

21 June 2023

Richard Cole Architecture Pty Ltd
5/57 Avalon Parade
Avalon Beach NSW 2107

Dear Sir/Madam,

**CERTIFICATE OF DESIGN
SUBJECT PREMISES**

**Traffic and parking
18 Rock Bath Road, Palm Beach NSW 2108**

Pursuant to the provisions of Clause A5G3 of BCA 2022, I hereby certify that the design of the proposed garage and the access driveway is in accordance with normal engineering practice and meets the requirements of relevant Australian Standards in terms of traffic and parking components. In particular, the design is in accordance with the following:

AS/NZS 2890.1:2004: Parking Facilities - Off-street car parking

I am an appropriately qualified and competent person in this area being a Member of the Institution of Engineers Australia (MIEAust, PEng) and a Fellow of the Australian Institute of Traffic Planning and Management (FAITPM) and as such can certify that the design and performance of the design systems, which are detailed on the following drawings, comply with the above Standard.

Drawing No.	Title	Issue / Rev.	Date
DA17	Driveway Plan & Sections	K	13/06/2023

A reduced copy of the above drawing is attached to and forms an integral part of this Certificate.

The proposed design took into account Council's request to keep the maximum gradient as low as possible and preferably at or below 25% (1 in 4). However, the existing conditions had to be taken into consideration, whereby the existing driveway from the driveway crossing at the street level to the existing access point of the property at No. 16 Rock Bath Road (immediately before and above No. 18) is very steep, exceeding the 25% gradient significantly at some locations. In this regard, I note that AS/NZS 2890.1:2004 makes the following concession in such situations (as highlighted).

2.6.2 Gradients

The maximum gradient of domestic driveways shall be 1 in 4 (25%). The maximum gradient of the associated access driveway across a property line or building alignment shall be 1 in 20 (5%) and across a footpath as specified in Clause 3.3(d).

Grade changes across a footpath and within the property shall be designed and checked in accordance with Appendix C to ensure that vehicles will not scrape their undersides when negotiating them. Transitions may be required (see Clause 2.5.3(d)). Checks may be required along one or both edges of a driveway as well as along the centre line if there are changes in the cross slope at or near a grade change.

NOTE: It is recognized that limiting domestic driveway grades to 25 percent maximum may not be practicable in some particularly hilly residential locations. The services of a professionally qualified person with appropriate experience may be required to make a judgement as to whether a particular grade line design is safe and environmentally sustainable.

It is noted that the existing driveway was in use for years without any reported incidents related to its steepness and thus is regarded as safe. Also, the level of the access point to No. 16 could not be varied significantly.

The following improvements have been made to the existing part of the driveway.

- A "Maximum low driveway" profile as per the Council's specification has been introduced at the driveway crossing.
- The profile between the street and the access point of No. 16 has been straightened, with sections of gradients varying over short distances now straightened. The resulting maximum gradients are between 25.0% and 29.6%, which I regard as satisfactory and consistent with Clause 2.6.2 of AS/NZS 2890.1:2004.

The new section of the driveway, between access points of Nos. 16 and 18, has a maximum gradient of 20%. This is also satisfactory.

TRAFFIC & PARKING STUDIES
AND MANAGEMENT

TRAFFIC IMPACT ASSESSMENTS

INTERSECTION AND NETWORK
MODELLING

ENVIRONMENTAL IMPACT
ASSESSMENT OF ROADS,
TRAFFIC AND TRANSPORT
OPERATIONS

ROAD AND TRAFFIC NOISE

ROAD SAFETY STUDIES

TRAFFIC & PARKING SURVEYS

CAR PARK DESIGN

INTERSECTION DESIGN

TRAFFIC ACCIDENT
INVESTIGATION

TRAFFIC ACCIDENT
RECONSTRUCTION

RESEARCH AND DEVELOPMENT

EXPERT WITNESSES

AutoTrack swept path software was used to model the movements of B85 vehicles as required by AS/NZS 2890.1:2004 (both manoeuvring and ground clearance tests). The proposed design was found to be satisfactory.

