

Proposed Boarding House Development

1 Station Lane, Penrith

Traffic and Parking Assessment

Ref: 21066

Date: May 2021

Issue: A

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1.0 Introduction

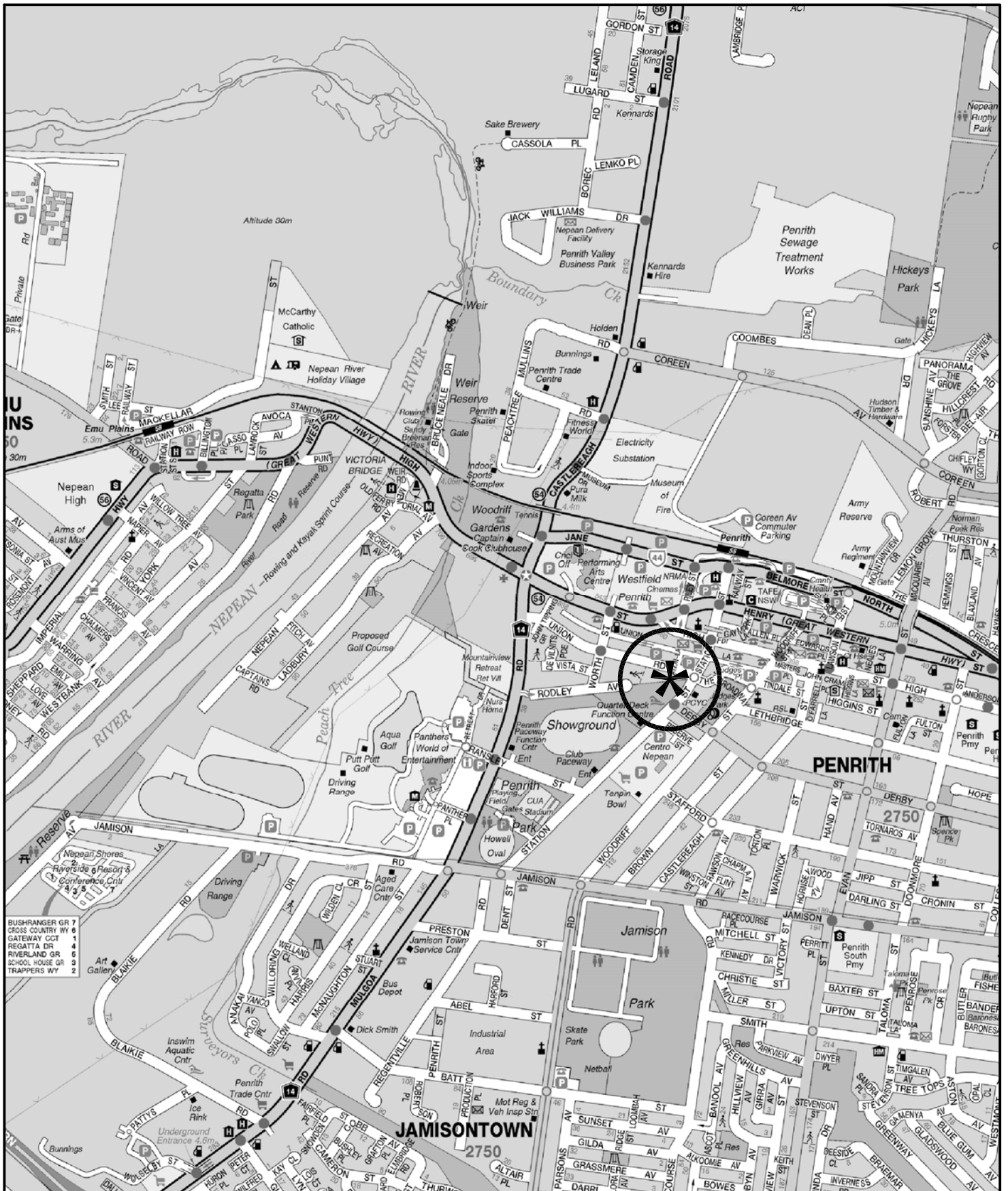
This report has been prepared to accompany a Development Application to the Penrith City Council for a proposed Boarding House accommodation at 1 Station Lane, Penrith (Figure 1).

Penrith Centre is a growing urban precinct with various major land use developments. There is an increasing demand for affordable housing and the development site presents as a desirable location that also has the advantage of close proximity to public transport, retail and entertainment facilities.

The proposed development scheme involves a boarding house with 24 accommodation rooms and common areas with associated ground level car parking.

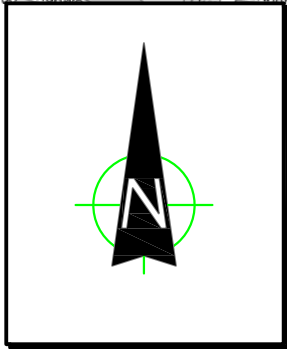
The purpose of this report is to:

- ❖ describe the site, its context and the proposed development scheme
- ❖ describe the existing road network, traffic and transport circumstances
- ❖ assess the potential traffic implications
- ❖ assess the adequacy and appropriateness of the proposed parking provision
- ❖ assess the suitability of the proposed access, internal circulation and servicing arrangements



LEGEND

| | |
|------------------|---|
| BUSHRANGER GR | 7 |
| CROSS COUNTRY WY | 6 |
| GATEWAY CCT | 1 |
| REGATTA DR | 6 |
| RIVERLAND GR | 4 |
| SCHOOL HOUSE GR | 2 |
| TRAPPERS WY | 2 |



LOCATION

FIG 1

2.0 Proposed Development

2.1 Site, Context and Existing Use

The site (Figure 2) is Lot 2 DP 161921 located at 1 Station Lane, Penrith. It occupies an irregular shaped area of some 665m² and is accessed via a 4m wide laneway 'Station Lane' which connects to Union Road.

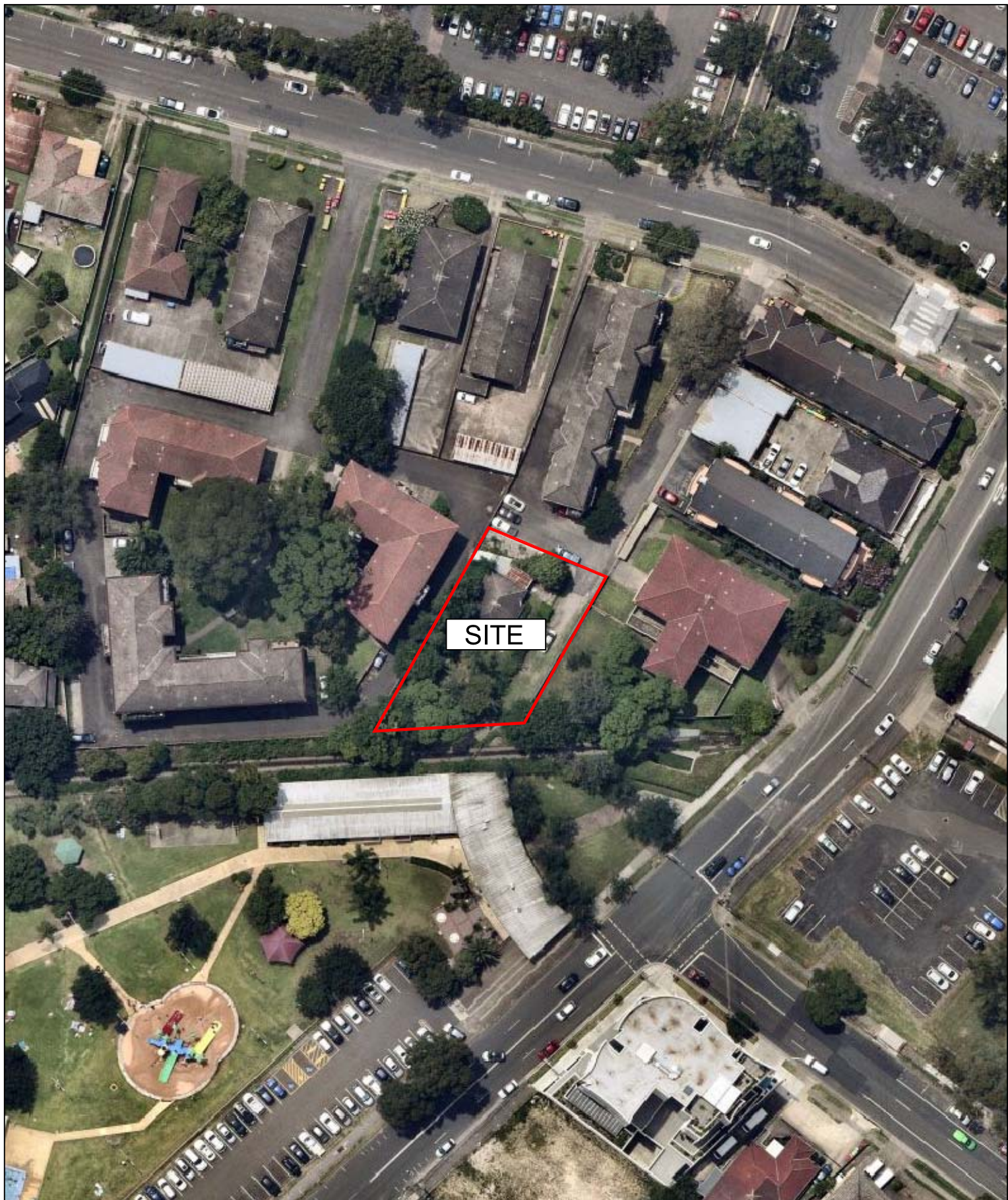
A residential dwelling currently occupies the site and is adjoined by medium-rise residential developments. The Penrith CBD and its associated retail/commercial facilities are situated some 250m to the north. The Penrith railway station is some 550m to the north and is accessed via Station Street.

2.2 Proposed Development

It is proposed to demolish the existing building and undertake minor earthworks to provide a level building platform. A new 4 level building will be constructed on the site comprising:

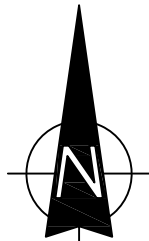
- 24 accommodation boarding rooms
- Ground level car park – 12 spaces

Details of the proposal are provided on the plans prepared by Prodoc Architects which accompany the Development Application and are reproduced in part in Appendix A.



