DEVELOPMENT SERVICES ATTACHMENTS
ORDINARY MEETING OF COUNCIL
WEDNESDAY 21 FEBRUARY 2024

REPORT NUMBER	REPORT TITLE AND ATTACHMENT DESCRIPTION	PAGE NUMBER(S)
DS01 – 02/24	**Application for Development Approval – Single House – 777 (Lot 101) Teatree Road, Bindoon** **Attachments** 1. Plans 2. Schedule of Submissions 3. Environmental Management Plan 4. Bushfire Management Plan Revised 5. Madalyn Manor, Chittering – Flora, Vegetation and Fauna Survey	1 – 254

Madalyn MANOR

777 TEATREE ROAD, BINDOON WA 6502

TABLE OF CONTENTS

DWG NO.	DWG NAME	Sheet Issue Date
A001	SURVERYOR PLAN - WHOLE SITE	06/06/2023
A010	SITE PLAN	06/06/2023
A011	TUNNEL PLAN & SECTION	06/06/2023
A012	TUNNEL SECTIONS	06/06/2023
A013	FIRE ACCESS TRACK, CROSSOVER, FENCE DETAILS	21/06/2023
A020	SITE PLAN CALLOUT	06/06/2023
A021	PROPERTY AREA	06/06/2023
A030	BASEMENT PLAN	06/06/2023
A040	GROUND FLOOR PLAN	06/06/2023
A050	FIRST FLOOR PLAN	06/06/2023
A060	SECOND FLOOR PLAN	06/06/2023
A070	ROOF TERRACE PLAN	06/06/2023
A080	WORKSHOP	06/06/2023
A130	LANDSCAPE PLAN CALLOUTS	06/06/2023
A150	LANDSCAPE PLAN CALLOUTS	06/06/2023
A170	VERTICAL FIRE ESCAPE PLANS	06/06/2023
A200	NORTH & WEST ELEVATION	06/06/2023
A210	SOUTH & EAST ELEVATION	06/06/2023
A220	INTERNAL COURTYARD ELEVATIONS	06/06/2023
A300	SECTIONS PLAN 1	06/06/2023
A310	SECTIONS PLAN 2	06/06/2023

GROSS FLOOR AREA

Level	Name	Perimeter	Area	Area (Ha)
BASEMENT LEVEL	CENTRAL LIVING	242054	2725 m²	0.27
BASEMENT LEVEL	EAST WING	334694	2795 m²	0.28
BASEMENT LEVEL	NOTH WING	76900	367 m²	0.04
BASEMENT LEVEL	SOUTH WING	187200	1859 m²	0.19
BASEMENT LEVEL	WEST WING	350900	3987 m²	0.40
BASEMENT LEVEL			**11733 m²**	**1.17**
GROUND FLOOR	CENTRAL LIVING	261574	2847 m²	0.28
GROUND FLOOR	EAST WING	156200	1237 m²	0.12
GROUND FLOOR	NORTH WING	90230	489 m²	0.05
GROUND FLOOR	SOUTH WING	243684	2160 m²	0.22
GROUND FLOOR	SPORT WING	226270	2877 m²	0.29
GROUND FLOOR	WEST WING	266420	2140 m²	0.21
GROUND FLOOR			**11749 m²**	**1.17**
FIRST FLOOR	EAST WING	148200	1034 m²	0.10
FIRST FLOOR	MEZZANINE	126085	362 m²	0.04
FIRST FLOOR	NORTH WING	90900	487 m²	0.05
FIRST FLOOR	SOUTH WING	206381	1784 m²	0.18
FIRST FLOOR	WEST WING	269757	2170 m²	0.22
FIRST FLOOR			**5838 m²**	**0.58**
SECOND FLOOR	CENTRAL LIVING	291500	3611 m²	0.36
SECOND FLOOR	EAST WING	145955	849 m²	0.08
SECOND FLOOR	NORTH WING	90900	402 m²	0.04
SECOND FLOOR	WALKWAY	39302	58 m²	0.01
SECOND FLOOR	WEST WING	288472	2131 m²	0.21
SECOND FLOOR			**7051 m²**	**0.71**
ROOF TERRACE	EAST TERRACE	136200	774 m²	0.08
ROOF TERRACE	HELIPAD	166440	1483 m²	0.15
ROOF TERRACE	MAIN TERRACE	203626	2006 m²	0.20
ROOF TERRACE	NORTH TERRACE	90000	486 m²	0.05
ROOF TERRACE			**4749 m²**	**0.47**
Grand total			**41119 m²**	**4.11**

	AREA (m²)	AREA (ha)
RESIDENTIAL PLOT	4 250 000	425.00
GROUND COVERAGE	17 991	17.99
APZ	48 910	4.89
COVERAGE PERCENTAGE		0.0042%

Madalyn MANOR

DRAWING: CONTENT

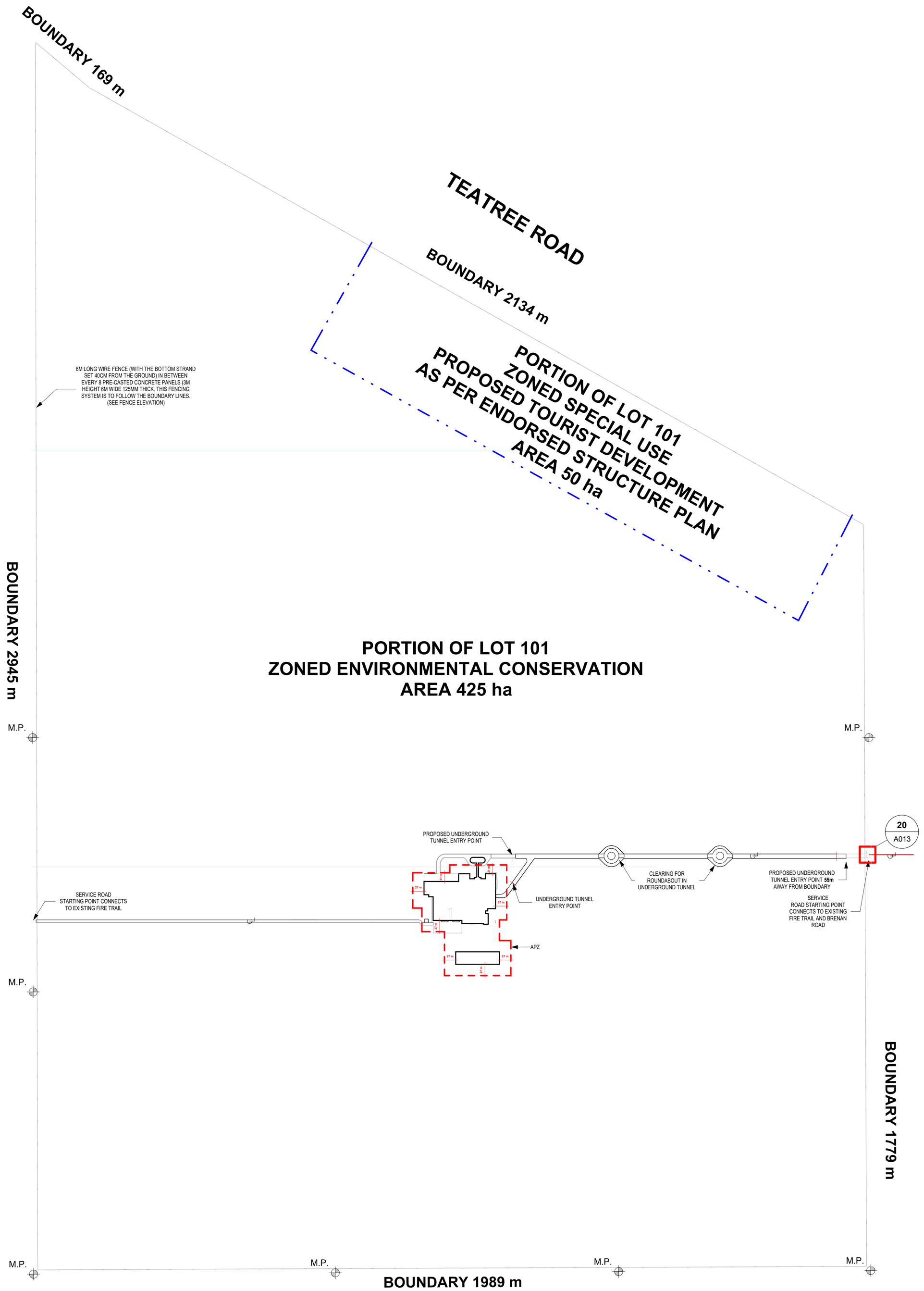
DRAWING NO: A000

Client	CHITTERING RESORT PTY LTD	Project Number	1403	NXT TEC. Ltd 41 Mordaunt Circuit Canning Vale WA 6155 +61 8 9481 6919 www.nxt-tec.com
		Revision Number	DAR3	
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan	
		Checked by	TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023	A1

Attachment 1

LEGEND

MEASURING POINT	M.P.
BOUNDARY LINE	
WIRE FENCE	
PRE-CASTED CONCRETE PANELS (3M HEIGHT 6M WIDE 125MM THICK	



1 / A010 SITE

1 : 5000 Scale @ A1

DRAWING: SITE PLAN

DRAWING NO: A010

Client	CHITTERING RESORT PTY LTD	Project Number	1403	
		Revision Number	DAR3	
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan	
		Checked by	TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	Scale @ A1	A3
		06/06/2023		