Full Name of Certifier: Oleg I. Sannikov

Qualifications and professional affiliations:

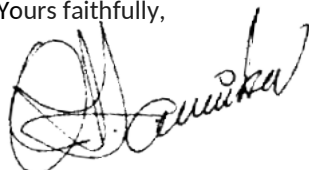
- MEngSc (Traffic Engineering)
- Member, Engineers Australia (MIEAust, PEng)
- Fellow & Past President, NSW & ACT AITPM
- Member, CE-001 Committee (development of parking Standards), Standards Australia
- Member, Road Safety Panel, IPWEA

Address of Certifier: 36/150 Forbes St, Woolloomooloo NSW 2011

Telephone No: (04) 1497 8067 Fax No: (02) 9332 2024

Name of Employer: TEF Consulting

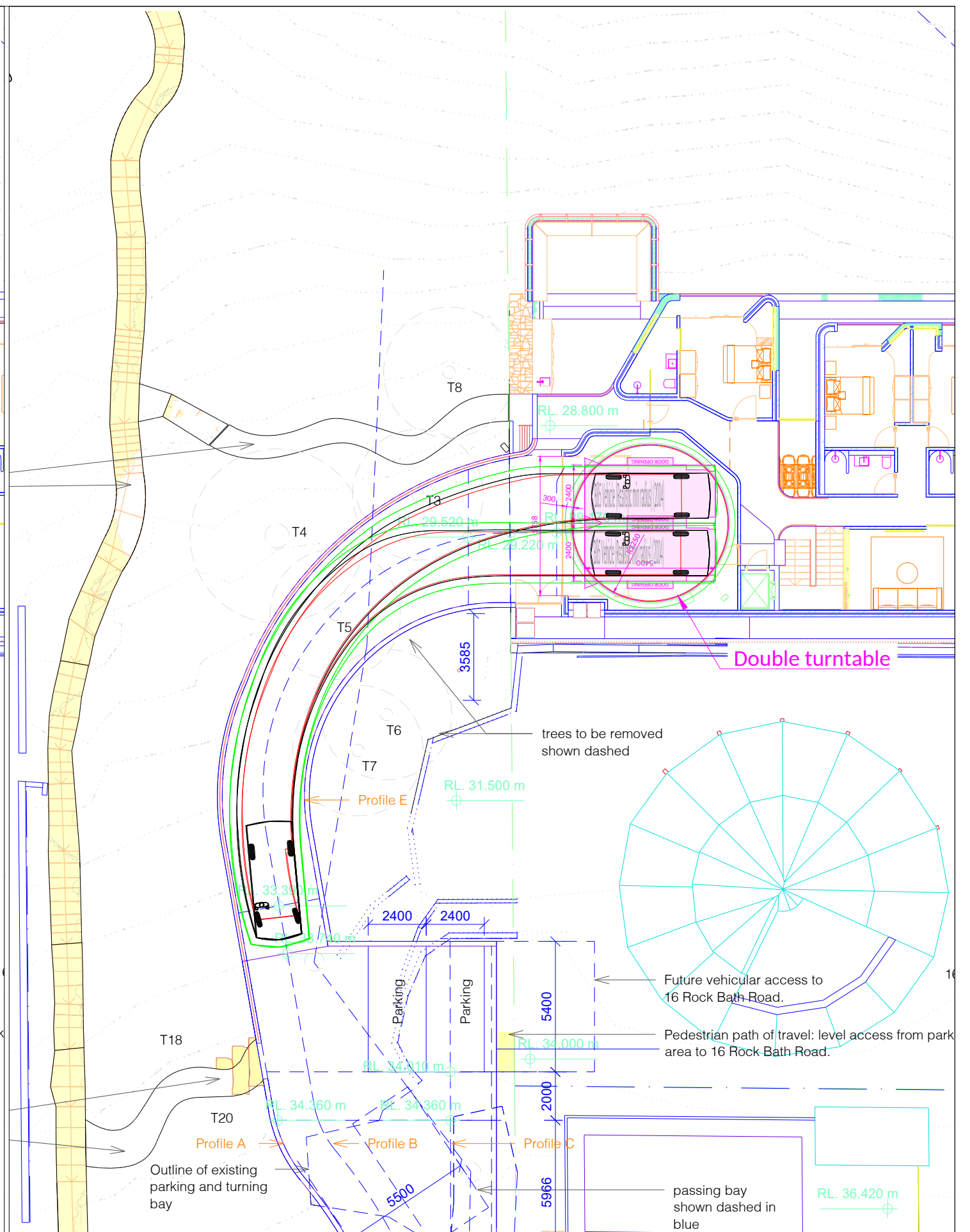
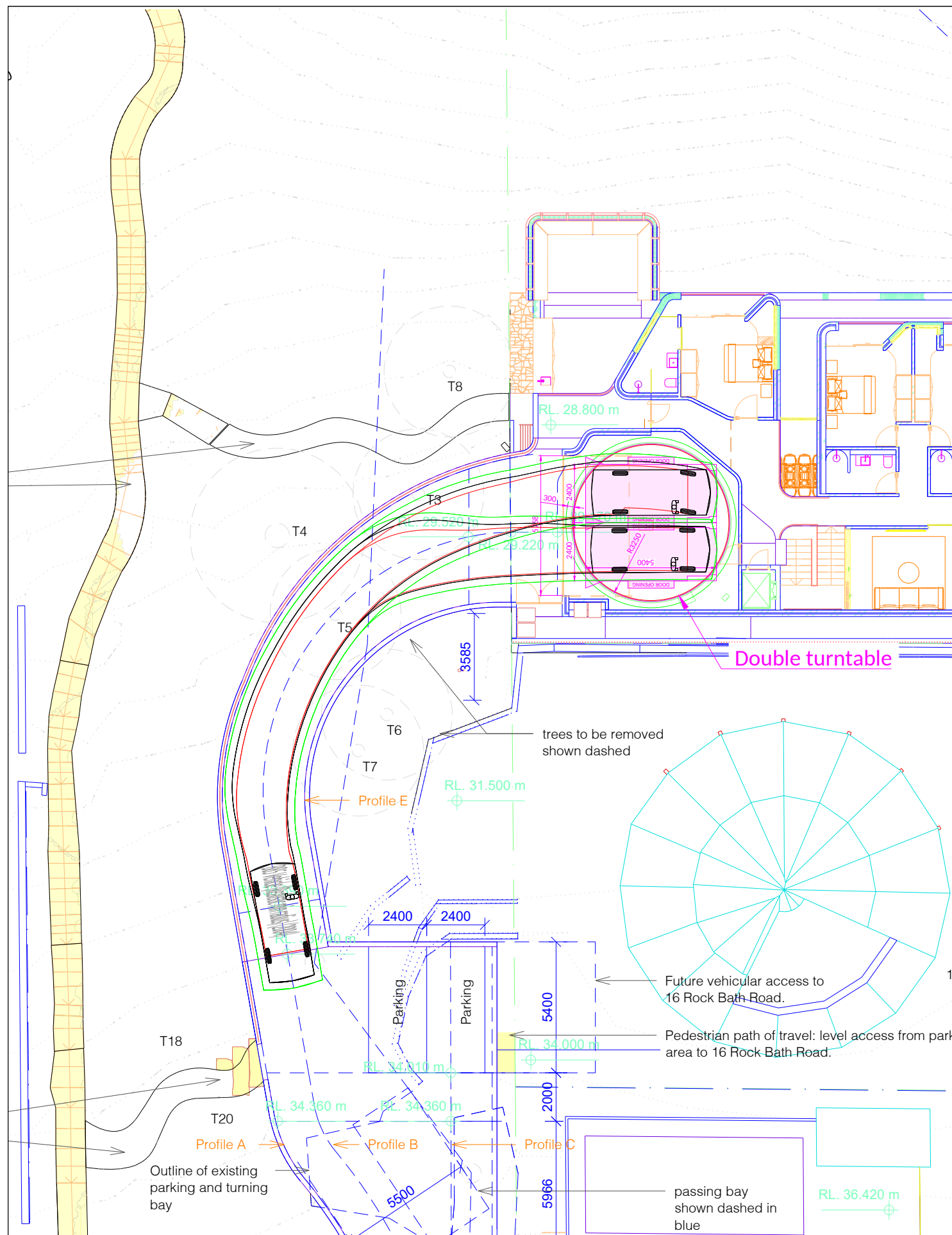
Yours faithfully,



Oleg I. Sannikov

Note: Under the Environmental Planning and Assessment Regulation 2000, Clause 283 False or misleading statements - A person is guilty of an offence if the person makes any statement, knowing it to be false or misleading in an important respect, in or in connection with any document lodged with the Director-General or a consent authority or certifying authority for the purposes of the Act or this Regulation.