SITE

LEGEND



SITE

FIG 2

3.0 Existing Road Network and Traffic Conditions

2.1 Road Network

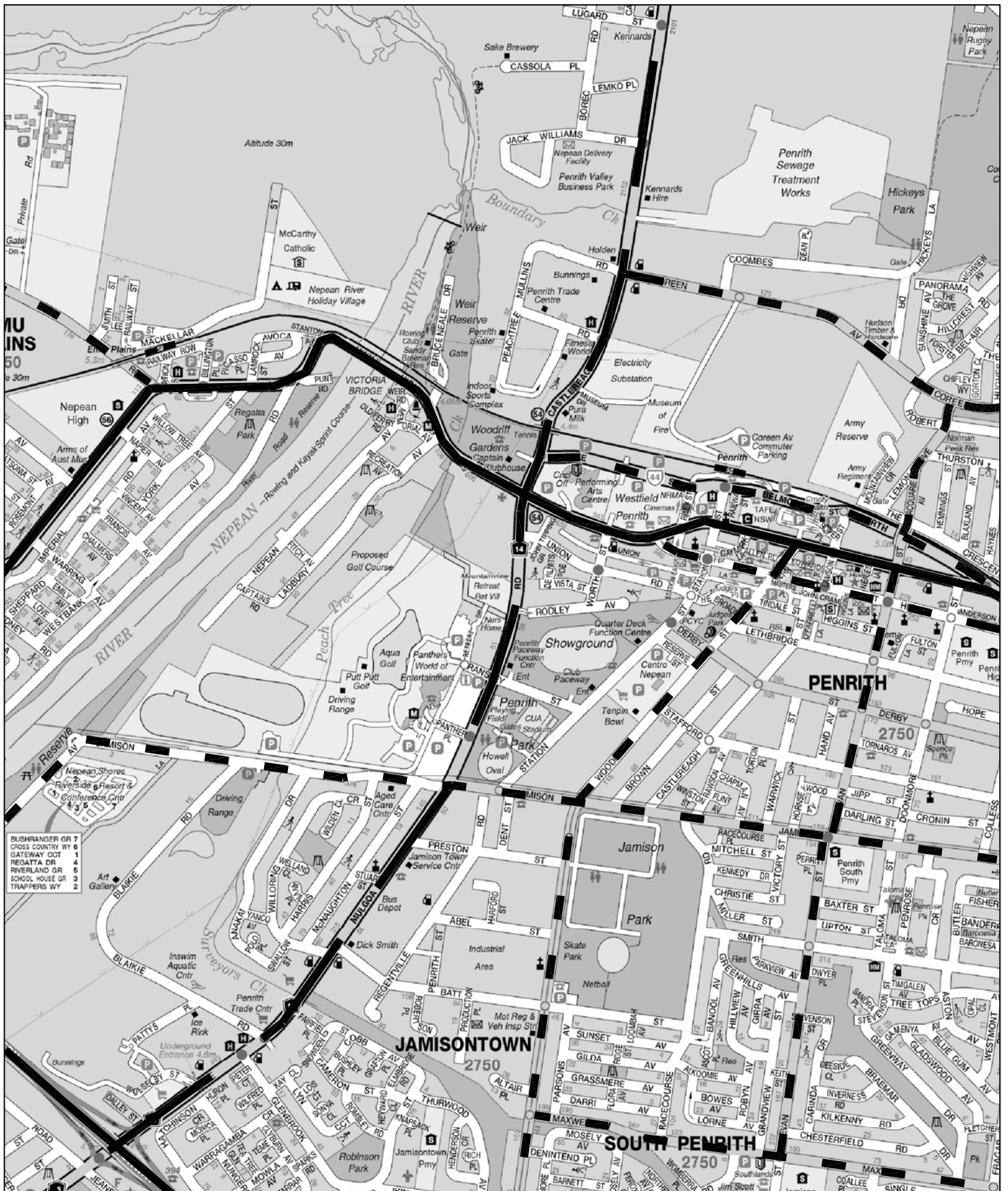
The road network serving the Penrith CBD area comprises:

- ❖ *Great Western Highway/Belmore Street/Henry Street* – a State Road and arterial route which provides a secondary connection between the Sydney CBD and Penrith
- ❖ Jamison Road – a major collector road connecting Castlereagh Road/Mulgoa Road, Station Street and Parker Street in Kingswood
- ❖ *Jane Street/Belmore Street North* – an east-west collector route connecting Mulgoa Road/Castlereagh Road and the Penrith CBD
- ❖ *Station Street* – a minor north-south collector route connecting the Penrith CBD and Jamison Road.
- ❖ Union Road – a local residential access road
- ❖ Station Lane – a local service and access and laneway




2.2 Traffic Controls

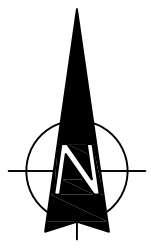
The existing traffic controls which have been applied to the roads in the immediate vicinity of the site include:

- ❖ the traffic signal on Great Western Highway at Mulgoa Road, Worth Street, High Street, Riley Street and Station Street
- ❖ the traffic signals at Union Road and Worth Street intersection and Station Street/High Street intersection



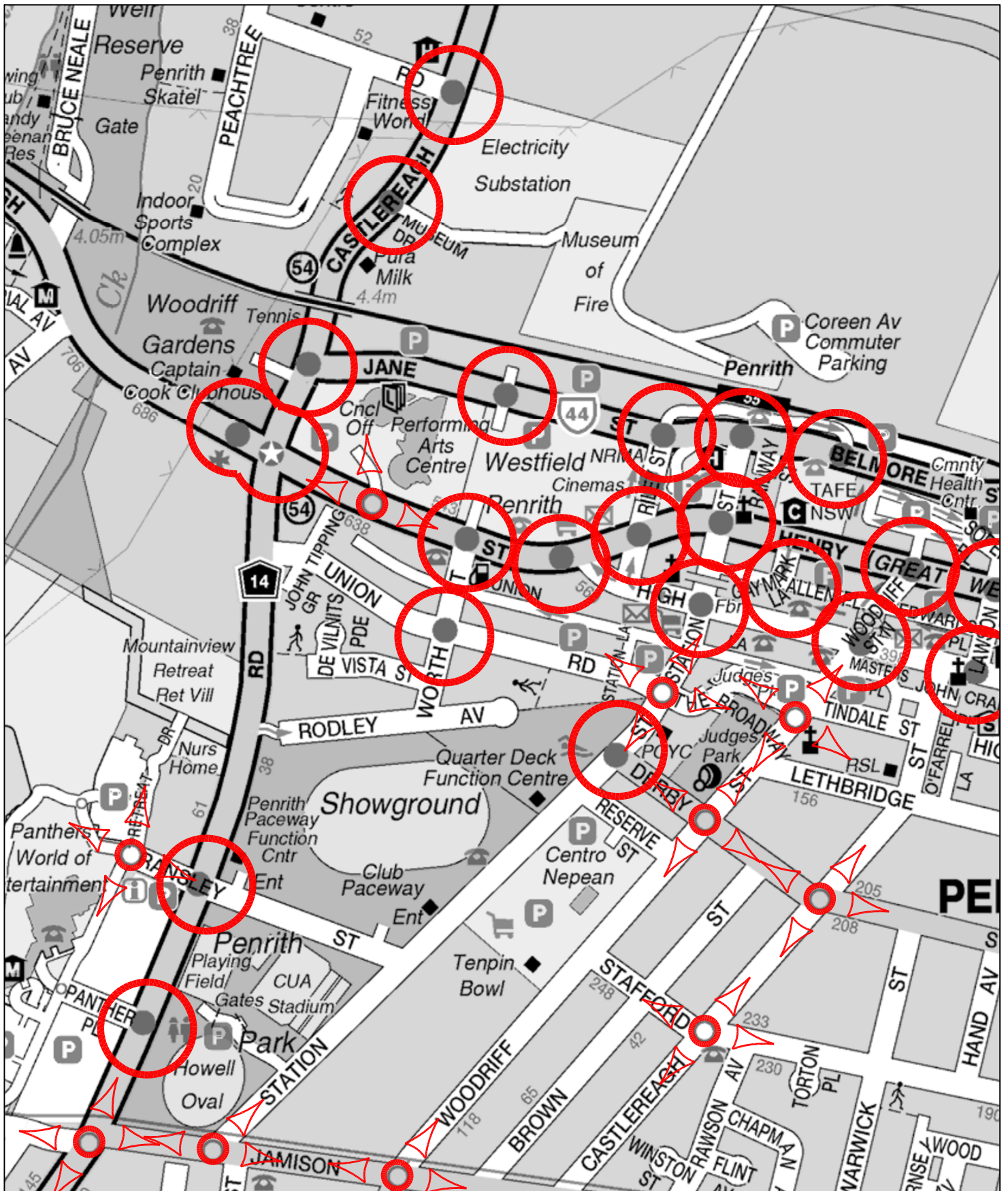
LEGEND

-  ARTERIAL
-  SUB-ARTERIAL
-  COLLECTOR






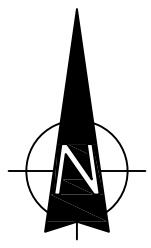
ROAD NETWORK

FIG 3



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT



TRAFFIC CONTROLS

FIG 4

- ❖ the roundabout at Union Road and Station Street

3.3 Traffic Conditions

An indication of the existing traffic conditions in the vicinity of the site is provided by data published by RMS¹. The RMS data is expressed in terms of Annual Average Daily Traffic (AADT) and the most recently published data is reproduced below:

| | AADT |
|--|-------------|
| Castlereagh Road- North of Jane Street | 42, 744 |
| Belmore Street- North of Woodriff Street | 16, 549 |

There is apparent network peak congestions observed in the arterial and sub arterial network i.e., Mulgoa Road, Great Western Highway, Jamison Road, etc, however the operational performance of the intersections in the local area is relatively satisfactory for a CBD environment, with access movements to/from major roads facilitated by traffic signals.

3.4 Transport Services

The site is conveniently located in relation to bus and rail services. There are 5 frequent and high capacity bus services operating on Station Street linking Penrith railway station with the surrounding streets and suburbs. These bus services are all located within 100m of the site.

The Penrith railway station is located 550m to the north and is a 9 minute walk via established footways provided in the local street network.

¹ *Traffic Volume Data Sydney Region
Roads and Traffic Authority*

4.0 Parking

The 'non-refusal basis' parking rates in respect to boarding home developments are provided in the SEPP (Affordable housing) as follows:

- 0.5 car spaces for each room
- (Not more than) 1 space provided for an onsite (resident) manager
- 1 motorcycle space and 1 bicycle space for each 5 rooms

Application of the above to the development scheme indicates the following SEPP requirements:

| | |
|----------|---------------------|
| 24 rooms | 12 car spaces |
| | 5 motorcycle spaces |
| | 5 bicycle spaces |

It is proposed to provide 12 car spaces (including 3 accessible spaces) in satisfaction with the SEPP.

The proposal involving 3 motorcycle spaces and 2 bicycle spaces will be less than that provided in the SEPP; however, this is assessed to be acceptable as the site is located within convenient walking proximity to both the local bus and railway services.

5.0 Traffic

The RMS Development Guidelines do not specify peak traffic generation criteria relevant to boarding houses; however, the traffic generation of the proposed development will be limited to that of:

- ❖ the 12 car spaces
- ❖ the 3 motorcycle spaces

The RMS Guidelines for high-density apartments indicate a peak traffic generation rate of 0.29 vtp^{*}. The parking requirement for boarding houses is somewhat lower than standard apartments; hence residents will be less likely to depend on private vehicles. Nevertheless, if the higher apartment rate (0.29) is applied to the boarding house complex (to provide a conservative basis) then the projected outcome would be as follows:

| AM | | | PM | | |
|----|--|-----|----|--|-----|
| IN | | OUT | IN | | OUT |
| 1 | | 7 | 1 | | 7 |

Traffic movements of this minor magnitude being equivalent to 1 vehicle movement every 8-9 minutes will not present any undue capacity, safety, or environmental impacts on the existing road networks.

^{*} or 0.19 vtp per dwelling for developments near a railway station

6.0 Access, Internal Circulation and Servicing

6.1 Access

The proposed site access will rely upon Station Lane which is some 4m wide. While there is no passing bay provided at the interface between Station Lane and Union Street, there is ample passing area provided some 10m further south on Station Lane.

6.2 Internal Circulation

The proposed internal circulation will involve a single-lane one-way 'clockwise' loop. The car parking spaces including provisions for geometry, aisle, and clearances accord with the AS2890.1 design requirements.

Details of a swept path assessment confirming an adequate arrangement are provided in Appendix B.

6.3 Servicing

Refuse collection will rely on a privately contracted small vehicle '6.4m Mini Rear Loader'. The swept path assessment for a small refuse vehicle is also provided in Appendix B.

7.0 Conclusion

The development site occupies a prominent location near the Penrith CBD with ready transport services and represents a valuable opportunity for low-cost accommodation that complements the SEPP principles and the needs of the precinct.

