

Our Ref **HRP12127L01.004.docx**
Contact **John Van As**

27 September 2012

The General Manager
Coffs Harbour City Council
Locked Bag 155
COFFS HARBOUR NSW 2450

Attention: Mr Grahame Fry, Land Use Planner

Dear Grahame

**Cardno Humphreys
Reynolds Perkins Pty Ltd**
ABN 93 010 721 294

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40 Creek Street
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COFFS HARBOUR CITY LOCAL ENVIRONMENTAL PLAN (LEP) 2000 AMENDMENT NO. 34 – NORTH COFFS (DEFERRED MATTER)

Introduction

We refer to Council's letter dated 09 August 2012 to The Village Building Co Ltd (Village Building) regarding Council's decision to identify part of Lot 3 on DP270533 as a 'deferred matter' in its adoption of Amendment No. 34 – North Coffs. Cardno HRP is the town planning consultant for Village Building in relation to this matter.

This letter and its attachments provide information to assist Council in its further action to resolve the zoning of this land. In particular this material responds to Council's request that Village Building demonstrate:

- *"the method of servicing the land (i.e. water and sewerage) given that Council is unable to provide reticulated water above the 55m (AHD) contour;*
- *traffic and access provisions;*
- *addressing any potential impacts to biodiversity; and*
- *provision/management of Asset Protection Zones (APZs) in accordance with the provisions of Planning for Bush Fire Protection 2006."*

Enclosed with this letter is the following material:

- **Attachment 1:** for convenience, included herewith is a copy of Amendment No. 34 with the subject land shown shaded (as attached to Council's letter dated 09 August 2012);
- **Attachment 2:** Extract from Coffs Harbour Local Environmental Plan 2000 zoning maps;
- **Attachment 3:** Water Supply & Sewerage Services Report prepared by H Design, civil engineering consultants;
- **Attachment 4:** Traffic and Access Assessment prepared by Roadnet, traffic engineering consultants;
- **Attachment 5:** Biodiversity Assessment prepared by Idyll Spaces, environmental consultants; and
- **Attachment 6:** Bushfire Hazard Assessment prepared by Resource Design & Management Pty Ltd (RDM).

The key points made in the above reports and assessments are summarised in this letter.

Brief Background

The subject land forms the north-western part of Lot 3 on DP270533, which is an irregularly-shaped, elevated lot on the northern side of the Pacific Highway's northern approach to Coffs Harbour, near the Big Banana tourist facility. The subject land is shaded and identified as a 'Deferred Area' on the copy of the Amendment No. 34 map prepared by Council and reproduced in **Attachment 1** and is identified as 'Subject Land' on the extract from the Coffs Harbour Local Environmental Plan 2000 zoning maps reproduced in **Attachment 2**.

The Deferred Area is defined in the south-east by the 55m AHD contour line, in the north-east by the approximate edge of land identified by Council as containing primary koala habitat and in the west by the frontage of Lot 3 to road identified as Dress Circle, an extension of Gerard Drive. The construction of this road forms part of 'The Summit' development of townhouses and apartments being undertaken progressively by Village Building on land directly adjoining the subject land to the north-west, west and south-west.

A substantial part of the surrounding land to the near west and north, including land in The Summit development, is included in the Residential 2E Tourist Zone. Part of Lot 3 directly to the south of the Deferred Area and below the 55m AHD contour was included in this zone under Amendment No. 34. Land to the east, including the south-eastern leg of Lot 3, was included in the Environmental Protection 7A Habitat and Catchment Zone under Amendment No. 34. Other land further afield remains in the Rural Agricultural 1A Zone (some of it pending further planning investigations) with selected areas of Environmental Protection 7A Habitat and Catchment Zone. The established urban areas of Coffs Harbour and environs extend to the north, east and south on the opposite side of the Pacific Highway from the subject land, and further to the west.

At its meeting on 09 February 2012 adopting Amendment No. 34 to the Coffs Harbour Local Environmental Plan 2000, Council decided to identify the subject land as a Deferred Area pending further investigations including receipt of information on the four points noted above under the heading 'Introduction' and addressed in turn in the following sections.

Servicing

Water Supply

The strategy for supplying water to future development on the subject land will be an extension of the existing arrangement for the Summit project, of which the subject land will form part. This is described as follows in the H Design engineering report in **Attachment 3**:

"...it is proposed to install 160,000 litres of water storage (2 x 80,000 litre tanks) located at or about RL 55 AHD . Town water under gravity trickle feed conditions will fill these storage tanks. Water will then be pumped from the tanks via dual (duty and standby) VSD electric pumps, and a standby diesel pump, at a maximum fire fighting flow of 20 litres per second to the subject site. The water service will be a 150mm service with fire hydrants and stop valves and water meters to each building/ apartment as required by the local water authority."

Sewerage

H Design advises that the development on the subject land would be seweraged by a gravity system connecting to the existing internal sewerage system within The Summit development. The sewerage system will be a 150mm drain with maintenance shafts and inspection openings as required by AS 3500 part 2. Refer to the engineering report in **Attachment 3**.

Traffic and Access

Roadnet Consulting Planners and Engineers have reviewed the proposal, confirming that the subject site will gain access to Mastracolas Road via Gerard Drive and a proposed road to be known as the Dress Circle. Roadnet have analysed the predicted traffic volumes on the road network and concluded that the increased traffic volumes would have a "very minor impact on the road network" (refer to the traffic report in **Attachment 4**).

The Roadnet report also indicates that the existing roundabout at the intersection with the Pacific Highway will continue to operate satisfactorily despite the minor increase in traffic volumes (an increase of between 27 and 36 vehicle trips per day).

Biodiversity

Idyll Spaces Environmental Consultants have prepared a Biodiversity Assessment Report (refer **Attachment 5**) having assessed the potential impacts of the proposed rezoning on the area's flora and fauna.

The report finds that the proposed rezoning would eventually involve the clearing of approximately 200m² of native overstorey vegetation, and occasional native seedlings, herbs and grasses within exotic grassland for the construction of tourist residential accommodation and associated infrastructure. The report also notes that:

- No threatened flora were detected in the study area;
- While a “very small” quantity of potential foraging habitat does exist for the Glossy Black Cockatoo, Spotted-tail Quoll and Grey-headed Flying-fox, the utilisation of the potential foraging habitat onsite by those species is unlikely;
- The location and isolation of the remnant vegetation are such that the proposal would not contribute to fragmentation or isolation of habitat or decrease connectivity of wildlife corridors within the landscape; and
- EPBC Act listed flora, communities or fauna habitat do not occur in the study area, therefore the proposal would not impact on any matters of National Environmental Significance pertaining to flora or fauna and referral to the federal environment minister would not be required.

Bushfire Asset Protection Zones

This rezoning request is also supported by a Bushfire Hazard Assessment report which has been prepared by Resource Design & Management Pty Ltd, and is reproduced at **Attachment 6**.

The Bushfire Hazard Assessment report has been prepared in support of the proposed rezoning, by identifying the site and its characteristics, reviewing the existing bushfire mapping and determining the bushfire threat – which inform the recommendations for Asset Protection Zones (APZ's) and Construction Standards as prescribed in *Planning for Bushfire Protection 2006*.

Specifically, APZ's are proposed to maintained as open areas with minimal fuel at the ground level supported by regular weed management activities to control regenerating weeds.

The Bushfire Hazard Assessment finds that adequate and appropriate bushfire hazard protection measures are available, and can be implemented in a manner where the proposed rezoning conforms with the standards, specific objectives and performance criteria set out in *Planning for Bushfire Protection 2006*.

Conclusion

This package of material appropriately addresses Council's request for further information regarding the proposed servicing of the site, the potential traffic and biodiversity impacts of the proposed rezoning, and the ways in which the site responded to the threat and risks of bushfire.

In summary, the specialist reports have demonstrated that:

- The site can be serviced (water and sewer infrastructure) as an extension of the existing servicing arrangements for the Summit project, of which the subject land will form part;
- The predicted traffic volumes on the road network would be low, and that the slight increase in traffic volumes would have a “very minor” impact on the road network;
- No threatened flora were detected in the study area, and the utilisation of any potential foraging habitat onsite by species including the Glossy Black Cockatoo, Spotted-tail Quoll and Grey-headed Flying-fox is “unlikely”; and
- Adequate and appropriate bushfire hazard protection measures are available, and can be implemented in a manner where the proposed rezoning conforms with the standards, specific objectives and performance criteria

set out in *Planning for Bushfire Protection 2006*.

We believe the reports and assessment provided herewith demonstrate that the subject land is suitable for urban development and that it would be appropriate to include the 'deferred area' of Lot 3 on DP270533 in the Residential 2E Tourist Zone, consistent with surrounding land in this locality.

Should you have any questions or require further information please contact John Van As or David Perkins by telephone on (07) 322 8833 or e-mail john.vanas@cardno.com.au or david.perkins@cardno.com.au.

Yours faithfully



John Van As
Principal
For Cardno HRP

Enc: Water Supply & Sewerage Services Report
Traffic and Access Assessment
Biodiversity Assessment Report
Bushfire Hazard Assessment Report

cc: Mr Ken Ineson, Executive General Manager Land Development
The Village Building Co Ltd
PO Box 178
MITCHELL ACT 2911

ATTACHMENT

1

COPY OF LOCAL ENVIRONMENTAL
PLAN AMENDMENT NO. 34



- 2E** Residential Tourist
- 5A** Special Uses - Classified Road
- 7A** Environmental Protection Habitat and Catchment
- Deferred Area**

LOCALITY: Coffs Harbour and Korora

DRAWN BY: JXS DATE: April 13 SCALE: 1:25000

SHEET NO. 1 OF 1 SHEETS

COUNCIL FILE NO.

DEPT. FILE NO. 10/21194

CERTIFICATE PLAN NO. DATE:

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

**COFFS HARBOUR CITY
LOCAL ENVIRONMENTAL PLAN 2000**

(Amendment No. 34)

STATEMENT OF RELATIONSHIPS WITH OTHER PLANS

**THIS PLAN AMENDS COFFS HARBOUR CITY
LOCAL ENVIRONMENTAL PLAN 2000**

CERTIFICATE ISSUED UNDER SEC.65 EPA ACT 1979. DATE:

Date published on NSW Legislation Website:

CERTIFIED IN ACCORDANCE WITH THE ENVIRONMENTAL PLANNING
& ASSESSMENT ACT 1979 AND REGULATIONS.

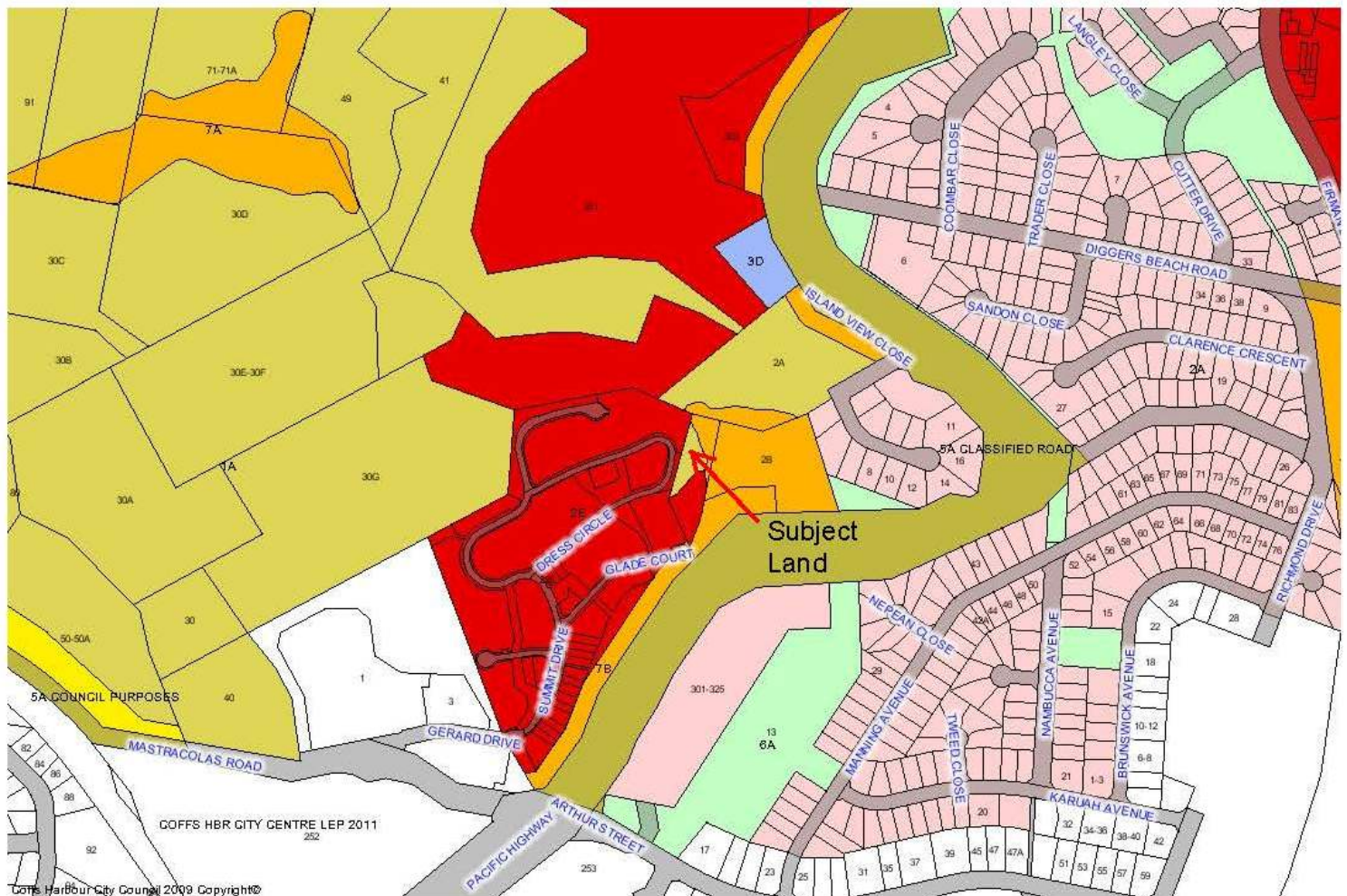
[Signature]
GENERAL MANAGER

14/5/2012
DATE:

ATTACHMENT

2

COFFS HARBOUR LOCAL
ENVIRONMENTAL PLAN 2000 ZONING
EXTRACT



LEGEND

- 1A Rural Agriculture
- 1B Rural Living
- 1F Rural State Forest
- 2A Residential Low Density
- 2B Residential Medium Density
- 2C Residential Medium-High Density
- 2D Residential High Density
- 2E Residential Tourist
- 3A Business City Centre
- 3B Business City Support
- 3C Business Town Centre
- 3E Business Town Centre Support
- 3F Business Neighbourhood
- 3D Business Tourist Service Centre
- 3G Business Mixed Use
- 4A Industrial
- 6A Open Space Public Recreation
- 6C Open Space Private Recreation
- 7A Environmental Protection Habitat & Catchment
- 7B Environmental Protection Scenic Buffer
- 7C Environmental Protection Coastal Acquisition

ATTACHMENT

3

WATER SUPPLY & SEWERAGE
SERVICES REPORT

Prepared by
H Design Pty Ltd

h°design°pty°ltd

ABN 35 032 365 238

PO Box 219 Salisbury QLD 4107

Ph 07 3848 0333 Fax 07 32773884

Email mail@hdesign.com.au

WATER SUPPLY & SEWERAGE SERVICES

For

Part of Lot 3 on DP 270533**The Summit Development Coffs Harbour NSW****Report Amendment Register**

Revision	Section & Page No.	Amendment	Author	Approved	Date
A					13.9.12

1. PURPOSE OF DOCUMENT

This document has been prepared at the request of The Village Building Co Limited to provide advice on the proposed methods necessary to provide water and sewerage services to the subject site.

