PROPOSED TORRENS TITLE LAND SUBDIVISION - 1 LOT INTO 3 LOTS

337 LOWER PLATEAU ROAD, BILGOLA PLATEAU

TRAFFIC ASSESSMENT REPORT

12TH MARCH 2024

REF 22070

Prepared by

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Traffic and Parking Consultants

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LIST OF ILLUSTRATIONS

1. INTRODUCTION

This report has been prepared to accompany a Development Application to Northern Beaches Council for a proposed Torrens Title land subdivision at 337 Lower Plateau Road, Bilgola Plateau (Figures 1 and 2).

The development site is located on the western side of Lower Plateau Road between Yarrabee Place and Bilwara Avenue. It has a total site area of 3,410m^2 with a frontage of 4.57m to Lower Plateau Road.

The existing site development comprises a single residential dwelling that gains vehicular access to Lower Plateau Road via a 3.0m wide driveway and 38m long single lane accessway. The accessway pavement ranges in grade from 20% (1 in 5) towards Lower Plateau Road to a 13m long section towards the base with a grade of 33% (1 in 3).

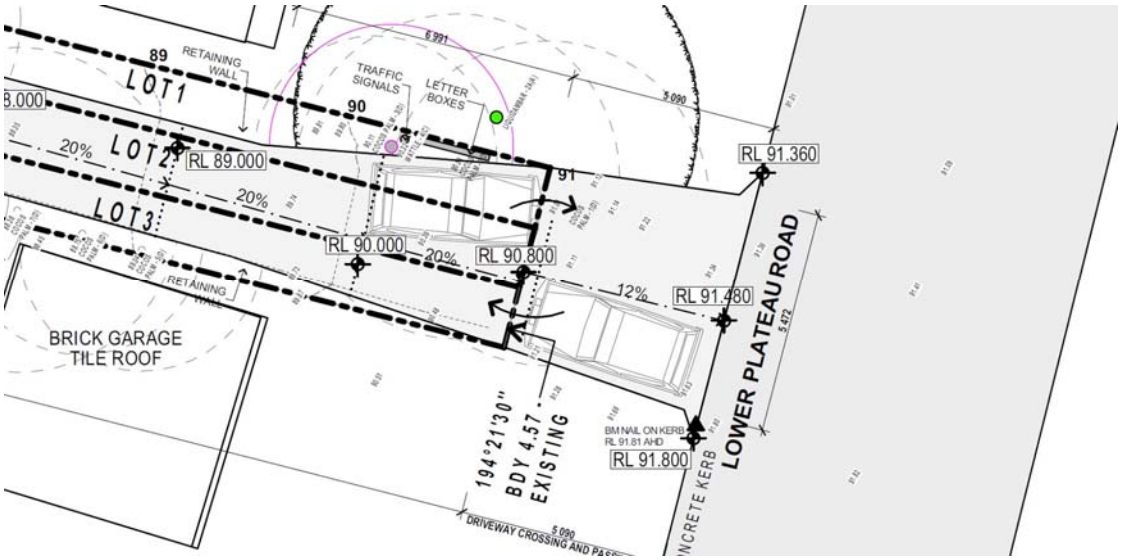
An extract from the site survey is reproduced in the following pages.

Development Proposal

The proposed development comprises the following:

- Demolition of the existing dwelling and outbuildings
- The creation of three (3) new residential lots:
  - Lot 1 – 1,222m^2
  - Lot 2 – 1,073m^2
  - Lot 3 – 1,115m^2
- The 33% (1 in 3) gradient of the accessway is to be replaced with a suspended slab with a maximum gradient of 25% (1 in 4).

The existing 3.0m wide driveway at Lower Plateau Road is to be widened to facilitate passing traffic. The driveway will utilise the entire 4.57m width at the boundary and widen out to 5.48m at the kerb line (excludes wings). The accessway pavement will taper down over 7m to match into the existing pavement.



Extract showing the proposed driveway widening

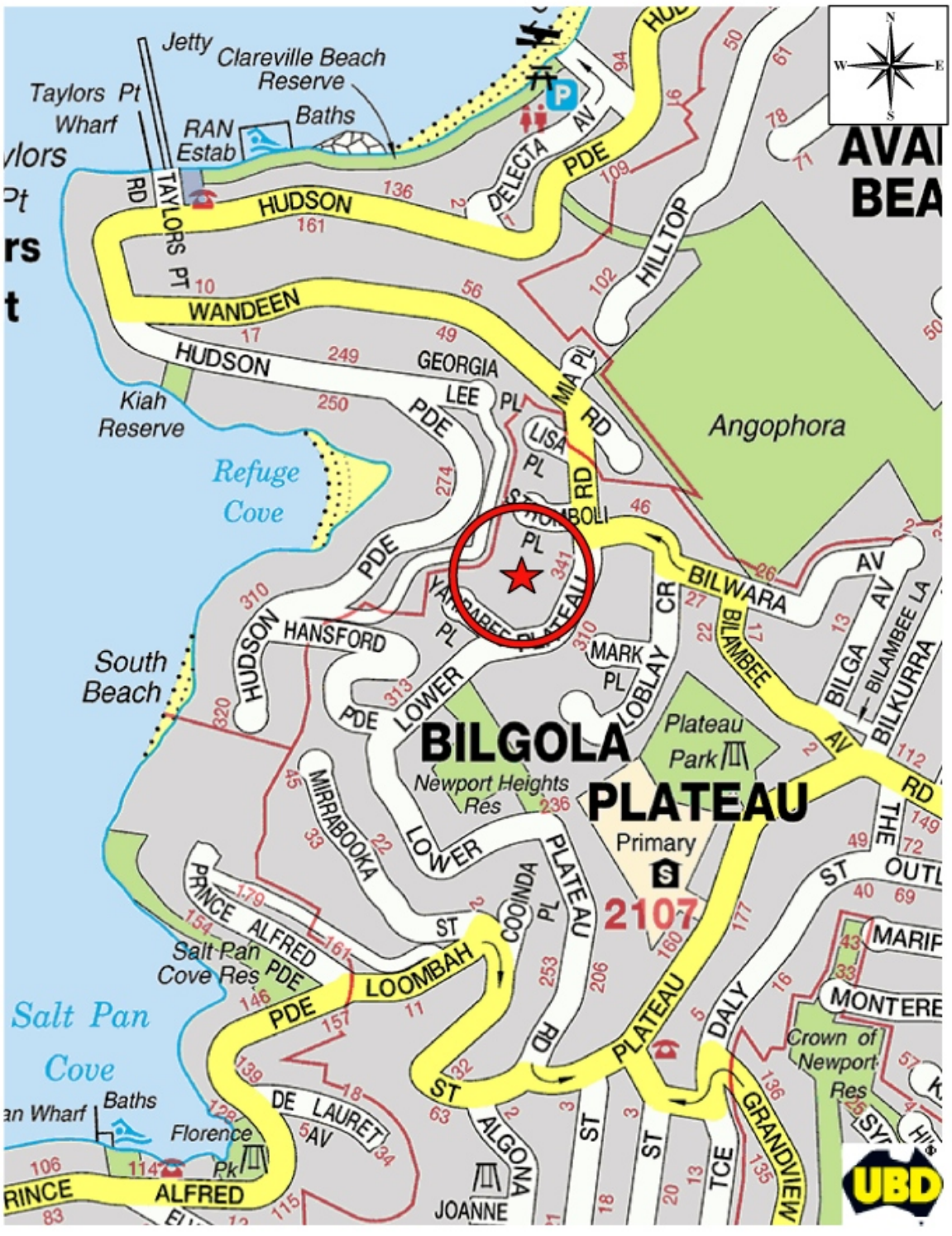
In addition to the passing area, it is also proposed to install traffic signals to control the movement of traffic along the accessway. As is common practice, the traffic signal will be constant green at the top of the accessway to ensure entering traffic does not queue back onto Lower Plateau Road. The light will signal red when a resident is departing a residence at the lower level. Induction loops or movement sensors can be used to trigger the red signal at the top of the accessway.

The Driveway and Parking Plan prepared by Gartner Trovato Architects is reproduced in Appendix A. The plan shows single dwellings on each lot that are served by at least 2 off-street parking spaces per dwelling.