The traffic, transport and parking assessment provided in this report confirms that the proposed development will:

- ❖ not present any unsatisfactory traffic capacity or safety related implications
- ❖ incorporate a suitable and car parking provision which is compliant with the SEPP criteria
- ❖ have less motorcycle and bicycle spaces than that provided in SEPP however there will be no undue effect as the site is advantaged by proximity to high frequency transport services
- ❖ incorporate suitable vehicle access, internal circulation and servicing arrangements

Appendix A

Architectural Plans



NEIGHBORING
RESIDENTIAL BUILDINGS

CANAL

TREE SPECIES TO COMPLY WITH
CHAPTER D2.5 OF PENRITH DCP

FENCE LINE BOUNDARY

FENCE LINE

FENCE LINE

FENCE LINE

6M SETBACK

6M SETBACK

6M SETBACK

6M SETBACK

NO WINDOWS FACING
PROPOSED
DEVELOPMENT

RIPPLES SWIM CENTER
CHANGE ROOMS

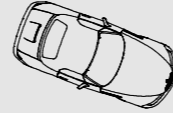
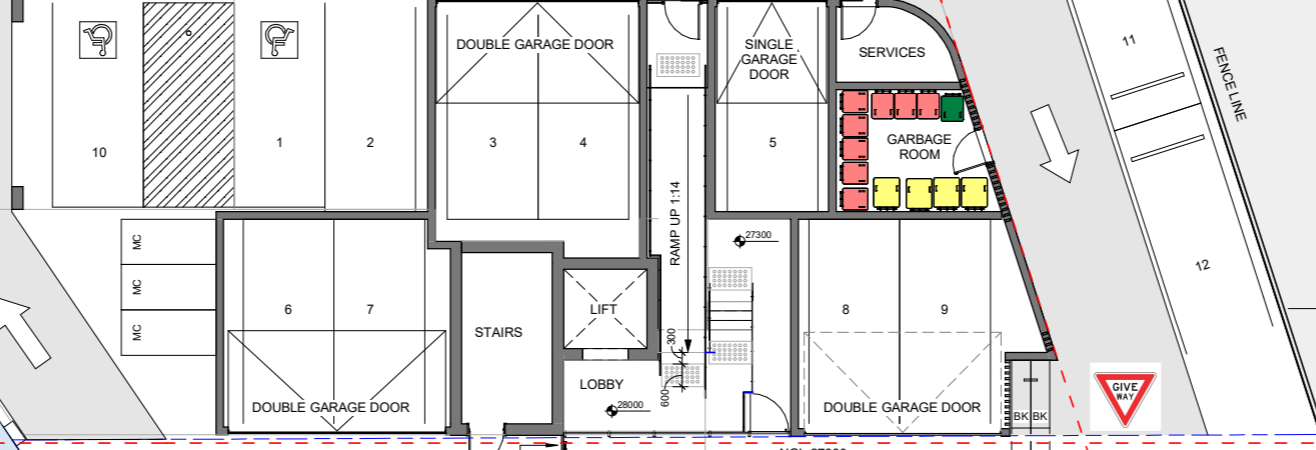
CANAL

NEIGHBORING
RESIDENTIAL BUILDINGS

STATION LANE

NEIGHBORING RESIDENTIAL
LANDSCAPING

NEIGHBORING
RESIDENTIAL BUILDINGS



1 Ground Floor GA
1 : 100

PRODOC
ARCHITECTS

Nominated Registered Architect 10071

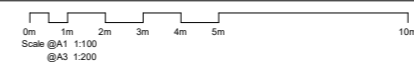
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Version: 1, Version Date: 21/06/2021

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| 2 | 21.04.21 | ACCESS CONSULTANT CHANGES | |
| 3 | 13.05.21 | Traffic Cons. Changes | |

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PROJECT TITLE
Boarding Homes - Option 2
PROJECT ADDRESS
1 Station Lane - Penrith

DRAWING TITLE
Ground Floor GA
DRAWING NO.
AR 02
DATE OF ISSUE
13.05.21

REVISION NO.
3
DRAWING SCALE
AS SHOWN

TRUE NORTH
SHEET SIZE
A1

NOTES
Dimensions - Contractors to check all dimensions on site prior to commencing construction.
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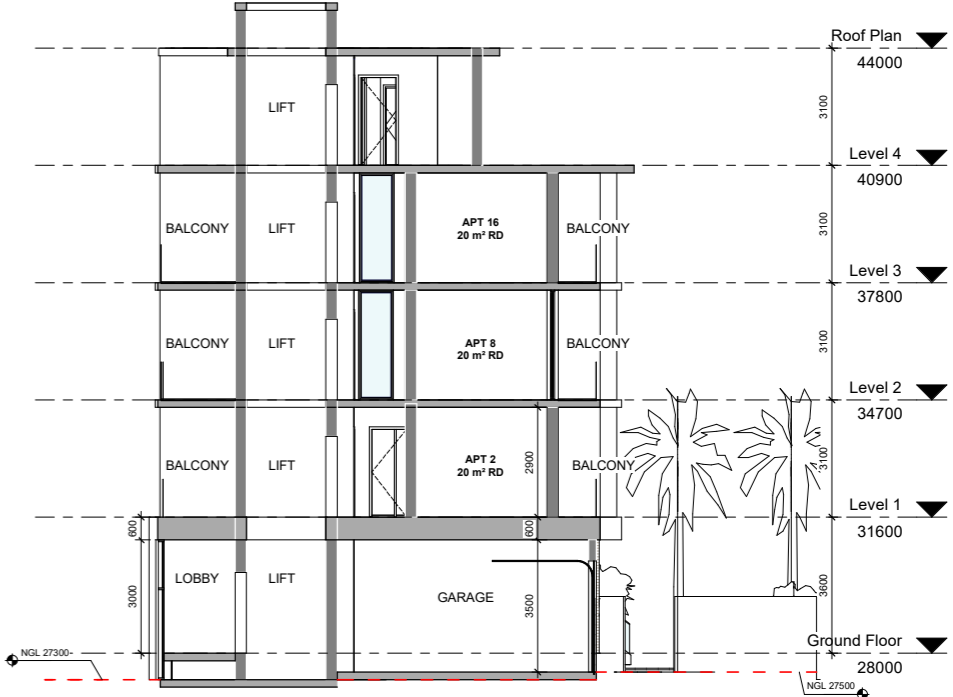
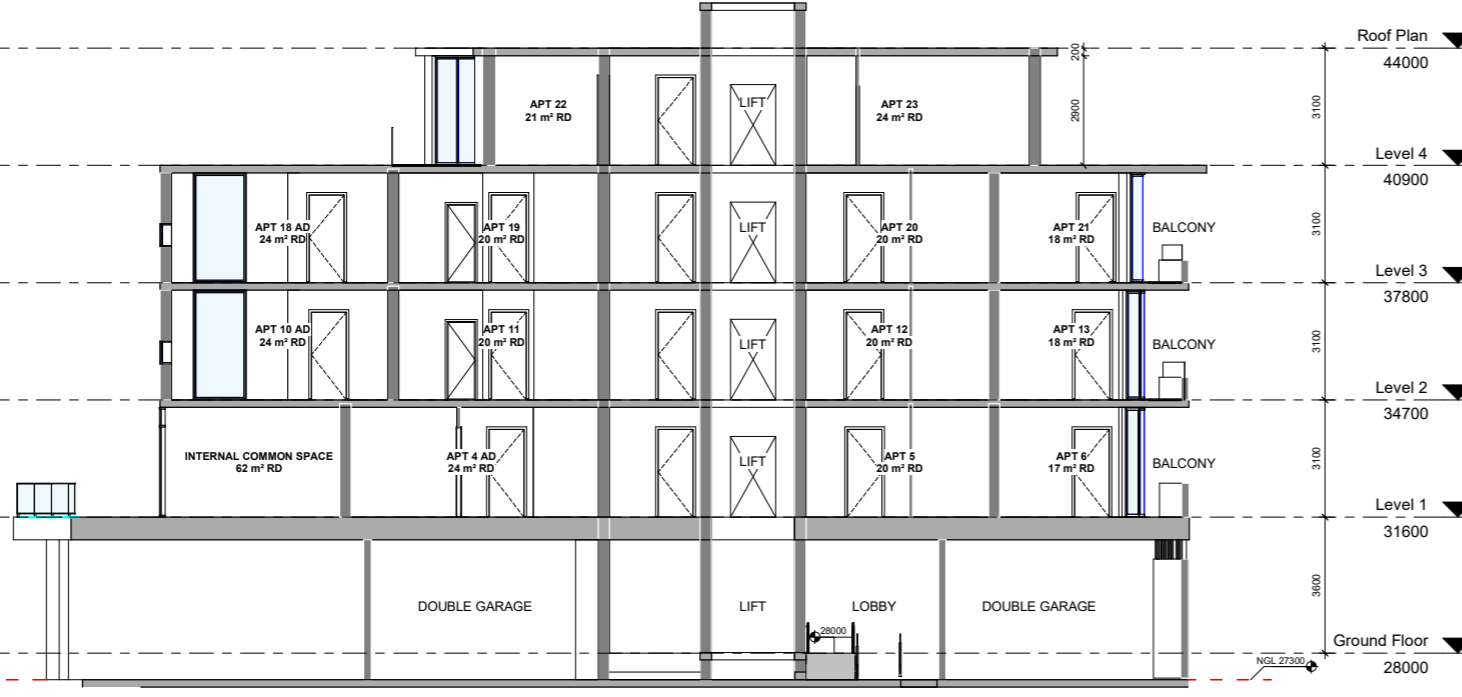
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APPLICATION**

18M MAX BUILDING HEIGHT

18M MAX BUILDING HEIGHT

18M MAX BUILDING HEIGHT

18M MAX BUILDING HEIGHT



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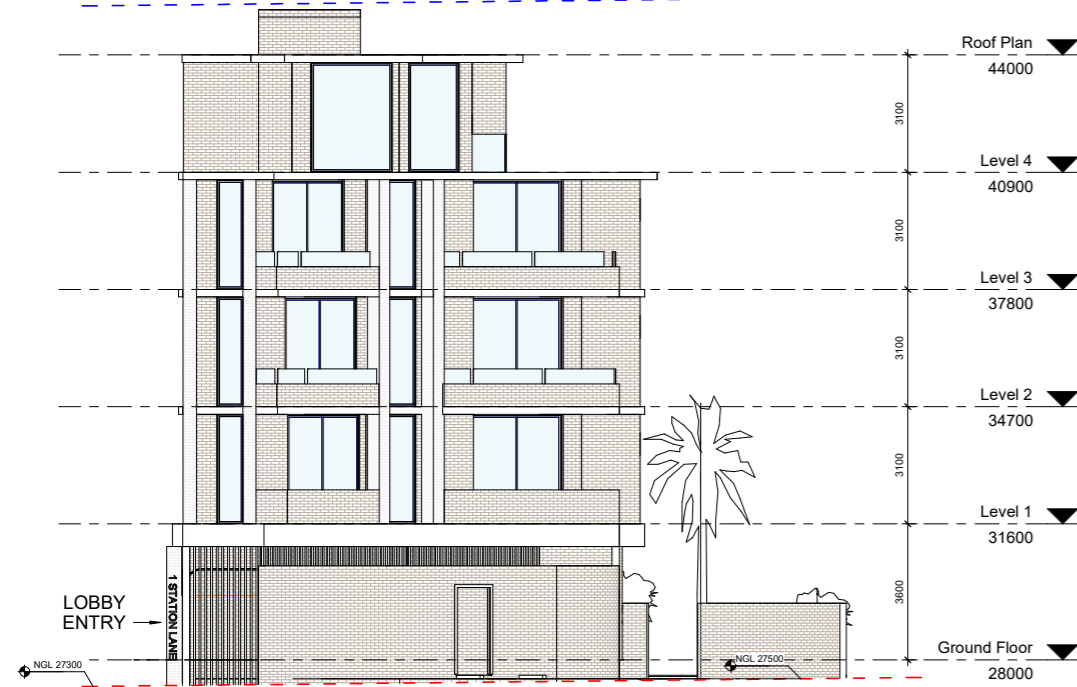
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18M MAX BUILDING HEIGHT