2. INTRODUCTION

It should be noted that the subject site is to be included in The Summit development site and as such the proposal to service the site is a relatively simple extension of the proposed Summit site services as previously approved.

3. WATER SUPPLY

Currently it is proposed to install 160,000 litres of water storage (2 x 80,000 litre tanks) located at or about RL 55 AHD . Town water under gravity trickle feed conditions will fill these storage tanks. Water will then be pumped from the tanks via dual (duty and standby) VSD electric pumps, and a standby diesel pump, at a maximum fire fighting flow of 20 litres per second to the subject site. The water service will be a 150mm service with fire hydrants and stop valves and water meters to each building/ apartment as required by the local water authority. A schematic design is indicated on the attached plans.

4. SEWERAGE

The sewer connection to the subject site will be a gravity system connecting to the existing internal sewerage system within The Summit development. The sewerage system will be a 150mm drain with maintenance shafts and inspection openings as required by AS 3500 part 2. A schematic design is indicated on the attached plans.

H DESIGN PTY LTD

Greg Hamilton

Diploma of Engineering – Construction Hydraulics

P. A. No.
RPD : LOT 3 ON DP270533

GENERAL NOTES

1. ALL WORK TO CONFORM TO AS 3500 Part 1 & 4.3.
2. ALL WORK TO CONFORM WITH ALL RELEVANT AUSTRALIAN STANDARDS.
3. CONTRACTOR TO VERIFY ALL LEVELS BEFORE COMMENCING WORK TO ENSURE CONNECTION TO SERVICE WITH ADEQUATE COVER AND FALL.
4. THE EXISTING UNDERGROUND SERVICES SHOWN HAVE BEEN OBTAINED FROM OLD RECORDS OF THE RELEVANT AUTHORITIES AND MAY NOT BE ACCURATE. THE CONTRACTOR SHALL ALLOW TO LOCATE EXISTING SERVICES AS REQUIRED FOR CONNECTION.

LEGEND

-----	EXISTING SERVICES DELETION		
— s —	EXISTING SEWER		
— s-d —	EXISTING SANITARY DRAIN		
— sw —	EXISTING STORM-WATER DRAIN		
— x —	EXISTING TRADE WASTE DRAIN		
— w —	EXISTING WATER SERVICE		
— f —	EXISTING FIRE SERVICE		
— g —	EXISTING GAS SERVICE		
— s —	SEWER		
-----	SANITARY DRAINAGE		
--- CSW ---	CIVIL STORMWATER (REFER TO CIVIL DOCS)		
--- ST ---	STORMWATER		
--- RM ---	RISING MAIN (STORMWATER / SANITARY)		
--- X ---	TRADE WASTE DRAIN		
--- rf ---	ROOF WATER		
--- V ---	VENT PIPE		
--- / ---	AGI DRAIN		
--- C ---	COLD WATER SERVICE		
--- H ---	HOT WATER SERVICE (FLOW)		
--- W ---	WARM WATER SERVICE		
--- NP ---	NON-POTABLE COLD WATER SERVICE		
--- rw ---	RAINWATER SERVICE		
--- RC ---	RECYCLED WATER SERVICE		
--- F ---	FIRE SERVICE		
--- G ---	GAS SERVICE		
--- S ---	SILT FENCE		
st 1	STACK NO.	ex 1	ELEVATED PIPEWORK RISER NO. / SIZE
vp 50	VENT PIPE SIZE	dp 100	DOWNPIPE SIZE
cwd 1	COLD WATER DROPPER NO. / SIZE	cs 50	CONDENSATE STACK SIZE
A/V AIR ADMITTANCE VALVE loc 1.0 TO SURFACE			
AC AIR CONDITIONING	IL INVERT LEVEL		
b BASIN	JU JUMP UP		
b-d BIDET	MH MANHOLE		
bth BATH	ORG OVERFLOW RELIEF GULLY		
bwu BOILING WATER UNIT	o/f OVERFLOW		
bt BUCKET TRAP	pal PLANTER DRAIN		
c/p CHROME PLATED	RL REDUCED LEVEL		
c/c CLEANERS SINK	RUP RAINWATER DOWNPipe		
cv CONTROL VALVE	RWH RAIN WATER HEAD		
cwd COLD WATER DROPPER	rw RAINWATER		
cwr COLD WATER RISER	rw RAINWATER RISER		
DCV DOUBLE CHECK VALVE	rwd RAINWATER DROPPER		
df DRINK FOUNTAIN	RUT RAIN WATER TANK		
du DISHUISHER	s/b SHOWER/BATH		
d/p DOWNPIPE	SDO SPOON DRAIN OUTLET		
DT DISCONNECTOR TRAP	sk SINK		
EJ EXPANSION JOINT	st STAIR		
FDO FLOOR DRAIN OUTLET	SL SURFACE LEVEL		
FI FIRE HYDRANT	SS STAINLESS STEEL		
f FIRE SERVICE	SW STORMWATER		
fr FIRE HOSE REEL	L LAUNDRY TUB		
fnd FIRE SERVICE DROPPER	td TUNDISH		
fr FIRE SERVICE RISER	tg TESTGATE		
fu FIXTURE UNITS	tw TRAP + WASTE		
fg FLOOR WASTE GULLY	TMV THERMOSTATIC MIXING VALVE		
GO GRATED OUTLET	UB URINAL		
gv GATE VALVE	VB VENTILATION BASIN		
gwd GAS SERVICE DROPPER	vp VENT PIPE		
gr GAS SERVICE RISER	wc WATER CLOSET		
hc HOSE COCK	WM WASHING MACHINE		
hnd HOT WATER DROPPER	EX EXISTING		
hur HOT WATER RISER	(L) TRAPPED		
HYD HYDRANT	HO HOSE COCK		
huw HOT WATER UNIT	IC CONTROL VALVE		
IC INSPECTION CHAMBER	M NON RETURN VALVE		
io INSPECTION OPENING	M1 GATE VALVE		
ix FIXTURE POINT SEALED			
@ AT FLOOR LEVEL			

DATE:	AMENDMENT DESCRIPTION:	INIT:	REV:

h design pty ltd

HYDRAULIC • SERVICES • CONSULTANTS

P 3848 0333 F 3277 3884

E mail@hdesign.com.au

DESIGNER : GREG HAMILTON - BSA No. 1022445

ARCHITECT:

BYN ARCHITECTURE

365 ST PAULS TERRACE
FORTITUDE VALLEY BRISBANE QLD 4006
PH: (07) 3852 2525 FAX: (07) 3852 2544

CLIENT:

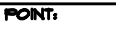
CLIENT:
THE VILLAGE BUILDING COMPANY

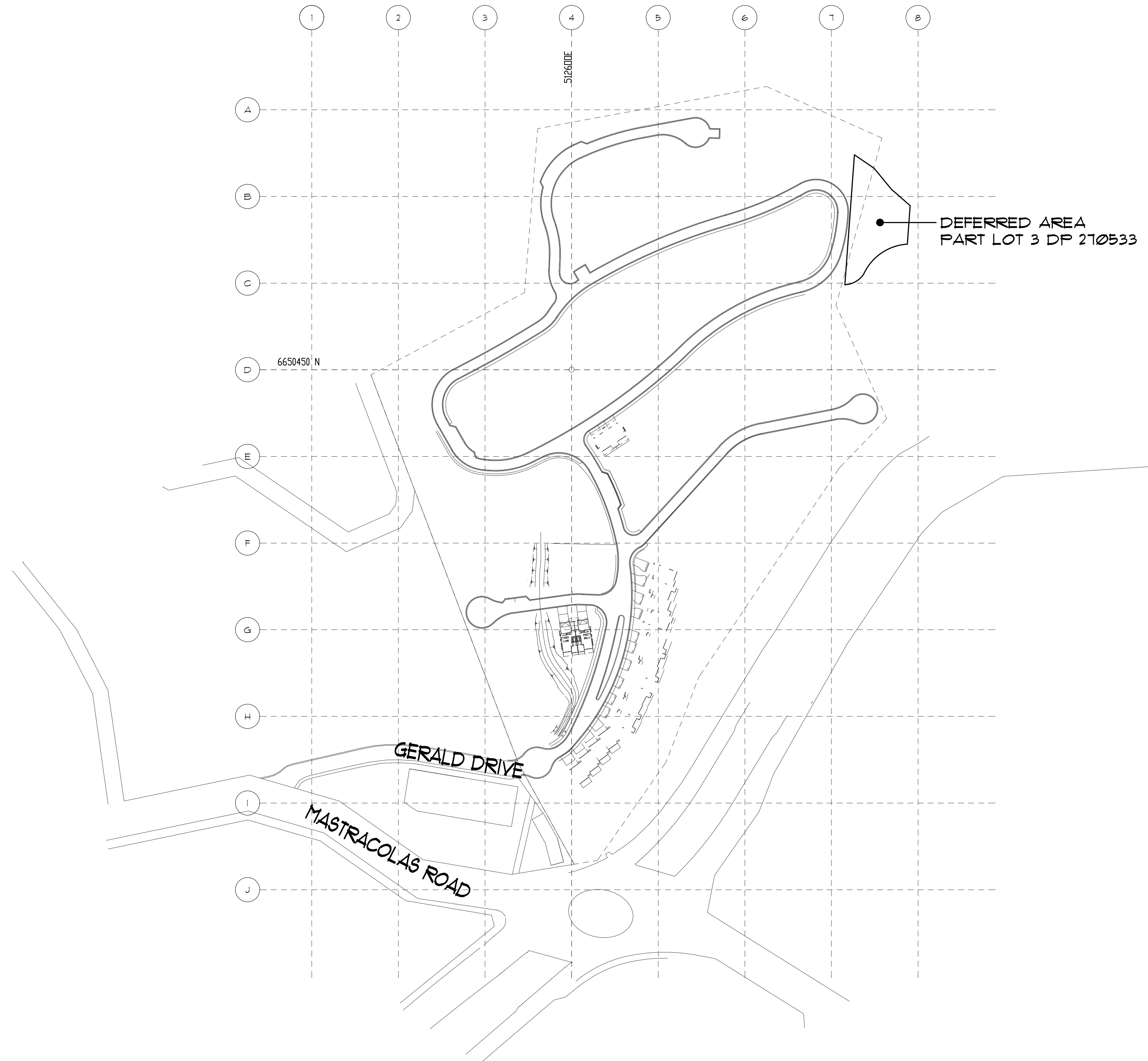
PROJECT:

THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

TITLE:

SITE & LOCALITY PLAN

	DATE:	SEP 2012	SCALE:	NTS
	DESIGNED BY:	GH	CAD FILE:	
	DRAWN:	AR	SHEET 1	OF 7
	PROJECT NO:	12338	DRAWING NO:	HI
			REVISION:	



P. A. No.
RPD : LOT 3 ON DP270533

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—s	EXISTING SEWER			
—s ^{cd}	EXISTING SANITARY DRAIN			
—su	EXISTING STORMWATER DRAIN			
—x	EXISTING TRADE WASTE DRAIN			
—w	EXISTING WATER SERVICE			
—f	EXISTING FIRE SERVICE			
—g	EXISTING GAS SERVICE			
—s	SEWER			
----	SANITARY DRAINAGE			
—CSV----	CIVIL STORMWATER (REFER TO CIVIL DOCS)			
—su	STORMWATER			
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—x	TRADE WASTE DRAIN			
—rf	ROOF WATER			
----	VENT PIPE			
—/	AGI DRAIN			
----	COLD WATER SERVICE			
----	HOT WATER SERVICE (FLOW)			
----	WARM WATER SERVICE			
—rp	NON-POTABLE COLD WATER SERVICE			
—ru	RAINWATER SERVICE			
—rs	RECYCLED WATER SERVICE			
—f	FIRE SERVICE			
—g	GAS SERVICE			
—	SILT FENCE			
	→		ELEVATED PIPEWORK RISER NO. / SIZE	
	→		VENT PIPE SIZE	DOWNPIPE SIZE
	→		COLD WATER DROPPER NO. / SIZE	(INSULATED) CONDENSATE STACK SIZE
AAY	AIR ADMITTANCE VALVE	los	I.O. TO SURFACE	
AC	AIR CONDITIONING	ll	INVERT LEVEL	
b	BASIN	ju	JUMP UP	
bdi	BIDET	mh	MAN-HOLE	
bth	BATH	org	OVERFLOW RELIEF GULLY	
bwu	BOILING WATER UNIT	o/f	OVERFLOW	
bt	BUCKET TRAP	pdf	PLANTER DRAIN	
c/p	CHROME PLATED	rd	REDUCED LEVEL	
cl	CLEANERS SINK	ru ^{dp}	RAINWATER DOWNPipe	
cv	CONTROL VALVE	ruw	RAIN WATER HEAD	
cud	COLD WATER DROPPER	rw	RAINWATER	
cwr	COLD WATER RISER	rur	RAINWATER RISER	
dcv	DOUBLE CHECK VALVE	rut	RAINWATER DROPPER	
df	DRINK FOUNTAIN	rw ^t	RAIN WATER TANK	
dw	DISHWASHER	s/b	SHOWER/BATH	
dip	DOWNPipe	sdo	SHOON DRAIN OUTLET	
DT	DISCONNECTOR TRAP	sk	SINK	
EJ	EXPANSION JOINT	sh	SHOWER	
FD0	FLOOR DRAIN OUTLET	sl	SURFACE LEVEL	
FH	FIRE HYDRANT	ss	STAINLESS STEEL	
fj	FIRE SERVICE	su	STORMWATER	
fhr	FIRE HOSE REEL	l	LAUNDRY TUB	
fed	FIRE SERVICE DROPPER	td	TUNDISH	
fer	FIRE SERVICE RISER	tg	TESTGATE	
fj	FITURE UNITS	t _w	TRAP + WASTE	
fug	FLOOR WASTE GULLY	thv	TEROSTATIC MIXING VALVE	
GO	GRATED OUTLET	u	URINAL	
gv	GATE VALVE	vb	VENTILY BASIN	
gnd	GAS SERVICE DROPPER	vp	VENT PIPE	
gr	GAS SERVICE RISER	wc	WATER CLOSET	
hc	HOSECOCK	wm	WASHING MACHINE	
hnd	HOT WATER DROPPER (1)	x	EXISTING	
hur	HOT WATER RISER	(1)	TRAFFICED	
HTD	HYDRANT	h	HOSE COCK	
huu	HOT WATER UNIT	i	CONTROL VALVE	
IC	INSPECTION CHAMBER	m	NON RETURN VALVE	
lo	INSPECTION OPENING	M	GATE VALVE	
lo	FITURE POINT SEALED			
@	AT FLOOR LEVEL			