Scale Bar 1 : 100

0 0.5 1 2.5m

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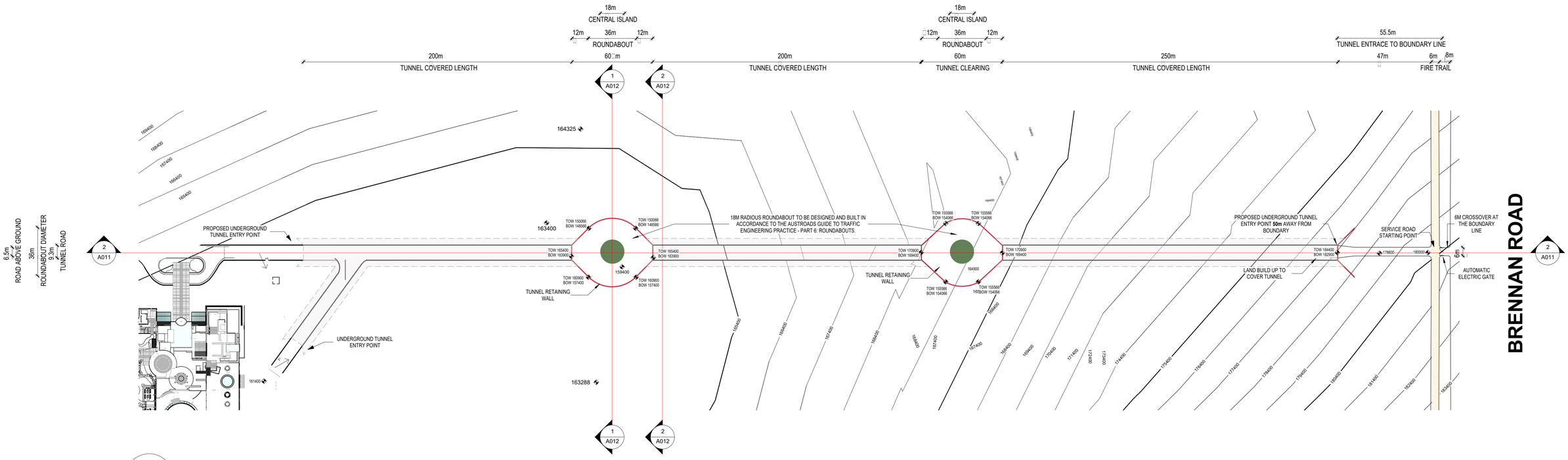
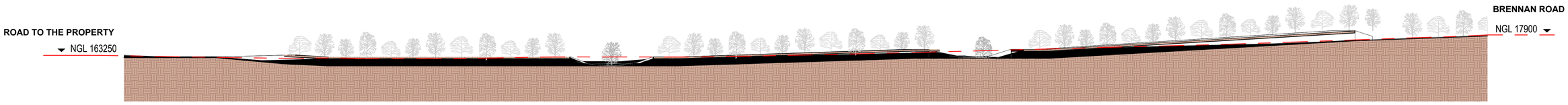


1 TUNNEL PLAN

A011 — 1 : 1500 — Scale @ A1



2 TUNNEL LONG SECTION

A011 — 1 : 1500 — Scale @ A1

DRAWING: TUNNEL PLAN & SECTION

DRAWING NO: A011

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023
		Scale @ A1	A3
		1 : 1500	

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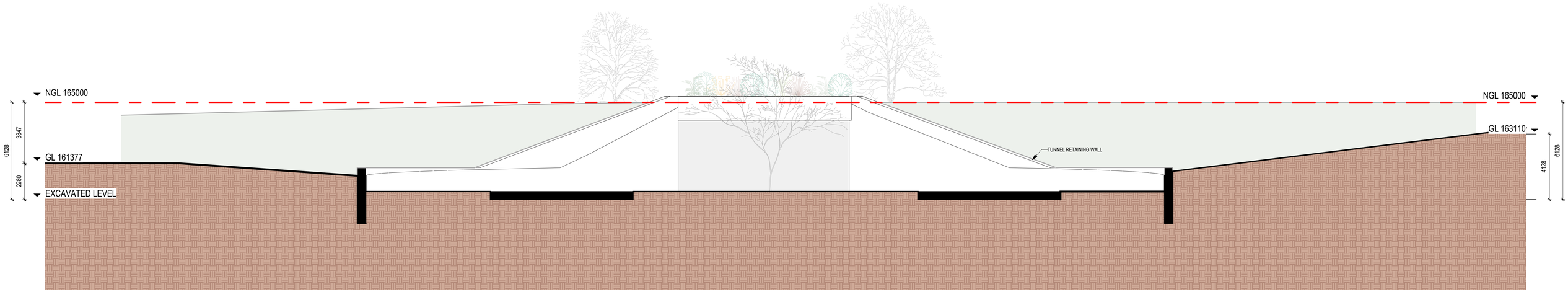
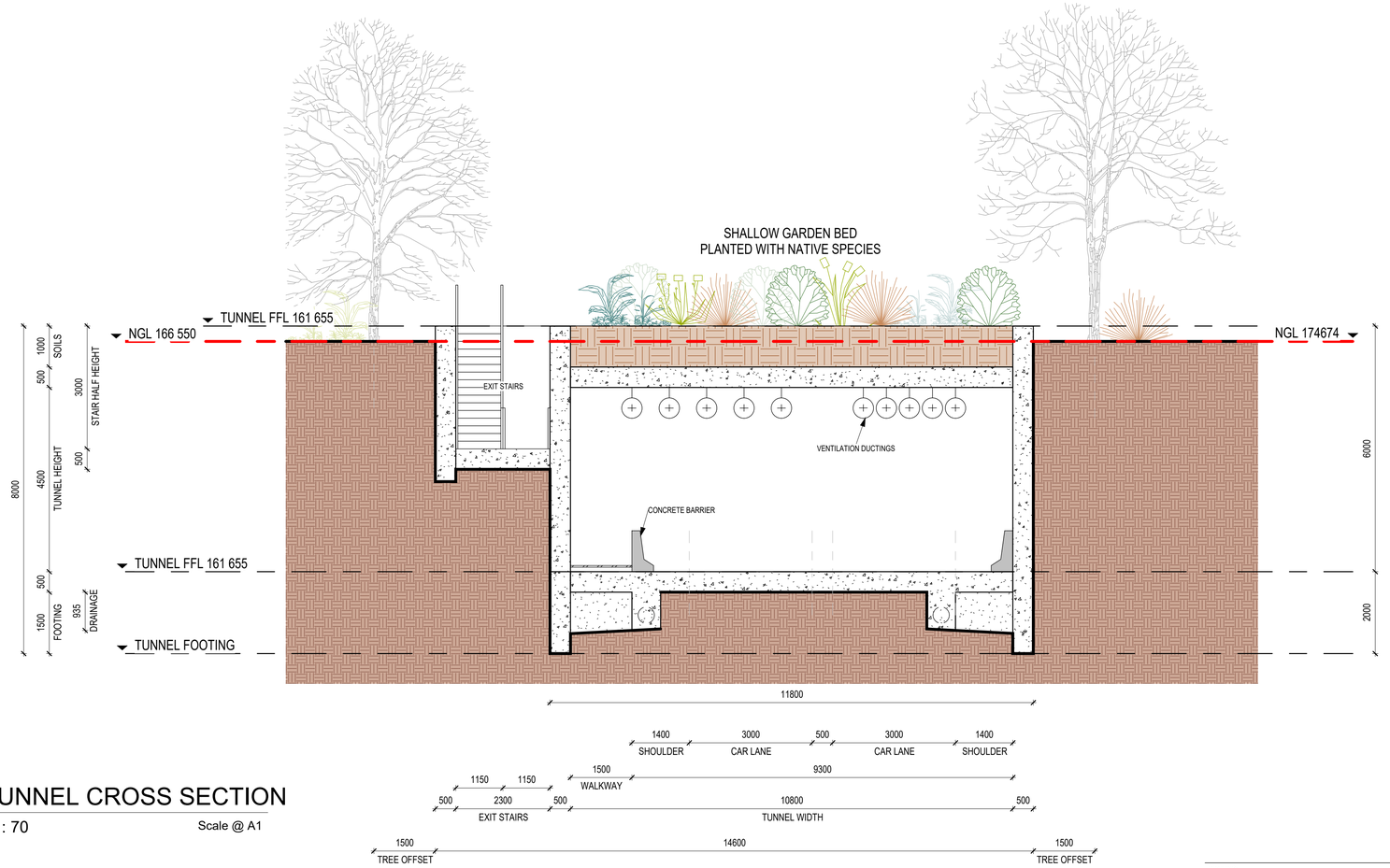