Public Transport Connectivity

The development site is located in close proximity to bus stops serving Route 191 which is a "loop service" operating between Avalon Beach and Taylors Point via Bilgola and Clareville. The nearest bus stop is a 150m walk to the north of the site on Lower Plateau Road.

The purpose of this report is to assess the traffic implications of the proposed development.



LOCATION

FIGURE 1

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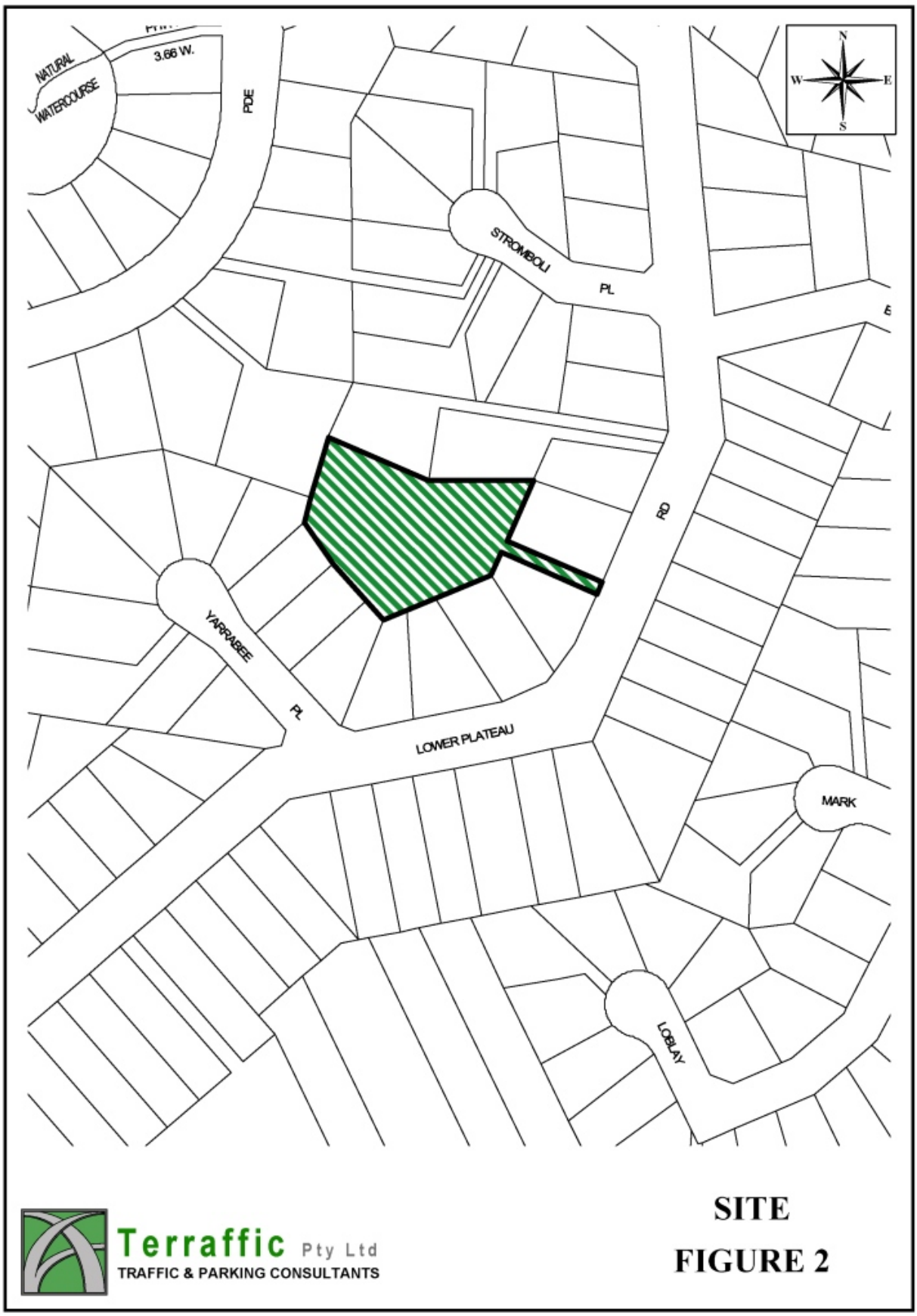
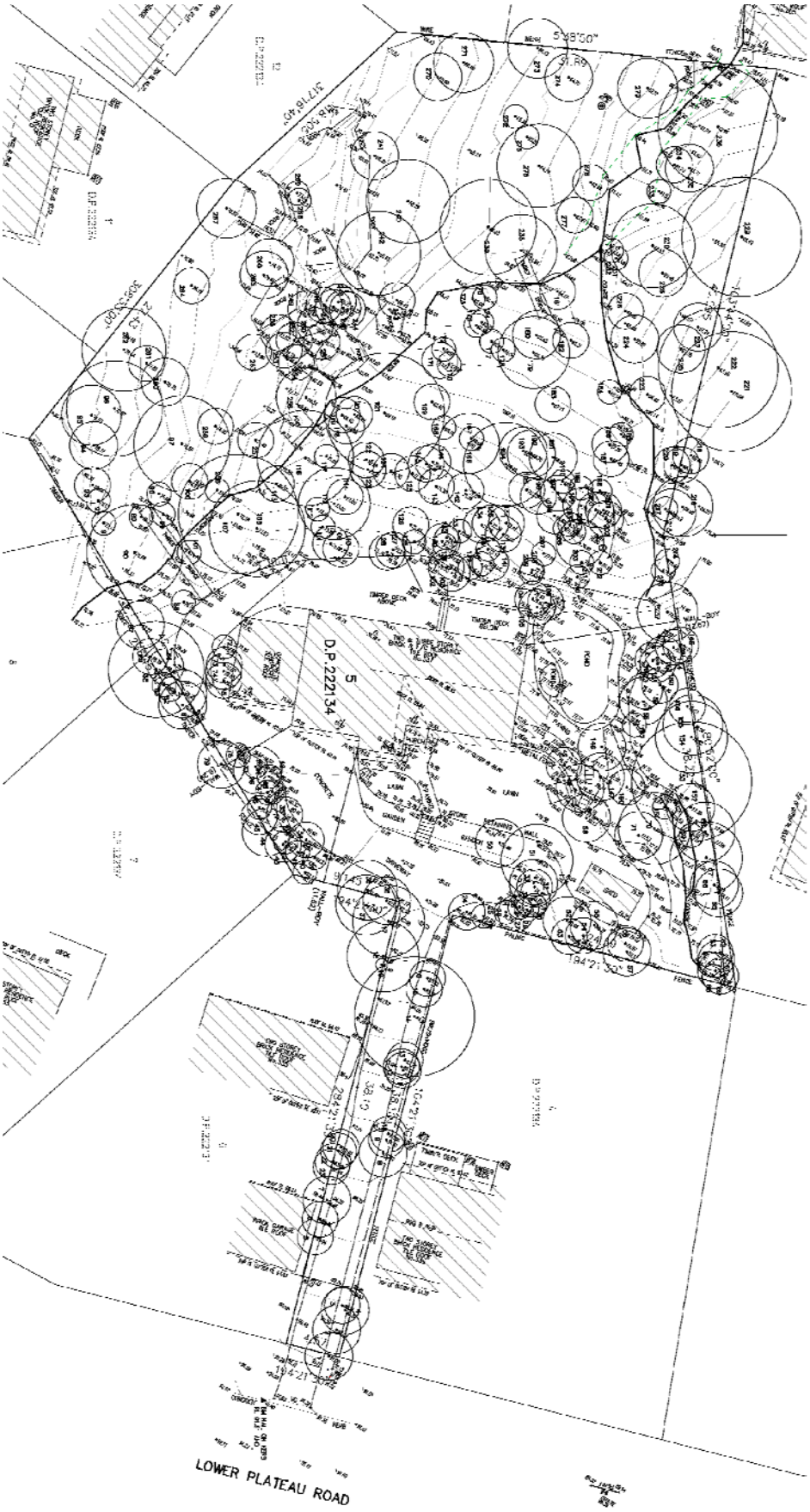
TRAFFIC & PARKING CONSULTANTS


NATURAL
WATERCOURSE
3.66 W.
PDE
STROMBOLI
PL
N
W
E
S
RD
YARRABEE
PL
LOWER PLATEAU
MARK
LOBLAY
Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS
SITE
FIGURE 2



Extract of the Site Survey

2. TRAFFIC IMPLICATIONS

Road Hierarchy

Lower Plateau Road is an unclassified local road performing a collector road function through Bilgola Plateau. It forms part of the collector road system that includes Plateau Road – Lower Plateau Road – Wandeen Road – Hudson Parade – Central Road. Both Plateau Road and Central Road connect onto Barrenjoey Road.