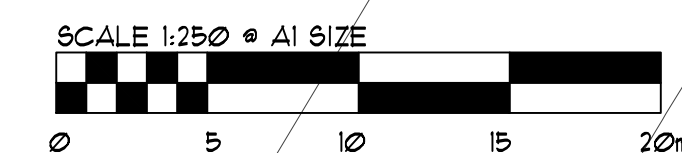
[illegible]

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THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

	DATE: SEP 2012	SCALE: 1:250 @ A1
	DESIGNED: GH	CAD FILE:
DRAWN: AR	SHEET 2 OF 7	
PROJECT NO: 12338	DRAWING NO: H2	REVISION:



P. A. No.
RPD : LOT 3 ON DP210533

GENERAL NOTES

1. ALL WORK TO CONFORM TO AS 3500 Part 1, 2 & 3.
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LEGEND

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-----	RECYCLED WATER SERVICE
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-----	GAS SERVICE
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st 1	STACK NO.
vp 50	VENT PIPE SIZE
cw 1	COLD WATER DROPPER NO. / SIZE
ep 1	ELEVATED PIPEWORK RISER NO. / SIZE
dp 100	DOWNSIDE SIZE
cs 50	(INSULATED) CONDENSATE STACK SIZE

REFER H4 FOR CONTINUATION

AAV	AIR ADMITTANCE VALVE	ios	I.O. TO SURFACE
AC	AIR CONDITIONING	IL	INVERT LEVEL
b	BASIN	JU	JUMP UP
bld	BIDET	MH	MANHOLE
bth	BATH	ORG	OVERFLOW RELIEF GULLY
bau	BOILING WATER UNIT	o/f	OVERFLOW
bt	BUCKET TRAP	pd	PLANTER DRAIN
c/p	CHROME PLATED	RL	REDUCED LEVEL
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dip	DRAINPIPE	sdo	SPOON DRAIN OUTLET
DT	DISCONNECTOR TRAP	sk	SINK
EJ	EXPANSION JOINT	str	SHOWER
FDO	FLOOR DRAIN OUTLET	SL	SURFACE LEVEL
FS	FIRE SERVICE	SS	STAINLESS STEEL
FS	FIRE SERVICE	su	STORMWATER
FS	FIRE SERVICE	t	TOILET
FS	FIRE SERVICE	td	TUNDISH
FS	FIRE SERVICE	ts	TEST GATE
FS	FIRE SERVICE	tw	TRAP & WASTE
FS	FIRE SERVICE	TMV	THERMOSTATIC MIXING VALVE
FS	FIRE SERVICE	ur	URINAL
FS	FIRE SERVICE	vp	VANITY BASIN
FS	FIRE SERVICE	vc	WATER CLOSET
FS	FIRE SERVICE	wm	WASHING MACHINE
FS	FIRE SERVICE	(e)	EXISTING
FS	FIRE SERVICE	(t)	TRAPPED
FS	FIRE SERVICE	h	HOSE COCK
FS	FIRE SERVICE	CV	CONTROL VALVE
FS	FIRE SERVICE	NRV	NON RETURN VALVE
FS	FIRE SERVICE	GV	GATE VALVE

DATE:	ATTACHMENT DESCRIPTION:	INT:	REV:

h design pty ltd
HYDRAULIC SERVICES CONSULTANTS
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CLIENT:
THE VILLAGE BUILDING COMPANY
PROJECT:
THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

TITLE:
SITE PLAN PART 2
DRAINAGE

NORTH POINT:	DATE: SEP 2012	SCALE: 1:250 @ A1
DESIGNED: GH	CAD FILE:	
DRAWN: AR	SHEET 3 OF 7	
PROJECT NO: 12338	DRAWING NO: H3	REVISION:



REFER H2 FOR CONTINUATION

P. A. No.
RPD : LOT 3 ON DP270533

LEGEND

- - - - - EXISTING SERVICES DELETION
 - s - - - - - EXISTING SEWER
 - s_d - - - - - EXISTING SANITARY DRAIN
 - sw - - - - - EXISTING STORMWATER DRAIN
 - x - - - - - EXISTING TRADE WASTE DRAIN
 - w - - - - - EXISTING WATER SERVICE
 - f - - - - - EXISTING FIRE SERVICE
 - g - - - - - EXISTING GAS SERVICE
 - s - - - - - SEWER
 - - - - - SANITARY DRAINAGE
 - - - - - CSW - - - - - CIVIL STORMWATER (REFER TO CIVIL DOCS)
 - sw - - - - - STORMWATER
 - m - - - - - RISING MAIN (STORMWATER / SANITARY)
 - x - - - - - TRADE WASTE DRAIN
 - rf - - - - - ROOF WATER
 - - - - - VENT PIPE
 - / - - - - - AGI DRAIN
 - - - - - COLD WATER SERVICE
 - - - - - HOT WATER SERVICE (FLOW)
 - - - - - WARM WATER SERVICE
 - np - - - - - NON-POTABLE COLD WATER SERVICE
 - rw - - - - - RAINWATER SERVICE
 - rs - - - - - RECYCLED WATER SERVICE
 - - - - - FIRE SERVICE
 - - - - - GAS SERVICE
 - g - - - - - SILT FENCE
 (s₁ / 1) → STACK NO.
 (sp₁ / 1) → ELEVATED PIPEWORK RISER NO. / SIZE
 (vp / 50) → VENT PIPE SIZE
 (dp / 100) → DOWNPIPE SIZE
 (cud / 1) → COLD WATER DROPPER NO. / SIZE
 (cst / 50) → (INSULATED) CONDENSATE STACK SIZE

DEFERRED AREA
PART LOT 3 DP 270533

REFER H2 FOR CONTINUATION

—New Sewer extension

GENERAL NOTES

1. ALL WORK TO CONFORM TO AS 3550 Part 1, 2 & 3.
2. ALL WORK TO CONFORM WITH ALL RELEVANT AUSTRALIAN STANDARDS.
3. CONTRACTOR TO VERIFY ALL LEVELS BEFORE COMMENCING WORK TO ENSURE CONNECTION TO SERVICE WITH ADEQUATE COVER AND FALL.
4. THE EXISTING UNDERGROUND SERVICES SHOWN HAVE BEEN OBTAINED FROM OLD RECORDS OF THE RELEVANT AUTHORITIES AND MAY NOT BE ACCURATE, THE CONTRACTOR SHALL ALLOW TO LOCATE EXISTING SERVICES AS REQUIRED FOR CONNECTION.

DATE:	AMENDMENT DESCRIPTION:	INIT:	REV:

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ARCHITECT:
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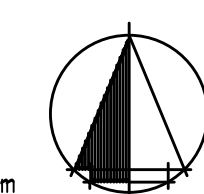
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PROJECT:
THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

TITLE:
SITE PLAN PART 3
DRAINAGE

NORTH POINT:



DATE:	SEP 2012	SCALE:	1:250 @ A1
DESIGNED:	GH	CAD FILE:	
DRAWN:	AR	SHEET 4 OF 7	
PROJECT NO:	12338	DRAWING NO:	H4
		REVISION:	

SCALE 1:250 @ A1 SIZE



REFER H6 FOR CONTINUATION

P. A. No.
RPD : LOT 3 ON DP210533

GENERAL NOTES

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LEGEND

-----	EXISTING SERVICES DELETION	-----	EXISTING SERVICES DELETION
---	EXISTING SEWER	---	EXISTING SEWER
---	EXISTING SANITARY DRAIN	---	EXISTING SANITARY DRAIN
---	EXISTING STORMWATER DRAIN	---	EXISTING STORMWATER DRAIN
---	EXISTING TRADE WASTE DRAIN	---	EXISTING TRADE WASTE DRAIN
---	EXISTING WATER SERVICE	---	EXISTING WATER SERVICE
---	EXISTING FIRE SERVICE	---	EXISTING FIRE SERVICE
---	EXISTING GAS SERVICE	---	EXISTING GAS SERVICE
---	SEWER	---	SEWER
---	SANITARY DRAINAGE	---	SANITARY DRAINAGE
---	CIVIL STORMWATER (REFER TO CIVIL DOCS)	---	CIVIL STORMWATER (REFER TO CIVIL DOCS)
---	STORMWATER	---	STORMWATER
---	RISING MAIN (STORMWATER / SANITARY)	---	RISING MAIN (STORMWATER / SANITARY)
---	TRADE WASTE DRAIN	---	TRADE WASTE DRAIN
---	ROOF WATER	---	ROOF WATER
---	VENT PIPE	---	VENT PIPE
---	AGI DRAIN	---	AGI DRAIN
---	COLD WATER SERVICE	---	COLD WATER SERVICE
---	HOT WATER SERVICE (FLOW)	---	HOT WATER SERVICE (FLOW)
---	WARM WATER SERVICE	---	WARM WATER SERVICE
---	NON-POTABLE COLD WATER SERVICE	---	NON-POTABLE COLD WATER SERVICE
---	RAINWATER SERVICE	---	RAINWATER SERVICE
---	RECYCLED WATER SERVICE	---	RECYCLED WATER SERVICE
---	FIRE SERVICE	---	FIRE SERVICE
---	GAS SERVICE	---	GAS SERVICE
---	SILT FENCE	---	SILT FENCE
---	STACK NO.	---	ELEVATED PIPEWORK RISER NO. / SIZE
---	VENT PIPE SIZE	---	DOWNSIZE
---	COLD WATER DROPPER NO. / SIZE	---	(INSULATED) CONDENSATE STACK SIZE
---	AIR ADMITTANCE VALVE	---	I.O. TO SURFACE
---	AIR CONDITIONING	---	I.L. INVERT LEVEL
---	BASIN	---	JUMP UP
---	BIDET	---	MANHOLE
---	BATH	---	OVERFLOW RELIEF GULLY
---	BOILING WATER UNIT	---	OVERFLOW
---	BUCKET TRAP	---	PLANTER DRAIN
---	CHROME PLATED	---	REDUCED LEVEL
---	CLEANERS SINK	---	RAINWATER DOWNSIZE
---	CONTROL VALVE	---	RAINWATER HEAD
---	COLD WATER DROPPER	---	RAINWATER RISER
---	COLD WATER RISER	---	RAINWATER DROPPER
---	DOUBLE CHECK VALVE	---	RAINWATER TANK
---	DRINK FOUNTAIN	---	SHOWER/BATH
---	DISHWASHER	---	SPOON DRAIN OUTLET
---	DOWNSIZE	---	SINK
---	DISCONNECTOR TRAP	---	SHOWER
---	EXPANSION JOINT	---	SURFACE LEVEL
---	FLOOR DRAIN OUTLET	---	STAINLESS STEEL
---	FIRE HYDRANT	---	STORMWATER
---	FIRE SERVICE	---	LAUNDRY TUB
---	FIRE HOSE REEL	---	TUNDISH
---	FIRE SERVICE DROPPER	---	TESTGATE
---	FIRE SERVICE RISER	---	TRAP & WASTE
---	FIXTURE UNITS	---	THERMOSTATIC MIXING VALVE
---	FLOOR WASTE GULLY	---	URINAL
---	GRATED OUTLET	---	VANITY BASIN
---	GATE VALVE	---	VENT PIPE
---	GAS SERVICE DROPPER	---	WATER CLOSET
---	GAS SERVICE RISER	---	WASHING MACHINE
---	HOSECOCK	---	EXISTING
---	HOT WATER DROPPER	---	TRAPPED
---	HOT WATER RISER	---	HOSE COCK
---	HYDRANT	---	CONTROL VALVE
---	HOT WATER UNIT	---	NON RETURN VALVE
---	INSPECTION CHAMBER	---	GATE VALVE
---	INSPECTION OPENING	---	
---	FIXTURE POINT SEALED AT FLOOR LEVEL.	---	

DATE	ATTACHMENT DESCRIPTION	INT.	REV.

