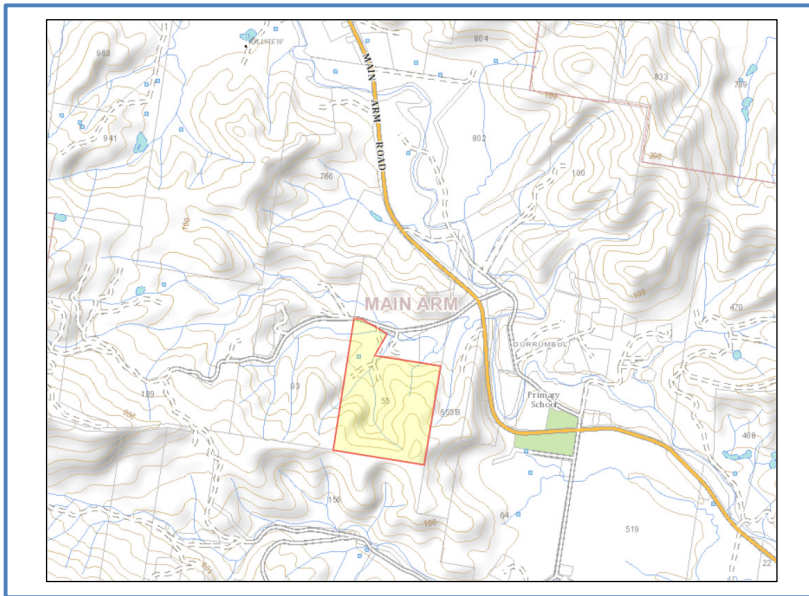


TRAFFIC SAFETY ASSESSMENT

For A

Low Impact Dual Occupancy Planning Proposal



At
55 Settlement Road
MAIN ARM NSW 2482

Upon
Land Title
Lot 5 DP 585928

May2024
(Rev A)

Table of Contents

1	INTRODUCTION	3
2	SIGHTLINE ACCESS TO THE SITE.....	5
3	DRIVEWAY ENTRANCE COMPLIANCE.....	6
4	OTHER ROAD MATTERS	7
5	BUSHFIRE ACCESS STANDARD	7
5	COMPLIANCE SUMMARY OF PROPOSAL.....	8
	APPENDIX A – Driveway Fire Access Details	9

1 INTRODUCTION

This Traffic Safety Assessment been prepared to address driveway and traffic access matters associated with the formalisation of a dwelling entitlement via a planning proposal for the existing dual occupancy upon the holding.

The site is identified as Lot 5 DP 585928 and has a site area of 23.6ha and is located at Settlement Road, Main Arm. The allotment has an irregular frontage to Settlement Road with an overall frontage length of 177m. The Settlement Road site frontage is of a gravel construction, being 4m wide pavement including shoulders on a 5m earthen formation. Refer Plate 1.



Plate 1 – View To West (Car Located Within Existing Driveway Entry)

Settlement Road is considered a minor rural road within Byron Shire Council's road hierarchy classification. It services nominally 30+ dwellings. The existing dual occupancy would generate $2 \times 7.4^* = 15$ trips per day within the current road network. The intersection of Settlement Road with Main Arm Road was recently been upgraded in year 2020 via black spot funding and includes the trip generation of this site within existing traffic flows. Refer to Figure 1.0 below.

* RMS Technical Direction Guide To Traffic Generating Developments – Updated Traffic Surveys (TDT 2013/04a) = 7.4 trips per dwelling in regional areas

Two notorious black spots removed on Main Arm Road

Published on 02 June 2020

Council is putting down line marking and the finishing touches on priority roadworks and safety improvements at two black spots on Main Arm Road thanks to two \$300K grants – one from the Australian Government's Black Spot Program and the other \$300K from the NSW Government's Safer Roads program.

The roadworks are expected to be finished within weeks – on time and on budget. The project has included road-widening and new high-friction surfacing for greater safety, pavement reconstruction and installation of guardrails, guide posts, markers and line marking.



Figure 1.0 – Byron Shire Council Press Release of Main Arm Road Black Spot Upgrade

The first 350m of Settlement Road is of a 3m sealed width on 4m wide pavement. Refer Plate 2.

