



Traffic Safety Assessment

**Proposed Rural Industry
736 Federal Drive, Federal
Lot 2, DP 735538**

For: Theme Rains
Report no: 23042-TSA-A
Date: 22-Dec-22



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Summary

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TABLE OF CONTENTS

1. Introduction	4
1.1 Site Locality	4
1.2 Scope	5
2. Development Traffic Generation	6
3. Access Driveway Compliance	7
3.1 AS2890 Compliance	7
3.1.1 Access Driveway Position	7
3.1.2 Access Width	8
3.1.3 Access Sight Distance	8
3.1.4 Pedestrian Sight Lines	9
4. Parking Requirements	10
5. Conclusion	11
Appendix A – Concept Plans	12

LIFT OF FIGURES

Figure 1 – Site locality (NSW LPI SIX Maps, 2022)	4
Figure 2 – Prohibited locations of access driveways (AS2890.1, Figure 3.1)	7
Figure 3 – Stopping Sight Distance (AS2890.1, Figure 3.2)	8

LIST OF TABLES

Table 1 – SSD Summary for proposed access using AS2890.1	9
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1. Introduction

Greg Alderson & Associates (GAA) have been engaged by Theme Rains to prepare a Traffic Safety Assessment (TSA) for the proposed development at Lot 2 DP 735538, 736 Federal Drive, Federal.

The proposed development comprises the construction of 2 sheds as part of an industrial development as well as associated carparking and access. The posted speed limit along the site's frontage is 80km/hr.

1.1 Site Locality

A locality plan of the proposed development can be seen below in Figure 1.