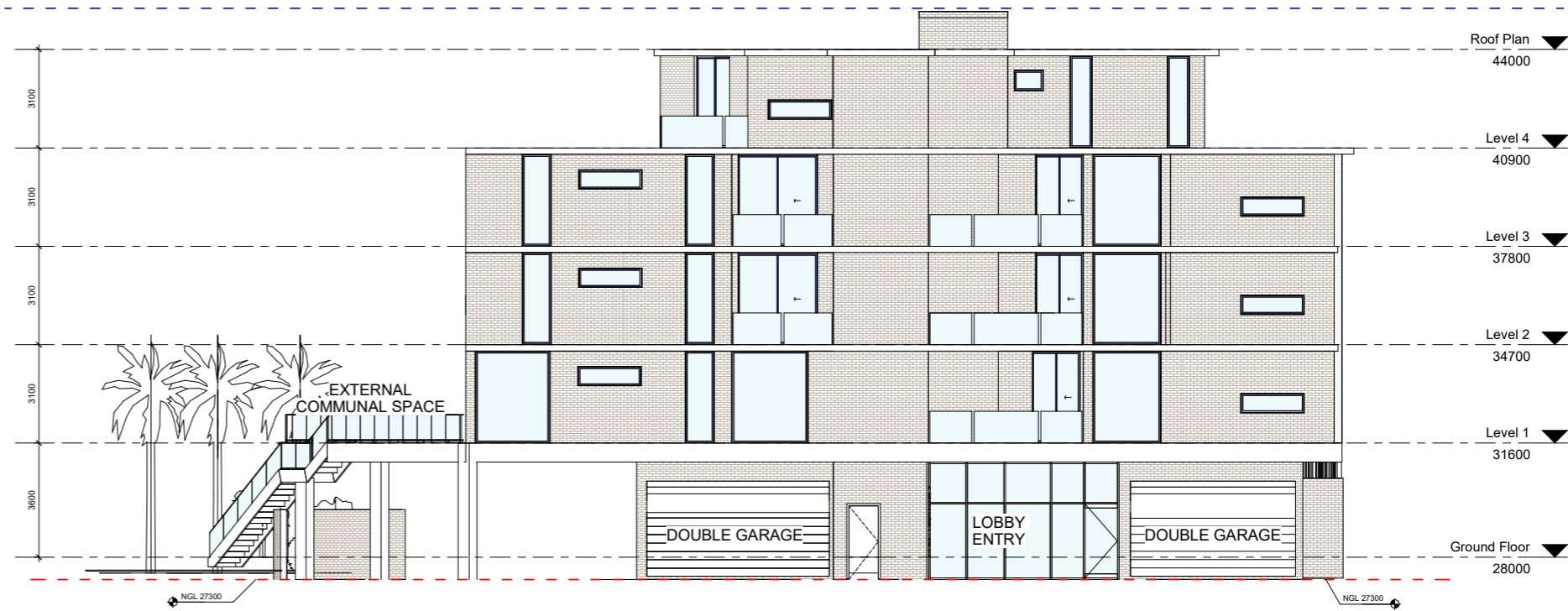
18M MAX BUILDING HEIGHT



1 North
1 : 100

18M MAX BUILDING HEIGHT

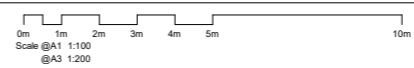
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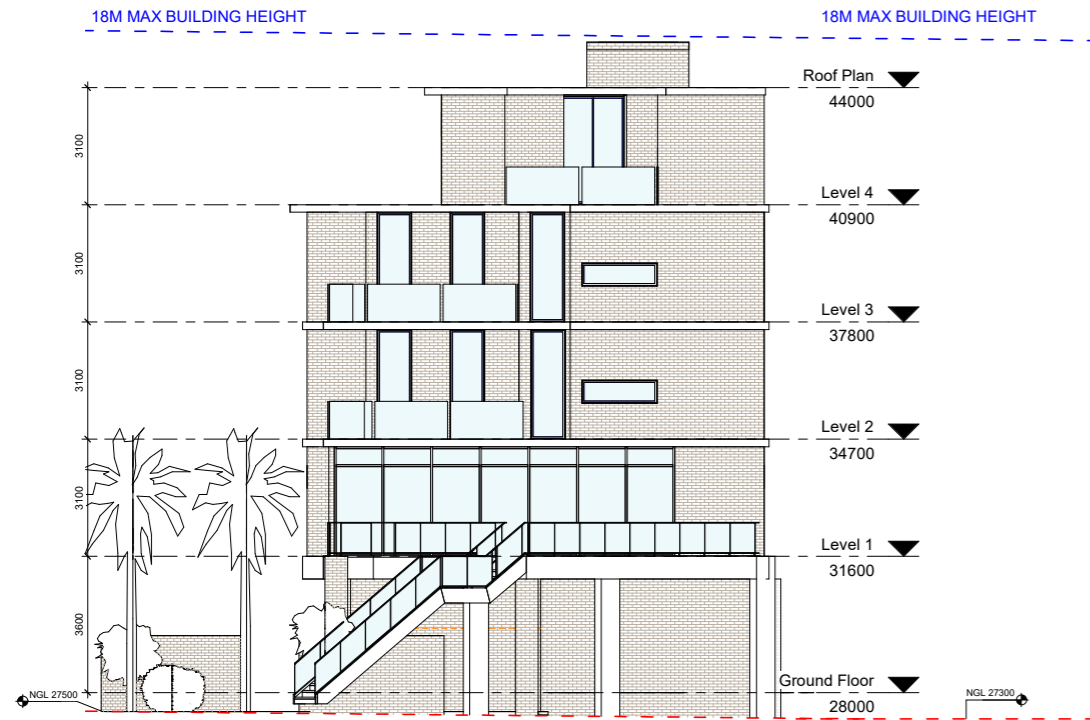


2 East
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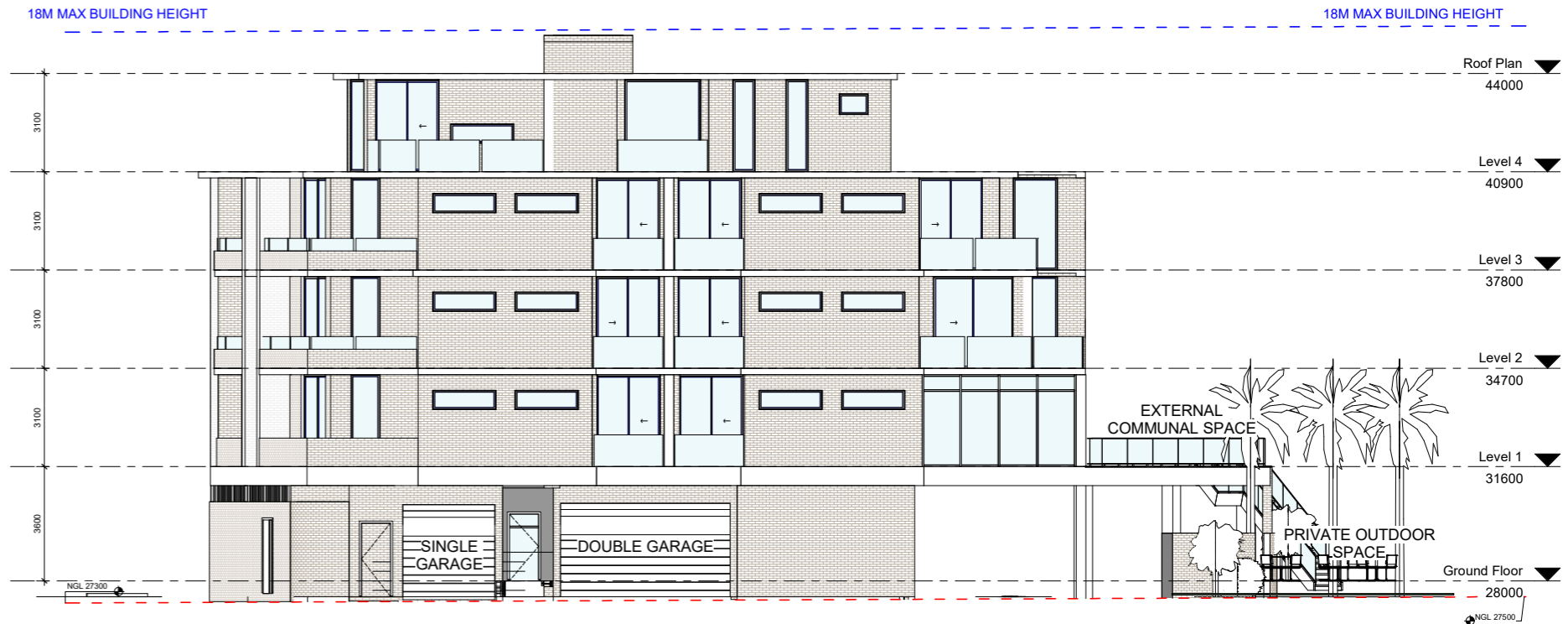
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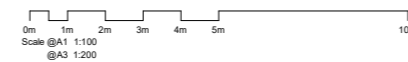




① South
1 : 100



② West
1 : 100



PROJECT TITLE
Boarding Homes - Option 2
PROJECT ADDRESS
1 Station Lane - Penrith

DRAWING TITLE
South & West Elevation
DRAWING NO.
AR 08
DATE OF ISSUE
20.11.20
REVISION NO.
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SHEET SIZE
A1

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PRODOC ARCHITECTS
Nominated Registered Architect 10071

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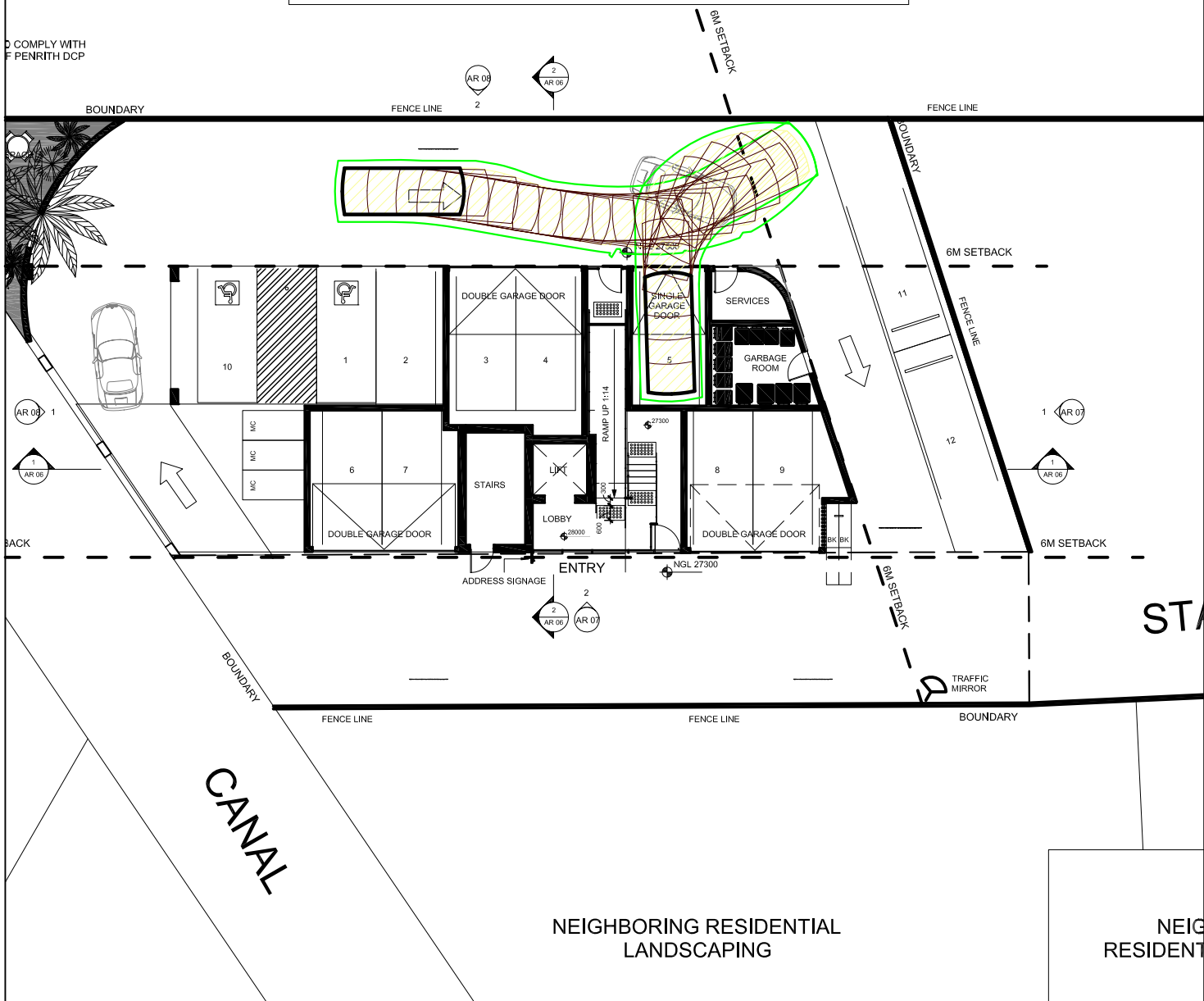
Appendix B