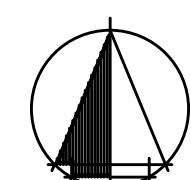
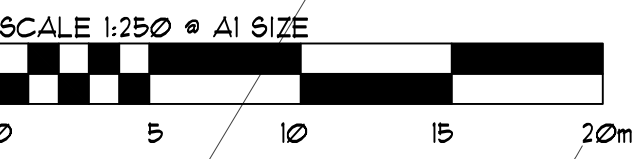
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CLIENT:
THE VILLAGE BUILDING COMPANY
PROJECT:
THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

TITLE:
SITE PLAN PART 1
WATER SERVICE

NORTH POINT	DATE: SEP 2012	SCALE: 1:250 @ A1
DESIGNED: GB	CAD FILE	
DRAWN: AR	SHEET 5 OF 7	
PROJECT NO: 12338	DRAWING NO: H5	REVISION:



P. A. No.
RPD : LOT 3 ON DP210533

GENERAL NOTES

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LEGEND

-----	EXISTING SERVICES DELETION
---	EXISTING SEWER
---	EXISTING SANITARY DRAIN
---	EXISTING STORMWATER DRAIN
---	EXISTING TRADE WASTE DRAIN
---	EXISTING WATER SERVICE
---	EXISTING FIRE SERVICE
---	EXISTING GAS SERVICE
---	SEWER
---	SANITARY DRAINAGE
---	CIVIL STORMWATER (REFER TO CIVIL DOCS)
---	STORMWATER
---	RISING MAIN (STORMWATER / SANITARY)
---	TRADE WASTE DRAIN
---	ROOF WATER
---	VENT PIPE
---	AGI DRAIN
---	COLD WATER SERVICE
---	HOT WATER SERVICE (FLOW)
---	WARM WATER SERVICE
---	NON-POTABLE COLD WATER SERVICE
---	RAINWATER SERVICE
---	RECYCLED WATER SERVICE
---	FIRE SERVICE
---	GAS SERVICE
---	SILT FENCE
st 1	STACK NO.
vp 50	VENT PIPE SIZE
cw 1	COLD WATER DROPPER NO. / SIZE
ep 1	ELEVATED PIPEWORK RISER NO. / SIZE
dp 100	DOWPIPE SIZE
cs 50	(INSULATED) CONDENSATE STACK SIZE

REFER H7 FOR CONTINUATION

AAV	AIR ADMITTANCE VALVE	ios	I.O. TO SURFACE
AC	AIR CONDITIONING	IL	INVERT LEVEL
b	BASIN	JU	JUMP UP
bidet	BIDET	MH	MANHOLE
bth	BATH	ORG	OVERFLOW RELIEF GULLY
bwu	BOILING WATER UNIT	o/f	OVERFLOW
bt	BUCKET TRAP	pd	PLANTER DRAIN
c/p	CHROME PLATED	RL	REDUCED LEVEL
cs	CLEANERS SINK	RUDP	RAINWATER DOWPIPE
cv	CONTROL VALVE	RUH	RAIN WATER HEAD
cwd	COLD WATER DROPPER	rw	RAINWATER
cwr	COLD WATER RISER	rw	RAINWATER RISER
dcv	DOUBLE CHECK VALVE	rud	RAINWATER DROPPER
df	DRINK FOUNTAIN	RUT	RAIN WATER TANK
dw	DISHWASHER	s/b	SHOWER/BATH
dip	DOWPIPE	sdo	SPOON DRAIN OUTLET
DT	DISCONNECTOR TRAP	sk	SINK
EJ	EXPANSION JOINT	str	SHOWER
FDO	FLOOR DRAIN OUTLET	SL	SURFACE LEVEL
fh	FIRE HYDRANT	SS	STAINLESS STEEL
fs	FIRE SERVICE	su	STORMWATER
FR	FIRE HOSE REEL	t	LAUNDRY TUB
fd	FIRE SERVICE DROPPER	td	TUNDISH
fr	FIRE SERVICE RISER	tg	TRAP & WASTE
FU	FIXTURE UNITS	tmv	THERMOSTATIC MIXING VALVE
fug	FLOOR WASTE GULLY	ur	URINAL
GO	GRADED OUTLET	vb	VANITY BASIN
gv	GATE VALVE	vp	VENT PIPE
gkd	GAS SERVICE DROPPER	wc	WATER CLOSET
gqr	GAS SERVICE RISER	wm	WASHING MACHINE
hc	HOSECOCK	(e)	EXISTING
hud	HOT WATER DROPPER	(f)	TRAPPED
hur	HOT WATER RISER	h	HOSE COCK
HYD	HYDRANT	T	CONTROL VALVE
huu	HOT WATER UNIT	r-1	NON RETURN VALVE
io	INSPECTION CHAMBER	dv	GATE VALVE
to	INSPECTION OPENING		
ø	FIXTURE POINT SEALED AT FLOOR LEVEL.		

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THE VILLAGE BUILDING COMPANY
PROJECT:
THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

TITLE:
SITE PLAN PART 2
WATER SERVICE

NORTH POINT:	DATE: SEP 2012	SCALE: 1:250 @ A1
DESIGNED: GH	CAD FILE:	
DRAWN: AR	SHEET 6 OF 7	
PROJECT NO: 12338	DRAWING NO: H6	REVISION:



REFER H5 FOR CONTINUATION

P. A. No.
RPD : LOT 3 ON DP270533

LEGEND

- - - - - EXISTING SERVICES DELETION
 - s - - - - - EXISTING SEWER
 - s^d - - - - - EXISTING SANITARY DRAIN
 - sw - - - - - EXISTING STORMWATER DRAIN
 - x - - - - - EXISTING TRADE WASTE DRAIN
 - w - - - - - EXISTING WATER SERVICE
 - f - - - - - EXISTING FIRE SERVICE
 - g - - - - - EXISTING GAS SERVICE
 - s - - - - - SEWER
 - - - - - SANITARY DRAINAGE
 - - - - - CSW - - - - - CIVIL STORMWATER (REFER TO CIVIL DOCS)
 - sw - - - - - STORMWATER
 - m - - - - - RISING MAIN (STORMWATER / SANITARY)
 - x - - - - - TRADE WASTE DRAIN
 - rf - - - - - ROOF WATER
 - - - - - VENT PIPE
 - / - - - - - AGI DRAIN
 - - - - - COLD WATER SERVICE
 - - - - - HOT WATER SERVICE (FLOW)
 - - - - - WARM WATER SERVICE
 - np - - - - - NON-POTABLE COLD WATER SERVICE
 - rw - - - - - RAINWATER SERVICE
 - rs - - - - - RECYCLED WATER SERVICE
 - - - - - FIRE SERVICE
 - - - - - GAS SERVICE
 - g - - - - - SILT FENCE
 - - - - -

(s₁ / 1) → STACK NO.
 (vp / 50) → VENT PIPE SIZE
 (cud / 1) → COLD WATER DROPPER NO. / SIZE
 (ep / 1) → ELEVATED PIPEWORK RISER NO. / SIZE
 (dp / 100) → DOWNPIPE SIZE
 (csi / 50) → (INSULATED) CONDENSATE STACK SIZE

AAV	AIR ADMITTANCE VALVE	10s	I.O. TO SURFACE
AC	AIR CONDITIONING	ISL	INVERT LEVEL
b	BASIN	IJ	JUMP UP
bbl	BIDET	MH	MANHOLE
bth	BATH	ORG	OVERFLOW RELIEF GULLY
btau	BOILING WATER UNIT	o/f	OVERFLOW
bt	BUCKET TRAP	pcl	PLASTER DRAIN
c/p	CHROME FLAT	RL	REDUCED LEVEL
c/s	CLEANERS SINK	RUPD	RAINWATER DRAINPIPE
cv	CONTROL VALVE	RUH	RAIN WATER HEAD
cwd	COLD WATER DROPPER	RUW	RAINWATER
cwr	COLD WATER RISER	RUW	RAINWATER RISER
DCV	DOUBLE CHECK VALVE	rwd	RAINWATER DROPPER
df	DRINK FOUNTAIN	RUT	RAIN WATER TANK
d/f	DISHWASHER	s/b	SPOON/BATH
d/p	DRAINPIPE	SDO	SHOWER DRAIN OUTLET
DT	DISCONNECTOR TRAP	sk	SINK
EJ	EXPANSION JOINT	SHR	SHOWER
FD	FLOOR DRAIN OUTLET	SL	SURFACE LEVEL
FH	FIRE HYDRANT	SS	STAINLESS STEEL
fs	FIRE SERVICE	SU	STORMWATER
ftr	FIRE HOSE REEL	t	LAUNDRY TUB
fnd	FIRE SERVICE DROPPER	td	TINDISH
fsr	FIRE SERVICE RISER	ts	TEST-GATE
FU	FIXTURE UNITS	tw	TRAP 4 WASTE
fug	FLOOR WASTE GULLY	THV	THERMOSTATIC MIXING VALVE
GO	GRAATED OUTLET	U	URINAL
gv	GATE VALVE	vb	VANITY BASIN
gsd	GAS SERVICE DROPPER	vp	VENT PIPE
gr	GAS SERVICE RISER	WC	WATER CLOSET
gsr	GAS SERVICE RISER	wm	WASHING MACHINE
hc	HOSECOCK	(æ)	EXISTING
hud	HOT WATER DROPPER	(t)	TRAPPED
hur	HOT WATER RISER	ð	HOSE COCK
HYD	HYDRANT	ð	CONTROL VALVE
hu	HOT WATER UNIT	M	NON RETURN VALVE
IC	INSPECTION CHAMBER	11	GATE VALVE
io	INSPECTION OPENING		
ø	FIXTURE POINT SEALED AT FLOOR LEVEL		

[illegible]

h design pty ltd

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PROJECT:
THE SUMMIT - COFFS HARBOUR
MASTRALCOLAS ROAD
COFFS HARBOUR, NSW 2450

TITLE: SITE PLAN PART 3
WATER SERVICE

	DATE:	SEP 2012	SCALE:	1:250 @ A1
	DESIGNED:	GH	CAD FILE:	
	DRAWN:	AR	SHEET	7 OF 7
	PROJECT NO:	12338	DRAWING NO:	H7
			REVISION:	

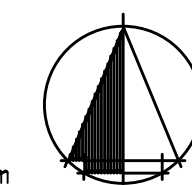
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REFER H5 FOR CONTINUATION

SCALE 1:250 @ A1 SIZE

0 5 10 15 20m



ATTACHMENT

4

TRAFFIC AND ACCESS ASSESSMENT

Prepared by
Roadnet Pty Ltd



RoadNet Pty Ltd

ABN 89 070 034 347

Consulting
Planners and Engineers



Specialists in Traffic Engineering and Civil Design

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e: port.macquarie@roadnet.net.au

Reference: 12053P / CAN

Coffs Harbour City Council
Locked Bag 155
Coffs Harbour
NSW 2450

Attention: Graham Fry, Land Use Planner

20 September 2012

**Re: Coffs Harbour City Local Environmental Plan (LEP) 2000, Amendment No.34 – North Coffs
(Deferred Matter). Part Lot 3 DP 270 533**

Dear Graham,

I refer to your letter sent to the Village Building Company re the rezoning of the abovementioned parcel of land. In your letter you requested information be provided as to Traffic and Access provisions for the site be provided. Based on your request please note the following.

RoadNet Pty Ltd was engaged by Geolink Pty Ltd to complete an Access Option Report for the North Coffs Release Area in March 2010 as part of an overall rezoning assessment for the area.

This report assessed the future access requirements providing recommendations for preferred access options to cater for the future residential expansion in the area.

The site in question will gain access to Mastracolas Road via Gerard Drive and a proposed road to be known as the Dress Circle.

The site will potentially develop 3 to 4 residential allotments generating between 27 and 36 vehicle trip per day or 3 to 4 peak hour vehicle trips with the increased traffic volumes having a very minor impact on the road network.

RoadNet's previous report indicated that with future development along Mastracolas Road and the possible future connection of "The Summit" development adding 250 peak hour trips to Mastracolas Road the existing roundabout at the intersection with the Pacific Highway will continue to operate satisfactorily as a result of the increased volumes.

Based on the above information it is considered no further assessment of the traffic impacts generated by this site are required. Direct street access will be to the Dress Circle. RoadNet assumes all access issues relating to this road were previously assessed when this development was approved by Council and therefore no further assessment is required.

Should you require any further details or wish to discuss this employment offer please contact Craig Nethery at RoadNet, Port Macquarie on 02 6584 4855.

Yours faithfully

A handwritten signature in black ink, appearing to read 'C. Nethery', is written over a light purple rectangular background.

Craig Nethery
Office Manager
RoadNet, NSW

ATTACHMENT

5

BIODIVERSITY ASSESSMENT REPORT

Prepared by
Idyll Spaces

Biodiversity Assessment – proposed rezoning of part Lot 3 DP 270533 The Summit, Coffs Harbour

Prepared for

Resource Design & Management Pty Ltd

Idyll Spaces Environmental Consultants

21 Titans Close, Bonville 2441

Ph/fax: 02 6653 4190

Email: gregelks@bigpond.com

25 September 2012

This report has been prepared in accordance with the requirements of Section 5a of the *EP&A Act* and the *TSC Act*.

The information presented in this report is, in the opinion of the author, a true and accurate record based on an objective study undertaken in response to a brief provided by the client. While every attempt has been made to ensure the accuracy and objectivity of the report, the variability of the natural environment and the paucity of comparative research data may require that professional judgement be applied in reaching conclusions. Any opinions expressed in the report are the professional opinions of the author. They are not intended to advocate any specific proposal or position.

G.N. Elks B.Sc (Botany), M.Litt (Ecology), MECA

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Introduction

Background

Idyll Spaces Environmental Consultants has been engaged by Resource Design & Management Pty Ltd to undertake an assessment of the potential impacts on flora and fauna, as required by the *Environmental Planning and Assessment Act 1979* (EPA Act) and the *Threatened Species Conservation Act 1995* (TSC Act), of a proposed rezoning pursuant to Coffs Harbour LEP 2000 Amendment No. 34 – North Coffs (Deferred Matter).

Definitions

The subject area is the area directly affected by the proposal (approximately 1500m²).

The study area includes the subject area and a 10m buffer.

The locality is defined for this study as being within 5km of the study area.

Aims & Objectives

The aim of the report is to provide expert advice to assist the proponent and the determining authority.

The objectives are to:

- Review threatened flora species, population and ecological community records in the locality of the study area.
- Identify the vegetation communities occurring within the study area;
- Describe and map the vegetation of the study area.
- Determine whether any threatened flora species, threatened ecological communities, threatened populations or critical habitat as listed by the TSC Act or EPBC Act occur within the study area.
- Determine whether any habitat elements that are likely to be used by TSC Act or EPBC Act listed threatened fauna for breeding or foraging occur in the study area.
- Consider the potential impacts of the proposal on TSC Act listed flora and fauna, if any, under the headings of the 7 part tests and administrative guidelines, and provide an opinion as to whether or not a SIS or Referral is likely to be required.
- Recommend appropriate measures for conservation or mitigation of any impacts.

Description of the study area

The study area is part of Lot 3 DP 270533, located in an area of Coffs Harbour known as the Summit, and accessed from Dress Circle via Mastracolas Road and Summit Drive.

It is located on a steep south-easterly facing slope in the Coffs Harbour LGA and the Northern Rivers CMA Region. It is currently zoned 1A Rural Agriculture, with 7A Environmental Protection to the east and north and 2E Residential Tourist to the west and south. The Pacific Ocean is located approximately 2km to the east.

Native vegetation consists of a small remnant (approximately 200m²) of open forest. Vegetation in the locality consists of isolated remnants within a largely cleared landscape.

Potential Impacts of the proposed development

The proposed rezoning would eventually involve clearing of approximately 200m² of native overstorey vegetation, and occasional native seedlings, herbs and grasses within exotic grassland, for construction of tourist residential accommodation and associated infrastructure.

Direct impacts would be limited to clearing of a small isolated remnant of native vegetation. Indirect impacts could include the modification of fauna habitat and spread of invasive weeds.

Clearing of native vegetation is listed as a Key Threatening Process under the TSC Act.

Methods

Database Searches

Records of threatened species, populations or communities as listed under the TSC Act known to occur within 5km of the study area were extracted from the Office of Environment and Heritage (OEH) Wildlife Atlas database for the Coffs Harbour 1:100,000 map sheets (accessed 11 September 2012).

Habitat data for threatened flora was obtained from the OEH Threatened Species website (<http://www.environment.nsw.gov.au/threatenedspecies/>). Current schedules of the TSC Act and the existence of any relevant threatened species recovery or threat abatement plans, and preliminary determinations, were reviewed online (<http://www.environment.nsw.gov.au/determinations/index.htm>)

Vegetation and fauna habitat survey

Vegetation survey was undertaken over 1.2 hours on 24 September 2012. It recorded all plant species and habitat features of significance to fauna.

