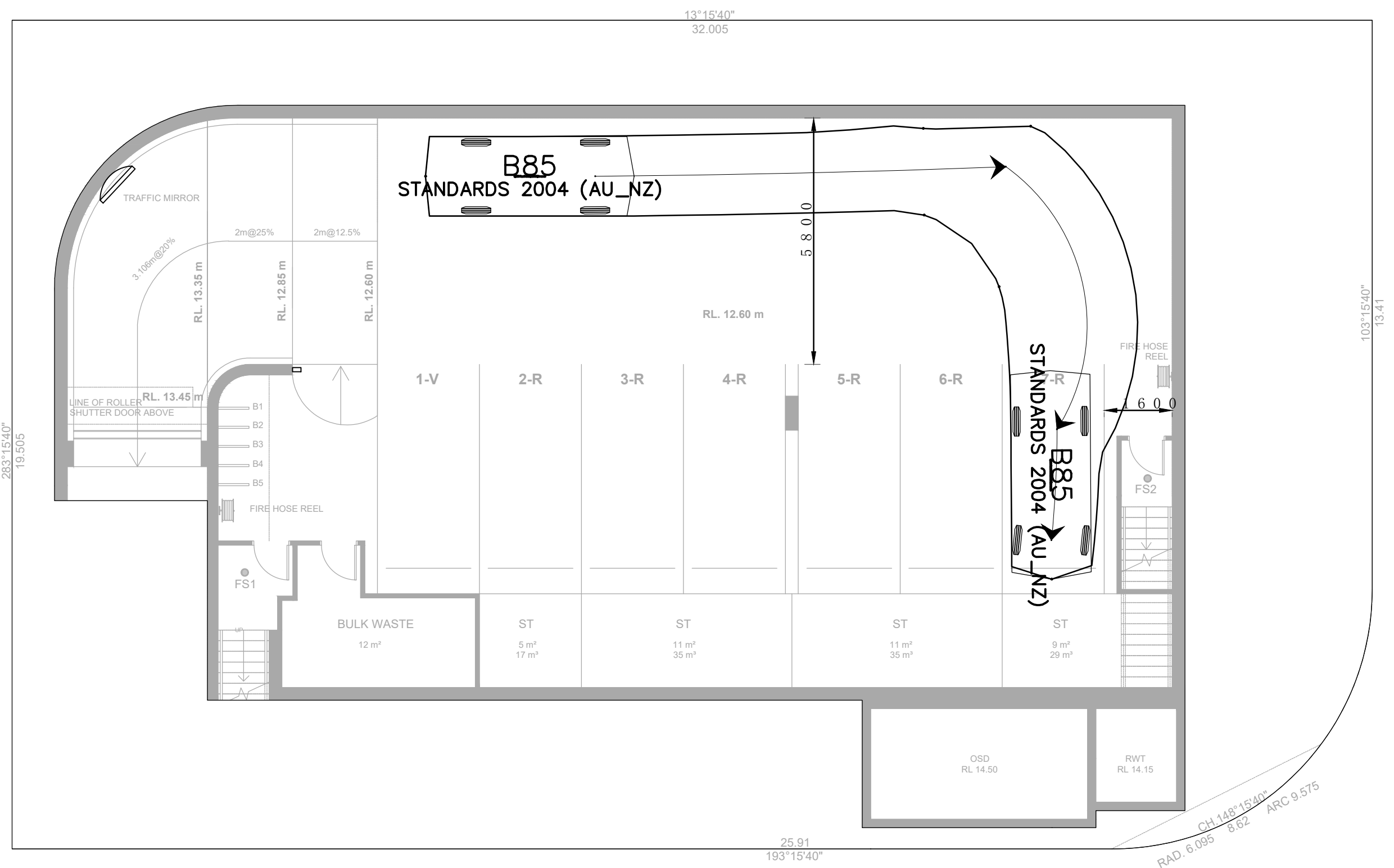
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