Turning Path Assessment



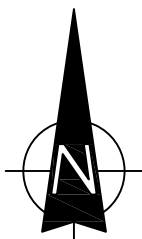
NEIGHBORING
RESIDENTIAL BUILDINGS

COMPLY WITH
PENRITH DCP



NOTE

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

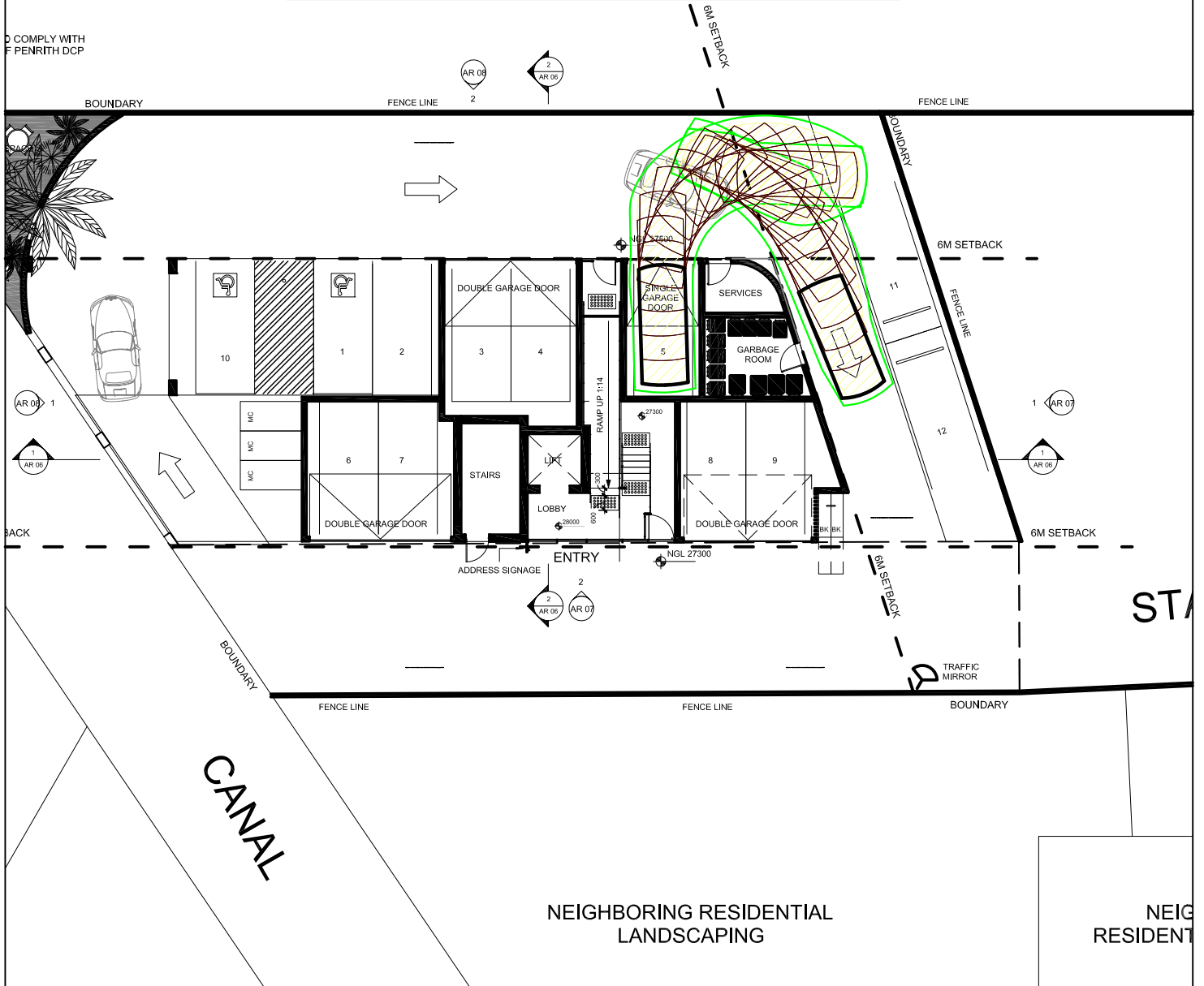


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE ENTERING THE SITE**

SP 1

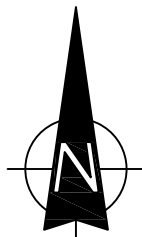
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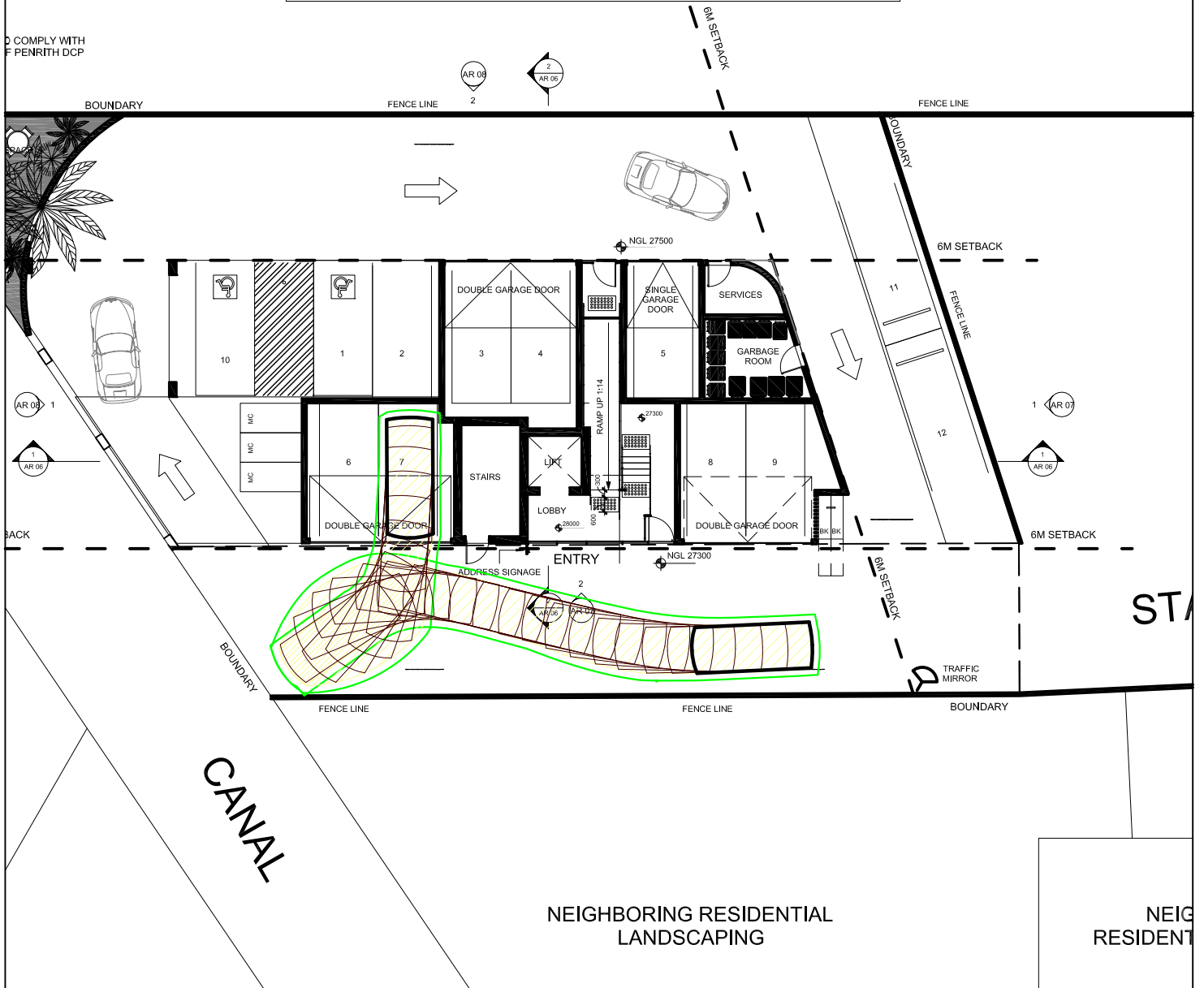