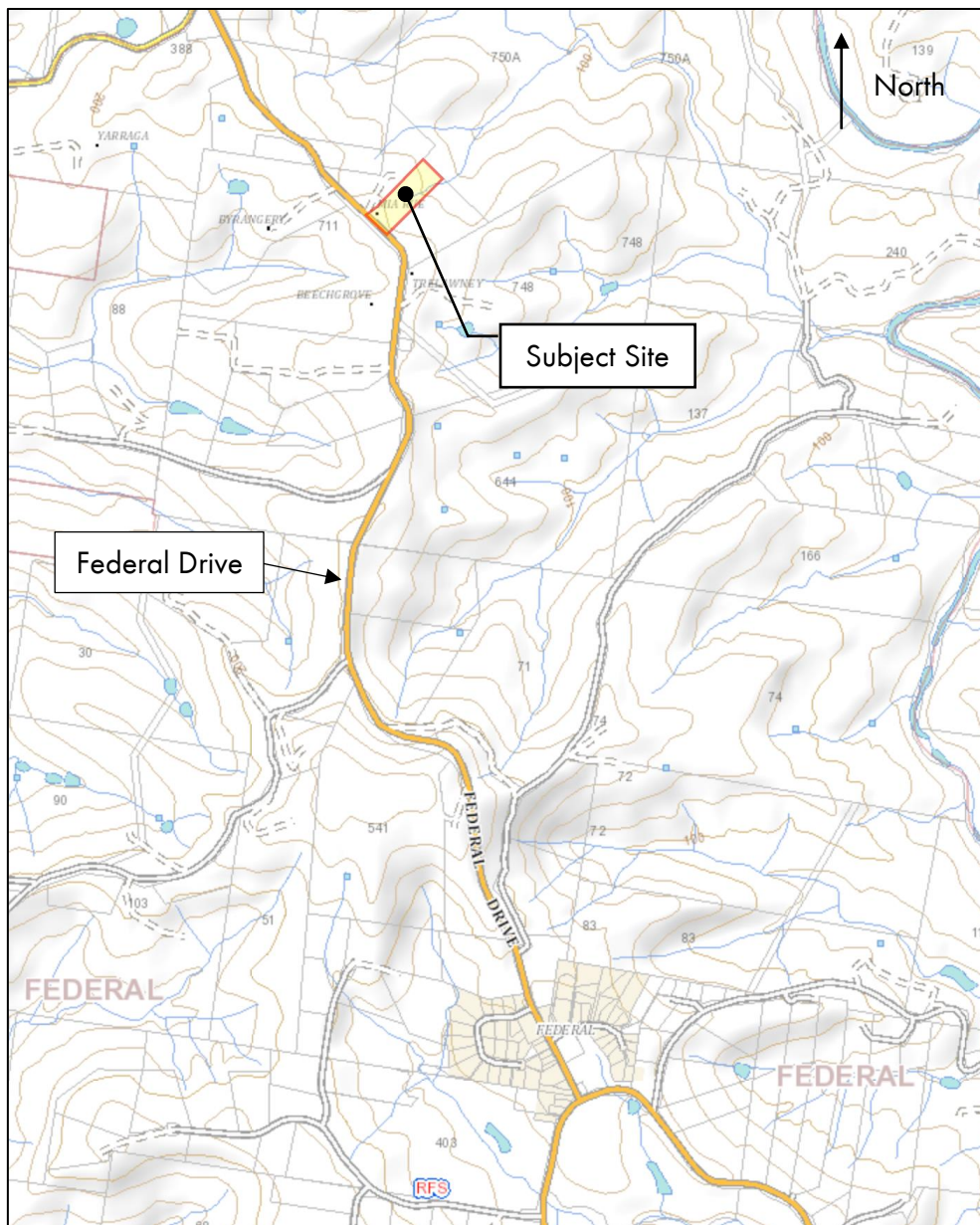


Figure 1 - Site locality (NSW LPI SIX Maps, 2022)

1.2 Scope

This report is scoped as a Traffic Safety Assessment (TSA) in accordance with chapter B4 of the 2014 Byron Shire DCP. As such, it addresses the following:

- Suitability of the access location
- Adequate sight distances
- Sight lines to pedestrians

The development will be assessed with reference to the requirements of the following policies and guidelines:

- Chapter B4 of the 2014 Byron Shire Development Control Plan (DCP)
- RTA Guide to Traffic Generating Developments (GTGD)
- AS/NZS 2890.1: 2004, Parking facilities – Off-street car parking

2. Development Traffic Generation

The potential development related traffic generation from the development was determined using the traffic generation rates provided in the RTA GTGD.

The traffic generation rates for industrial medium density residential buildings have been adopted for the proposed industrial sheds. These rates are as follows:

- Daily vehicle trips (ADT) = 5 per 100 m² gross floor area (GFA)
- Evening peak hour vehicle trips = 1 per 100 m² GFA

The total GFA for the proposed development has been provided to GAA as 316m². Based on the above rates, the site traffic generation is therefore estimated as follows:

- ADT: 15.8 daily vehicle trips
- Peak hour traffic: 3.2 peak hour vehicle trips

Based on the above estimated ADT and peak hour traffic flows, the proposed development is classed as a low impact development, requiring a traffic safety assessment only in accordance with Chapter B4 of the Byron Shire Council DCP.

Further, it is noted that the proposed development will utilise a shuttle bus arrangement to collect staff from nearby townships, further reducing the estimated ADT and peak hour vehicle trips.

3. Access Driveway Compliance

3.1 AS2890 Compliance

3.1.1 Access Driveway Position

In accordance with AS2890.1, the access points are outside of the prohibited 6m zone either side of the tangent point of an intersection, as shown in Figure 2 below. Therefore, the proposed access locations comply with the requirements of Section 3.2.3 of AS2890.1.