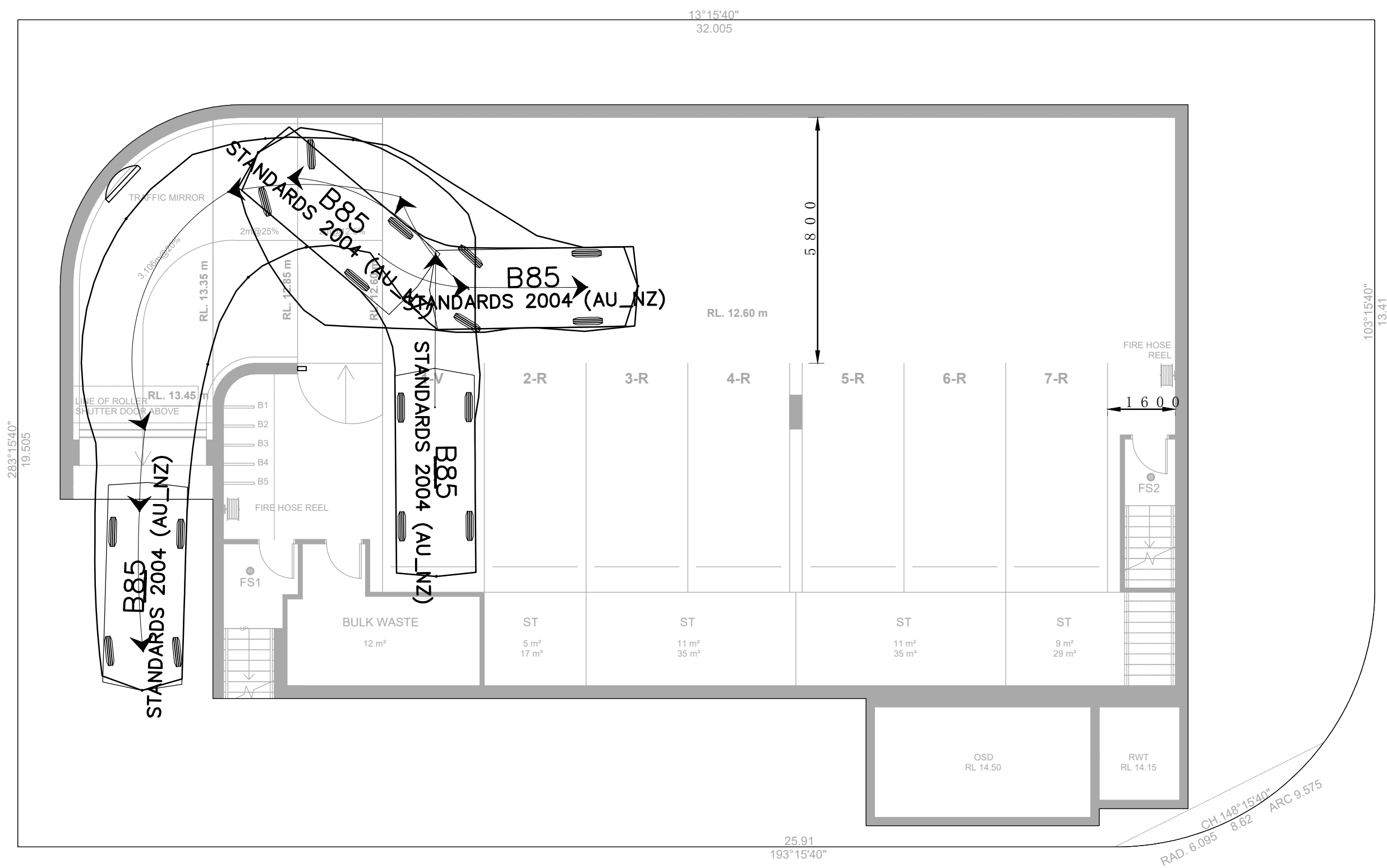
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