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE EXITING THE SITE**

SP 2

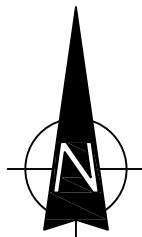
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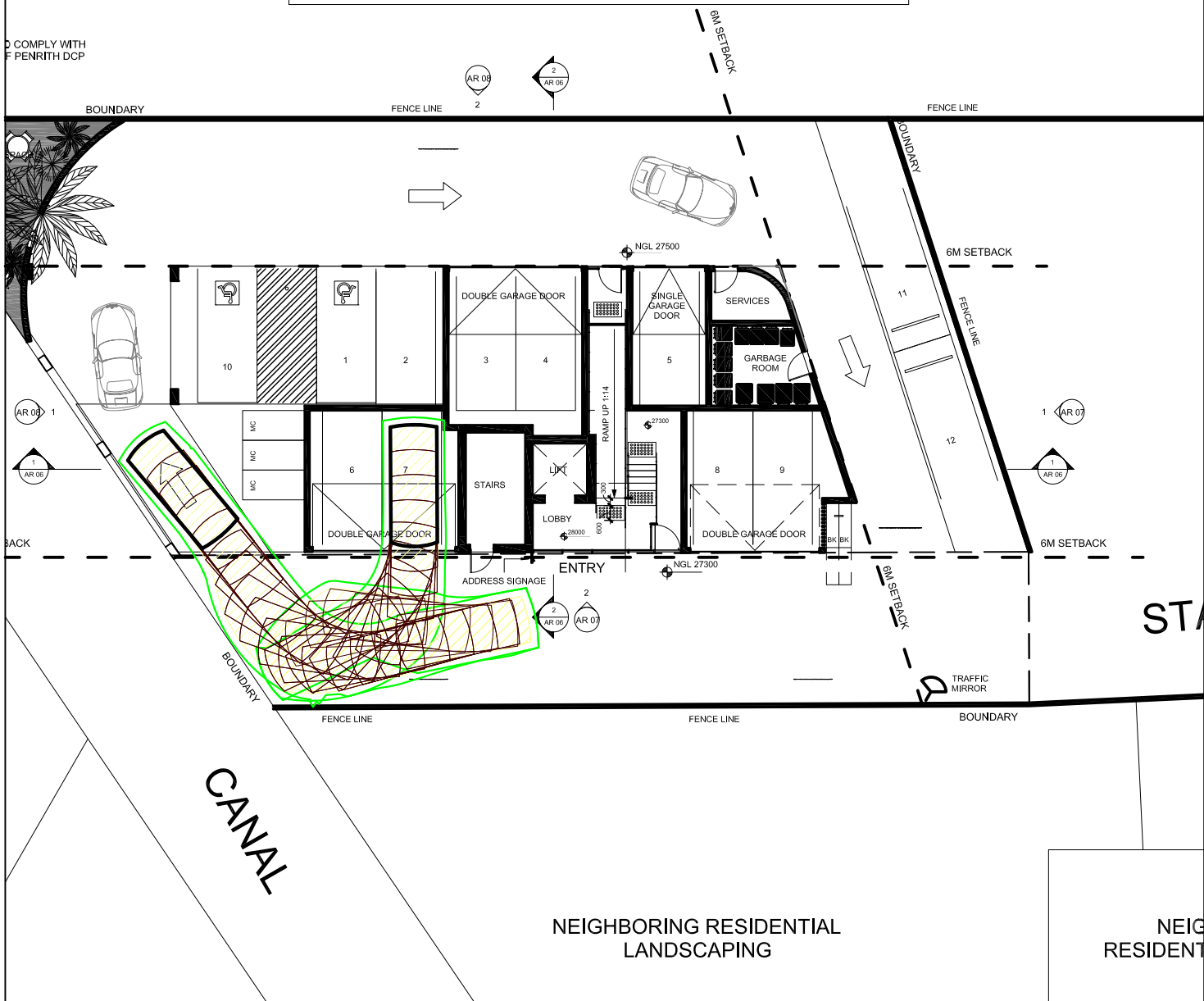


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE ENTERING THE SITE**

SP 3

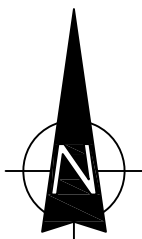
NEIGHBORING
RESIDENTIAL BUILDINGS

COMPLY WITH
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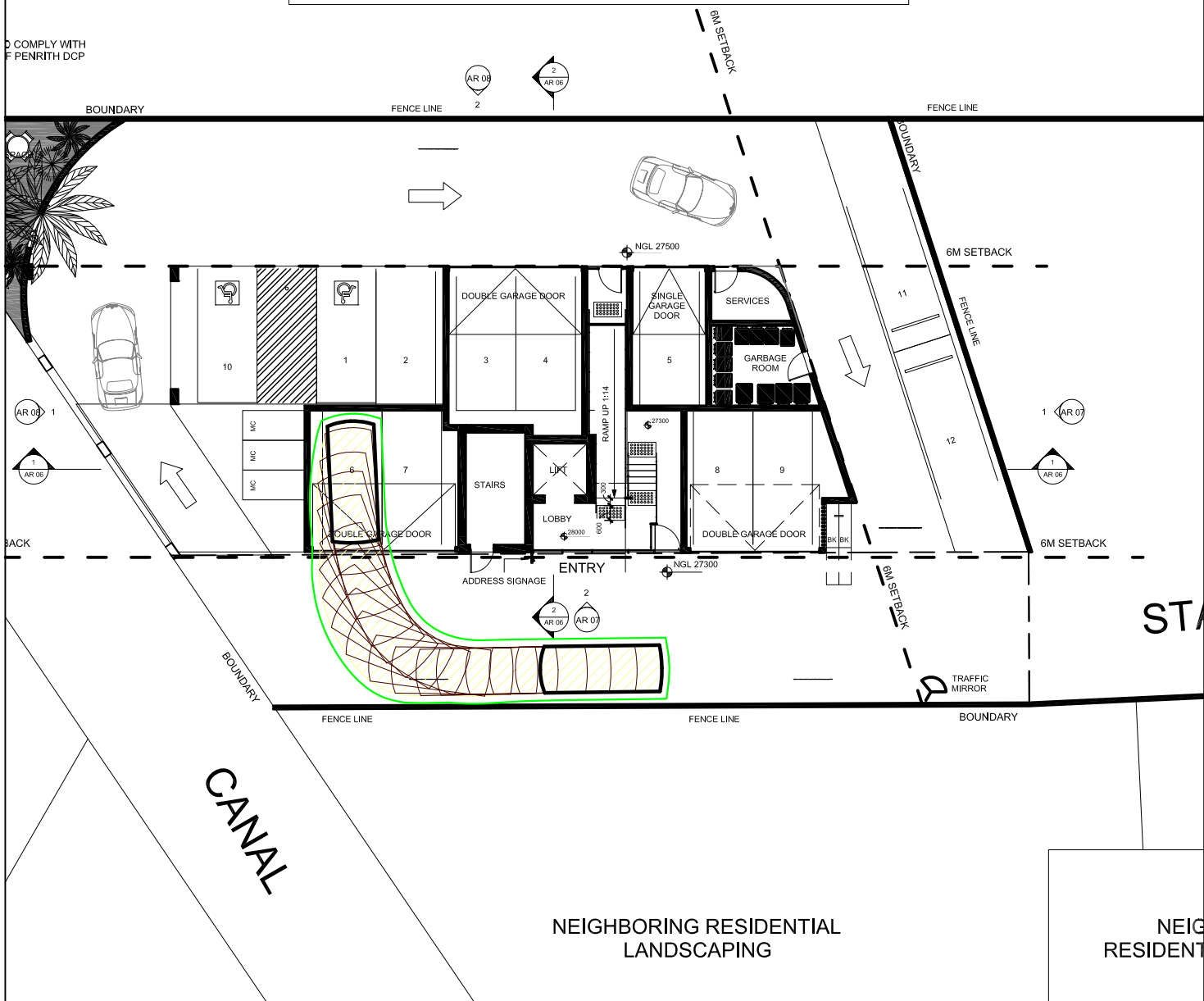


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE EXITING THE SITE**

SP 4

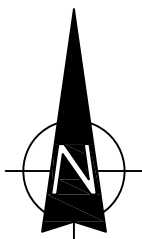
NEIGHBORING
RESIDENTIAL BUILDINGS

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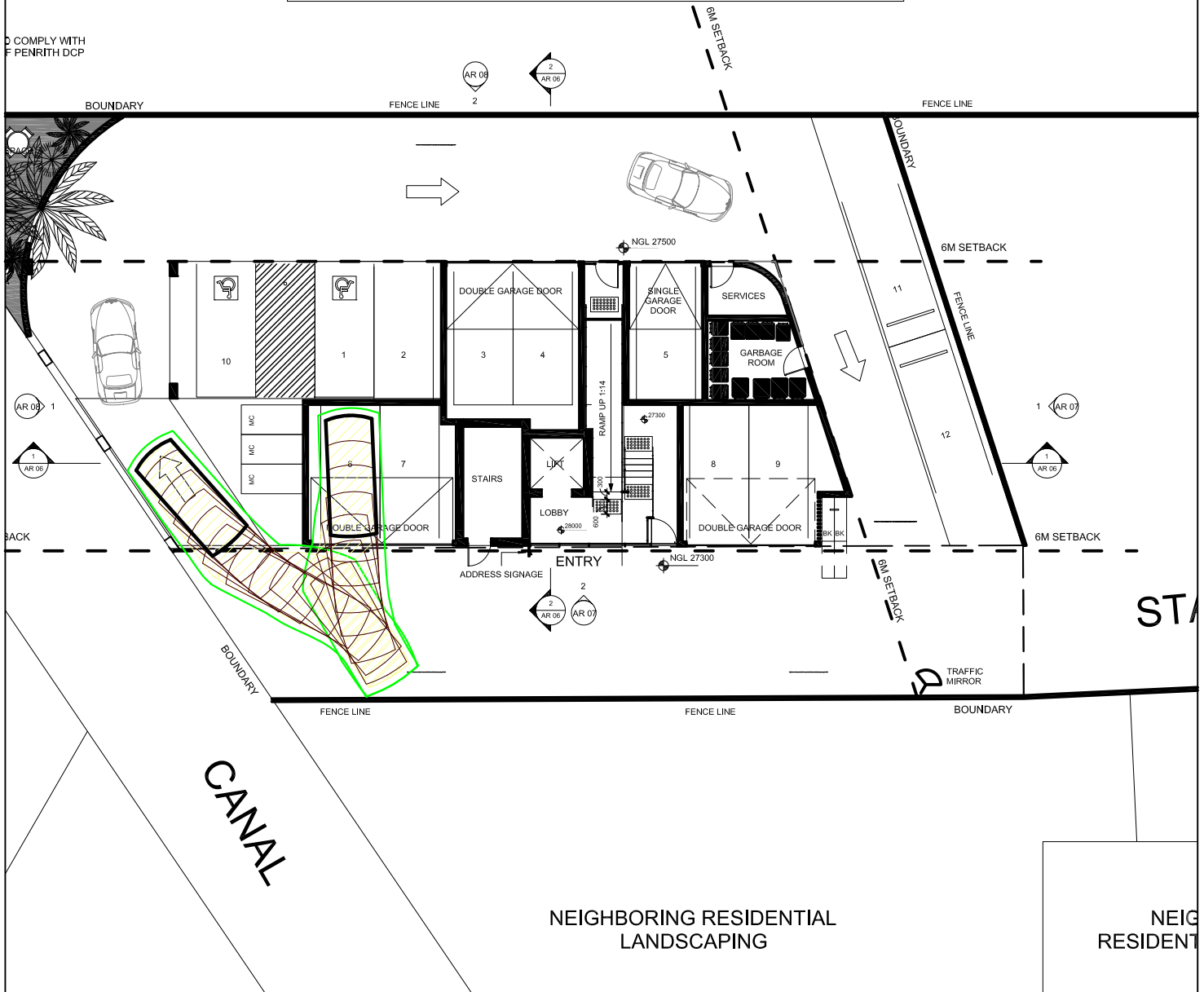


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE ENTERING THE SITE**

SP 5

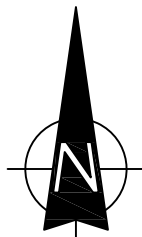
NEIGHBORING
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COMPLY WITH
PENRITH DCP