Because of the small size of the study area the entire study area was examined, rather than sampled.

Vegetation mapping was undertaken during field inspection with the assistance of CHCC (2009) high resolution aerial photography.

Results

Threatened species, populations and communities, or critical habitat, recorded in the locality

The DEC Wildlife Atlas database contains 73 records of 19 threatened flora species (Table 1) and 380 records of 31 threatened fauna species (Table 3) listed under the *Threatened Species Conservation Act* (TSC Act). There are also 13 Endangered Ecological Communities (Table 2) and one Threatened Population known from the region and locality respectively.

Description of vegetation of the study area

There are four vegetation communities in the study area, three of which are derived by clearing and other agricultural activities from the adjoining Blackbutt Open Forest community.

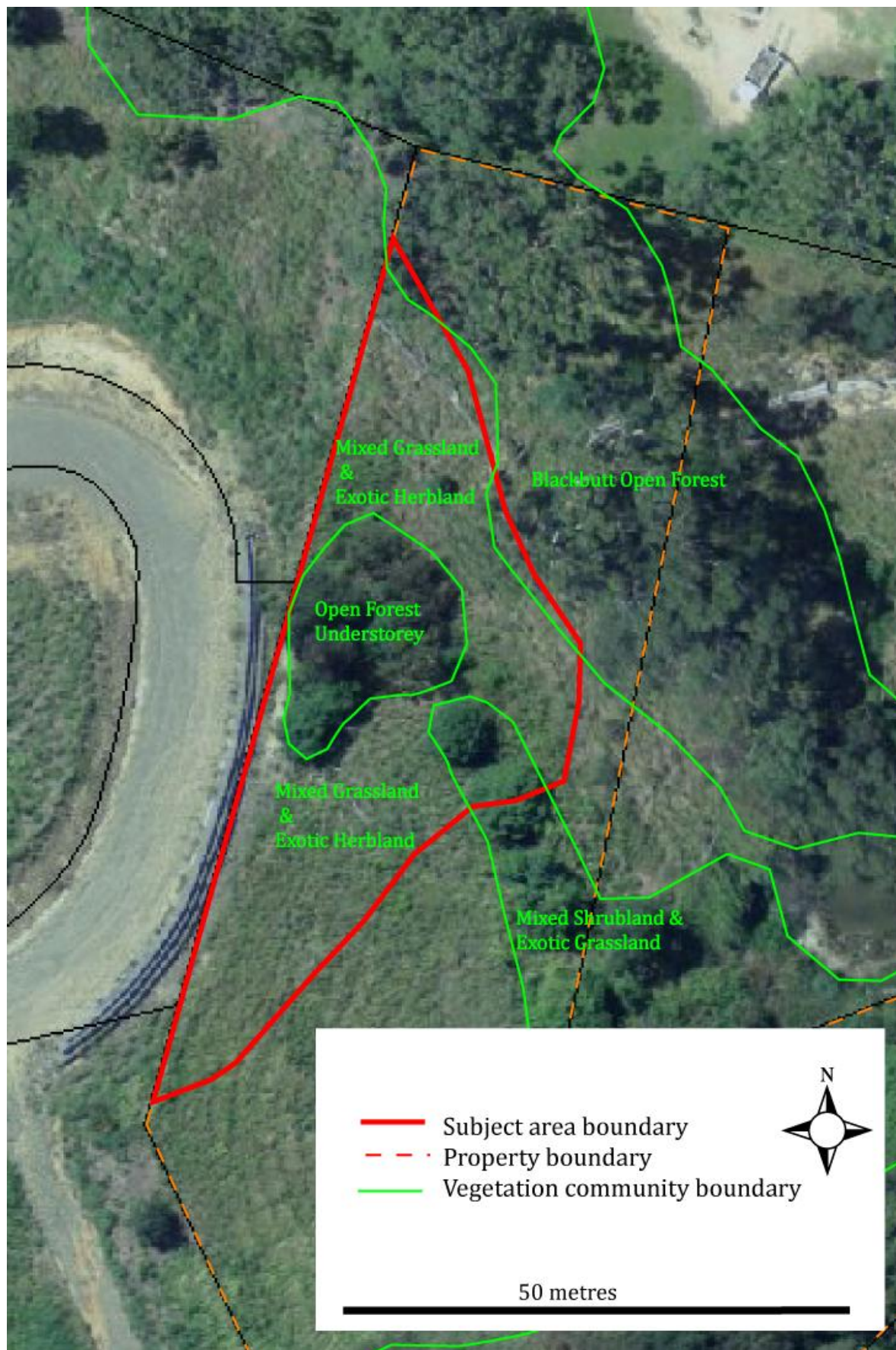


Figure 1. Aerial photograph (CHCC 2009) showing vegetation communities in the Summit study area

1. Mixed Grassland and Exotic Herbland

Occurring on cleared slopes, the dominant species were the native grasses Blady Grass *Imperata cylindrica* and Poa *P. sieberiana* and the exotic Crofton Weed *Ageratina adenophora*. Exotic grasses included Setaria *S. sphacelata*, Pampas Grass *Cortaderia selloana* and Giant Parramatta Grass *Sporobolus fertilis*.

The most common species present were exotic weeds or naturalised garden escapes such as Formosa Lily *Lilium formosanum* and Seaside Daisy *Erigeron karvinskianus*. There were few native plant species and except for the dominant grasses they were less common than the exotics.

2. Mixed Shrubland and Exotic Grassland

Occurring along a minor drainage depression, the dominant species were Mango *Mangifera indica*, China Pear *Pyrus sp*, Smooth Pittosporum *P. undulatum* and Barner Grass *Pennisetum purpureum* over a ground layer of exotic weeds. Occasional other species included Creek Sandpaper Fig *Ficus coronata* and Scentless Rosewood *Synoum glandulosum*.

3. Open Forest Understorey

Located at the head of the drainage line, this small remnant was dominated by four small (<20cm diameter) Forest Oak *Allocasuarina torulosa*. There were also a Smooth Pittosporum, a Geebung *Persoonia stradbokensis* and a severely damaged small Blackbutt *Eucalyptus pilularis* tree.

4. Blackbutt Open Forest

Located along the north-eastern edge of the study area, only a small area of Blackbutt canopy and some associated ground layer grasses and herbs extended into the subject area.

Blackbutt was the only large tree species, with most being mature but showing the effects of exposure to strong winds. Understorey trees and shrubs were mostly absent.

A grassy wet sclerophyll forest, classified as *N2A Dry Blackbutt* (Fisher, Body & Gill 1996) or as *Blackbutt - Tallowood dry grassy open forest of the central parts North Coast* (Biometric 2010). It is not listed as Endangered, Vulnerable or rare either nationally or in NSW.

Fauna habitat attributes of the study area

The following fauna attributes were absent from the study area:

- hollow-bearing trees;
- cover of bush rock;
- fallen logs and hollow fallen logs;
- evidence of burrows;
- water sources (ie. wetlands, soaks, creeks, drainage lines, dams and other waterbodies);
- nests and roosts;
- glider sap feeding trees and potential nectar sources;
- distinctive scats and tracks;
- latrine and den sites for spotted-tailed quolls;
- flying-fox camps;
- potential bat roosts (e.g. caves, culverts, tunnels, etc);
- swift parrot and regent honeyeater feed trees;
- winter-flowering eucalypts;

- primary koala feed tree species; and
- rainforest fruiting trees (food sources for fruit-doves).

The location and isolation of the remnant vegetation are such that the proposal would not contribute to fragmentation or isolation of habitat or decrease connectivity of wildlife corridors within the landscape (Figure 2).

There was evidence of Bandicoots in the form of digging and scats.

There were four small mature *Allocasuarina torulosa*. No chewed cones were detected by a search beneath these trees.



Figure 2. Aerial photograph showing vegetation adjoining the study area (Primary koala habitat shaded red).

Limitations

Weather preceding the survey was warm and moist and was not likely to be a limitation.

The study area had been slashed some time prior to survey. This was not considered to be a significant limitation as most ground layer species on the site could be identified to species level.

No systematic fauna survey was undertaken. This was not considered to be a significant limitation because of the small area of the remnant vegetation, its apparent disturbance regime, the paucity of fauna habitat resources and the fragmented nature of vegetation cover in the locality.

Assessment of likelihood of occurrence of threatened species, populations and communities in the study area

Flora

No threatened flora were detected in the study area.

The assessment of the likelihood of occurrence of *TSC Act* listed threatened flora species (Table 1) considered the detectability of the species, the occurrence and condition of its habitat, whether or not its associated vegetation type occurs on the property, and whether or not the species is known to occur in the locality. The likelihood of occurrence of species has been defined as follows:

- “Known” - the species has been observed in the property;
- “Likely” - there is a medium to high probability that a species occupies the property;
- “Potential” - suitable habitat for a species occurs in the property but there is insufficient information to categorise the species as likely or unlikely to occur;
- “Unlikely” - a low probability that a species occupies the property;
- “Nil” - habitat in the property is unsuitable for the species.

The likelihood of occurrence of threatened flora was assessed as at best unlikely.

Communities

No threatened communities of their characteristic species assemblages were detected in the study area (Table 2).

Fauna

Of the *TSC Act* listed fauna recorded in the locality (Table 3), there is a very small quantity of potential foraging habitat for Glossy Black Cockatoo, Spotted-tail Quoll and Grey-headed Flying-fox.

As all are highly mobile species with large home ranges and there are large areas of similar cleared land and heavily modified remnants in the locality, the utilisation of the potential foraging habitat in the study area by those species is unlikely.

Table 1. Likelihood of occurrence of threatened flora

Scientific name	Common name	Status	Records	Detectability	Habitat (OEH Threatened Species profiles)	Likelihood of occurrence
<i>Acronychia littoralis</i>	Scented Acronychia	Endangered	2	Fruit (May to August) but leaf characters indicative	littoral rainforest and adjacent open forest	Nil
<i>Alexfloydia repens</i>	Floyd's Grass	Endangered	1	Flowering (August to November) but morphology indicative	Coastal stands of Swamp Oak or Paperbark in peat-like soil edging the upper tidal areas of mangroves or on the banks of estuarine creeks	Nil
<i>Boronia umbellata</i>	Orara Boronia	Vulnerable	1	All year	Lower slopes or gullies in eucalypt forest between Glenreagh and Lower Bucca	Nil
<i>Diuris praecox</i>	Rough Doubletail	Vulnerable	1	Jul-Aug depending on prevailing climatic conditions	hills and slopes of near-coastal districts in open forests which have a grassy to fairly dense understorey	Unlikely
<i>Kennedia retrorsa</i>		Vulnerable	2	All year	Confined to Hunter-Central Rivers CMA	Nil
<i>Lindsaea incisa</i>	Slender Screw Fern	Endangered	1	All year	Waterlogged or poorly drained sites in dry eucalypt forest on sandstone and moist shrubby eucalypt forest on metasediments, usually with dense shrub, sedge and/or fern layer	Nil
<i>Marsdenia longiloba</i>	Slender Marsdenia	Endangered	5	Flowering (Summer) but leaf characters indicative	Subtropical and warm temperate rainforest, lowland moist eucalypt forest adjoining rainforest and rock outcrops	Nil
<i>Niemeyera whitei</i>	Rusty Plum, Plum Boxwood	Vulnerable	31	All year	Rainforest and the adjacent understorey of moist eucalypt forest	Nil
<i>Oberonia complanata</i>	Yellow-flowered King of the Fairies	Endangered	1	Spring & Summer	Rainforest, eucalypt, paperbark and/or mangrove forests	Unlikely
<i>Peristeranthus hillii</i>	Brown Fairy-chain Orchid	Vulnerable	1	Sept-Oct	littoral rainforest or lowland rainforest or open forest	Unlikely
<i>Persicaria elatior</i>	Tall Knotweed	Vulnerable	2	Summer, Autumn	damp places, especially beside streams and lakes	Nil
<i>Phaius australis</i>	Southern Swamp Orchid	Endangered	2	September & October but morphology indicative	Damp or swampy areas in rainforest, eucalypt or paperbark forest in coastal areas	Nil
<i>Pultenaea maritima</i>	Coast Headland Pea	Vulnerable	5	All year	Grasslands on exposed coastal headlands	Nil
<i>Quassia</i> sp. <i>Mooney Creek</i>	Moonee Quassia	Endangered	1	All year	Shrubby open eucalypt forest	
<i>Sarcochilus fitzgeraldii</i>	Ravine Orchid	Vulnerable	1	Flowering (Spring-Summer)	Moist rock faces in subtropical rainforest	Nil

Scientific name	Common name	Status	Records	Detectability	Habitat (OEH Threatened Species profiles)	Likelihood of occurrence
<i>Sophora tomentosa</i>	Silverbush	Endangered	1	All year	coastal sand dunes	Nil
<i>Thesium australe</i>	Austral Toadflax	Vulnerable	11	Flowering (mid-Summer) but morphology indicative	Grassland, grassy open forest or woodland on fertile or moderately fertile soils and coastal headlands, often in association with Kangaroo Grass	Unlikely
<i>Zieria prostrata</i>	Headland Zieria	Endangered	2	All year	Low grassy heath or shrubland on headlands. Restricted to the Coffs Harbour area	Nil
<i>Zieria smithii</i>	Low growing form of Z. smithii, Diggers Head	Endangered population	2	All year	low heath with Kangaroo Grass (<i>Themeda australis</i>) on a coastal headland	Nil

Table 2. Likelihood of occurrence of endangered communities

Endangered Ecological Community	Likelihood of occurrence in study area
Coastal Cypress Pine Forest in the New South Wales North Coast Bioregion	Nil. Characteristic species not detected
Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Nil. Characteristic species not detected
Freshwater Wetlands on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Nil. Characteristic species not detected
Littoral Rainforest in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Nil. Characteristic species not detected
Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions	Nil. Characteristic species not detected
Lowland Rainforest on Floodplain in the New South Wales North Coast Bioregion	Nil. Characteristic species not detected
Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions	Nil. Characteristic species not detected
Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion	Nil. Characteristic species not detected
Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Nil. Characteristic species not detected
Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	Nil. Characteristic species not detected
Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner Bioregions	Nil. Characteristic species not detected
White Box Yellow Box Blakely's Red Gum Woodland	Nil. Characteristic species not detected
White Gum Moist Forest in the NSW North Coast Bioregion	Nil. Characteristic species not detected