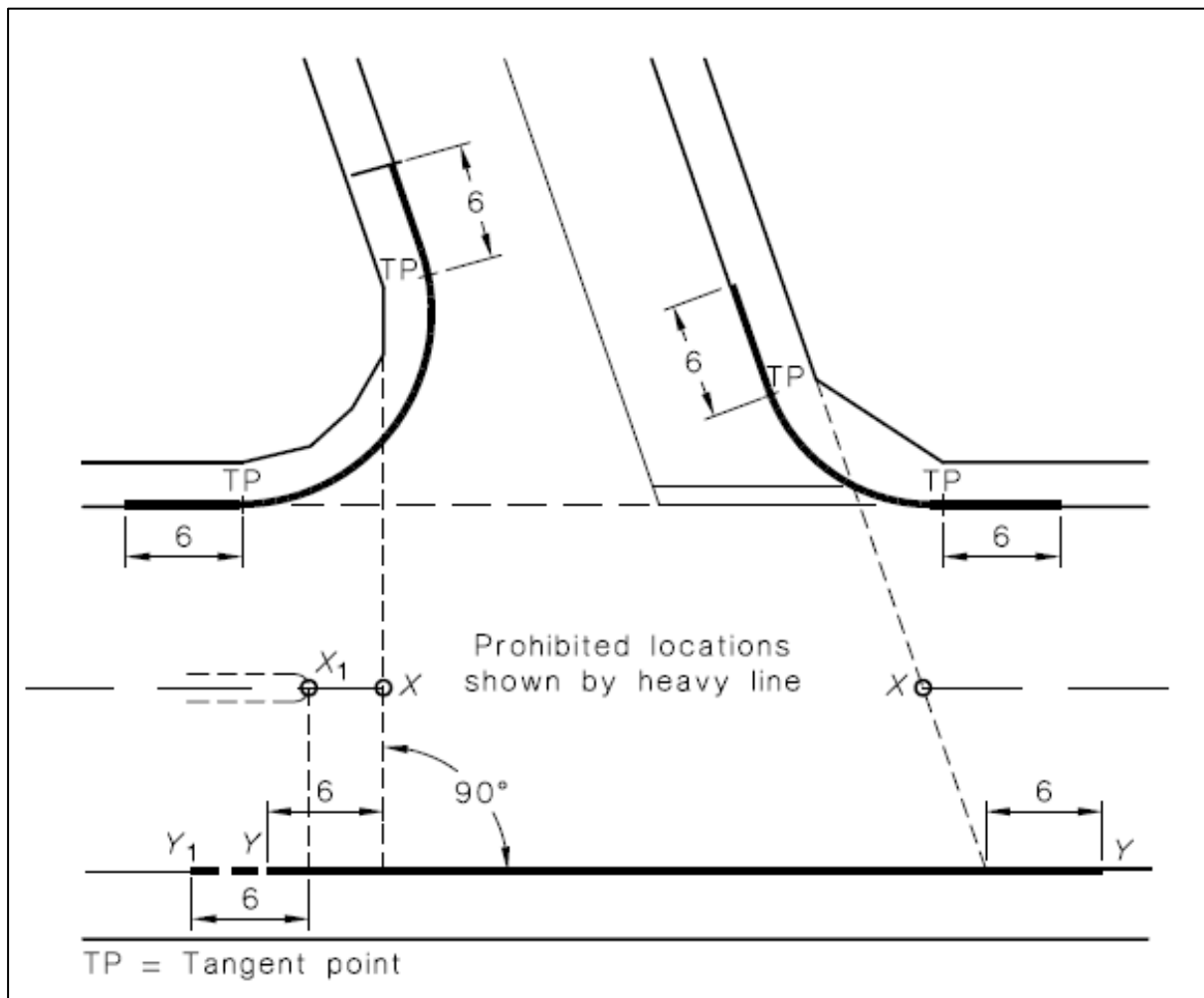


Figure 2 - Prohibited locations of access driveways (AS2890.1, Figure 3.1)

3.1.2 Access Width

The development's access width requirements from AS2890.1 are summarised as follows:

- The access driveway has a User Class of 1A (AS2890.1, Table 1.1).
- Federal Drive is a rural local road and the number of proposed parking spaces is less than 25 spaces. Thus, the development is classified as a Category 1 facility (AS2890.1, Table 3.1).
- The entry and exit for the access can be combined and is to have a width between 3 – 5.5m (AS2890.1, Table 3.2).

Thus, the proposed access locations comply with the requirements of Table 3.2 of AS2890.1.

3.1.3 Access Sight Distance

The sight distance required along the Federal Drive frontage from the access point is shown in Figure 3.2 from AS2890.1 (see Figure 3 below). Available sight distances for the development have been assessed on site with respect to their compliance with this standard.