The section of Lower Plateau Road in the vicinity of the site has a pavement width of approximately 8.0m and is restricted to a speed limit of 50km/h. The relatively narrow width of the roadway and double white linemarking precludes kerbside parking along this section of Lower Plateau Road.

Projected Traffic Generation

An indication of the traffic generation potential of the proposed development is provided by reference to the Roads and Maritime Services (RMS) Guide to Traffic Generating Developments – Technical Direction TDT 2013-04a (August 2013). The traffic generation rates specified in the updated Guidelines are based on extensive surveys of a wide range of land uses throughout Sydney and regional NSW and nominate the following traffic generation rates for low density residential dwellings:

AM Peak (1 hour) vehicle trips per dwelling	0.95
PM Peak (1 hour) vehicle trips per dwelling	0.99

Application of this traffic generation rate to the proposed subdivision yields a traffic generation potential of 3 vehicle trips per hour (vtph) during the peak periods as follows:

AM Peak Period	
3 x dwellings @ 0.95vtph per dwelling	3vtph (0 in / 3 out)
PM Peak Period	
3 x dwellings @ 0.99vtph per dwelling	3vtph (3 in / 0 out)

The traffic generation of the proposed development should be discounted by the traffic generation of the existing dwelling on the site. Based on the RMS's traffic generation rate of 1 vehicle trip per dwelling, the existing site development would generate in the order of 1vtph during the peak periods. To that end, the proposed subdivision will only generate 2 additional vehicle trips during the peak periods as follows:

Proposed development	3vtph
Existing development	1vtph
Additional traffic	**2vtph**

Traffic Impacts of Proposed Development

It will be readily appreciated that the additional traffic generated by the proposed development is relatively minor (2vtph) which will not have any noticeable or unacceptable effect on the road network serving the site in terms of road network capacity or traffic-related environmental effect.

Compliance with Design Standards – Access Driveway

As noted above, vehicular access to the site is off Lower Plateau Road via a 3.0m wide driveway. While the projected traffic flow is very minimal, it is proposed to widen the driveway to enable cars to pass if necessary. The driveway will utilise the entire 4.57m width at the boundary and widen out to 5.48m at the kerb line (excludes wings).

Photograph of the existing accessway and driveway

The width of the driveway complies with the following criteria for a *"Category 1"* driveway as described Tables 3.1 and 3.2 of AS/NZS2890.1:2004 – *"Off-street car parking"*:

1. The parking facilities are classified "Class 1A" for resident parking (refer to Table 1.1)
2. The development has less than 25 spaces
3. The development site is located on a Local Road

TABLE 3.1

SELECTION OF ACCESS FACILITY CATEGORY

Class of parking facility (see Table 1.1)	Frontage road type	Access facility category				
		Number of parking spaces (Note 1)				
		<25	25 to 100	101 to 300	301 to 600	>600
1,1A	Arterial	1	2	3	4	5
	Local	1	1	2	3	4
2	Arterial	2	2	3	4	5
	Local	1	2	3	4	4
3,3A	Arterial	2	3	4	4	5
	Local	1	2	3	4	4

NOTES:

1 When a car park has multiple access points, each access should be designed for the number of parking spaces effectively served by that access.

2 This Table does not imply that certain types of development are necessarily suitable for location on any particular frontage road type. In particular, access to arterial roads should be limited as far as practicable, and in some circumstances it may be preferable to allow left-turn-only movements into and out of the access driveway.

TABLE 3.2

ACCESS DRIVEWAY WIDTHS

metres

Category	Entry width	Exit width	Separation of driveways
1	3.0 to 5.5	(Combined) (see Note)	N/A
2	6.0 to 9.0	(Combined) (see Note)	N/A
3	6.0	4.0 to 6.0	1 to 3
4	6.0 to 8.0	6.0 to 8.0	1 to 3
5	To be provided as an intersection, not an access driveway, see Clause 3.1.1.		

NOTE: Driveways are normally combined, but if separate, both entry and exit widths should be 3.0 m min.

As can be seen, reference to Table 3.2 reveals that *"Category 1"* access driveways can have a combined entry and exit width of between 3.0m and 5.5m. With a driveway width ranging from 4.57m to 5.48m, the proposed access driveway satisfies the requirements of the Standard.

The swept path of the Australian Standard B99 Vehicle (Ford Transitvan) departing the site and passing a waiting B85 Vehicle (Ford Falcon) is reproduced in Appendix B. As can be

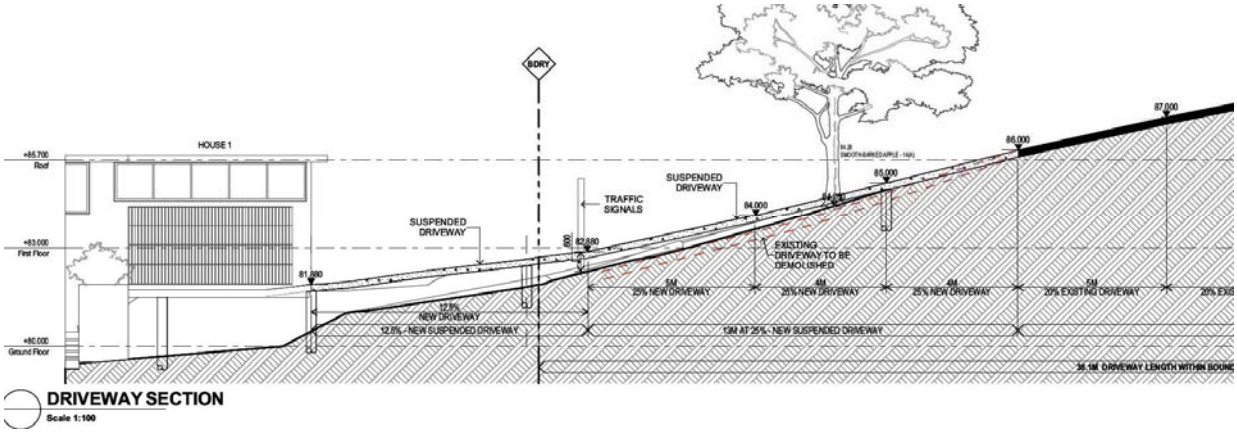
seen, the larger B99 vehicle can adequately manoeuvre past the waiting car with the required 300mm clearance to structure and the waiting car.

Compliance with Design Standards – Accessway

Clause 1.3.13 of the Australian Standard AS/NZS2890.1:2004 defines "domestic properties" as a property containing three or less dwellings. The subject subdivision therefore satisfies this definition.

Clause 2.6.1 specifies a minimum width of 3.0m for driveways and accessway serving domestic properties. Clause 2.6.2 of the Standard also nominates a maximum grade of 25% (1 in 4) for domestic driveways and accessways.

As noted above, vehicular access to the site is off Lower Plateau Road via a 38m long x 4.57m wide ROW. The accessway pavement has a width of 3.0m satisfying the Standards. Furthermore, the 13m long section of 33% (1 in 3) grade is to be replaced with a suspended driveway with a maximum gradient of 25% (1 in 4).



Extract of Driveway Section showing the suspended driveway with a 25% gradient

Clause B6.2 of the Pittwater DCP 2021 outlines the following requirements for internal driveways:

> *Driveway width for dual occupancies, dwellings, secondary dwellings, exhibition homes, rural works dwellings and tourist and visitor accommodation.*

The Internal Driveway shall be contained within the driveway corridor. The minimum width of the driveway corridor (i.e. impervious pavements together with grassed shoulder area) shall be as follows:

- *Single Dwelling: 3.0 metres minimum.*
- *Dual Occupancy: 3.0 metres minimum.*
- *Combined driveway for more than 2 dwellings: 3.0 metres minimum except where the driveway length exceeds 40 metres, a passing bay to an overall minimum width of 5.0 metres for a length of 10 metres with suitable transitions to the adjacent narrow driveway.*

While the accessway is only 38m in length, provision has been made at the top and bottom of the accessway for vehicles to pass if required. The proposed traffic signals will provide additional control of vehicle movements.