The balance of Settlement Road is gravel pavement from the end of bitumen seal to the driveway access to this planning proposal site as shown in Plate 1. The length of this section of gravel pavement is 170m.

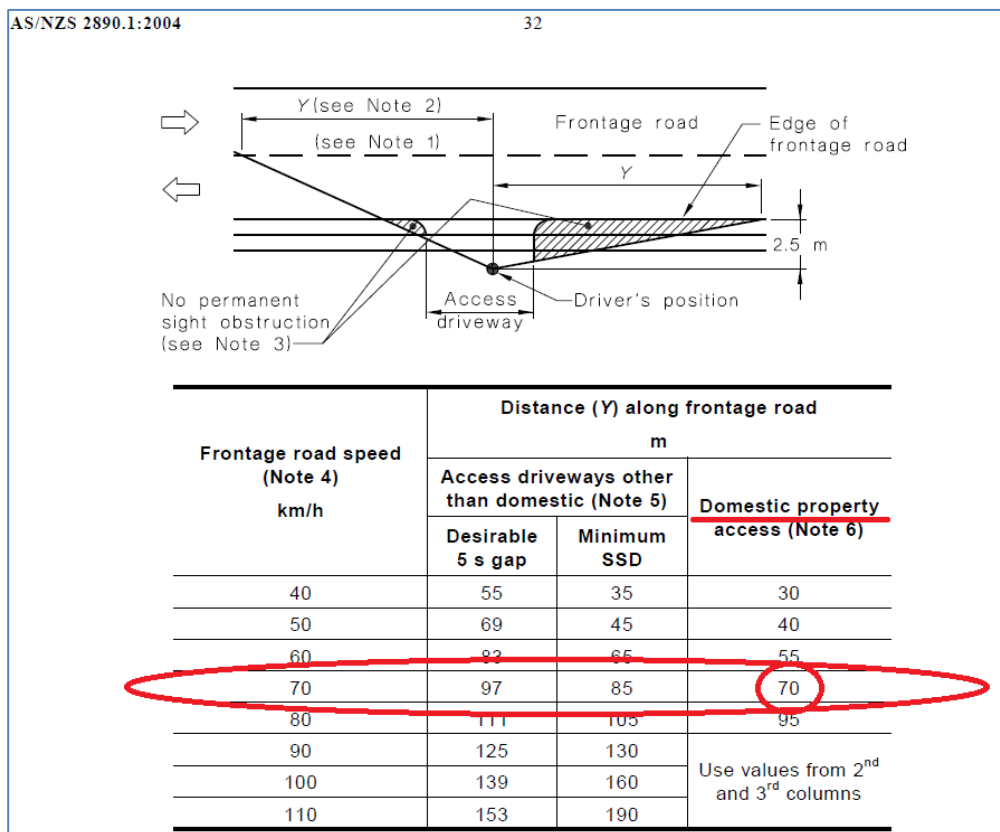


Plate 2 – 3m Sealed Section Settlement Road (view towards Main Arm Road Intersection)

2 SIGHTLINE ACCESS TO THE SITE

A site inspection was undertaken on 10th August 2020 to assess sight lines and access options for the proposal to which sight distances were assessed as compliant based upon the following:

- No sign posted speed was present on Settlement Road, thereby NSW State speed limit of technically 100kph applies.
- Notwithstanding the speed limit, road topography dictates a lesser travel speed. The actual travel speed (ie via multiple drive by's and visual timing assessment of vehicles) ranged between 60kph to 70kph.
- Sight distance to the east was measured at 90m (require 70m to AS2890.1)
- Sight distance to the west was measured at 80m (require 70m to AS2890.1)



Extract – Figure 3.2 Sight Distance Requirements at Access Driveways (AS2890.1)

3 DRIVEWAY ENTRANCE COMPLIANCE

The site inspection identified that the existing driveway access would require localised upgrade improvement works to facilitate bushfire truck entry/exit to the property. A bushfire truck (MRV size) template was used with AutoTURN PRO software to assess the extent of new pavement / fencing works necessary. The works required as shown in Figure 3.3 below are:

- Widen driveway to 11m width at Settlement Road
- Transition from 11m width to 5m width, over a 10m length.
- If a rural gate on boundary is to be installed, needs to have a 5m opening width.