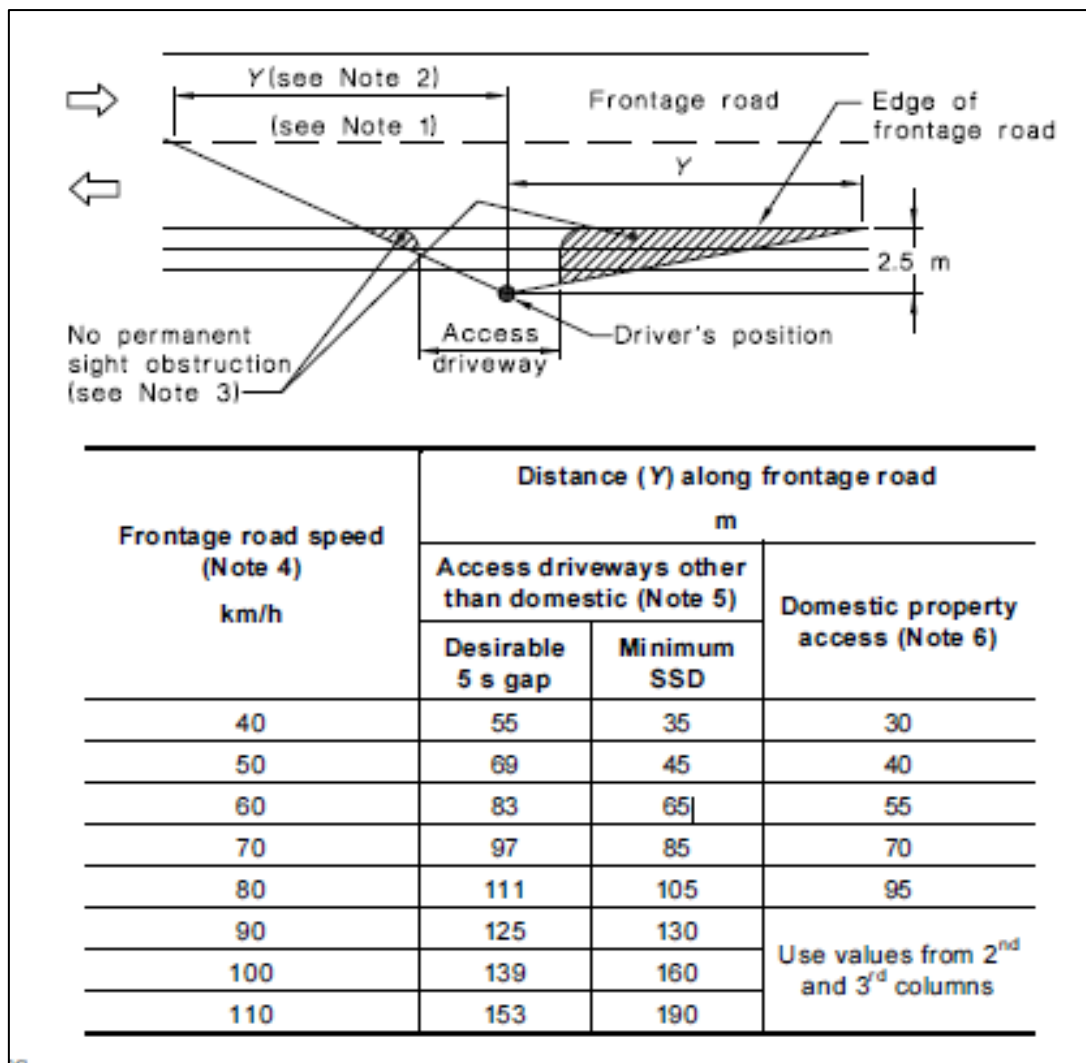


Figure 3 – Stopping Sight Distance (AS2890.1, Figure 3.2)

The proposed access was inspected and sight distance measured in accordance with AS2890. The available and required SSD from the proposed access has been summarised in Table 1 below.

Table 1 - SSD Summary for proposed access using AS2890.1

Direction	Required (m)	Available (m)
Northbound	111	97
Southbound	111	116

As seen above, the sight distance available to the proposed access driveway from southbound traffic complies with the AS2890 requirement, while the northbound site distance does not.

An assessment of the existing road geometry for vehicles travelling in the northbound direction was undertaken by completing a drive through along the site's frontage. This was done to determine whether the posted 80km/hr could be practically and safely achieved. Based on this drive through assessment, it was estimated that the maximum safe speed that could typically be reached on the approach was 70km/hr, which would require a sight distance of 97m.

As a result, it is believed that the available sight distance is adequate for northbound traffic. It is also noted that a minor improvement to the sight distance could be achieved by trimming of vegetation on the western side of the road. It is therefore recommended that this vegetation trimming on the western side of the road be undertaken under instruction of an appropriately qualified civil engineer.

3.1.4 Pedestrian Sight Lines

Given the site's rural nature and the location of the proposed access driveway, it is believed there will be negligible likelihood of pedestrians crossing the access. Thus, pedestrian sight lines have not been assessed.

4. Parking Requirements

Parking number requirements are presented in the Bryon Council Development Control Plan 2014, Chapter B4.

The DCP requires the following parking provision for industrial uses:

- 1 space per 100 m² or two per factory unit, whichever is the greater.

The development consists of 316m² of GFA and 2 sheds. The minimum parking requirements is to provide 4 parking spaces. It is proposed to provide 8 parking spaces on site, thereby exceeding the DCP requirements.

5. Conclusion

This TSA has been prepared for the proposed development at 736 Federal Drive, Federal and addresses the following:

- Suitability of the access location
- Adequate sight distances
- Sight lines to pedestrians

The proposed development comprises the construction of 2 sheds as part of an industrial development as well as associated carparking and access. The total GFA for the proposed development is understood to be 316m².

The predicted traffic generated from the development is as follows:

- ADT: 15.8 daily vehicle trips
- Peak hour traffic: 3.2 peak hour vehicle trips

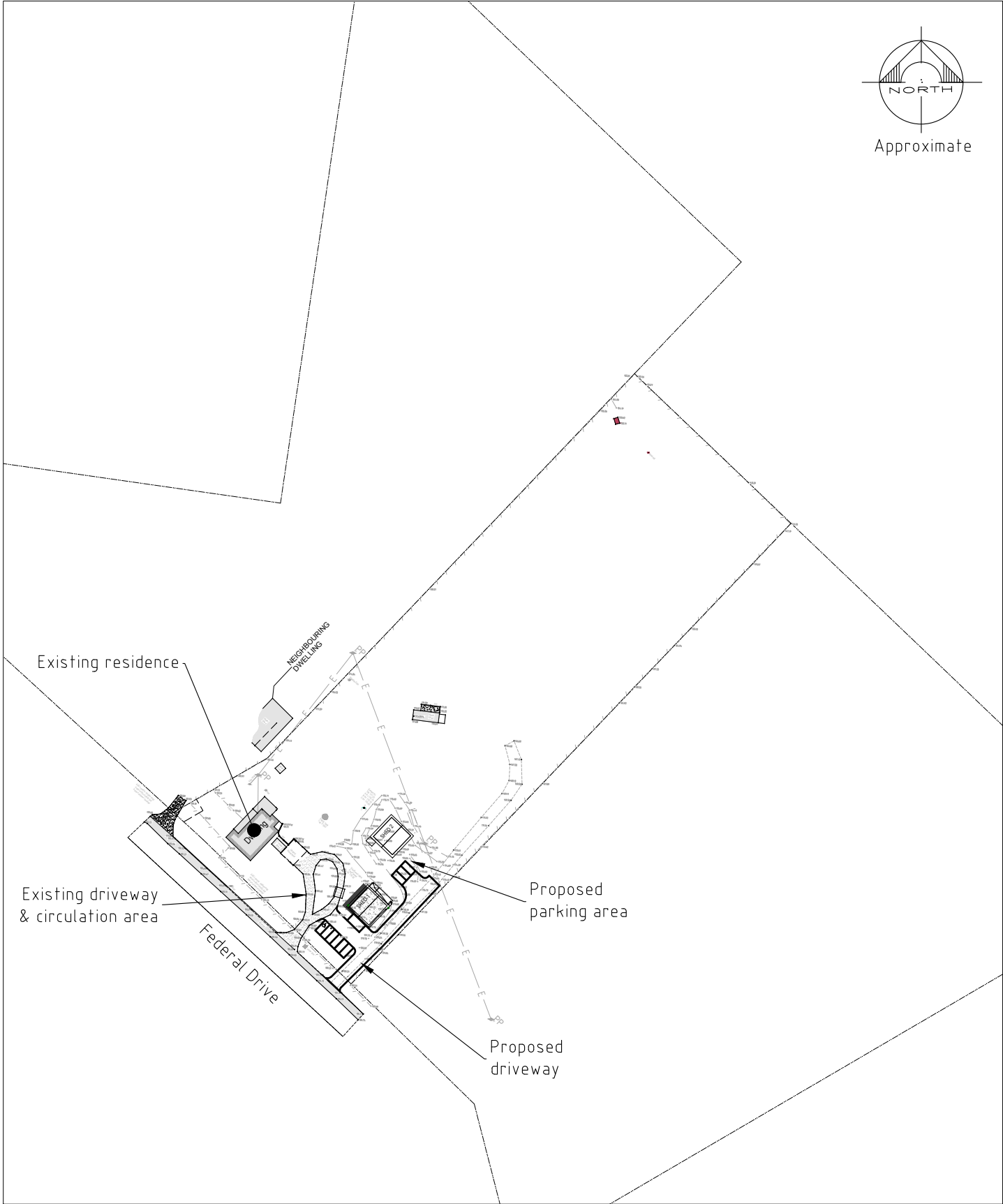
Based on the above estimated ADT and peak hour traffic flows, the proposed development is classed as a low impact development.

The position of the proposed access driveway complies with the requirements of AS2890.1. The entry and exit for the access can be combined and is to have a width between 3 – 5.5m.

Sight distances from the proposed driveway are deemed to be adequate. It is, however, recommended that vegetation trimming be undertaken on the western side of Federal Drive (under the instruction of an appropriately qualified civil engineer) to maximise sight distance for northbound traffic.

The development is proposing to provide 8 car parking spaces, exceeding the requirements of the DCP.