Attachment: A reduced copy of the architect's drawing and 6 sheets of diagrams prepared by TEF Consulting.



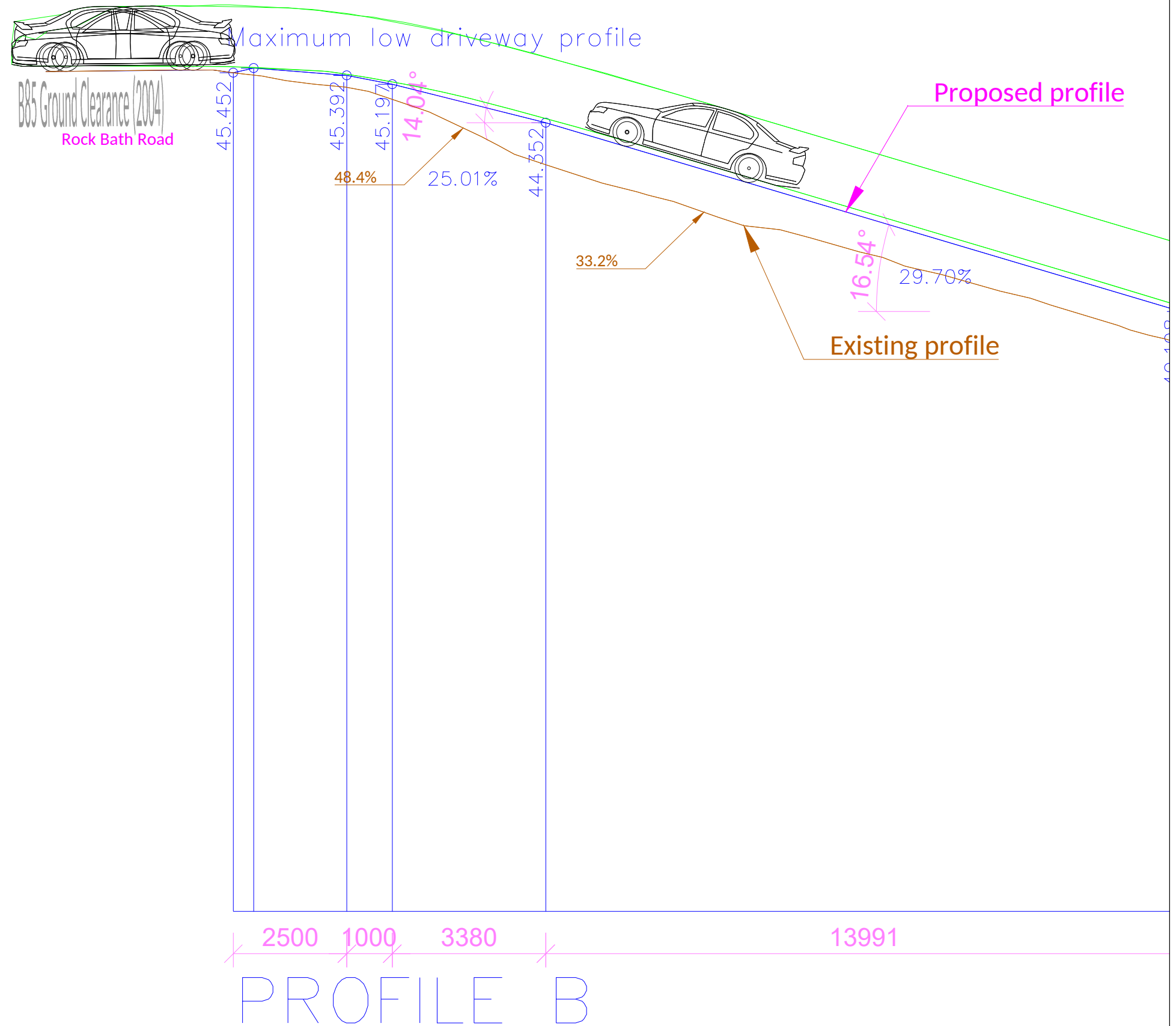
Dwg No 22031/02 | Rev. G | 21/06/2023
Client:
Richard Cole Architecture