1 A012 — TUNNEL/ ROUNDABOUT SECTION

1 : 120 Scale @ A1



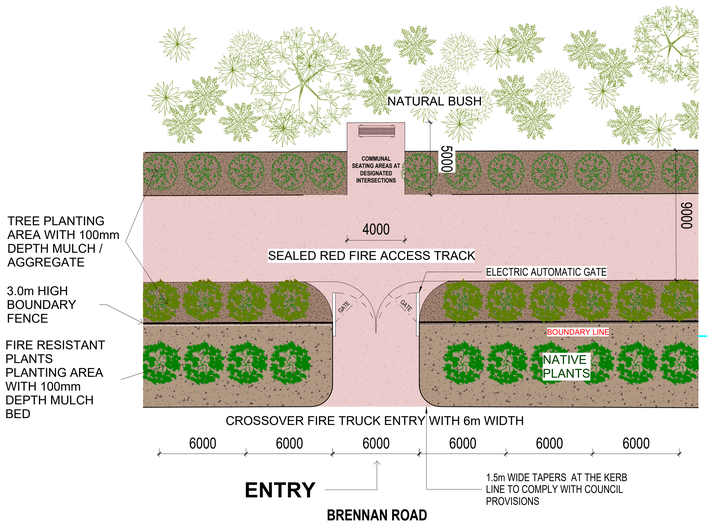
2 A012 — TUNNEL CROSS SECTION

1 : 70 Scale @ A1

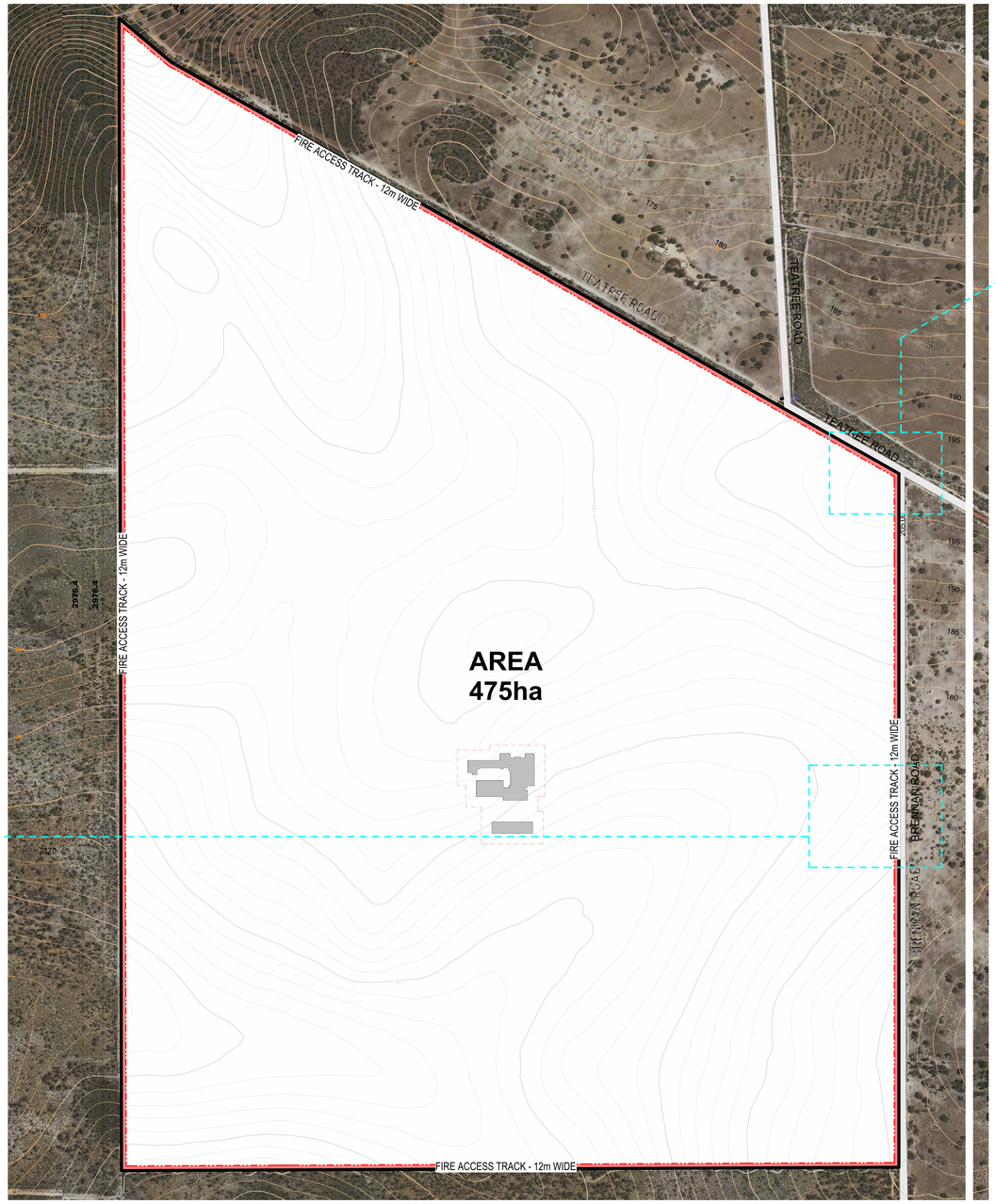
DRAWING: TUNNEL SECTIONS

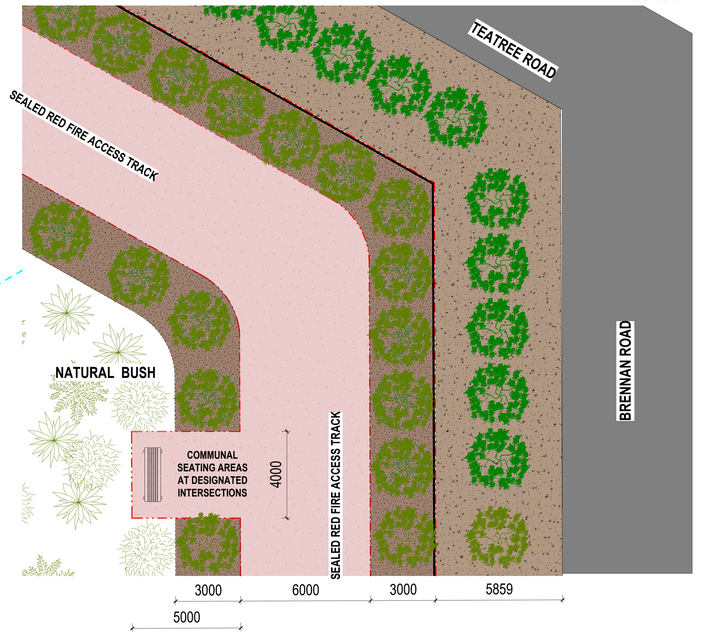
DRAWING NO: A012

Client	CHITTERING RESORT PTY LTD	Project Number / Revision Number	1403 / DAR5	NXT TEC. Ltd, 41 Mordaunt Circuit, Canning Vale WA 6155, +61 8 9481 6919, www.nxt-tec.com
Project	MADALYN MANOR CHITTERING	Drawn by / Checked by	TNDang & KChan / TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue: 06/06/2023	A3	



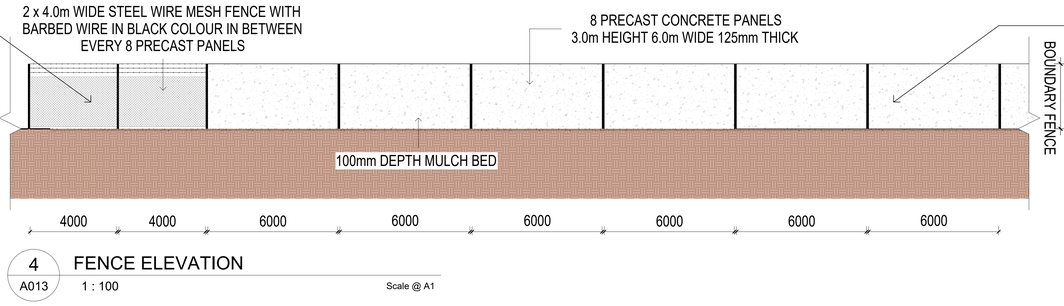
1 A013 BRENNAN ROAD CROSSOVER DETAIL
1:150 Scale @A1





2 A013 FIRE ACCESS TRACK DETAILS
1 : 100 Scale @ A1

3 A013 FIRE ACCESS TRACK CROSS SECTION
1 : 100 Scale @ A1



4 A013 FENCE ELEVATION
1 : 100 Scale @ A1

DRAWING: FIRE ACCESS TRACK, CROSSOVER, FENCE DETAILS

DRAWING NO: A013

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403	
		Revision Number	DAR3	
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan	
		Checked by	TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	As indicated	**A0**
		21/06/2023		

Scale Bar 1 : 100
0 1 2 5m

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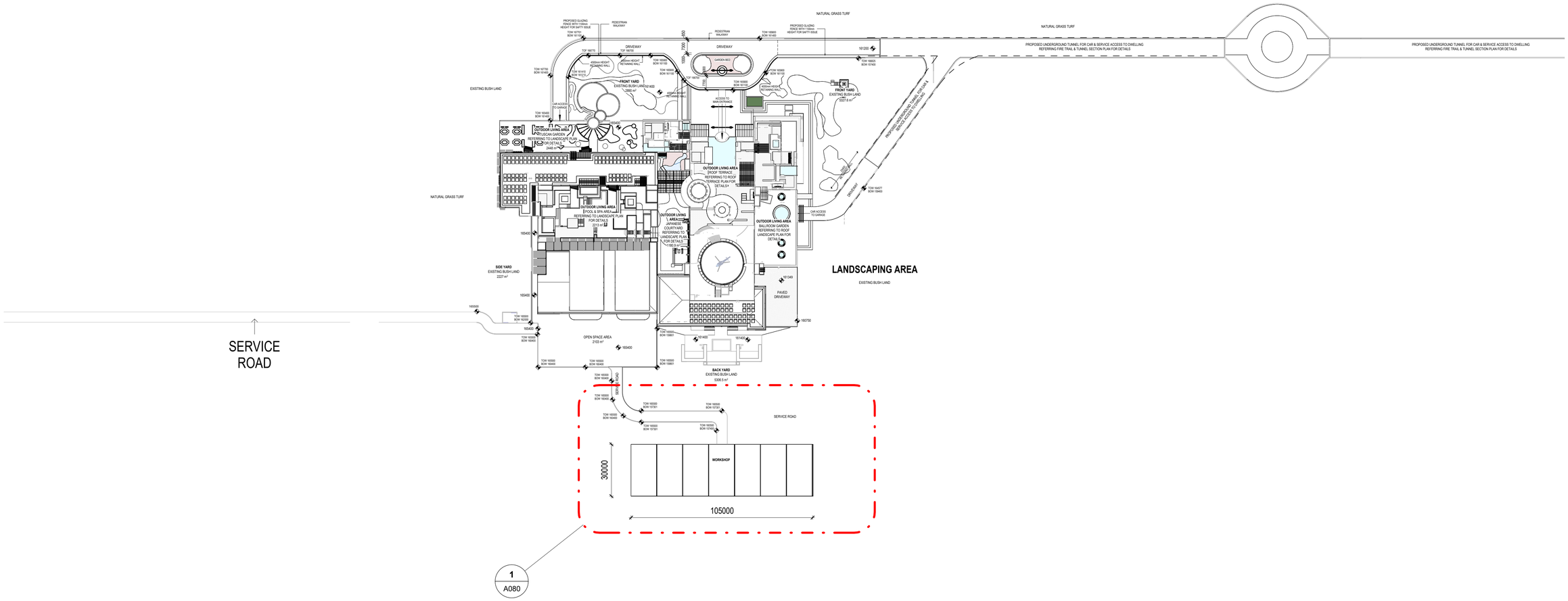