Appendix A — Concept Plans



SITE OVERVIEW
1:2000

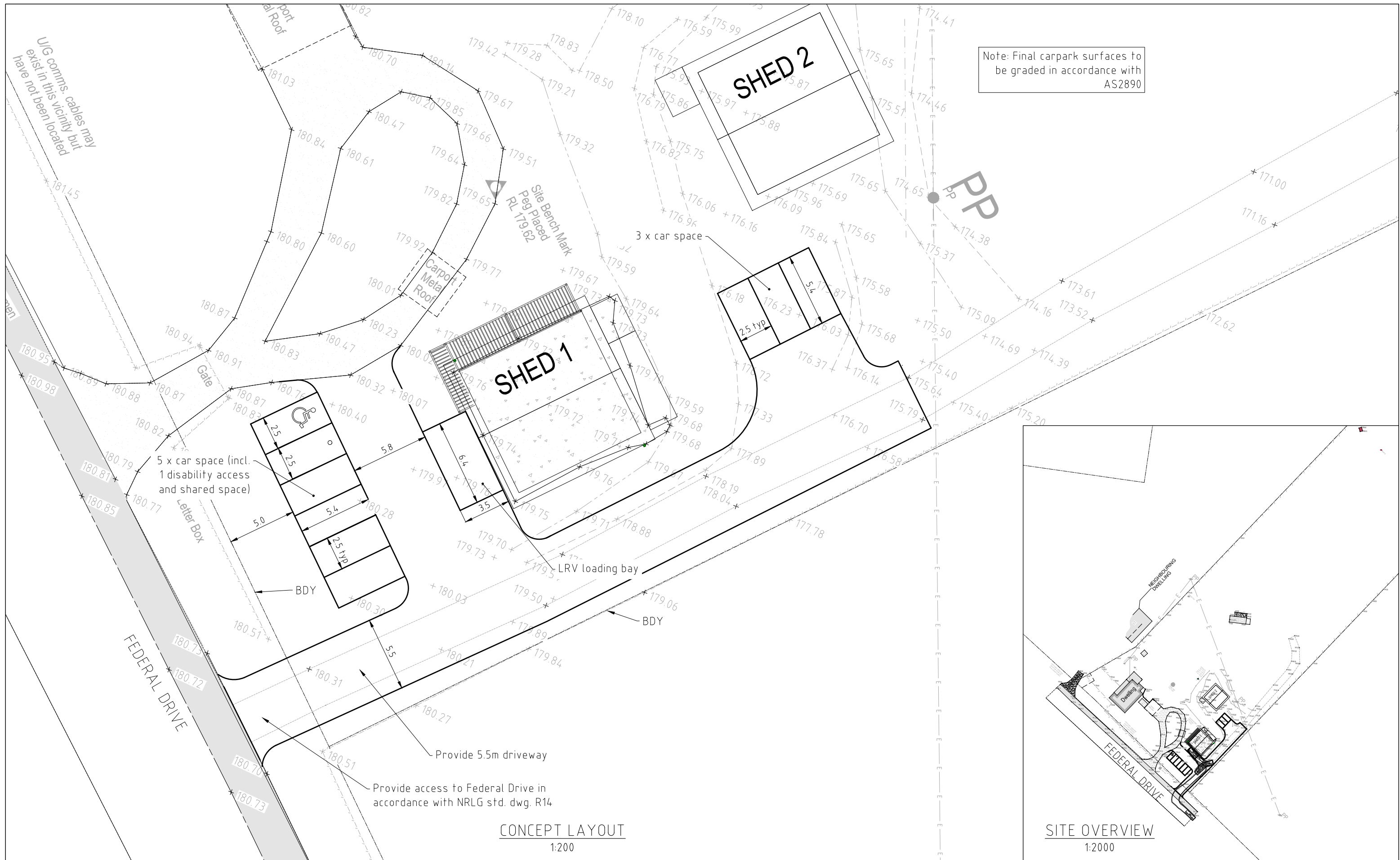


SITE LOCALITY
SOURCE: NSW LPI SIX MAPS
NTS

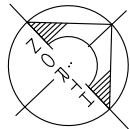
INDEX OF SHEETS

SHEET NUMBER	DRAWING NUMBER	TITLE
1	23042-CIV-DA-01	SITE OVERVIEW, LOCALITY & INDEX
2	23042-CIV-DA-02	SITE PLAN & PARKING LAYOUT
3	23042-CIV-DA-03	DRIVEWAY ALIGNMENT, LONG SECTION AND VEHICLE SWEEP PATH

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A	FOR INFORMATION	SA	17/11/2022					Drawn:	Scale:	Checked:	Date:
B	FOR INFORMATION	AE	15/12/2022					AB	AS SHOWN @ A3		
								Checked:	Original Size:		
								AE	A3	No. in set: 01 of 03	
								Job Number:	Drawing Number:		Revision: B
								23042	23042-CIV-DA-01		



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A	FOR INFORMATION	SA	17/11/2022			THEME RAINS	SITE PLAN & PARKING LAYOUT	Drawn: AB	Scale: AS SHOWN @ A3	Checked:	Date:
B	FOR INFORMATION	AE	15/12/2022								
						Site address: 736 FEDERAL DRIVE FEDERAL NSW 2480	Project: PROPOSED DRIVEWAY & PARKING DESIGN	Checked: AE	Original Size: A3	No. in set: 02 of 03	Revision: B
Z:\JOBS\23\23042 - Theme Rains - 736 Federal Drive, Federal\CIVIL\CAD\23042-CIV-DA-A - Concept Driveway Design - 2022-12-14.2.dwg											