The proposed accessway therefore satisfies the width and grade requirements of Council's DCP and the Australian Standard.

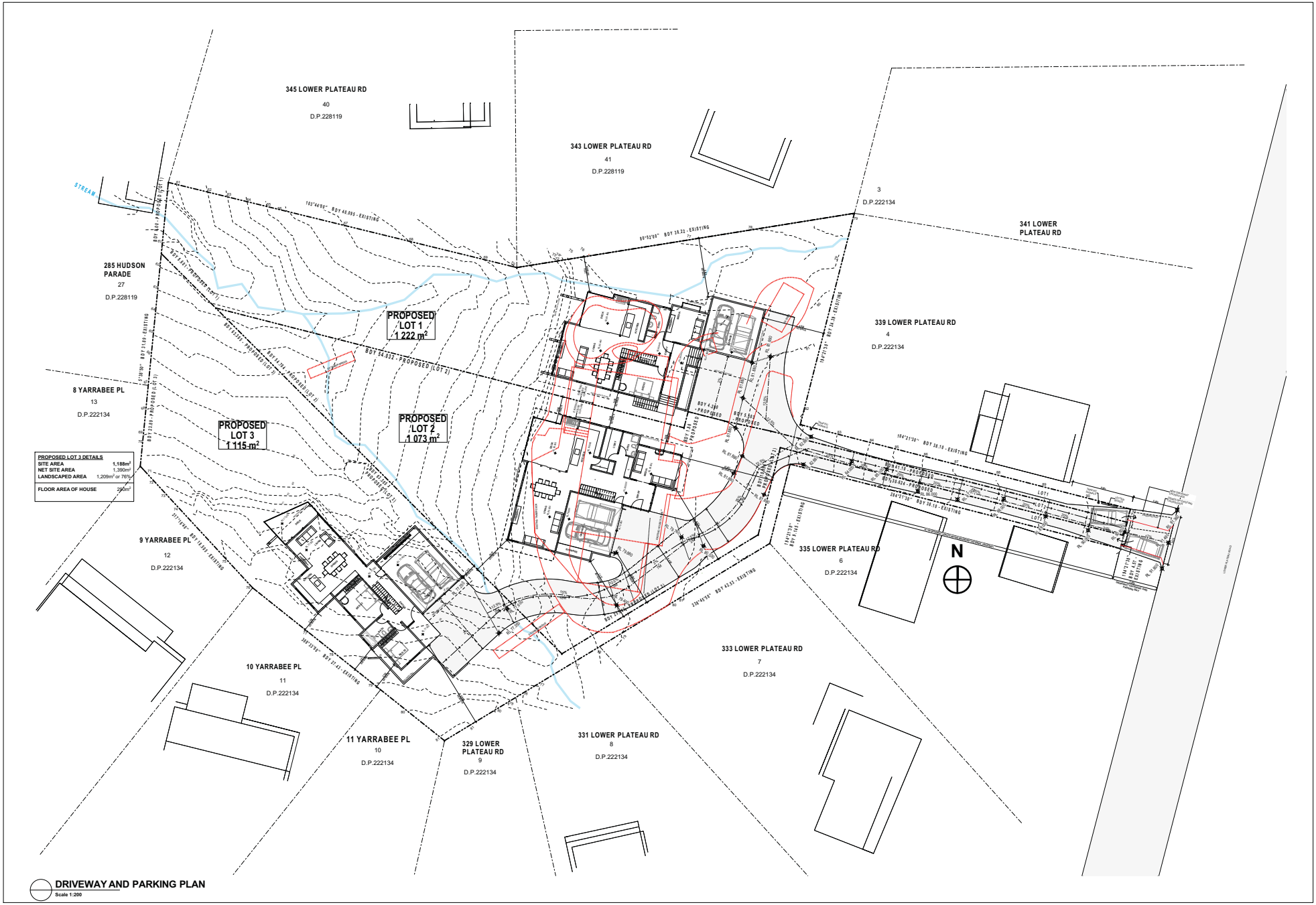
Swept Path Analysis

In addition to showing a B99 Vehicle passing a waiting B85 vehicle at the top of the accessway and driveway, the ability of these vehicles to pass at the base of the accessway was tested using the Autodesk Vehicle Tracking Software. The software was also used to ensure that the B85 Vehicle can adequately access the off-street parking spaces serving the indicative dwellings on each Lot. These swept paths are also reproduced in Appendix B confirming that parking and passing can be adequately achieved.

In the circumstances, it can be concluded that the proposed development has no unacceptable traffic implications.

APPENDIX A

DRIVEWAY AND PARKING PLAN



DRIVEWAY AND PARKING PLAN

Scale 1:200

GARTNERTROVATO ARCHITECTS

Issue Date	Rev	Description	Reviewed	Approved
			JD	JG

CLIENT

PROJECT
PROPOSED SUBDIVISION
FOR R & M TREVISAN
337 LOWER PLATEAU RD , BILGOLA PLATEAU NSW
LOT 5 DP 222134

DRAWING TITLE
DRIVEWAY AND PARKING PLAN

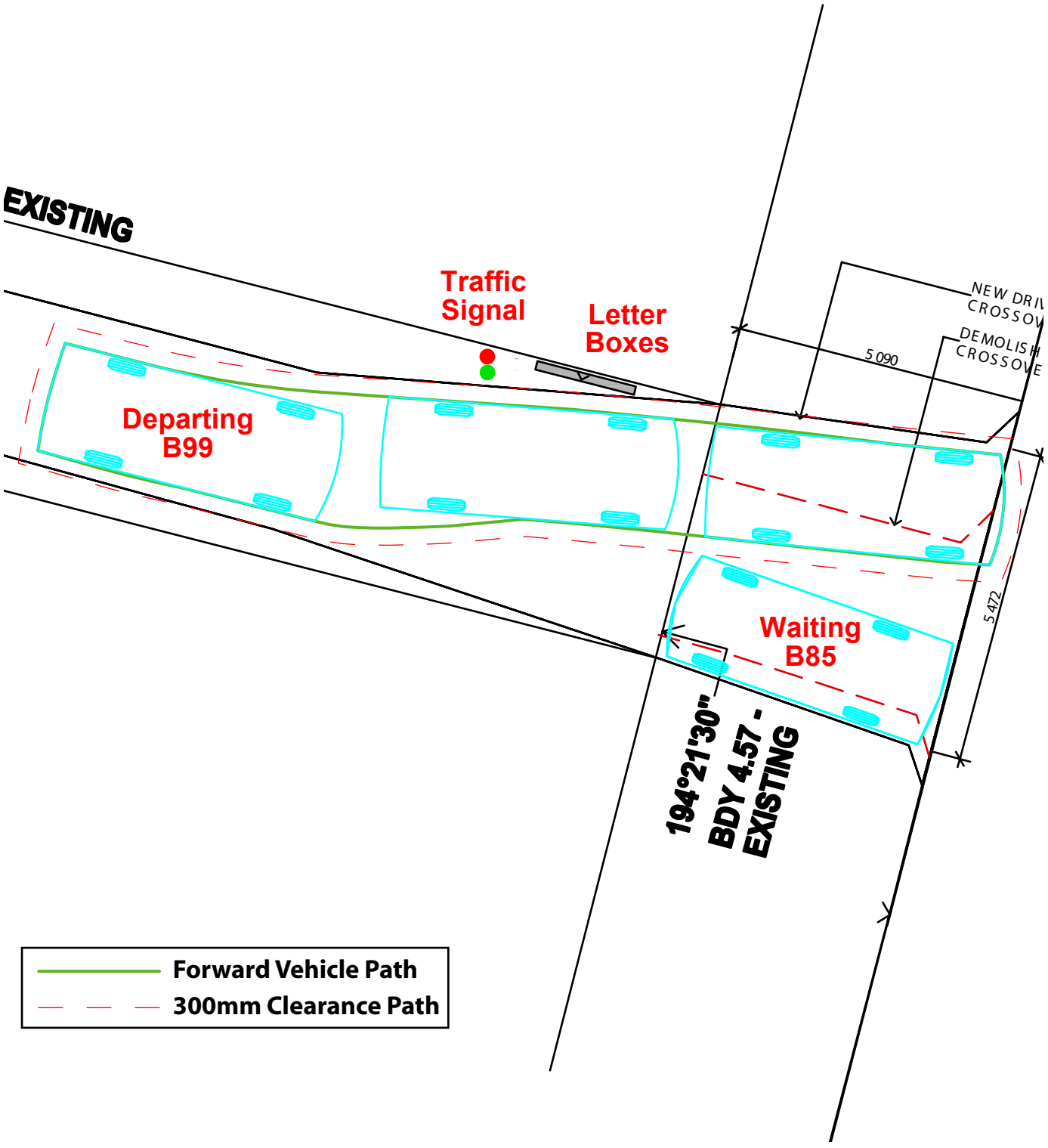
SCALE	DRAWN BY	DATE
1:200 @ A1	SG / AK	30/08/2022
PROJECT NO.	DRAWING NO.	REVISION
2133	DA-12	