SITE
1 : 1200

DRAWING:
SITE PLAN CALLOUT

DRAWING NO:
A020

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403
		Revision Number	DA/03
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	06/06/2023
		Scale @ A1	1 : 1200
		A3	

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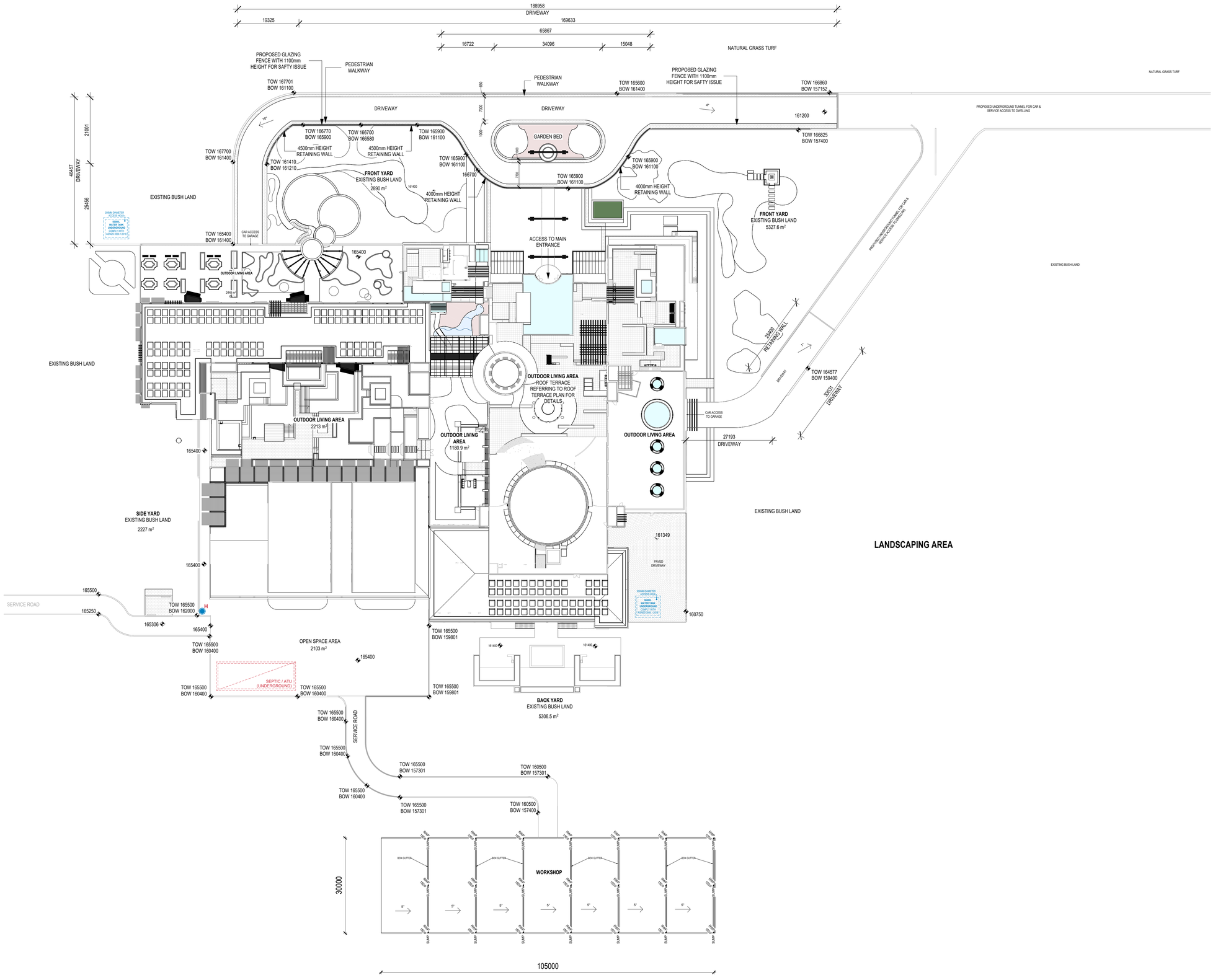

DRAWING: PROPERTY AREA

DRAWING NO: A021

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	Author
		Checked by	Checker
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023
		Scale @ A1	1 : 600
		A3	

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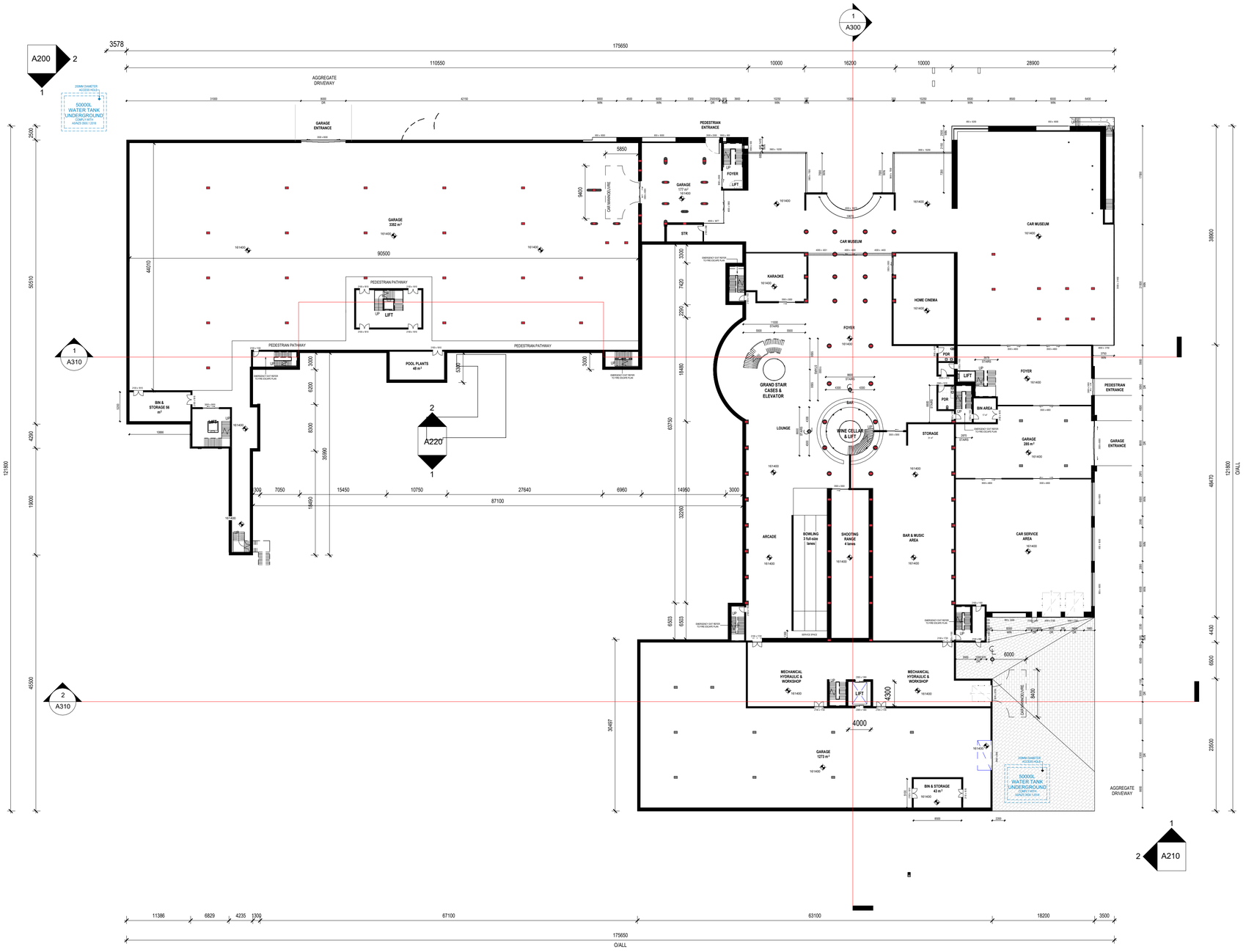