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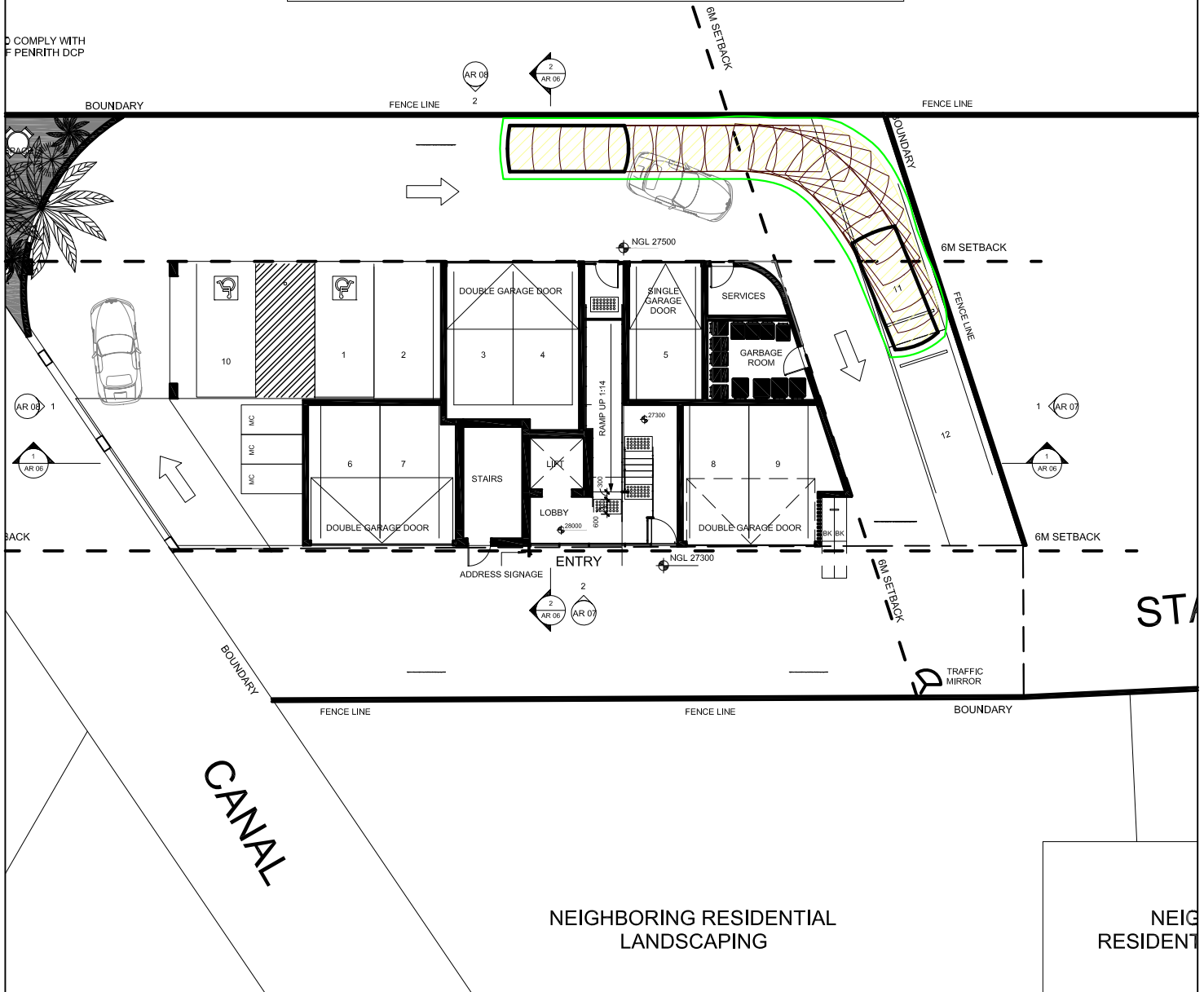


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE EXITING THE SITE**

SP 6

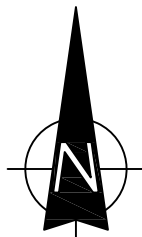
NEIGHBORING
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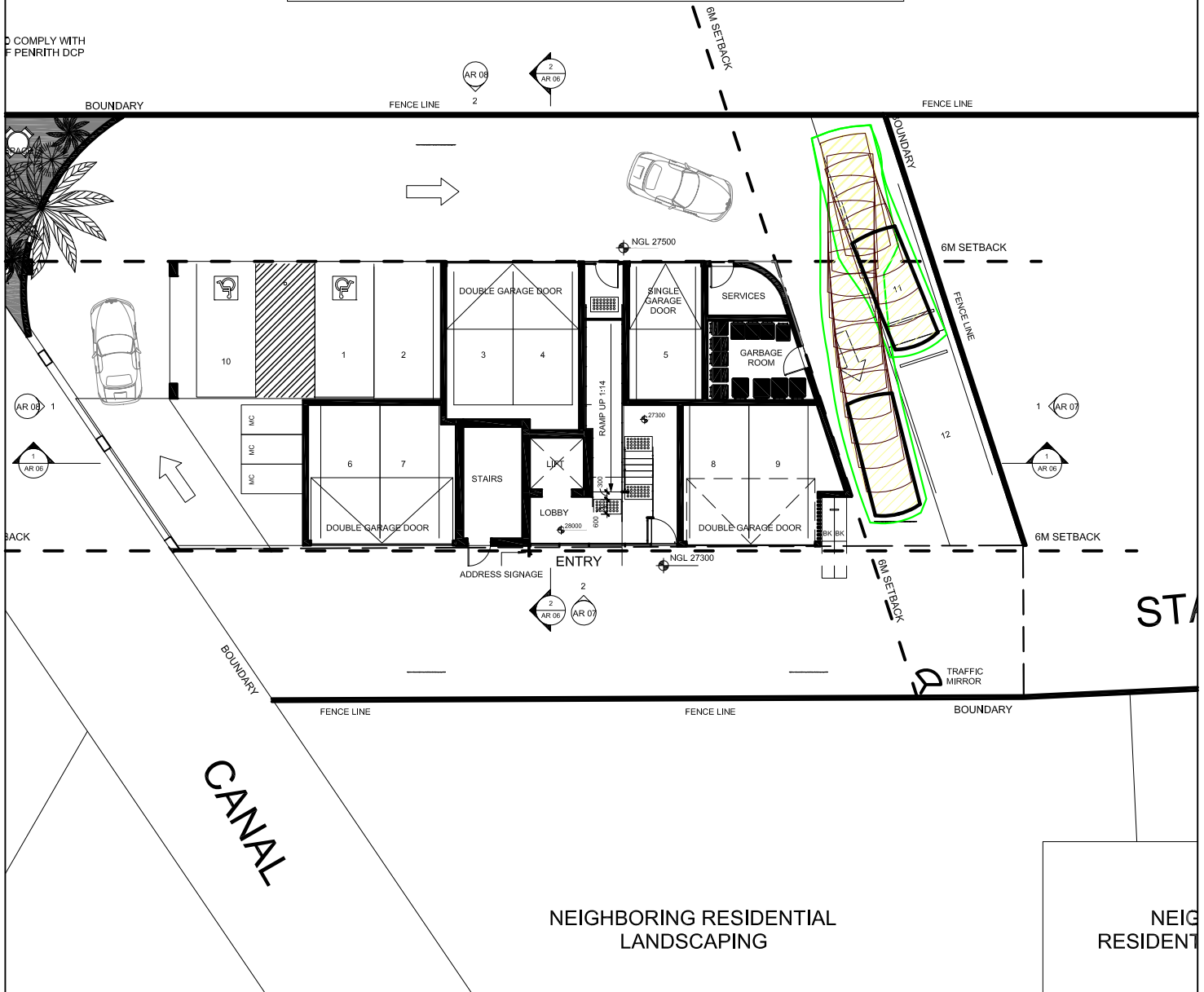


**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE ENTERING THE SITE**

SP 7

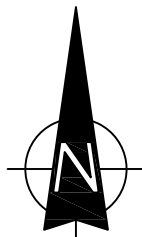
NEIGHBORING
RESIDENTIAL BUILDINGS

COMPLY WITH
PENRITH DCP



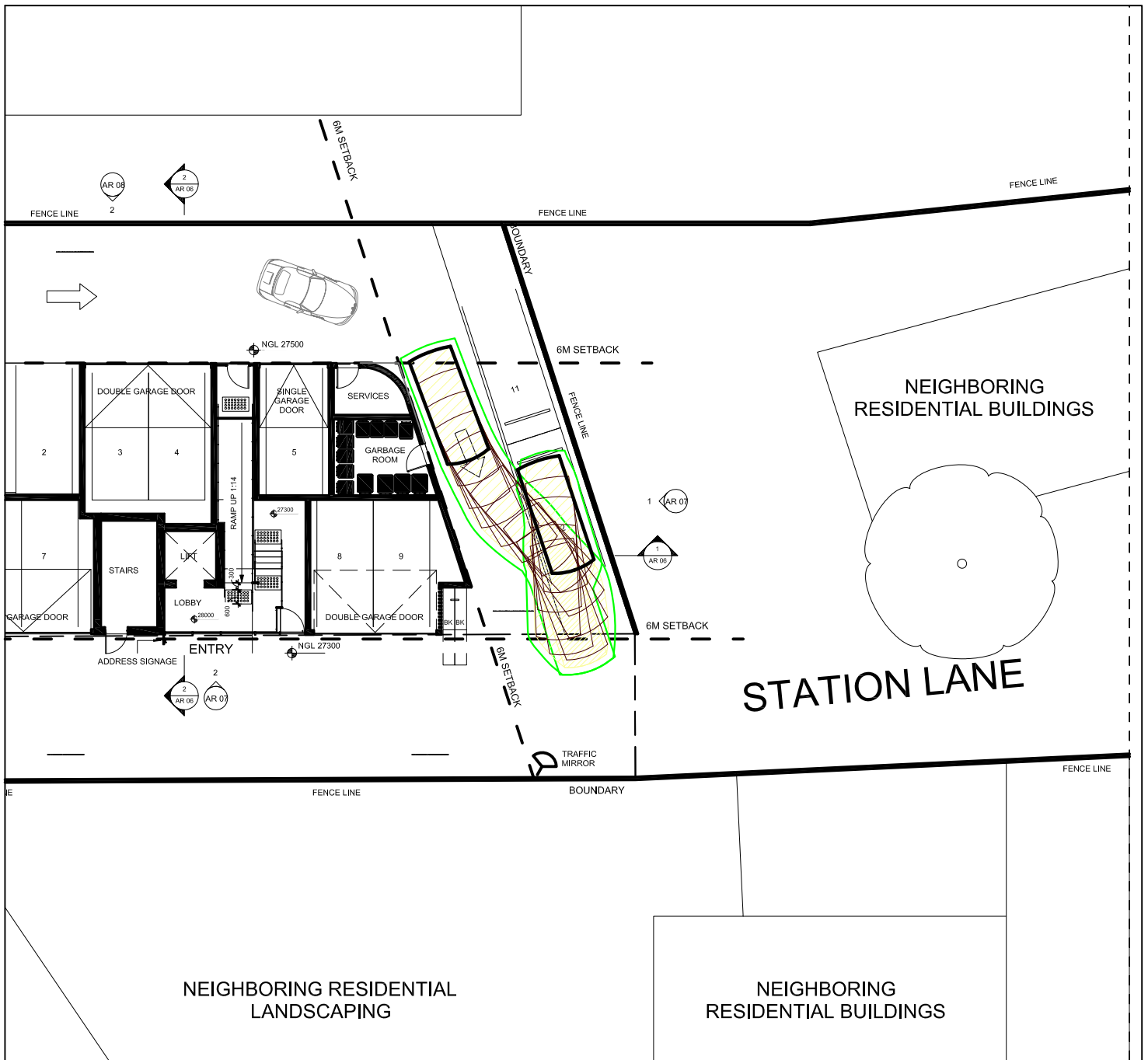
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This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



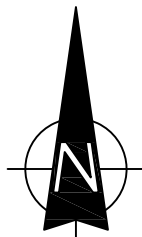
**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE EXITING THE SITE**