Table 3. Occurrence of fauna habitat in study area

Class	Scientific name	Common name	Status	Habitat type	Habitat description	Habitat in Study Area
Amphibia	<i>Crinia tinnula</i>	Wallum Froglet	V	Breeding habitat	Moist microhabitats in swamps, or wet or dry heaths, or sedge grasslands or swamps	No
Amphibia	<i>Crinia tinnula</i>	Wallum Froglet	V	Foraging habitat	As per breeding habitat	No
Amphibia	<i>Mixophyes iteratus</i>	Giant Barred Frog	E1	Breeding habitat	Second order or higher streams with some riparian vegetation present.	No
Amphibia	<i>Mixophyes iteratus</i>	Giant Barred Frog	E1	Foraging habitat	Streamside vegetation mostly in subtropical or cool temperate forests, or wet sclerophyll forests.	No
Aves	<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A	Breeding habitat	Box-Ironbark and other temperate woodlands and riparian gallery forest dominated by River Sheoak	No
Aves	<i>Anthochaera phrygia</i>	Regent Honeyeater	E4A	Foraging habitat	nectar from a wide range of eucalypts and mistletoes. Key eucalypt species include Mugga Ironbark, Yellow Box, Blakely's Red Gum, White Box and Swamp Mahogany	No
Aves	<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	Breeding habitat	large hollow-bearing eucalypts	No
Aves	<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V	Foraging habitat	open forest and woodlands of the coast and the Great Dividing Range up to 1000 m in which stands of She-oak species, particularly Black She-oak (<i>Allocasuarina littoralis</i>), Forest She-oak (<i>A. torulosa</i>) or Drooping She-oak (<i>A. verticillata</i>) occur	Yes
Aves	<i>Coracina lineata</i>	Barred Cuckoo-shrike	V	Breeding habitat	Unknown	-
Aves	<i>Coracina lineata</i>	Barred Cuckoo-shrike	V	Foraging habitat	Fruiting tree species in rainforest, wet sclerophyll forest, vegetation remnants or isolated trees	Yes
Aves	<i>Cyclopsitta diopthalma coxeni</i>	Coxen's Fig-Parrot	E4A	Breeding habitat	Live or dead eucalypts close to rainforest or trees within rainforest close to foraging habitat	No
Aves	<i>Cyclopsitta diopthalma coxeni</i>	Coxen's Fig-Parrot	E4A	Foraging habitat	Figs or other fleshy-fruited trees in rainforest or remnants	No
Aves	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1	Breeding habitat	Live or dead tree within or near foraging habitat. Usually isolated, live, paddock trees in NSW, but also in paperbarks and occasionally low shrubs within wetlands.	No
Aves	<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1	Foraging habitat	Shallow open freshwater or saline wetlands and estuarine habitats, including swamps, floodplains, watercourses, wet heathland, wet meadows, farm dams, saltmarsh, mud- and sand-flats, mangroves.	No
Aves	<i>Glossopsitta pusilla</i>	Little Lorikeet	V	Breeding habitat	Hollow-bearing trees. Typically but not solely large old Eucalyptus, often smooth barked species.	No
Aves	<i>Glossopsitta pusilla</i>	Little Lorikeet	V	Foraging habitat	Tree canopies. Typically nectar and pollen from Eucalyptus but also other tree species such as Angophora and Melaleuca plus native fruits such as mistletoe	No
Aves	<i>Grantiella picta</i>	Painted Honeyeater	V	Breeding habitat	Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests with greater than 5 mistletoes per hectare	No

Class	Scientific name	Common name	Status	Habitat type	Habitat description	Habitat in Study Area
Aves	<i>Grantiella picta</i>	Painted Honeyeater	V	Foraging habitat	Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests with greater than 5 mistletoes per hectare	No
Aves	<i>Hieraaetus morphnoides</i>	Little Eagle	V	Breeding habitat	open eucalypt forest, woodland or open woodland	No
Aves	<i>Hieraaetus morphnoides</i>	Little Eagle	V	Foraging habitat	tall living trees within a remnant	No
Aves	<i>Ixobrychus flavicollis</i>	Black Bittern	V	Breeding habitat	Vegetation bordering water bodies or watercourses including Mangroves	No
Aves	<i>Ixobrychus flavicollis</i>	Black Bittern	V	Foraging habitat	as per breeding habitat	No
Aves	<i>Lathamus discolor</i>	Swift Parrot	E1	Breeding habitat	nil	No
Aves	<i>Lathamus discolor</i>	Swift Parrot	E1	Foraging habitat	where winter flowering species such as Swamp Mahogany Eucalyptus robusta, Spotted Gum Corymbia maculata, Red Bloodwood C. gummifera, Mugga Ironbark E. sideroxylon, and White Box E. albens are flowering profusely or where there are abundant lerp infestations	No
Aves	<i>Lophoictinia isura</i>	Square-tailed Kite	V	Breeding habitat	generally located along or near watercourses, in a fork or on large horizontal limbs	No
Aves	<i>Lophoictinia isura</i>	Square-tailed Kite	V	Foraging habitat	variety of timbered habitats including dry woodlands and open forests	No
Aves	<i>Ninox strenua</i>	Powerful Owl	V	Breeding habitat	Hollows >45 cm diameter that are 6 m or more above the ground in living or dead trees	No
Aves	<i>Ninox strenua</i>	Powerful Owl	V	Foraging habitat	range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest	No
Aves	<i>Pandion cristatus</i>	Eastern Osprey	V	Breeding habitat	Emergent living or dead trees or artificial towers within 3 km of foraging habitat	No
Aves	<i>Pandion cristatus</i>	Eastern Osprey	V	Foraging habitat	Open protected water	No
Aves	<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	V	Breeding habitat	Rainforests or wet sclerophyll forest with foraging habitat nearby	No
Aves	<i>Ptilinopus magnificus</i>	Wompoo Fruit-Dove	V	Foraging habitat	Fruiting plants, including introduced species, within vegetation types. Fruit between 5-30 mm diameter	No
Aves	<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V	Breeding habitat	Wet sclerophyll forest or rainforest including remnants dominated by camphor laurel. Requires foraging habitat nearby.	No
Aves	<i>Ptilinopus regina</i>	Rose-crowned Fruit-Dove	V	Foraging habitat	Plants with fleshy fruits 5-25mm in size, including introduced species	No
Aves	<i>Todiramphus chloris</i>	Collared Kingfisher	V	Breeding habitat	Usually hollows in large mangrove trees, sometimes in hollows or arboreal termite nests in <i>Eucalyptus</i> or <i>Melaleuca</i> adjacent to mangroves or estuarine foraging habitat.	No
Aves	<i>Todiramphus chloris</i>	Collared Kingfisher	V	Foraging habitat	Mangrove associations and other associated littoral estuarine habitats.	No
Insecta	<i>Ocybadistes knightorum</i>	Black Grass-dart Butterfly	E1	Foraging & Breeding habitat	areas of swamp forest and coastal headlands with <i>Alexfloydia repens</i> Floyd's Grass	No

Class	Scientific name	Common name	Status	Habitat type	Habitat description	Habitat in Study Area
Mammalia	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	Breeding habitat	Hollow-bearing trees, fallen logs, small caves, rock crevices, boulder piles, rocky-cliff faces or animal burrows	No
Mammalia	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	Foraging habitat	range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline	Yes
Mammalia	<i>Kerivoula papuensis</i>	Golden-tipped Bat	V	Breeding habitat	Tree hollows or nests of Yellow-throated Scrubwren or Brown Gerygone	No
Mammalia	<i>Kerivoula papuensis</i>	Golden-tipped Bat	V	Foraging habitat	Rainforest gullies or sclerophyll forest on mid to upper slopes, within 2km radius of roost	No
	<i>Kerivoula papuensis</i>	Golden-tipped Bat	V	Shelter/roosting/refuge habitat	abandoned hanging Yellow-throated Scrubwren and Brown Gerygone nests, also in tree hollows, dense foliage and epiphytes in rainforest gullies on small first- and second-order streams.	No
Mammalia	<i>Miniopterus australis</i>	Little Bentwing-bat	V	Breeding habitat	Caves	No
Mammalia	<i>Miniopterus australis</i>	Little Bentwing-bat	V	Foraging habitat	Moist eucalypt forest, rainforest or dense coastal banksia scrub	No
Mammalia	<i>Miniopterus australis</i>	Little Bentwing-bat	V	Shelter/roosting/refuge habitat	Caves, tunnels or tree hollows	No
Mammalia	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	Breeding habitat	Maternity caves with very specific temperature and humidity regimes.	No
Mammalia	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	Foraging habitat	forested areas, catching moths and other flying insects above the tree tops	No
Mammalia	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V	Shelter/roosting/refuge habitat	Caves are the primary roosting habitat, but also use derelict mines, storm-water tunnels, buildings	No
Mammalia	<i>Myotis macropus</i>	Southern Myotis	V	Breeding habitat	Likely to be as per roosting habitat	No
Mammalia	<i>Myotis macropus</i>	Southern Myotis	V	Foraging habitat	waterbodies (including streams, or lakes or reservoirs) and fringing areas of vegetation	No
Mammalia	<i>Myotis macropus</i>	Southern Myotis	V	Shelter/roosting/refuge habitat	Live and dead hollow-bearing trees, under bridges or other artificial structures, in caves, or in dense foliage	No
Mammalia	<i>Petaurus australis</i>	Yellow-bellied Glider	V	Breeding habitat	Large trees with hollows > 10cm diameter	No
Mammalia	<i>Petaurus australis</i>	Yellow-bellied Glider	V	Foraging habitat	favoured food trees in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils	No
Mammalia	<i>Petaurus australis</i>	Yellow-bellied Glider	V	Shelter/roosting/refuge habitat	as per breeding habitat	No
Mammalia	<i>Petaurus norfolcensis</i>	Squirrel Glider	V	Breeding habitat	Tree hollows or fissures >2 cm diameter/width in eucalypt forests and woodlands	No
Mammalia	<i>Petaurus norfolcensis</i>	Squirrel Glider	V	Foraging habitat	Blackbutt-Bloodwood forest with heath understorey and abundant hollows	No

Class	Scientific name	Common name	Status	Habitat type	Habitat description	Habitat in Study Area
Mammalia	<i>Petaurus norfolcensis</i>	Squirrel Glider	V	Shelter/roosting/refuge habitat	As per breeding habitat	No
Mammalia	<i>Phascolarctos cinereus</i>	Koala	V	Breeding habitat	eucalypt woodlands and forests	No
Mammalia	<i>Phascolarctos cinereus</i>	Koala	V	Foraging habitat	Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species; in any one area will select preferred browse species	No
Mammalia	<i>Phascolarctos cinereus</i>	Koala	V	Shelter/roosting/refuge habitat	n/a	-
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	Breeding habitat	Canopy trees associated with rainforest, or coastal scrub or riparian or estuarine communities and with sufficient forage resources within 40km.	No
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	Foraging habitat	Most	Yes
Mammalia	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V	Shelter/roosting/refuge habitat	Patches of forest with canopy trees within 40 kilometres of forage resource.	No
Mammalia	<i>Syconycteris australis</i>	Common Blossom-bat	V	Breeding habitat	Rainforest or vine thickets within proximity to foraging habitat.	No
Mammalia	<i>Syconycteris australis</i>	Common Blossom-bat	V	Foraging habitat	heathland and paperbark swamps	No
Mammalia	<i>Syconycteris australis</i>	Common Blossom-bat	V	Shelter/roosting/refuge habitat	Rainforest or vine thickets within 4km of foraging habitat.	No
Reptilia	<i>Hoplocephalus stephensii</i>	Stephens' Banded Snake	V	Breeding habitat	Rainforest and eucalypt forests and rocky areas up to 950 m in altitude	No
Reptilia	<i>Hoplocephalus stephensii</i>	Stephens' Banded Snake	V	Foraging habitat	Rainforest and eucalypt forests and rocky areas up to 950 m in altitude	No
Reptilia	<i>Hoplocephalus stephensii</i>	Stephens' Banded Snake	V	Shelter/roosting/refuge habitat	loose bark and tree trunks, amongst vines, or in hollow trunks limbs, rock crevices or under slabs	No

Consideration of the likely impacts of the proposal

The TSC Act assessment of significance outlines factors to be considered when determining whether an action, development or activity is likely to significantly affect threatened species, populations or ecological communities, or their habitats (known previously as the “8-part test”).

In the case of threatened flora species, endangered populations and ecological communities, none were detected by a targeted search of the entire study area and their potential for occurrence was assessed as ‘nil’ or at best ‘unlikely’.

Similarly, utilisation of the small area of heavily modified potential foraging habitat for Glossy Black Cockatoo, Spotted-tail Quoll and Grey-headed Flying-fox in the study area was assessed as unlikely.

There being no subject species, a 7-part test or Species Impact Statement would not be required.

EPBC Act listed flora, communities or fauna habitat do not occur in the study area, therefore the proposal would not impact on any matters of National Environmental Significance pertaining to flora or fauna and referral to the federal environment minister would not be required.

Appropriate measures for mitigation of impacts

Mitigation of the impacts of clearing of native vegetation could include the restoration and rehabilitation, under the provisions of a Vegetation Management Plan, of the remnant Blackbutt Open Forest to the north of the subject area on Lot 3 that is currently zoned 7A Environmental Protection.

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Flora inventory

Scientific name	Common name	Status	C/A in Community			
			1	2	3	4
<i>Ageratina adenophora</i>	Crofton weed	e	3			2
<i>Ageratum houstonianum</i>	Blue billygoat weed	e	2			1
<i>Allocasuarina torulosa</i>	Forest oak				3	
<i>Alpinia caerulea</i>	Native ginger			1	2	
<i>Anagallis arvensis</i>	Scarlet pimpernel	e	2			
<i>Banksia integrifolia</i>	Coast banksia				1	
<i>Bidens pilosa</i>	Farmers friends	e	2			
<i>Calochlaena dubia</i>	Soft bracken				2	
<i>Christella dentata</i>	Binung			3	1	
<i>Coratderia selloana</i>	Pampas grass	e	2	2		
<i>Cyclospermum leptophyllum</i>	Slender celery	e	2			
<i>Eucalyptus pilularis</i>	Blackbutt				1	4
<i>Eustrephus latifolius</i>	Wombat berry				2	
<i>Ficus coronata</i>	Creek sandpaper fig			1		
<i>Glycine clandestina</i>	Glycine		2			2
<i>Gnaphalium sp</i>	Cudweed	e	2			
<i>Gomphocarpus fruticosus</i>	Narrow-leaved cotton bush	e	2			
<i>Imperata cylindrica</i>	Blady grass		3			2
<i>Lantana camara</i>	Lantana	e	2			1
<i>Lilium formosanum</i>	Formosa lily	e	2	2	2	2
<i>Lomandra longifolia</i>	Spiny-headed mat-rush				1	
<i>Mangifera indica</i>	Mango	e		1		
<i>Oplismenus aemulus</i>	Beard grass		1			2
<i>Pandorea pandorana</i>	Bower vine				1	
<i>Passiflora subpeltata</i>	White passionflower	e			1	
<i>Pennisetum purpureum</i>	Barner grass	e		4		
<i>Persoonia stradbrokeensis</i>	Geebung				1	
<i>Pittosporum undulatum</i>	Smooth pittosporum			2	2	
<i>Poa labillardieri</i>	Poa grass		1			1
<i>Poa sieberiana</i>	Poa grass		2			1
<i>Pteridium esculentum</i>	Bracken fern		2			
<i>Pyrus sp?</i>	China pear	e		1		
<i>Rubus parvifolius</i>	Native raspberry				2	1
<i>Senecio madagascariensis</i>	Madagascan fireweed	e	2			
<i>Setaria sphacelata</i>	Pigeon grass	e	2			
<i>Sporobolus fertilis</i>	Giant Parramatta grass	e	2			
<i>Synoum glandulosum</i>	Scentless rosewood			1	1	
<i>Themeda australis</i>	Kangaroo grass		1			2
<i>Verbena bonariensis</i>	Purpletop	e	2			
<i>Wahlenbergia sp</i>	Bluebell		1			1

Status: e = exotic; C/A (Cover/Abundance): 1 = <5% cover, uncommon; 2 = ,5% cover, common; 3 = 5-25% cover; 4 = 25-50% cover.