1 A030 — BASEMENT FLOOR PLAN

1 : 400 Scale @ A1

DRAWING: BASEMENT PLAN

DRAWING NO: A030

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023
		Scale @ A1	1 : 400
		A3	

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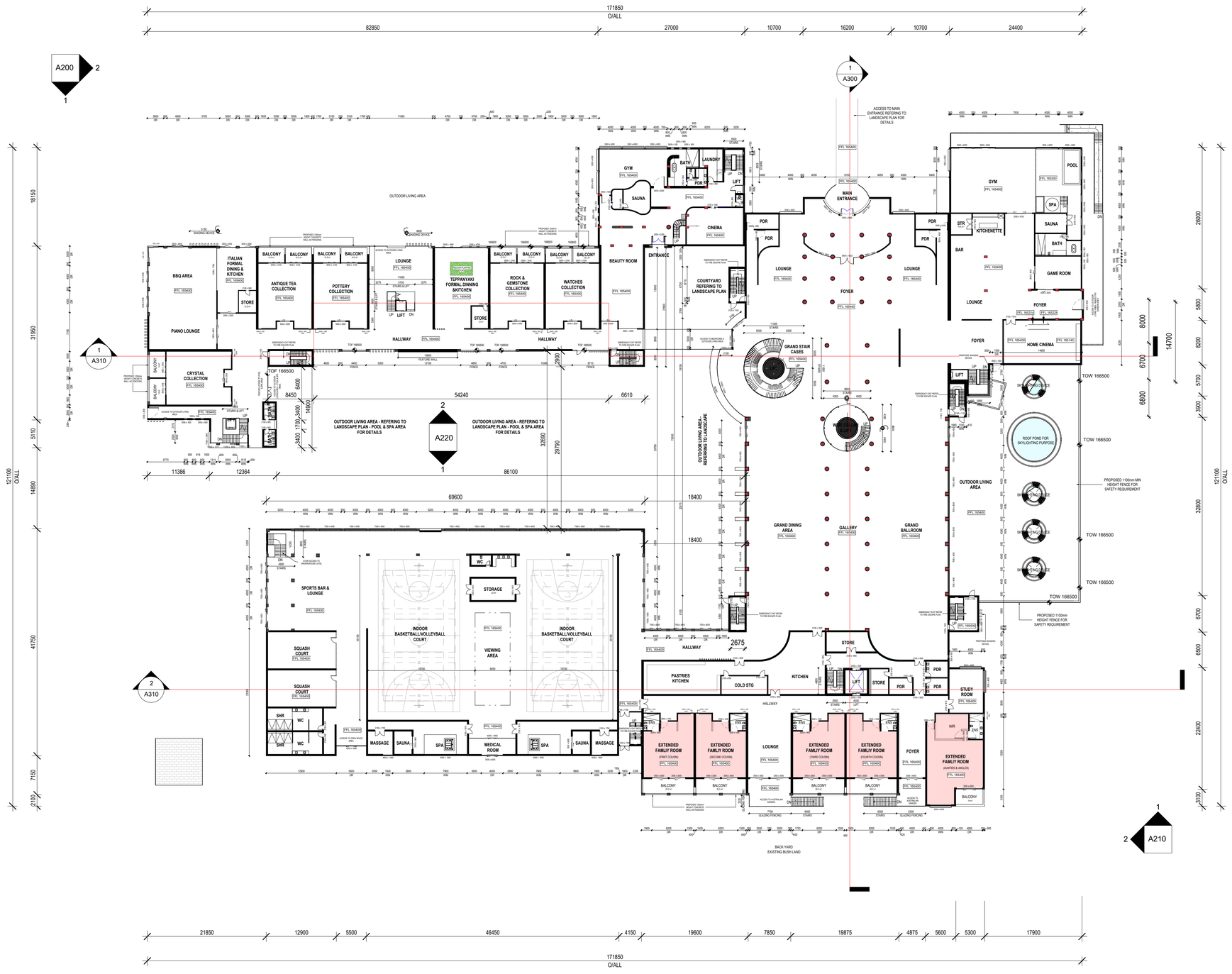

GROUND FLOOR PLAN

1 : 400

DRAWING: GROUND FLOOR PLAN

DRAWING NO: **A040**

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	THDang & KChan
		Checked by	THDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023
		Scale @ A1	1 : 400
		A3	

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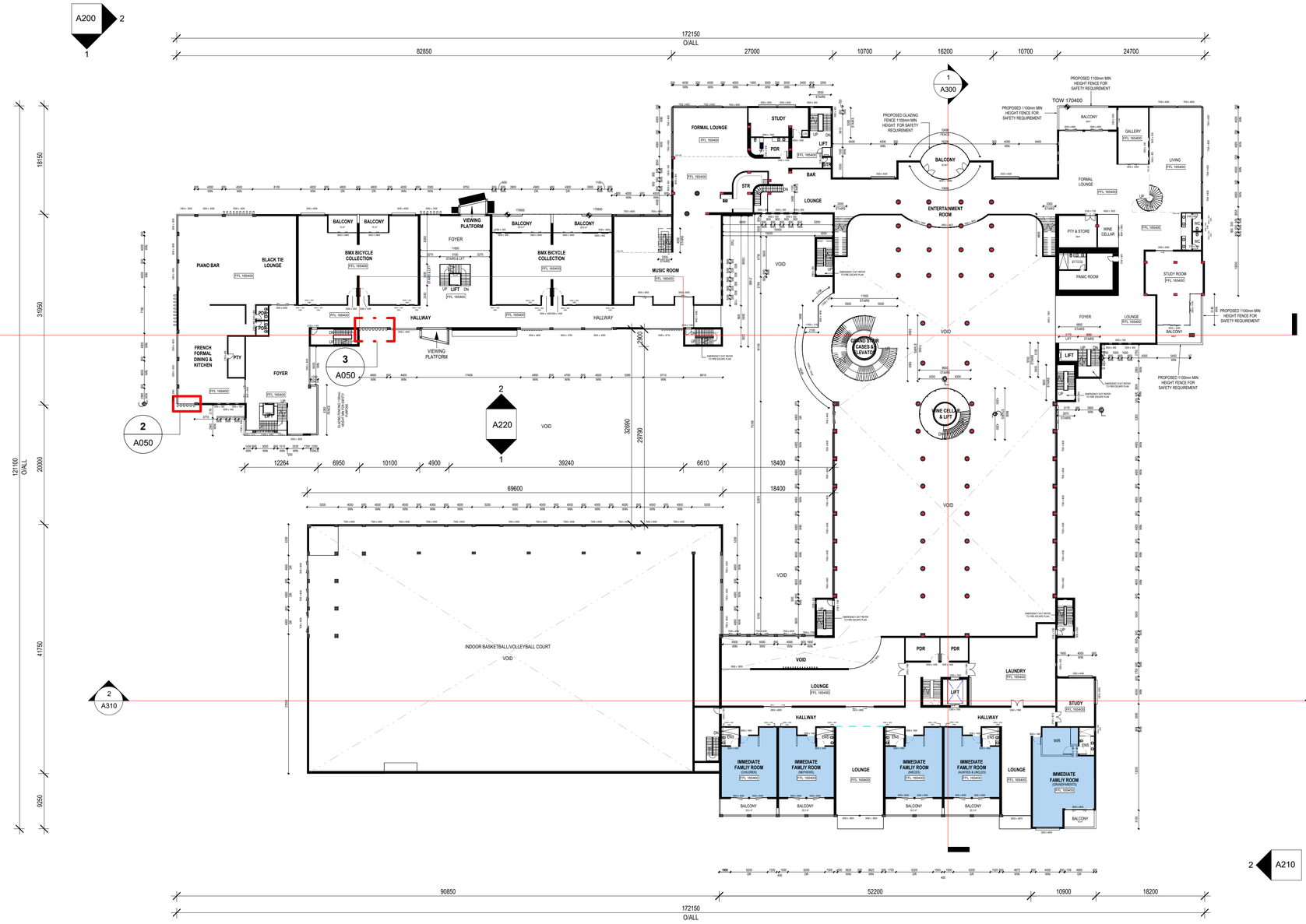
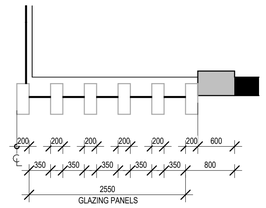
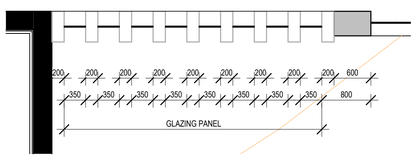




2 / A050 WINDOW SYSTEM - CALLOUT

1 : 50 Scale @ A1



3 / A050 WINDOW SYSTEM 2 - CALLOUT

1 : 50 Scale @ A1

1 / A050 00 FIRST FLOOR

1 : 400 Scale @ A1

DRAWING: FIRST FLOOR PLAN

DRAWING NO: A050

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	Scale @ A1 A3
		06/06/2023	As indicated