Figure 3.3 Turning Template Assessment of Works Required

The existing internal driveway will require upgrade to provide a 4m gravel formation width. In addition, the internal driveway crosses a significant gully flow path which has a catchment area of 33Ha. Preliminary design assessment calculates that to provide a 1yr flood immunity, culverts required on the internal private driveway need to be 3 x 600 dia pipes.

4 OTHER ROAD MATTERS

The existing Settlement Road is less than the minimum public road geometric standard (ie 6m sealed pavement on 7m formation) that Byron Shire Council nominates for NEW SUBDIVISIONS as per the Northern Rivers Design Guideline. The ongoing management of existing roads of lesser geometric service standard is one to which Byron Shire Council manages in conjunction with the competing funding needs of the broader road network. To meet the incremental upgrade needs of the rural road network, Council has developed a Rural Roads Contribution Plan to which this development will be required to contribute.

The rural roads contribution contribution levy is \$16,700 per 3 bedroom dwelling as at end of year 2022.

5 BUSHFIRE ACCESS STANDARD

Consideration has also been had as to the extent of localised upgrades of Settlement Road so as to improve passing bay opportunities between the planning proposal site and Main Arm Road. This is to accord with Planning for Bush Fire Protection (2019) which notes in Table 4.2.1 that '*consideration of the existing and proposed road networks*' to deal with evacuating residents and emergency services be had. It is thereby raised that by implementing passing bay opportunities (which would facilitate a compliance with the minimum bushfire standard of passing bays at 200m distances), a net beneficial road outcome is able to be provided for the use of the wider community. Refer to *Figure 4 – Existing Settlement Road and Passing Bay Options*.

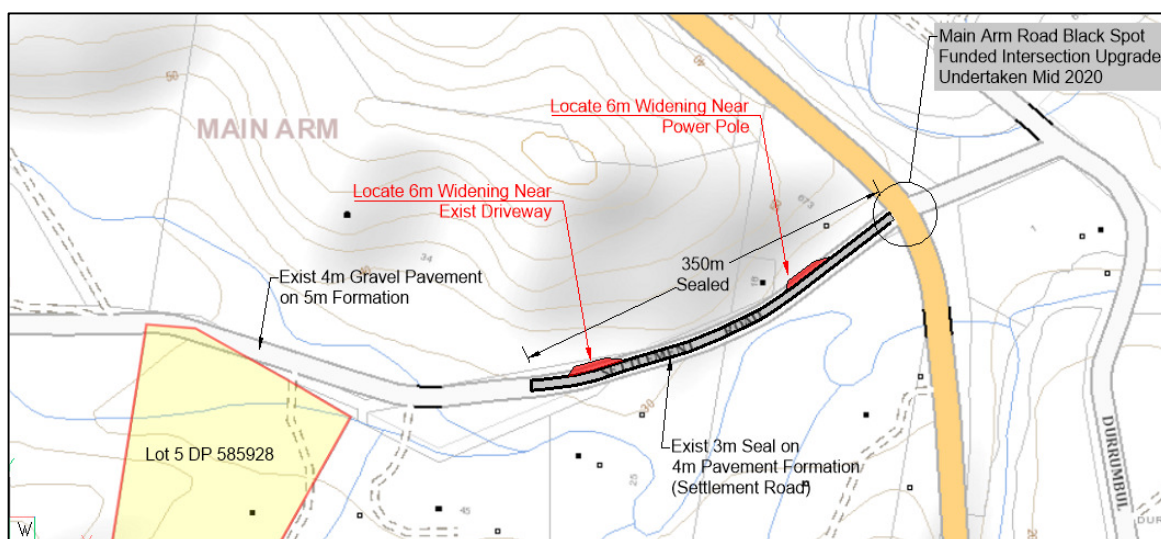


Figure 4 – Existing Settlement Road and Passing Bay Options

Preliminary design of the driveway access to the rear dual occupancy dwelling has been undertaken to demonstrate a functional fire trail access can be provided. Refer to *Drg No: Fire-01* as shown in **Appendix A – Driveway Fire Access Details**.

The length of the access is 320m and a passing bay can be provided at CH120, which is the location of the front dual occupancy dwelling. Gradient of the road will be less than 12% so thereby can be a gravel surface in accordance with Council policy. Sufficient room is available adjacent to the rear dual occupancy to install a 12m turning tee and dedicated fire tank as per PBFP2019 standard requirements.