Approximate

Existing driveway

Federal Drive

Concept Driveway Alignment
1:500

Note: Final grades greater than 12% require surface to be sealed

DATUM R.L. 158.00m		-2.82%		-5.00%		-12.00%		-10.34%		-9.93%		-16.12%	
Cut(-)/Fill(+)		0.00	-0.07	0.03	0.02	0.00	0.11	0.21	0.25	0.00	0.00	0.00	-0.02
DESIGN		180.73	180.64	180.57	180.29	180.23	179.84	179.79	179.72	178.81	178.11	176.13	175.70
EXISTING		180.73	180.71	180.54	180.27	180.23	179.73	179.58	179.47	178.81	178.11	176.16	175.70
CHAINAGE	0.00	4.55	7.55	10.00	20.00	22.31	30.00	31.05	32.39	40.00	46.77	50.00	60.00
HOR. GEOMETRY	L = 7.55 B = N42°46'48"E		L = 23.50 B = N45°18'19"E				L = 31.61 B = N43°10'50"E						

Concept Driveway Long Section
1:500

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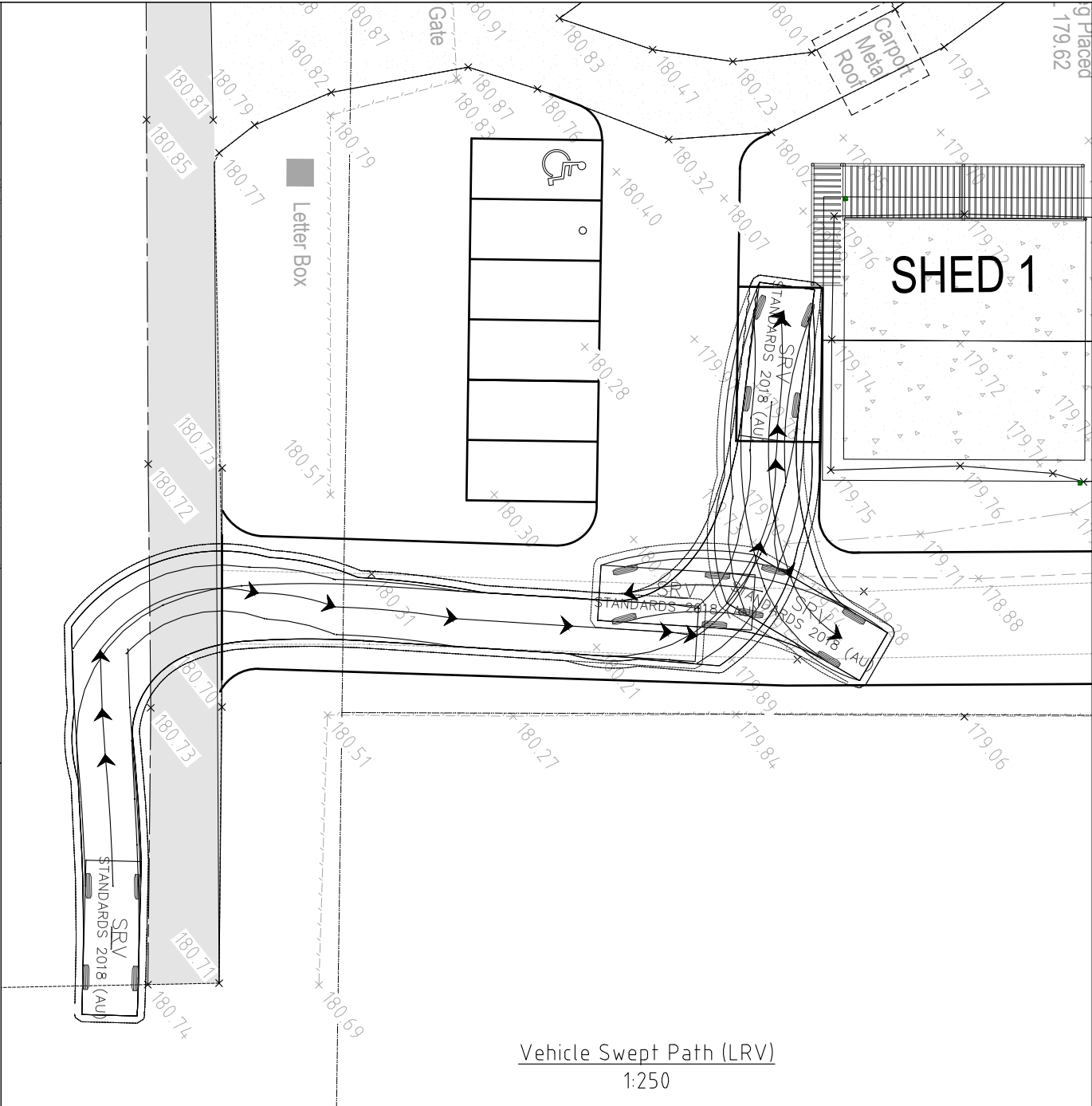
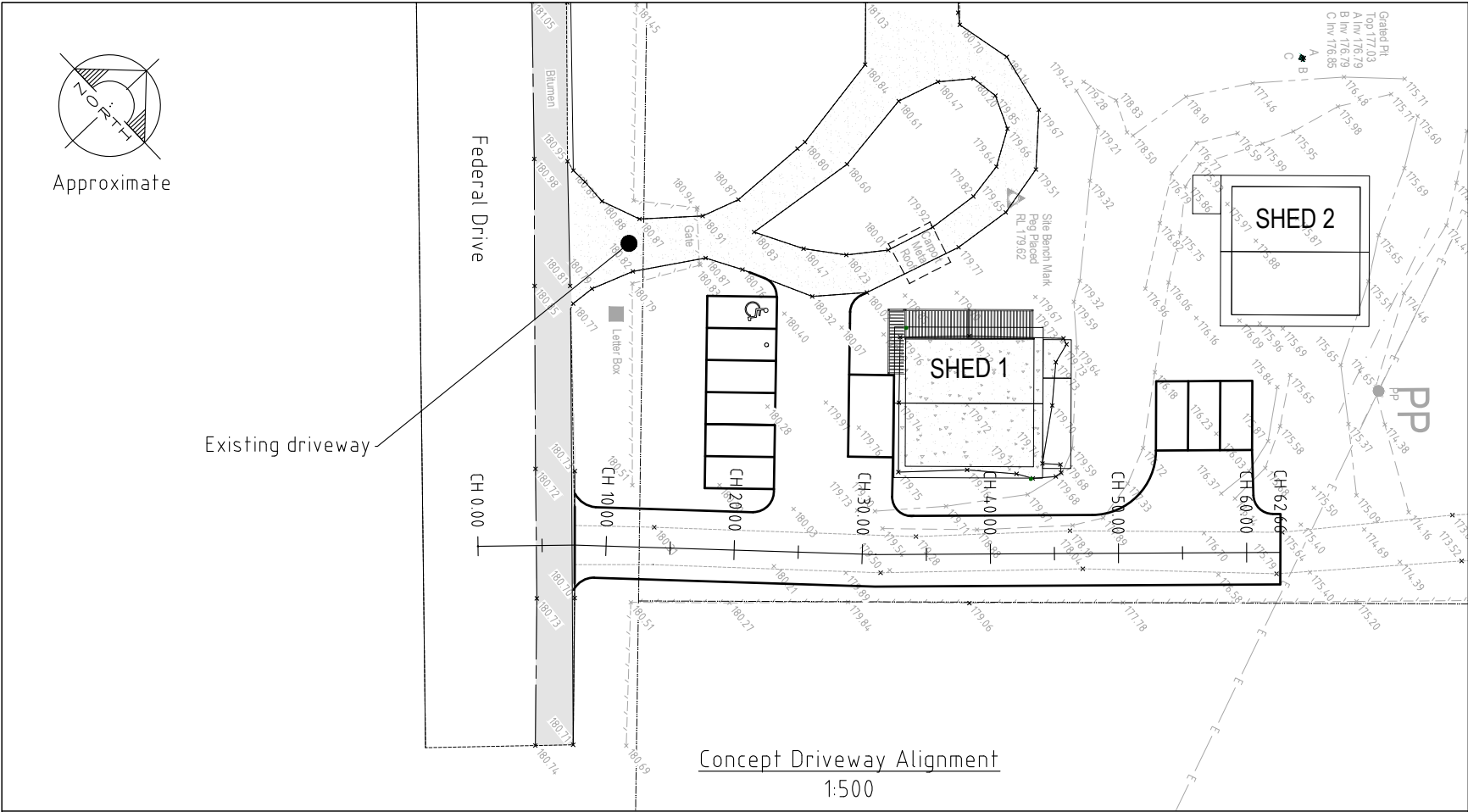
Client:
THEME RAINS

Site address:
736 FEDERAL DRIVE
FEDERAL NSW 2480

Title:
DRIVEWAY ALIGNMENT,
LONG SECTION AND VEHICLE
SWEPT PATH

Project:
PROPOSED DRIVEWAY &
PARKING DESIGN

FOR INFORMATION			
Drawn: AB	Scale: AS SHOWN @ A3		Checked:
Checked: AE	Original Size: A3	No. in set: 03 of 03	
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