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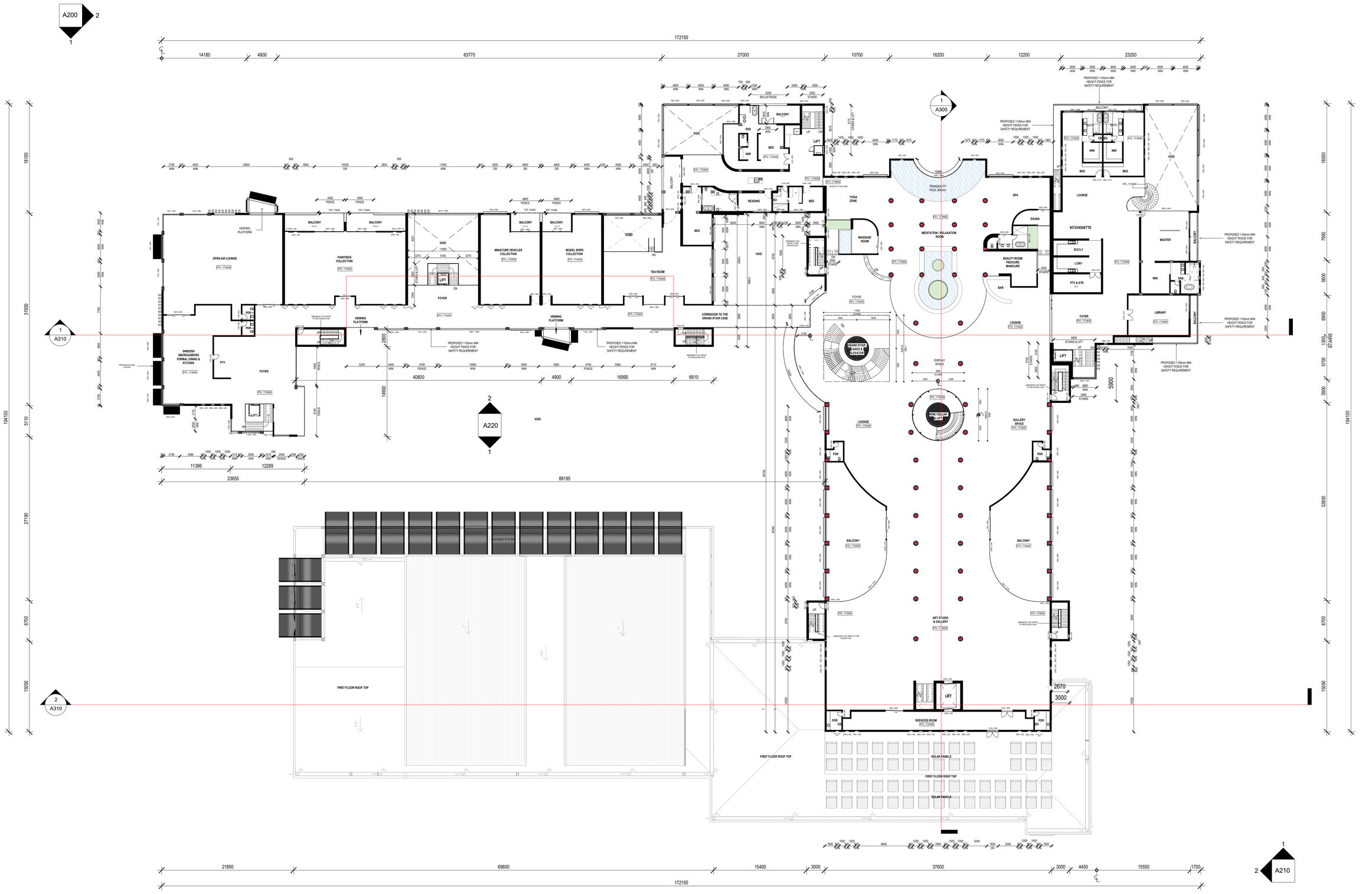

SECOND FLOOR PLAN

1 : 300

DRAWING: SECOND FLOOR PLAN

DRAWING NO: A060

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	05/09/2023
		Scale @ A1	1 : 300
		A3	

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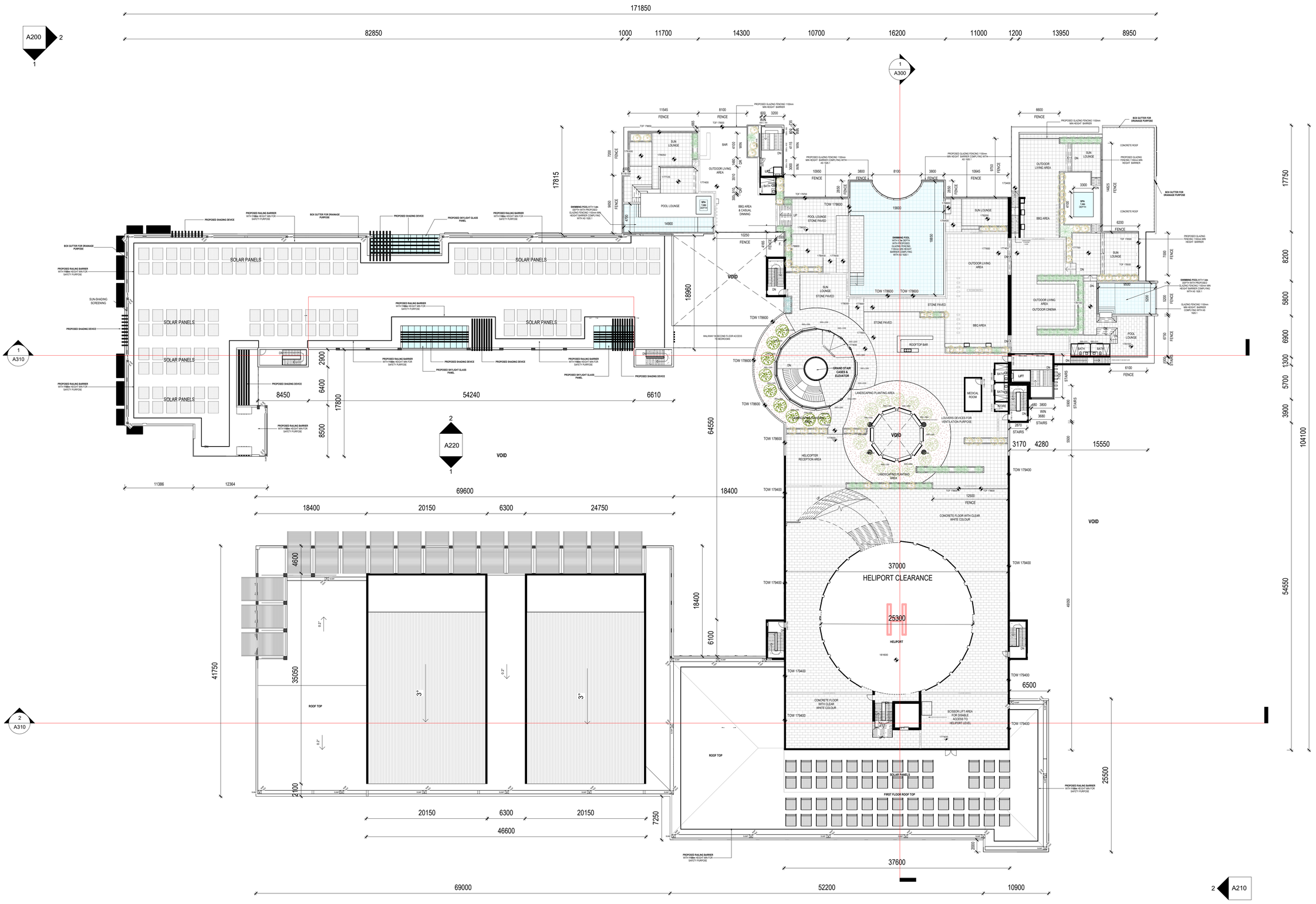

DRAWING:	ROOF TERRACE PLAN		DRAWING NO: A070
Client	CHITTERING RESORT PTY LTD	Project Number / Revision Number	1403 / DAR3
Project	MADALYN MANOR CHITTERING	Drawn by / Checked by	TNDang & KChan / TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023
		Scale @ A1 / A3	1 : 300

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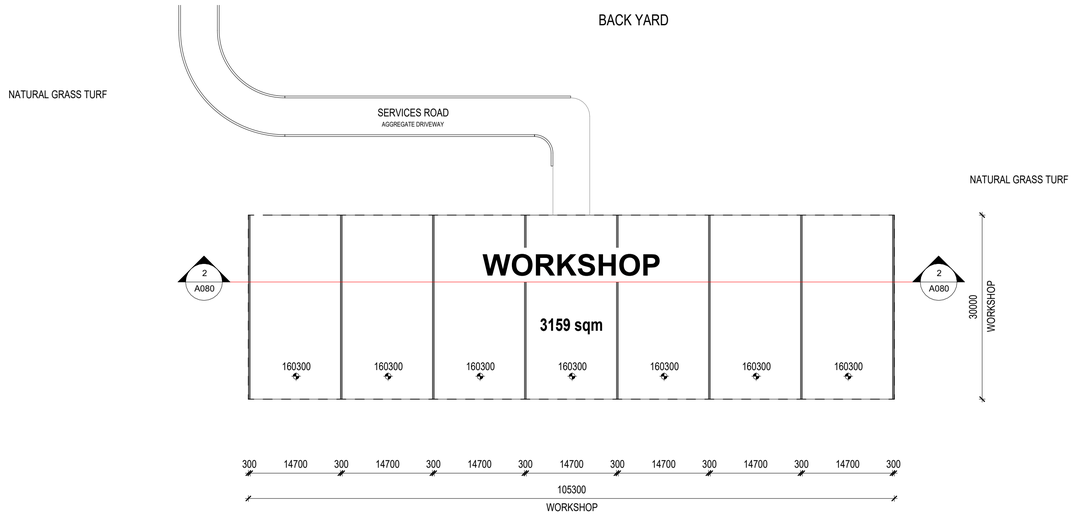
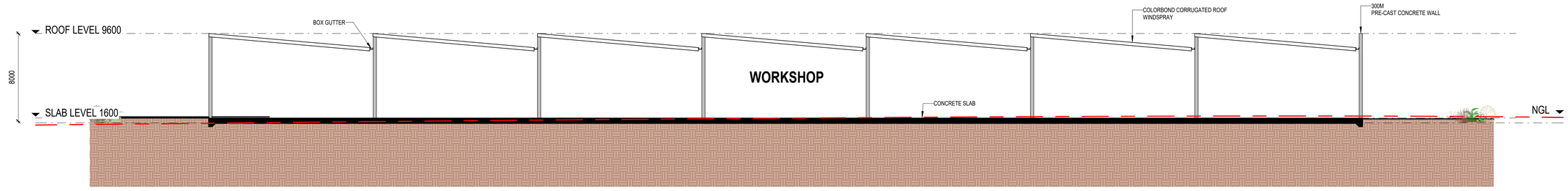