APPENDIX B

SWEPT PATH ANALYSIS

Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100



Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B99 Vehicle Departing Site and Passing a Waiting B85 Vehicle

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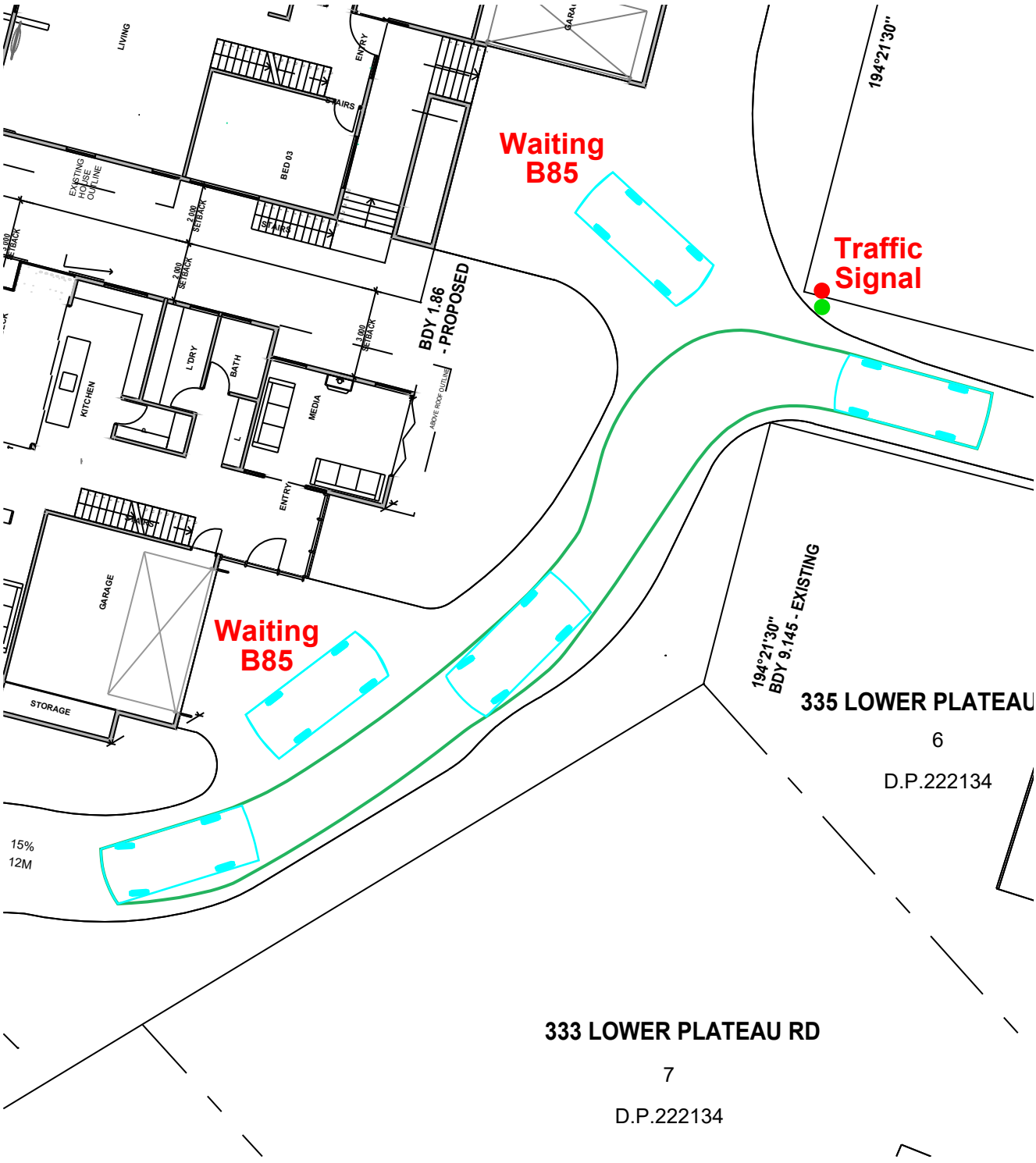
Path prepared using
Autodesk Vehicle Tracking

0 2 4 6 8 10 20
METRES
SCALE 1:200



Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B99 Vehicle Entering Site and Passing Waiting B85 Vehicles

Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS

Path prepared using
Autodesk Vehicle Tracking

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METRES
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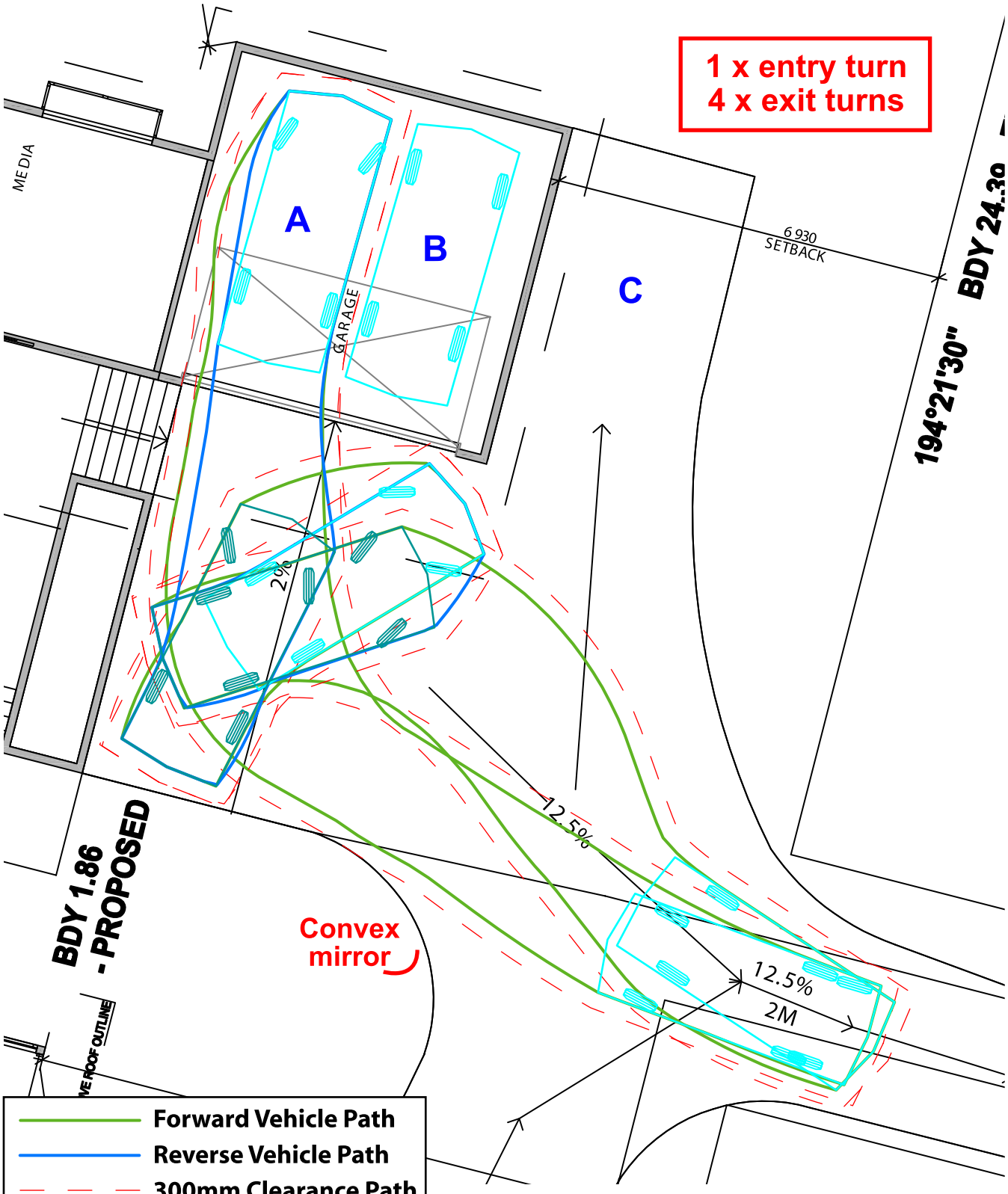

Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 1 - Space A

Terraffic Pty Ltd
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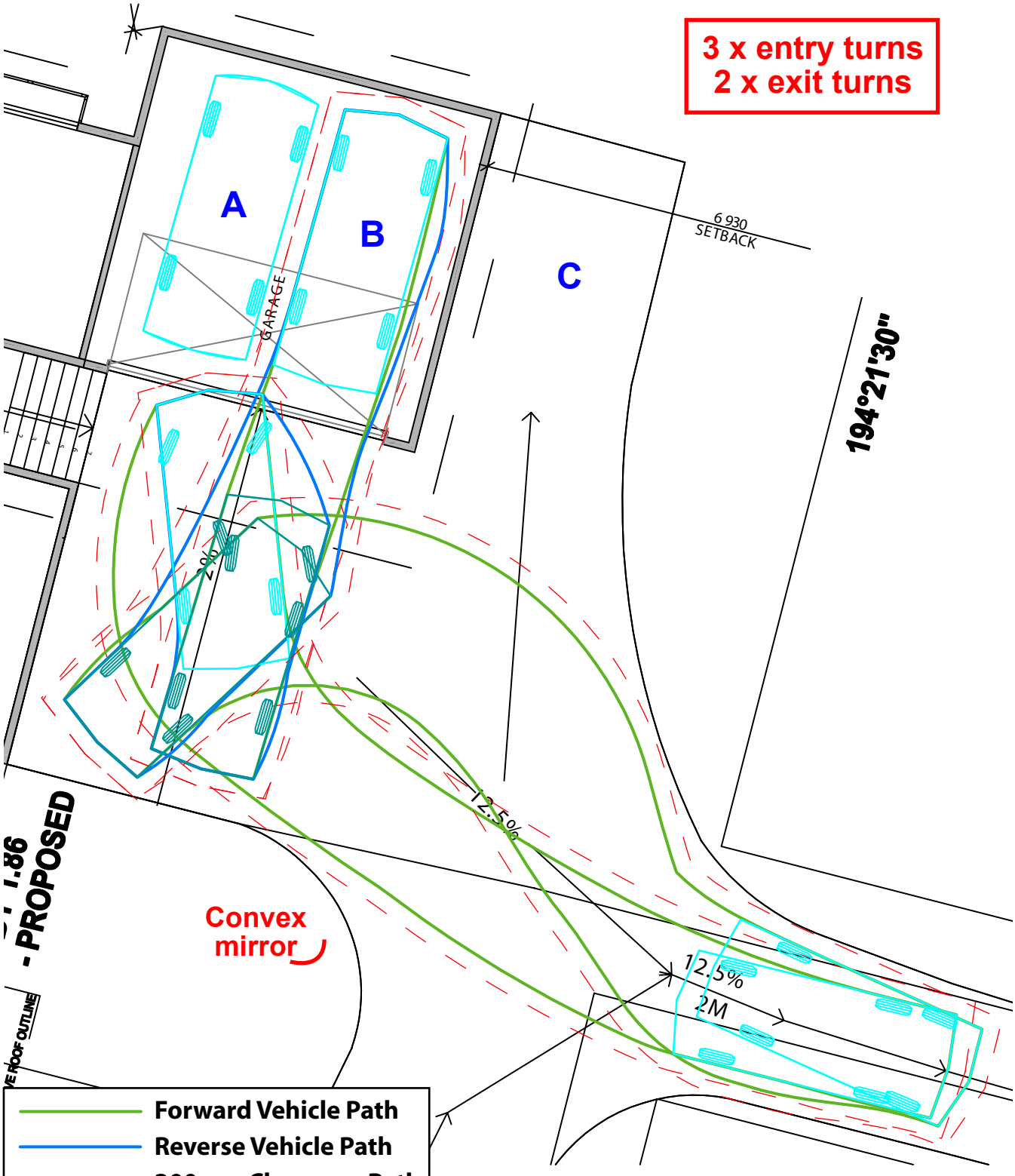
Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100