18 Rock Bath Road, Palm Beach NSW 2108

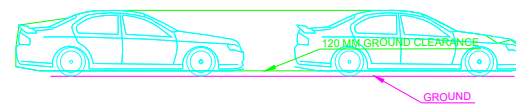
Proposed garage layout
Design checks as per AS/NZS 2890 series

SCALE 1:200@A3

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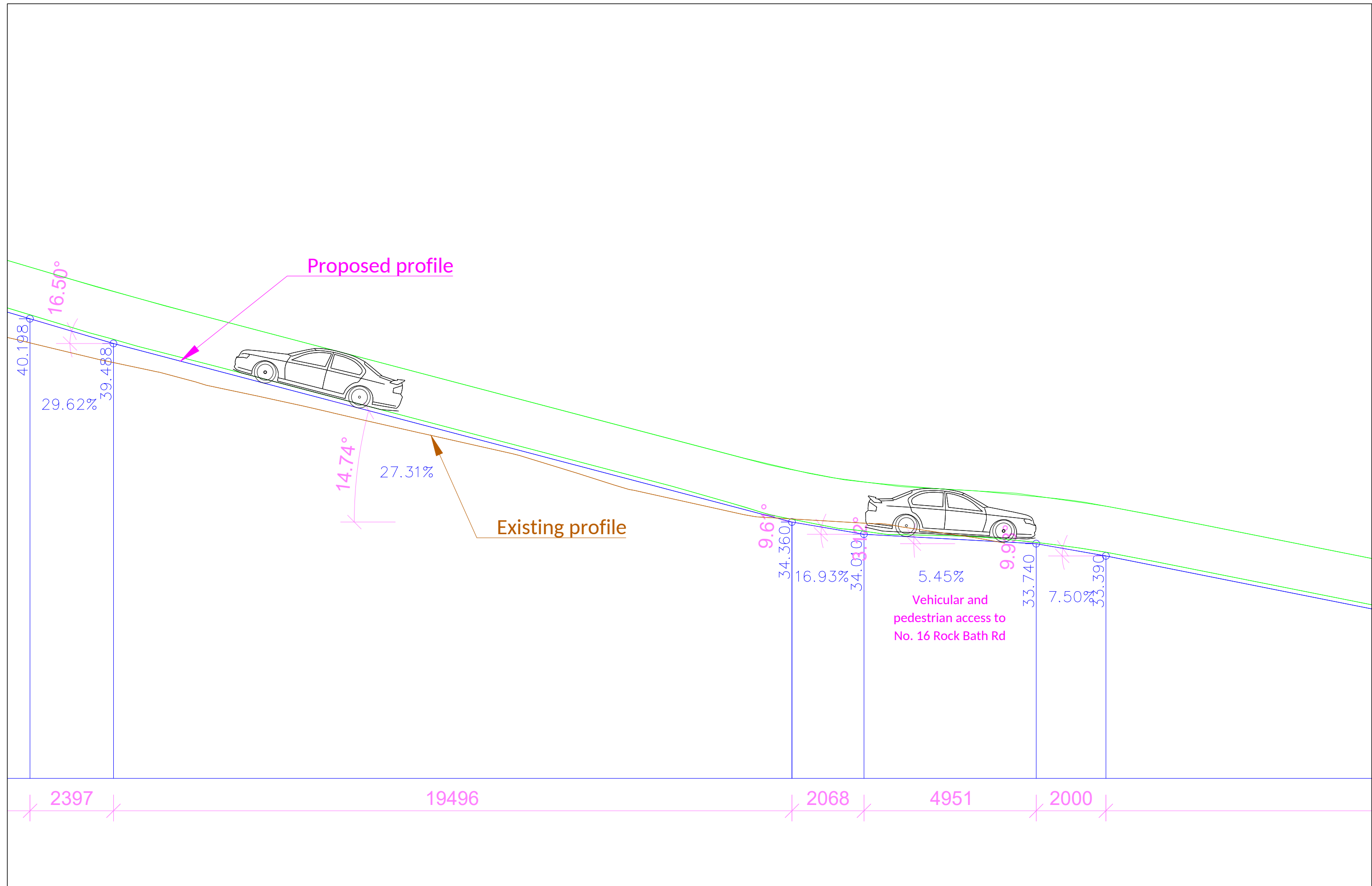
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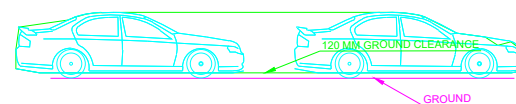
Proposed profile
Design checks as per AS/NZS 2890 series