1
A080

WORKSHOP

1 : 500

Scale @ A1



2
A080

WORKSHOP SECTION

1 : 200

Scale @ A1

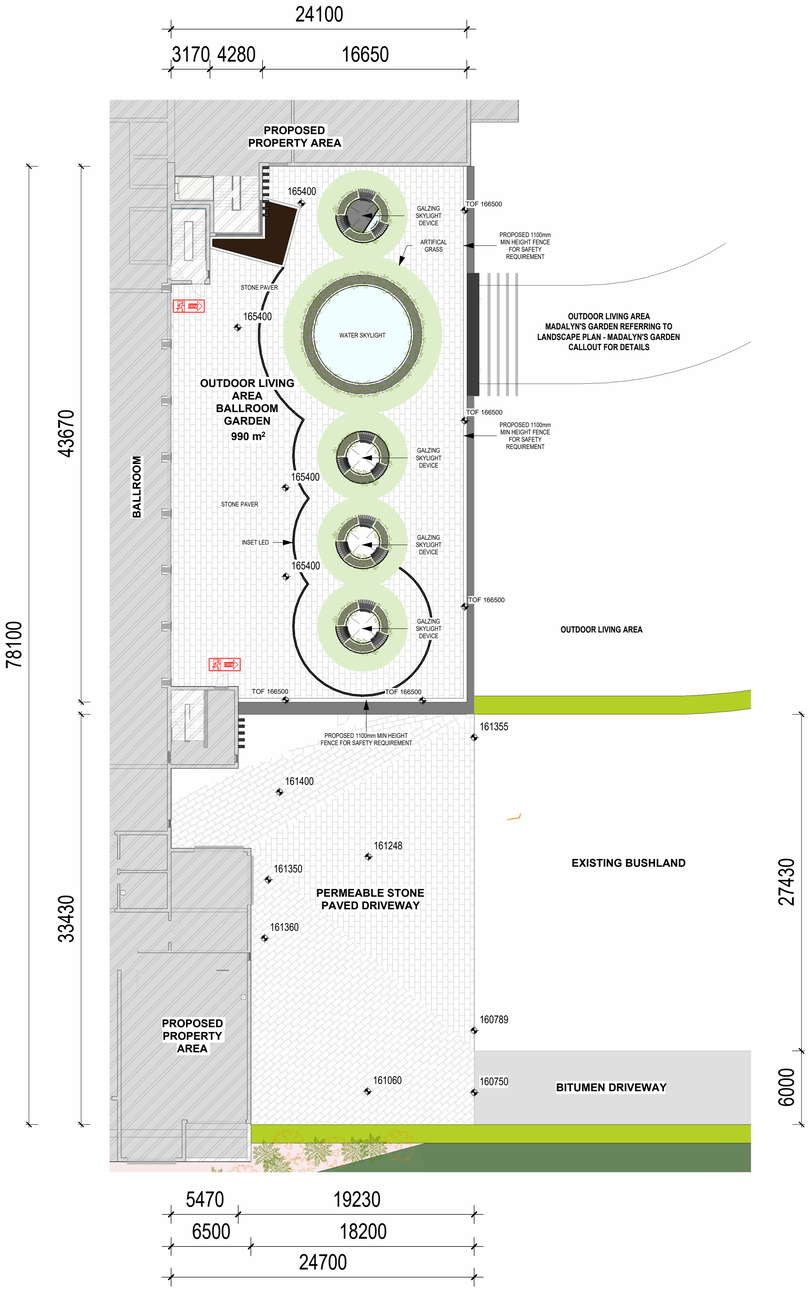
DRAWING:

WORKSHOP

DRAWING NO:

A080

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403	**NXT TEC. Ltd** 41 Mordaunt Circuit Canning Vale WA 6155 +61 8 9481 6919 www.nxt-tec.com
		Revision Number	DAR3	
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan	
		Checked by	TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	06/06/2023	**A3**

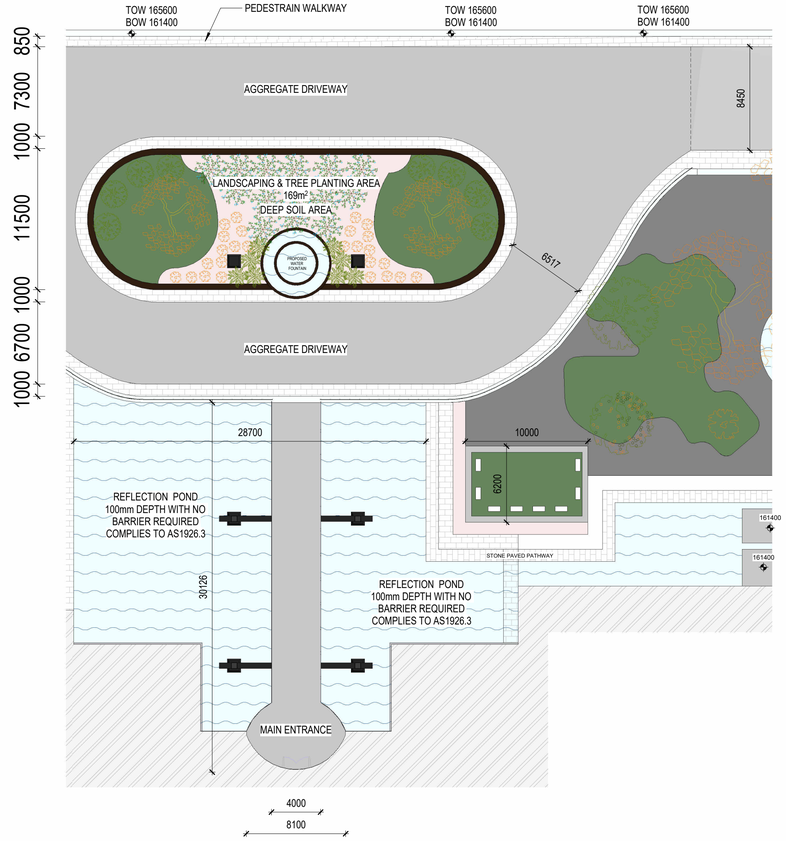


1
A130

FIRST FLOOR BALLROOM GARDEN

1 : 250

Scale @ A1



2
A130

MAIN ENTRANCE

1 : 250

Scale @ A1

DRAWING:

LANDSCAPE PLAN CALLOUTS

DRAWING NO: **A130**

Client	CHITTERING RESORT PTY LTD	**Project Number** / **Revision Number**	1403 / DAR3
Project	MADALYN MANOR CHITTERING	**Drawn by** / **Checked by**	TNDang & KChan / TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	06/06/2023
		Scale @ A1 / 1 : 250	A3