5 COMPLIANCE SUMMARY OF PROPOSAL

This Traffic Safety Assessment has had regard to assessing the existing driveway and the planning proposals emergency access to Main Arm Road and confirms that:

- (i) Compliance with AS2890.1 driveway sight lines can be achieved;
- (ii) Bushfire truck access can be achieved via localised upgrade of the driveway entrance as per the works identified in Figure 3.3;
- (iii) Bushfire truck access and turning tee facility can be provided to the rear dual occupancy dwelling;
- (iii) A net benefit is able to be provided to the wider community via implementing the passing bay works within Settlement Road as identified in Figure 4.
- (iv) By installing 3 x 600dia culverts, the internal driveway will achieve a 1yr flood immunity.

APPENDIX A – Driveway Fire Access Details

Drg No: Fire 01 – Driveway Access For Bushfire Compliance Check



PLAN VIEW

1. The fire trail design is indicative only to demonstrate a compliant fire trail access is achievable. Final design location to be determined via lodgement of construction drawings in accordance with PBF2019 requirements.

Station	Road CL Level (Gravel Pavement)	Surface Level	Cut / Fill	Datum R.L. 23.00	Grades	Vertical Curves
0.00	30.32	30.32	+0.00		-1.98%	I.P. 30.32
10.99	30.10	30.00	+0.10			
18.67	29.95	29.93	+0.01		-0.97%	I.P. 29.92
20.00	29.92	29.92	+0.00			
40.00	29.73	29.71	+0.02		0.44%	I.P. 29.71
41.38	29.71	29.71	+0.00			
58.47	29.79	29.32	+0.47			
60.00	29.79	29.35	+0.44			
70.00	29.84					
80.00	30.14	29.88	+0.25			I.P. 29.88
84.57	30.44	30.03	+0.41			
90.00	30.94					
100.00	32.00	32.00	+0.00			I.P. 32.00
106.04	32.38					
112.11	32.66	32.56	+0.10			I.P. 33.00
116.04	32.74	32.80	-0.06			
120.00	32.75	32.80	-0.06			
122.31	32.71	32.73	-0.02			I.P. 32.54
126.04	32.59					
127.29	32.54	32.54	+0.00			
130.00	32.53					
131.82	32.53	32.40	+0.13			I.P. 32.50
140.00	32.65	32.50	+0.15			
147.02	32.90	32.78	+0.13			
150.00	33.05					
160.00	33.60	33.79	-0.19			I.P. 34.15
169.93	34.15	34.15	+0.00			
180.00	34.68	34.69	-0.01			
200.00	35.74	35.62	+0.11			
205.24	36.01	36.01	+0.00			I.P. 36.01
220.00	37.04	36.94	+0.09			
238.63	38.33	38.32	+0.01			I.P. 38.43
240.00	38.43	38.43	+0.00			
260.00	40.01	40.00	+0.01			
274.40	41.15	41.13	+0.02			
280.00	41.60	41.60	+0.00			I.P. 41.60
300.00	43.82	43.62	+0.21			
310.37	44.98	44.98	+0.00			I.P. 44.98
319.77	45.50	46.05	-0.55			I.P. 45.50

Scale Horizontal 1:1000 Vertical 1:200

4m Wide (Incl Shoulders) Gravel Driveway

SDS Civil Enterprises
 A.B.N. 56 656 467 255
 461 Hinterland Way, Knockrow NSW
 m 0438 725 414 e petenw@sdcscivil.com.au

IMPORTANT NOTES
 1. Verify and locate all dimensions and levels PRIOR to performing any works.
 2. Ensure DVID enquiries are made to locate current service information.
 3. Provide or service locator of any underground services before performing works, used by others without approval of SDS Civil Enterprises.
 © Copyright SDS Civil Enterprises

Rev	Date	Amendment
A		
B		
C		
D		

SCALE
 Not Applicable

PROJECT: Dwelling Planning Approval
 CLIENT: Planners North
 ADDRESS: 55 Settlement Road MAIN ARM NSW 2482
 LAND: Lot 5 DP585928

DATE: May 2024
 DRAWING PURPOSE: Planning Approval
 DRAWING NUMBER: Fire - 01

REVISION

APPROVED BY: Mr P Williams B.Eng (Civil)