ATTACHMENT

6

BUSHFIRE HAZARD ASSESSMENT REPORT

Prepared by
Resource Design & Management Pty Ltd

Bushfire Hazard Assessment

Lot 3 DP 270533



Bushfire Hazard Assessment

September 2012

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Annexure C	RFS APZ Calculator Printout

1. Introduction

1.1 Scope & Purpose

Resource Design and Management Pty Ltd (RDM) has been engaged by The Village Building Company (TVBC) to prepare a Bushfire Hazard Assessment for Lot 3 DP 270533 (The Site). The assessment is to form part of a Planning Proposal seeking to rezone a portion of the lot from its current zoning 1A Rural Agriculture to 2E Residential Tourist under the Coffs Harbour LEP 2000. A Draft LEP 2012 is currently on exhibition, under this plan the propose zone will be R1 General Residential.

This Bushfire Hazard Assessment has been prepared with regards to:

- Planning for Bushfire Protection 2006,
- Bush Fire Prone Land Mapping Guideline 2006,
- Environmental Planning & Assessment Act 1979, and
- Rural Fire Act 1997.

From the information received and analysis undertaken this assessment:

- Identifies the site,
- Reviews the existing bushfire mapping and proposes revised mapping,
- Determines a bushfire threat,
- Makes recommendation with regards to Asset Protection Zones and Constructions Standards as prescribed in *Planning for Bushfire Protection 2006*,
- Supports a change in zoning of a portion of the subject site.

1.2 Legislative Framework

The Rural Fires Act 1997 and the Environmental Planning and Assessment Act 1979 institute a framework for environmental planning and assessment to consider bushfire hazard issues.

The existing Coffs Harbour City Council's bushfire prone land mapping indicates that Bush Fire Vegetation Category 1 occur on the subject site along with 100 and 30 m buffers see **Figure 1 – Bushfire Prone Land Map**.

Council's bushfire prone land mapping has been prepared as a requirement of Section 146 of the Environmental Planning and Assessment Act 1979 and in accordance with the NSW Rural Fire Services Guideline to Bushfire Prone Land Mapping.

Planning for Bushfire Protection 2006 has been adopted through the Environmental Planning and Assessment Amendment (Planning for Bushfire Protection) Regulation 2007 and the Rural Fires Amendment Regulation 2007.

An assessment of the vegetation on the subject site has been undertaken and found that under the Bush Fire Prone Land Mapping Guideline 2006 the current bushfire prone land mapping is incorrect, vegetation mapped as Category 1 Vegetation is managed lands and gardens and therefore not Category 1 Vegetation or classed as bushfire prone. This is further expanded on below in **Section 3.1.1 – Vegetation.**

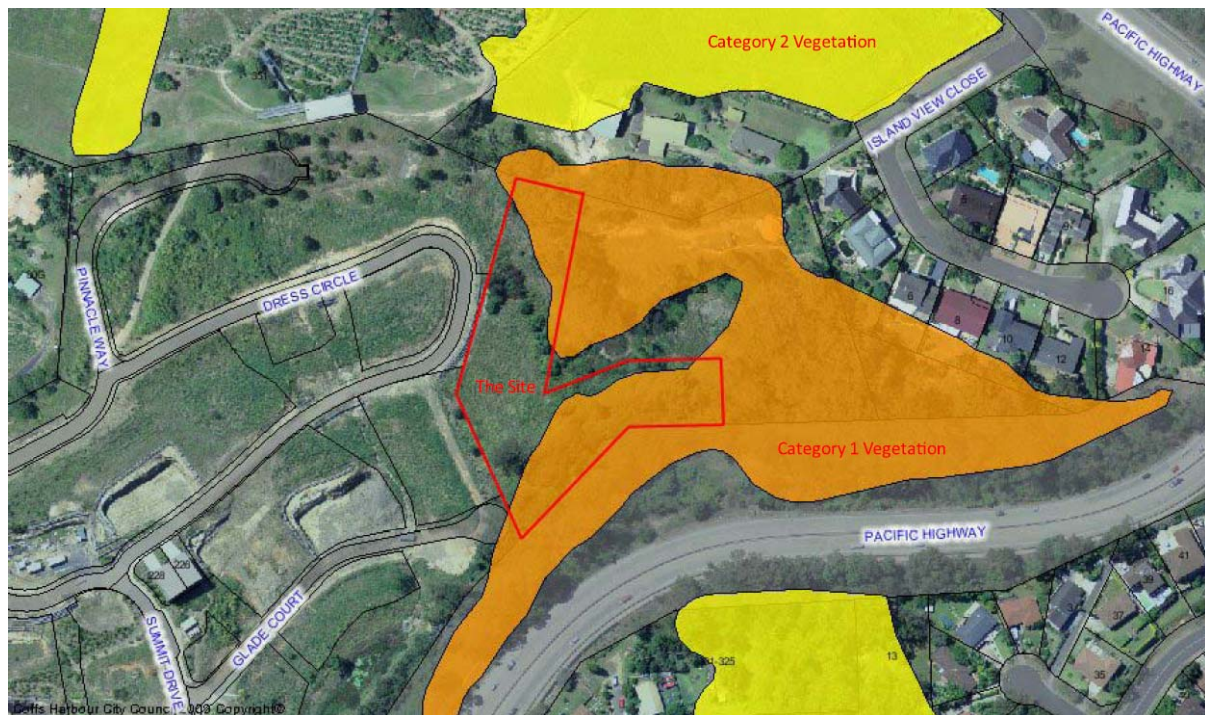


Figure 1 – Bushfire Prone Land Map

(Source: CHCC)

2. Background

2.1 Location & Description

The site is located east of the low to medium density residential development known as 'The Summit' in Coffs Harbour. The site is an L shaped allotment which has a southern boundary to the Pacific Highway and road frontage to the Dress Circle. All other boundaries abut neighbouring properties.

Vehicle access to the sit is through The Summit development via the Dress Circle. There is no vehicle access to the Pacific Highway.

Parts of the site have significant slope, cross fall from north to south is 41m, most of this slope is concentrated to the south. **Figure 3 – Aerial Photo** which includes 2m contours detailing the topography of the site.

2.2 Zoning & Landuse

The subject site consists of three different zonings, 1A Rural Agriculture, 7A Environmental Protection Habitat and Catchment and 2E Residential Tourist under LEP 2000 refer to **Figure 2 – Existing Zoning Plan CHLEP 2000**.

Zonings surrounding the site include the 2A Residential, 6A Open Space Public Recreation, 5a Classified Road, 1A Rural Agriculture, 7A Environmental Protection Habitat and Catchment and 2E Residential Tourist refer to **Figure 2 – Existing Zoning Plan CHLEP 2000**.

The subject site is currently vacant with portions of cleared and managed land and some taller trees and vegetation.

Landuse surrounding the site include the low to medium density residential development known as "The Summit" to the west. North of the lot are banana farming and cropping uses. The lot to the immediate east is a large residential lot with a dwelling and extensive managed gardens and some bushland, to the south is the Pacific Highway refer **Figure 3 – Aerial Photo**.

A dwelling house is currently under construction on Lot 12 DP1080763 which is not shown in the Air Photos, the partially constructed dwelling can be seen in **Figure 5 - Site Photos**.

2.3 Significant Environmental Features

Approximately 3600m² of the site is identified as Primary Koala Habitat and has a high conservation value. This land is also zoned 7A Environmental Protection Habitat and Catchment. The remaining portions of the site consist of managed clear land and some modified bushland.

2.4 Threatened Species, Populations or Endangered Ecological Communities

As outlined in the Biodiversity Assessment, no threatened flora or threatened communities were detected in the study area.

Of the *TSC Act* listed fauna recorded in the locality, there is a very small quantity of potential foraging habitat for Glossy Black Cockatoo, Spotted-tail Quoll and Grey-headed Flying-fox.

2.5 Proposed Rezoning

The proposed rezoning application is to allow the opportunity for future residential and tourist development on a portion of the lot.

The planning proposal is seeking to rezone the 1A Rural Agriculture portion of the site to 2E Residential Tourist under LEP 2000 or R1 General Residential under the Draft LEP 2012. Refer to **Figure 4 – Proposed Zoning Plan**.

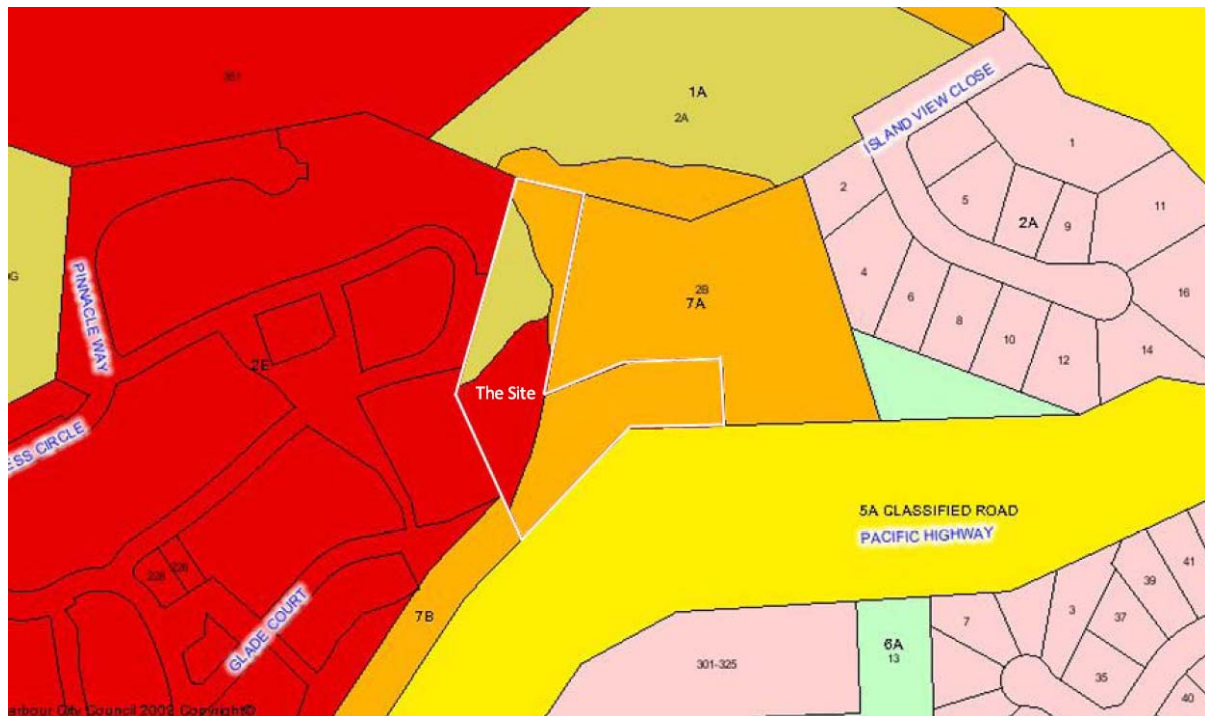


Figure 2 – Existing Zoning Plan CHLEP 2000

(Source: CHCC)



Figure 3 – Aerial Photo and 2m Contours

(Source: CHCC)

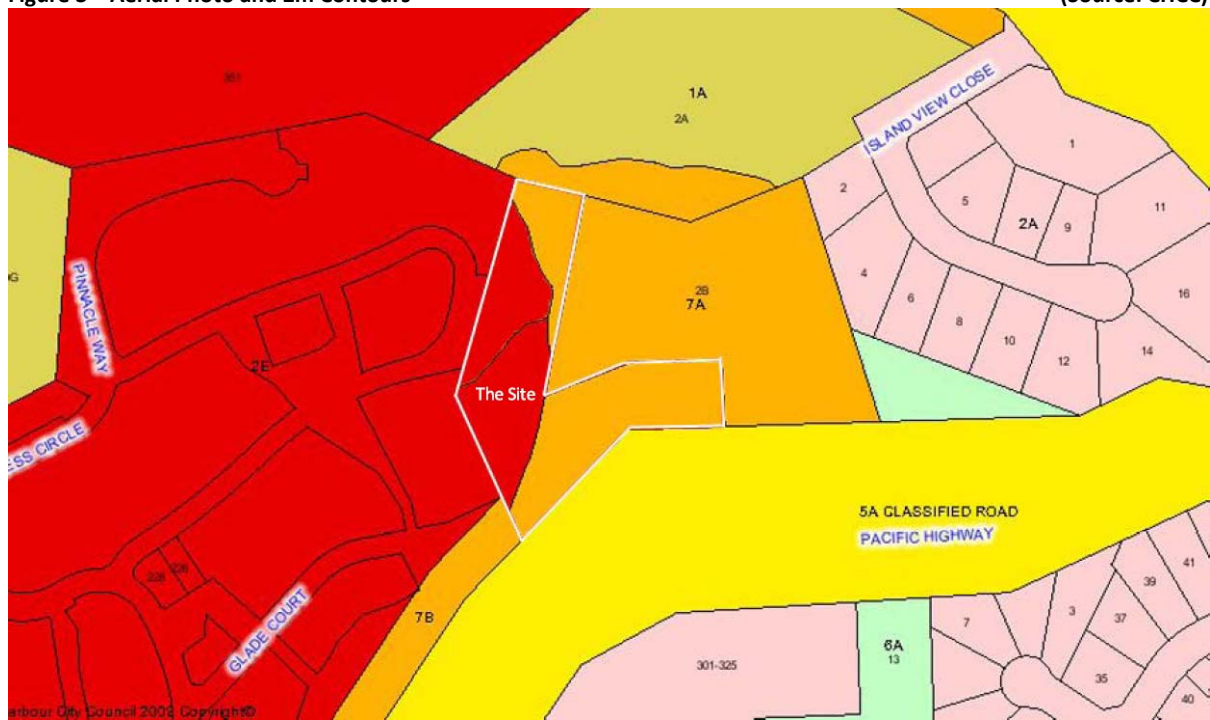


Figure 4 – Proposed Zoning Plan

(Source: CHCC & RDM)

3. Bushfire Protection Assessment

3.1 Bushfire Assessment

An inspection of the site was undertaken on 19 September 2012. The central and northern portions of the site are clear of any significant vegetation except for isolated trees. The cleared land is managed (slashed and weed management) regularly. The eastern and southern portions of the site are heavily vegetated with both Category 1 Vegetation and invasive weed species.