SP 8



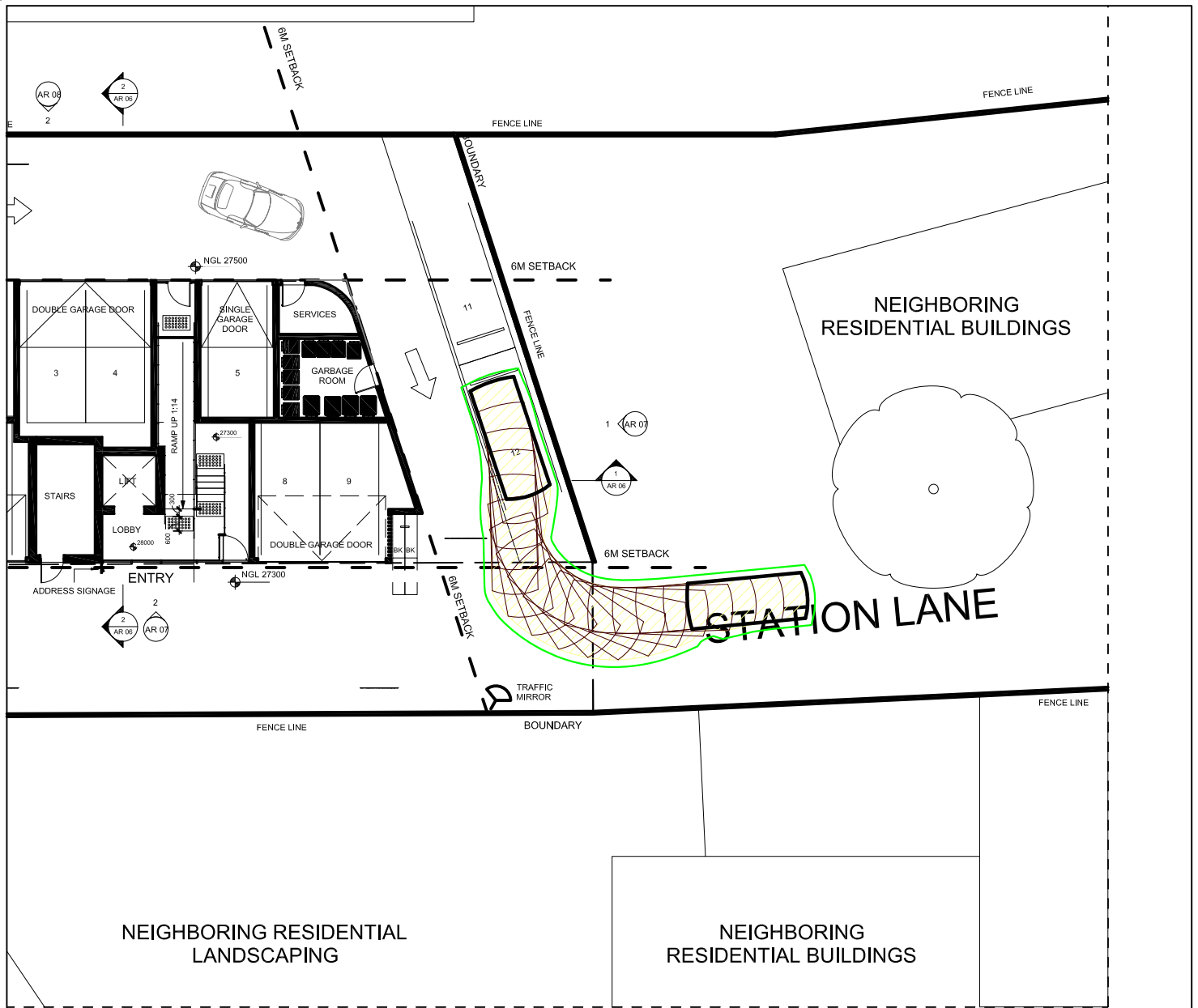
NOTE

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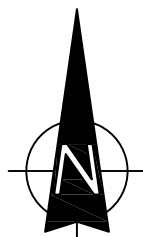
**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE ENTERING THE SITE**

SP 9



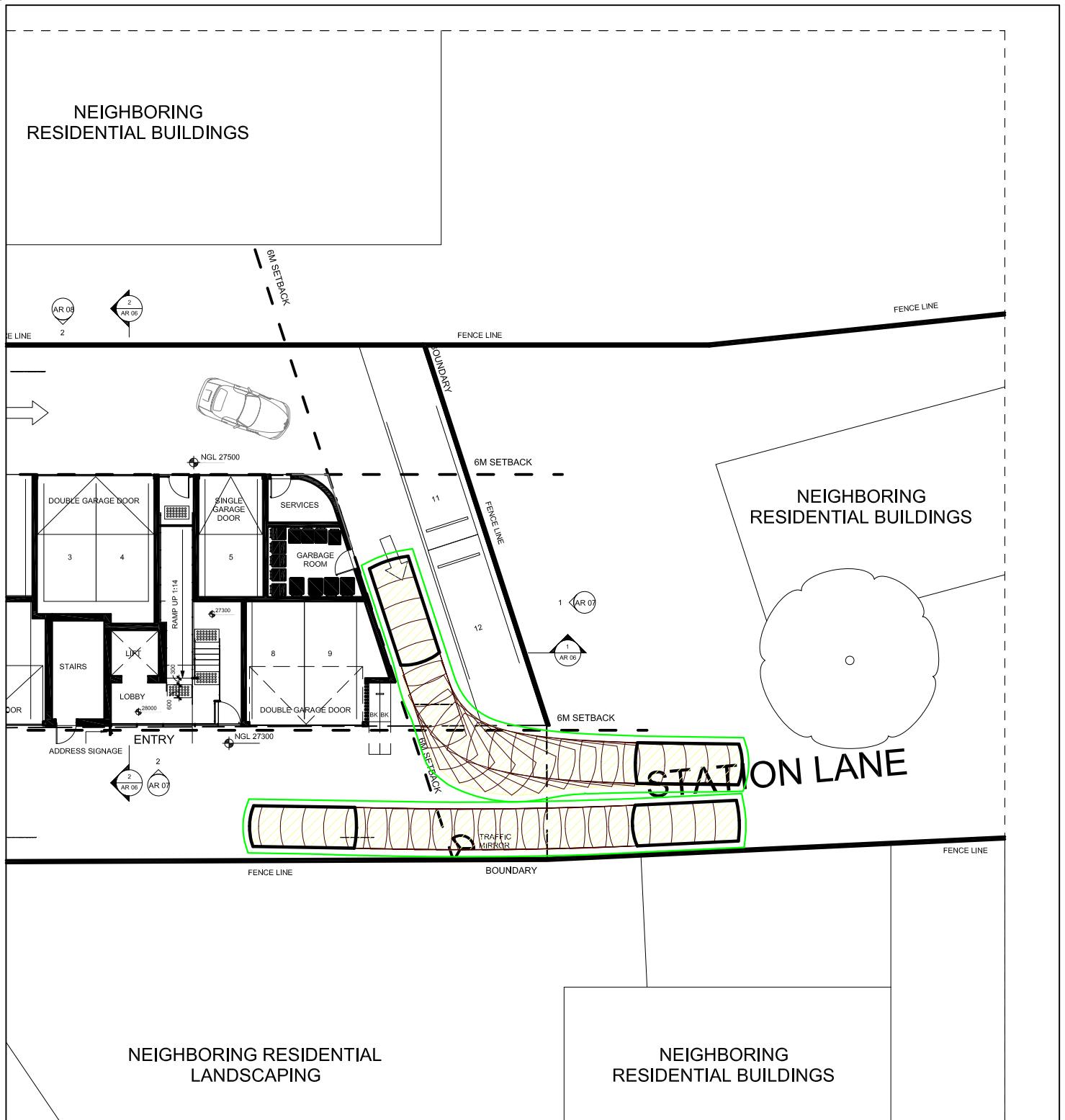
NOTE

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



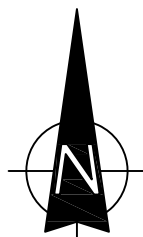
**SWEPT PATH ANALYSIS
OF AN 85th PERCENTILE
VEHICLE EXITING THE SITE**

SP 10



NOTE

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.

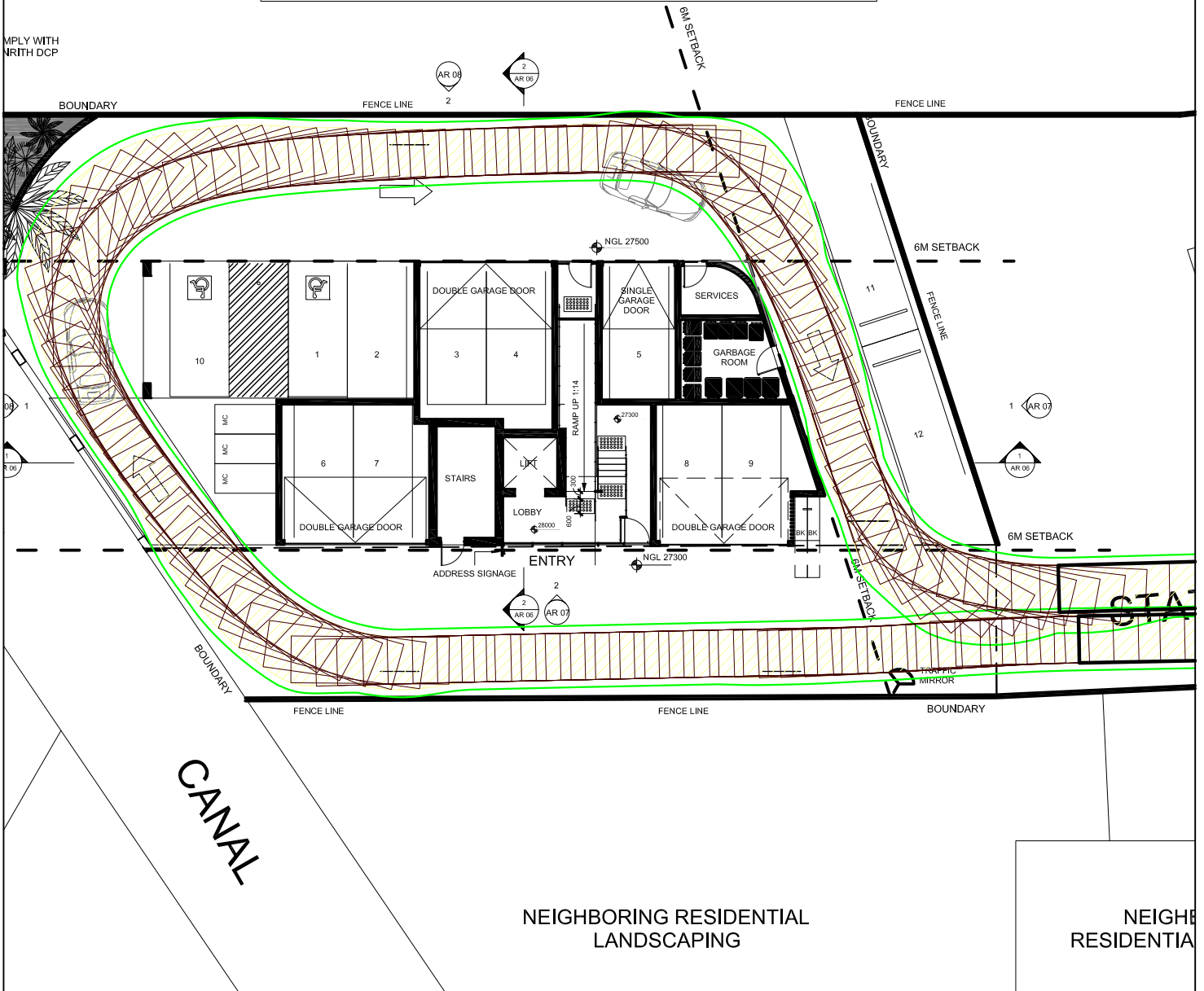


**SWEPT PATH ANALYSIS
OF 85th PERCENTILE
VEHICLE PASSING**

SP 11

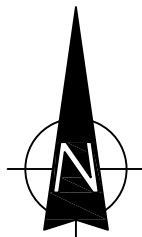
NEIGHBORING
RESIDENTIAL BUILDINGS

COMPLY WITH
NORTH DCP



NOTE

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2013. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS
OF A 6.415m REFUSE VEHICLE
ENTERING AND EXITING THE
SITE**

SP 12