SCALE 1:100@A3

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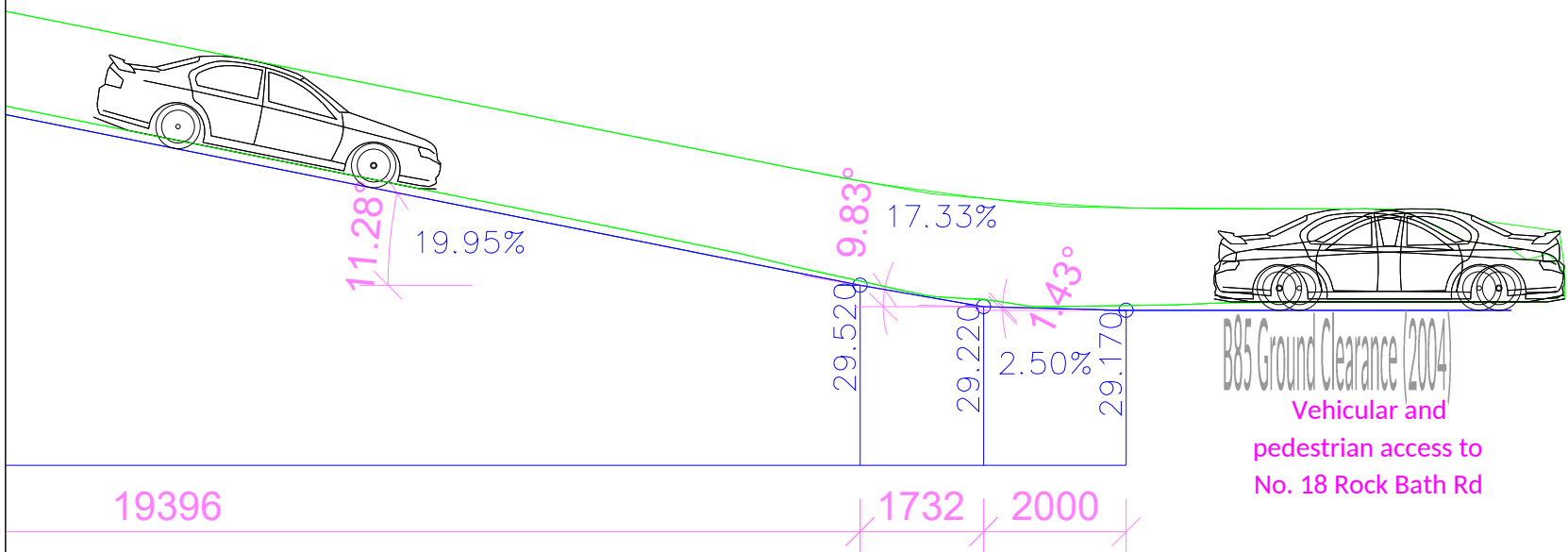
Dwg No 22031/05 | Rev. G | 21/06/2023
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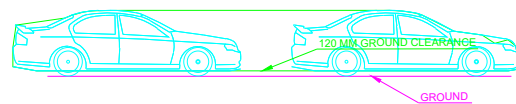
Proposed profile
Design checks as per AS/NZS 2890 series

SCALE 1:100@A3

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LEGEND:



Dwg No 22031/06 | Rev. G | 21/06/2023
Client:
Richard Cole Architecture

18 Rock Bath Road, Palm Beach NSW 2108

Proposed profile
Design checks as per AS/NZS 2890 series

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