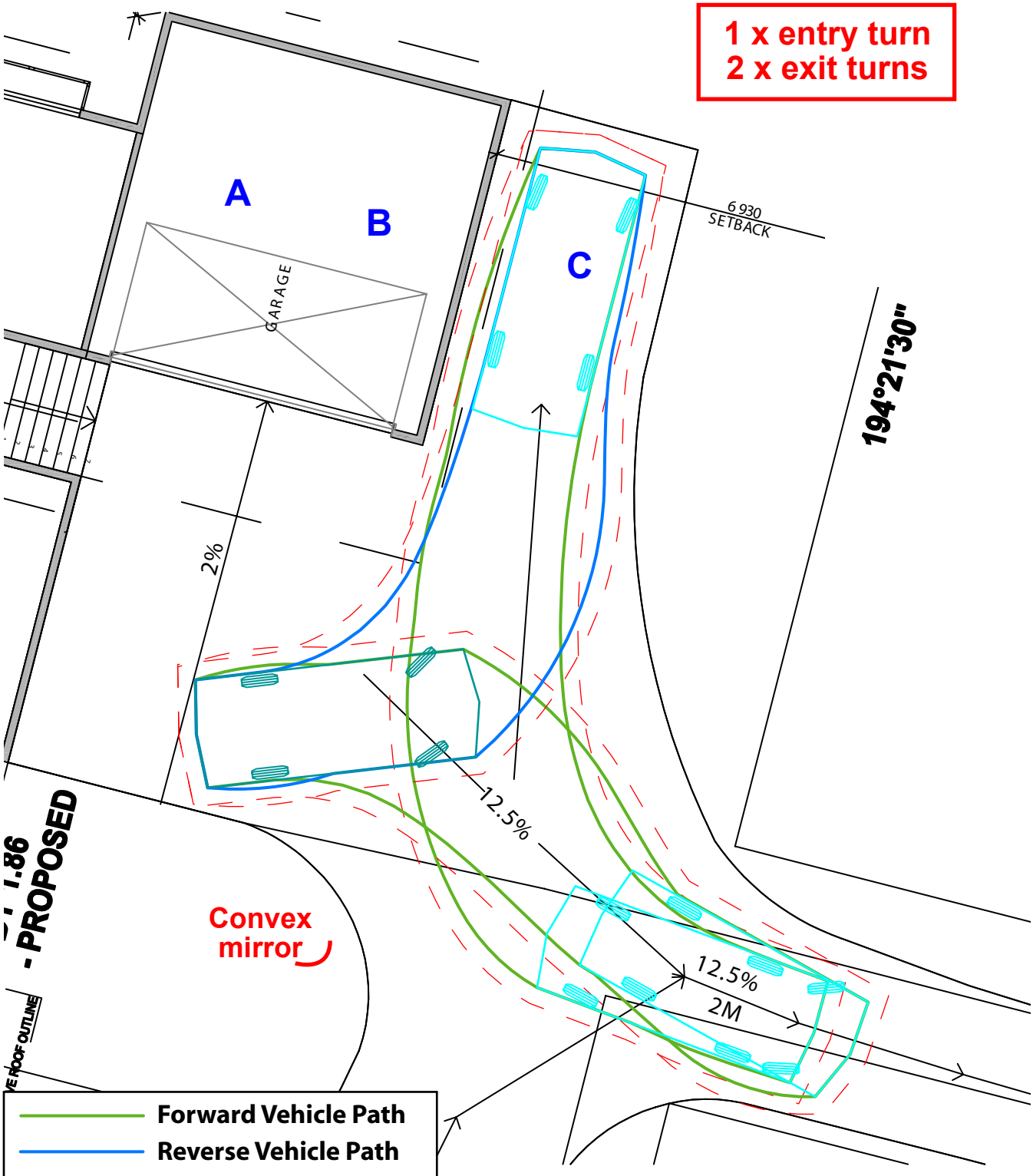


Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 1 - Space B

Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS

Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100

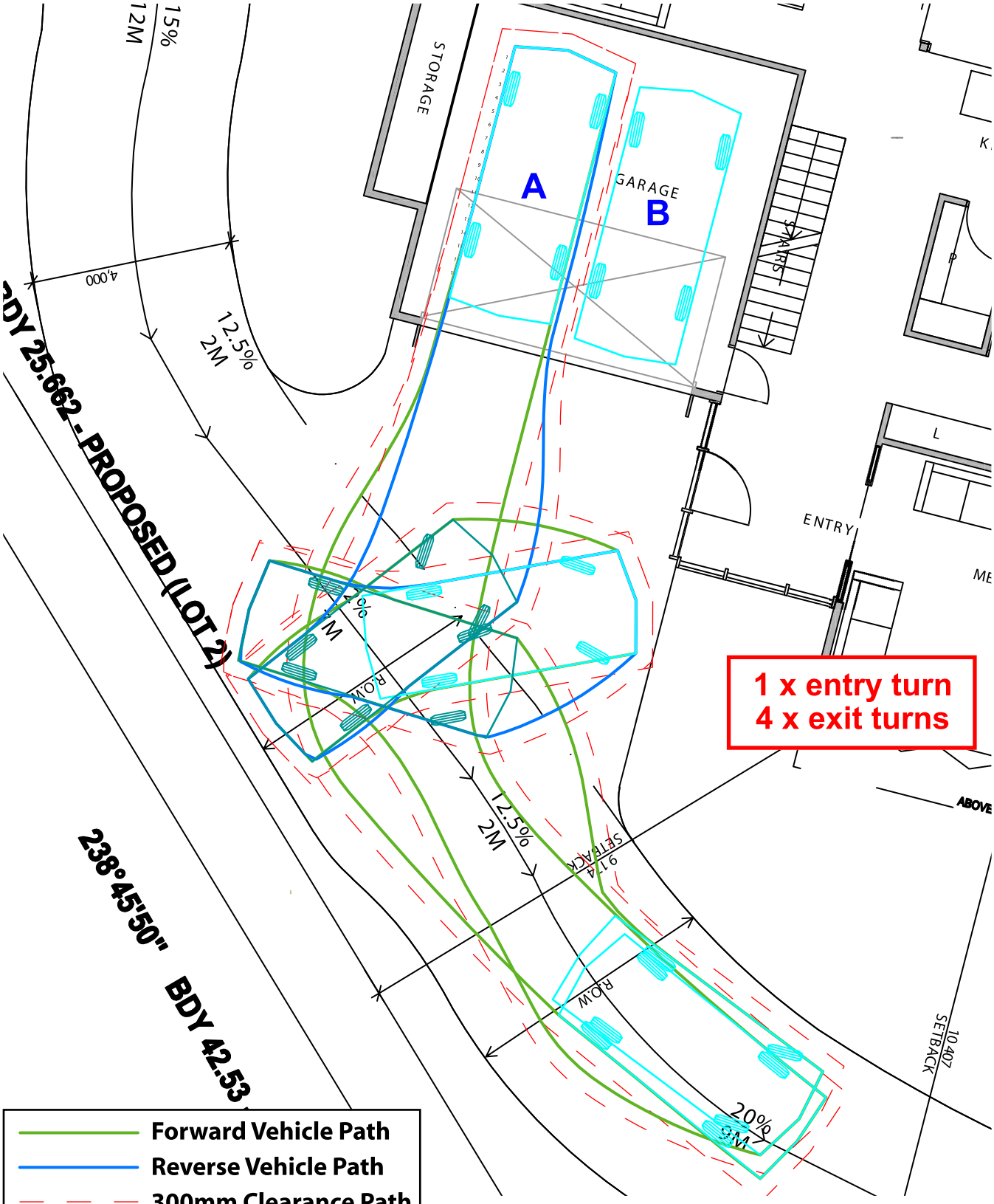


Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 1 - Space C

Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS

Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100

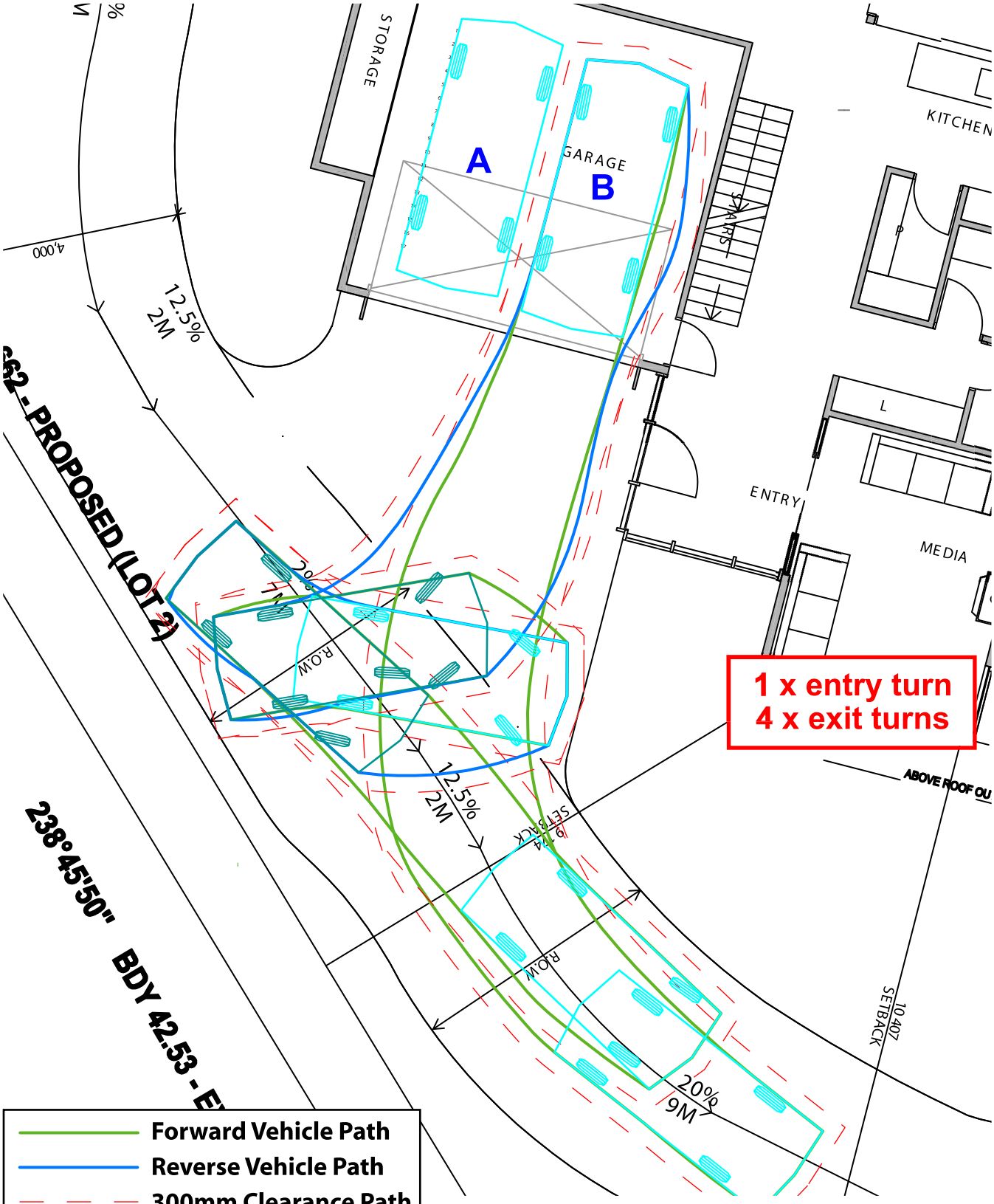


Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 2 - Space A

Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS

Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100



62 - PROPOSED (LOT 2)