3.1.1 Vegetation

From the site inspection it was determined that portions of the Category 1 Vegetation mapped in Lot 151 DP 594047, Lot 12 DP1080763 and Lot 3 DP 270533 (Subject Site) are managed lands and/or gardens. Photos of the existing vegetation are provided below in **Figure 5 – Site Photos**.

These areas are therefore not Category 1 Vegetation and the mapping provided on the **Proposed Bushfire Prone Land Map attached at Annexure A** reflects these changes.

Portions of the site to the south are covered in weed species (Lantana and others) which has grown over from previous clearing. There is a clear delineation between the Category 1 Vegetation and weed species. This line has been recorded and a **Proposed Bushfire Prone Land Map** produced reflecting this, refer to Annexure A.

The portions of the site which are not managed lands (grass or gardens) or weed species fall within the Forest Vegetation Classification in accordance Planning for Bushfire Protection 2006.

Proposed Bushfire Prone Land Map attached at Annexure A has taken into account the revised classification of the vegetation to the north and south of the site.



A cleared and maintained portion of the Lot



Weed spraying, note new dwelling under construction east of the site.



Management vegetation on neighbouring lots



Management vegetation on neighbouring lots



Management vegetation on neighbouring lots



New dwelling under construction east of the site
(Source: RDM)

Figure 5 – Site Photos

3.1.2 Slope Analysis

The topography of the site is made up of two plains, one orientated north-south and one orientated east-west.

The north-south orientation contains a marked grade with an upper limit being 74m AHD and a lower limit being 34m AHD. The east-west orientation contains a varied grade however much gentler than the north-south slope on the site.

The effective slope, is the slope of the land of the vegetation assessed as being a hazard. Two effective slopes have been calculated for the north-south orientation and the east-west orientation.

Effective Slope north-south 27% Downslope

Effective Slope east-west 6% Downslope

The effective slope for the proposed rezoning is shown illustrated in the **Slope Analysis and Asset Protection Zone Plan at Annexure B.**

3.1.3 Asset Protection Zones

Asset Protection Zones (APZ's) are to be calculated based on the effective slope, Fire Danger Index (FDI) rating and vegetation classification. An APZ calculation for the north-south orientation is prepared only as the bushfire threat from the east is a significant distance away.

North-south Orientation;

FDI 80, Forest, 27% Downslope, **APZ 45m (25IPA/20OPA).**

NOTE; as the slope is greater than 18° any Development Application for a Residential Subdivision will require a detailed performance Assessment to accompany the Development Application.

Coffs Harbour City Council local government area is located within the 'north coast' fire area, with a FDI rating of 80.

Refer to the Rural Fire Service APZ Calculator Printout attached at **Annexure C.**

3.1.4 General APZ Management

APZs are to be maintained as open areas with minimal fuel at ground level. Some trees and shrubs are appropriate within the APZ, provided that they do not provide a path for fire to transfer to the development. In addition, no combustible materials (e.g. wood piles, flammable building materials) should be kept in the APZ. To enhance the APZs, weed management activities should be undertaken regularly to control regenerating weeds.

3.1.5 APZ Maintenance & Establishment

Within the APZs the following measures should be undertaken:

- Any trees and shrubs planted are to be fire retardant and not form a continuous canopy,
- Understorey below any large trees are to be maintained,
- Ensure trees and shrubs do not touch or overhang buildings.

3.2 Standards for Bushfire Protection Measures – Residential Subdivision

As required in Section 4.1.3 of PBP 2006, the following outlines how future residential development of the site meets the deemed-to-satisfy criteria.

APZ's	The APZ's have been calculated in accordance with Appendix 2 of PBP 2006 as outlined in Section 3.1.3 of this report. The APZs were calculated in the RFS Online APZ Calculator, printouts of the results are attached at Annexure C. The required APZ are to be achieved wholly within the boundaries of the site. Slopes greater than 18 degrees exists on this site. Residential Development can still be achieved however a special considered will be required by the RFS. An alternative solution may be required, this is to be further addressed at Development Application Stage.
Access (1) - Public Road	Any public roads proposed as part of any future development of the site are to meet the acceptable solutions of PBP 2006.
Access (2) – Property Access	Any property access arrangements proposed as part of any future development of the site are to meet the acceptable solutions of PBP 2006.
Access (3) – Fire Trails	It is unlikely that fire trails will be required on the subject site.
Services – Water, Electricity & Gas	Water is to be supplied to the site as outlined in the h design pty ltd report provided with the Planning Proposal. Proposed is a Water Storage and pumps system which will provide water at a maximum flow rate of 20 liters per second. Fire Hydrants and Stop Valves will also be provided. This Provision of services to the site complies with acceptable solutions of PBP 2006.

3.3 Special Considerations

No adverse impacts to any items of environmental or cultural significance are expected as a result of the implementation and maintenance of APZs.

4. Summary

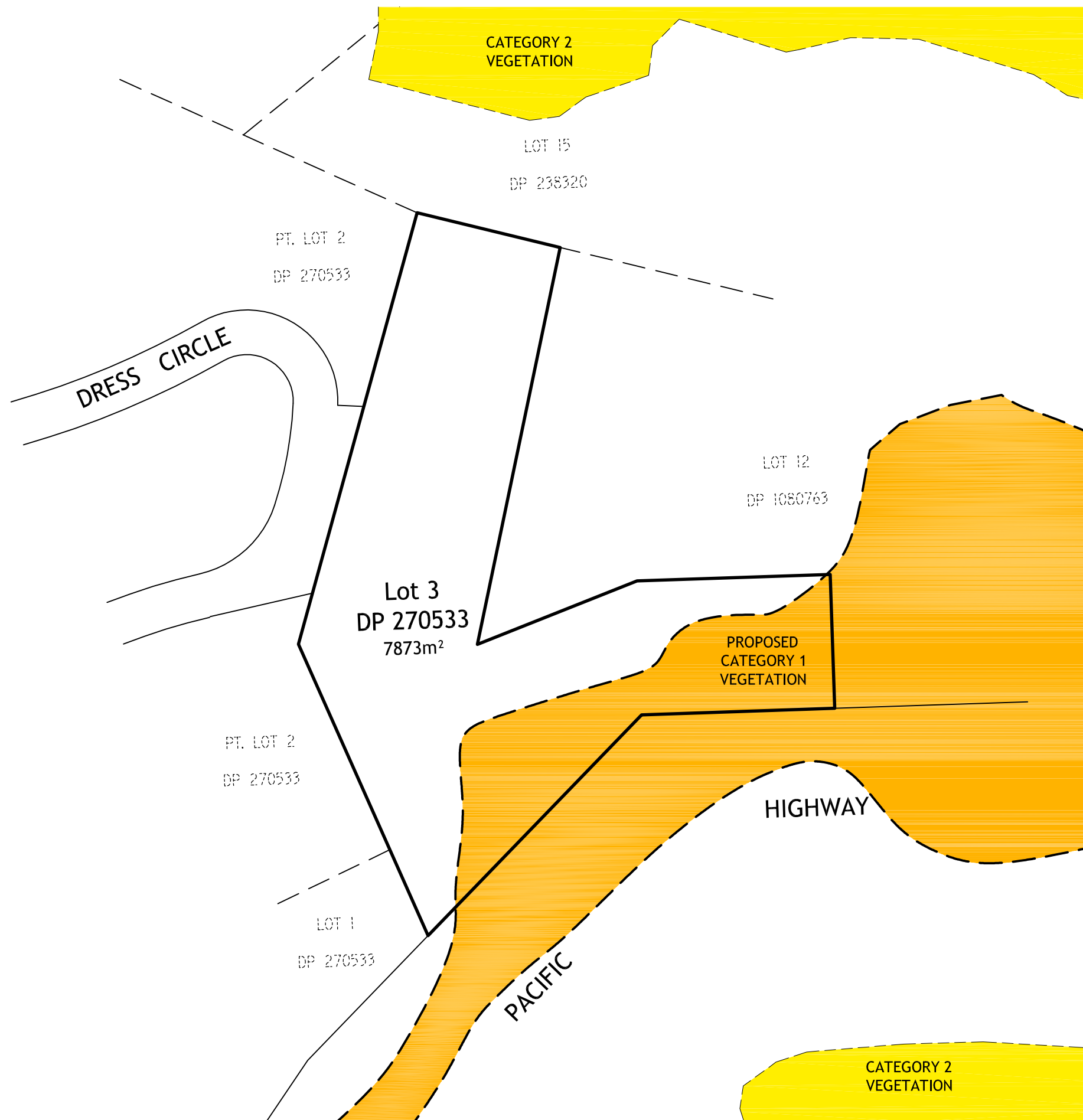
Resource Design and Management Pty Ltd has been engaged by The Village Building Company to prepare a Bushfire Hazard Assessment for Lot 3 DP 270533.

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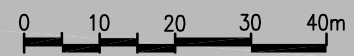
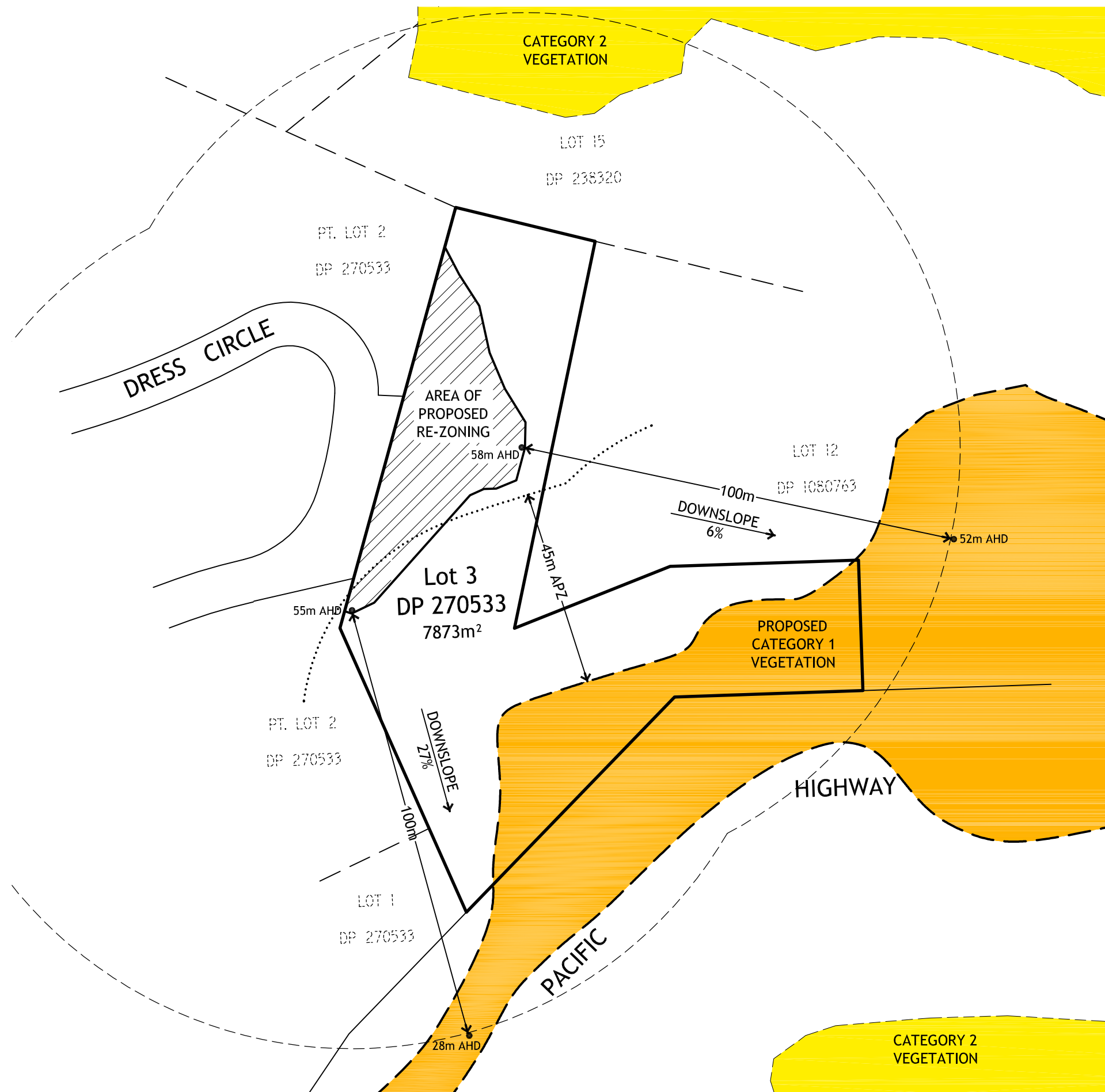
Based on consideration of the vegetation, effective slope and fire danger index, the assessment has identified that adequate and appropriate bushfire hazard protection measures are available, and can be implemented. Due to the significant slope further detailed assessment may need to be undertaken taking into account the design of any building with approval from the Rural Fire Service required as part of the normal development application process.

The proposed rezoning conforms with the standards, specific objectives and performance criteria set out in Planning for Bushfire Protection 2006.

Annexure A – Proposed Bushfire Prone Land Map



Annexure B – Slope Analysis and Asset Protection Zone



Annexure C – RFS APZ Calculator Printouts



PBP Appendix 2 - APZ Calculator



Inputs:

<u>Site Address:</u>	Lot 3 DP 270533
<u>Calculated By:</u>	RDM
<u>Development Purposes:</u>	☒ Residential Subdivision ☐ Special Fire Protection
<u>Local Government Area:</u>	Coffs Harbour ▼
<u>Located In Alpine Areas:</u>	☐
<u>Fire Weather Area/FFDI:</u>	North Coast / 80
<u>Vegetation Class:</u>	Forests ▼
<u>Effective Slope:</u>	Downslope >15 to 18 degrees ▼

Commands:

Calculate	Print	Reset	Help
--	--------------------------------------	--------------------------------------	-------------------------------------

Outputs:

<u>Asset Protection Zone (APZ):</u>	45	metres
<u>Inner Protection Area (IPA):</u>	25	metres
<u>Outer Protection Area (OPA):</u>	20	metres

Note to User:

The site assessment methodology used in this assessor applies for determining the construction requirements for buildings in accordance with the BCA and Appendix 3 Addendum of PBP. The APZ distances determined by the calculator, and the construction requirements determined by the Construction Assessor are separate processes and should be considered individually.

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