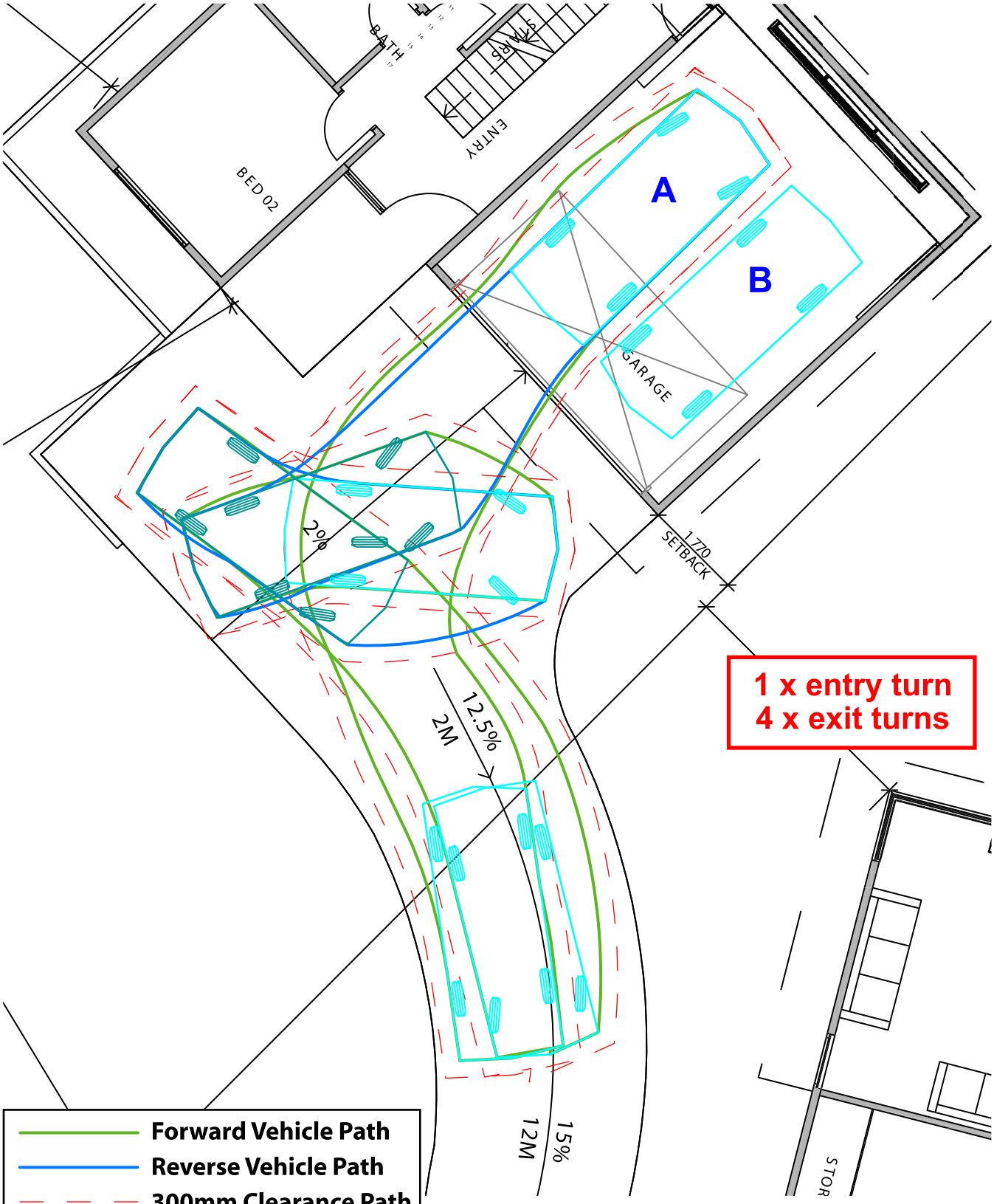
238°45'50" BDY 42.53 - E

Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 2 - Space B

Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS

Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100



1 x entry turn
4 x exit turns

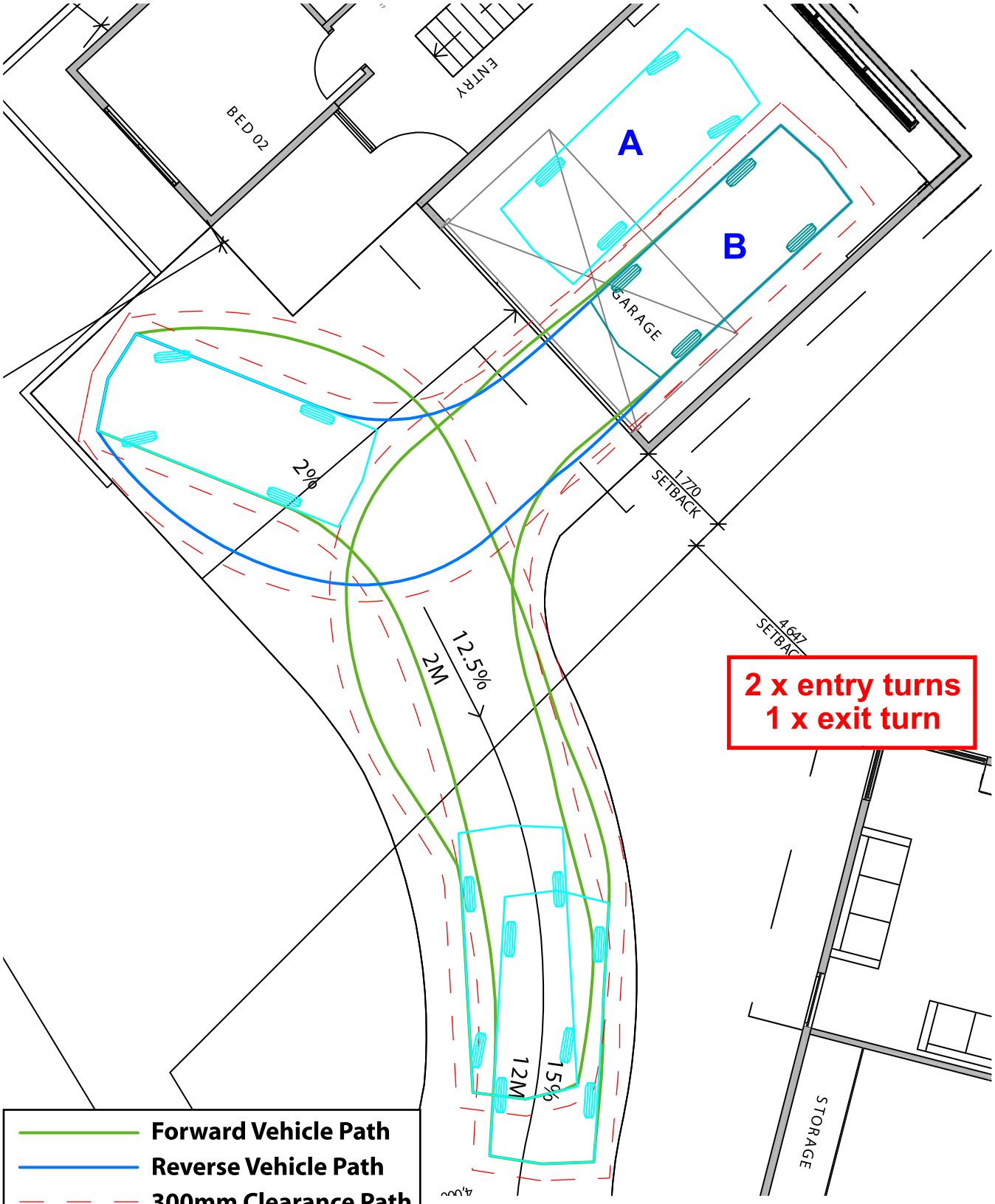
Forward Vehicle Path
Reverse Vehicle Path
300mm Clearance Path

Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 3 - Space A

Terraffic Pty Ltd
TRAFFIC & PARKING CONSULTANTS

Path prepared using
Autodesk Vehicle Tracking

0 1 2 3 4 5 10
METRES
SCALE 1:100



Forward Vehicle Path
Reverse Vehicle Path
300mm Clearance Path

Manoeuvring Path of Australian Standard AS/NZS2890.1:2004 B85 Vehicle Accessing Lot 3 - Space B

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