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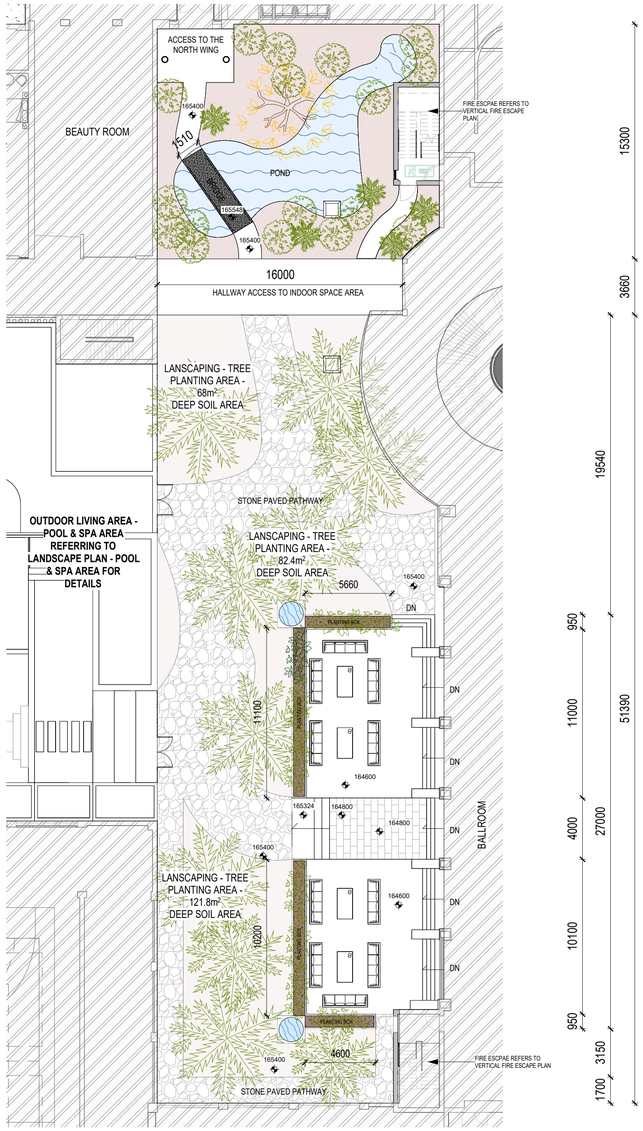
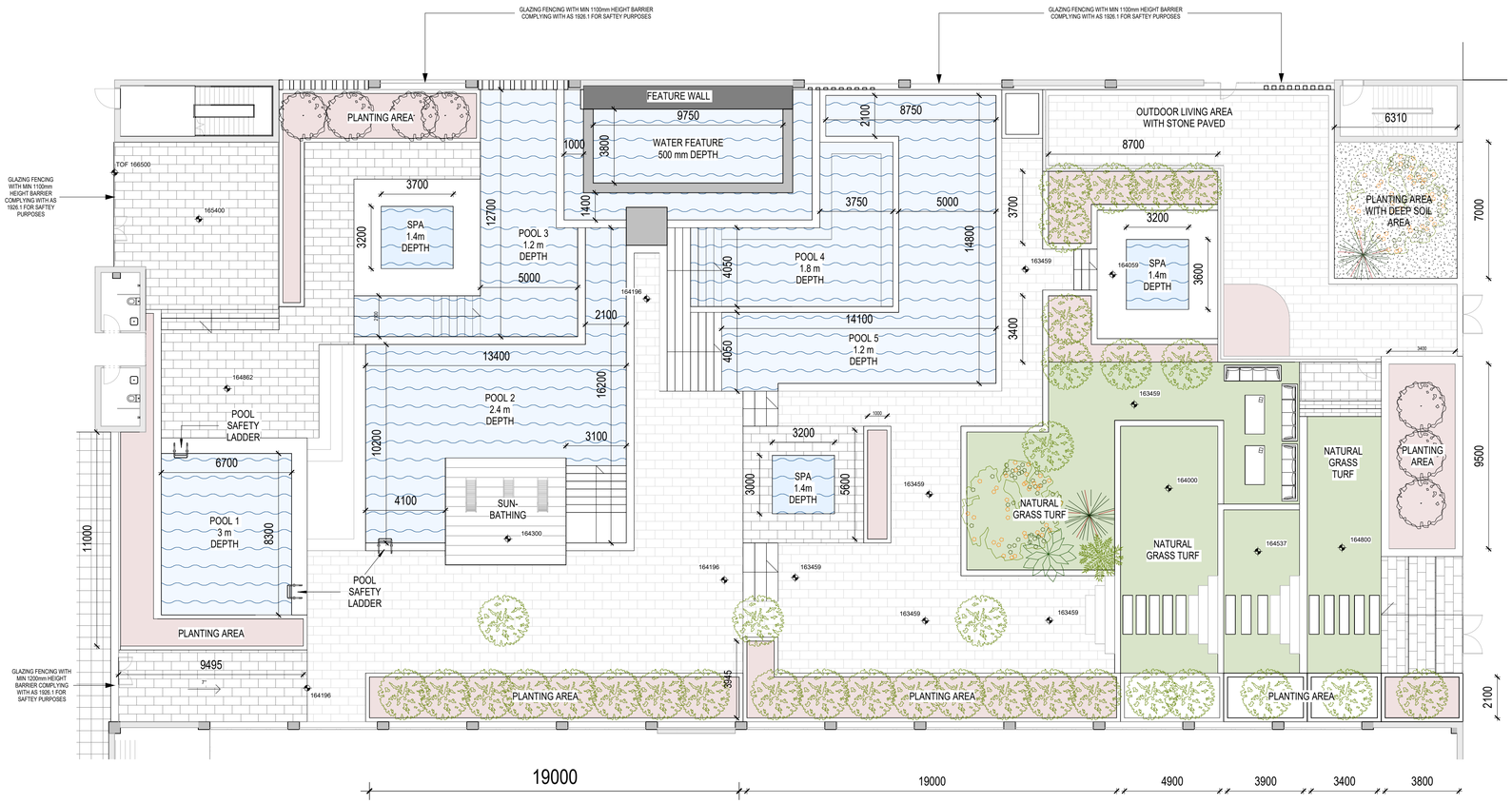


1 JAPANESE COURTYARD

1 : 200



2 POOL & SPA AREA

A150

1 : 150 Scale @ A1

DRAWING: LANDSCAPE PLAN CALLOUTS

DRAWING NO: **A150**

Client	CHITTERING RESORT PTY LTD	Project Number	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	Drawn by	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	06/06/2023
			A3

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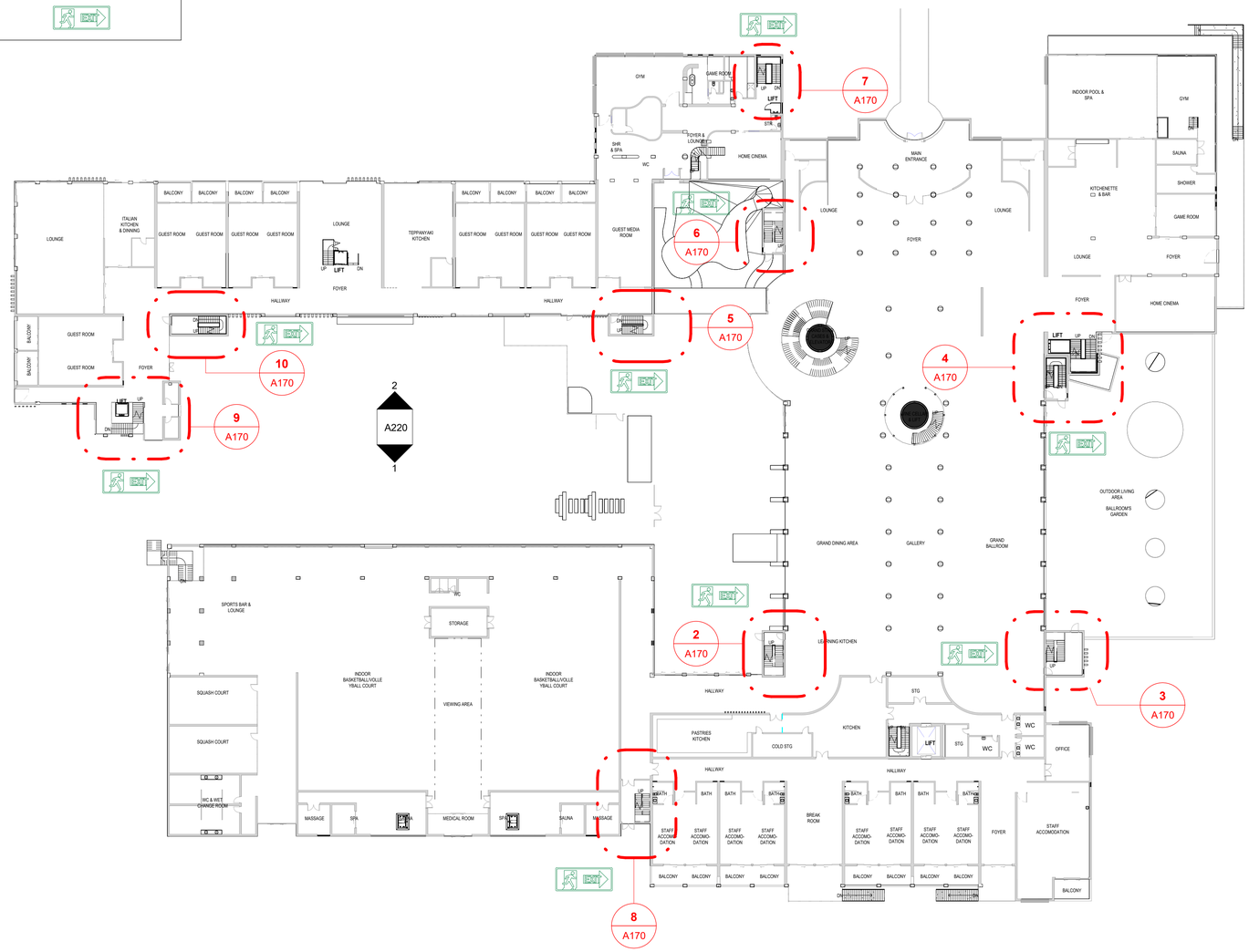
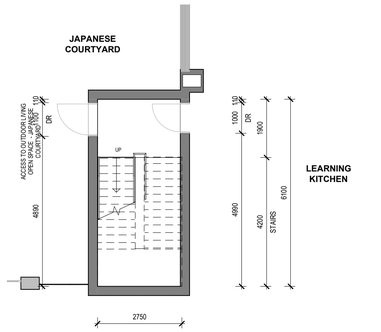
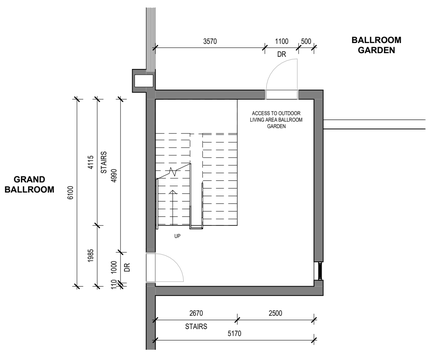
FIRE ESCAPE LEGEND

EXIT





2 A170 FIRE ESCAPE PLAN - 1 — 1 : 100 — Scale @ A1



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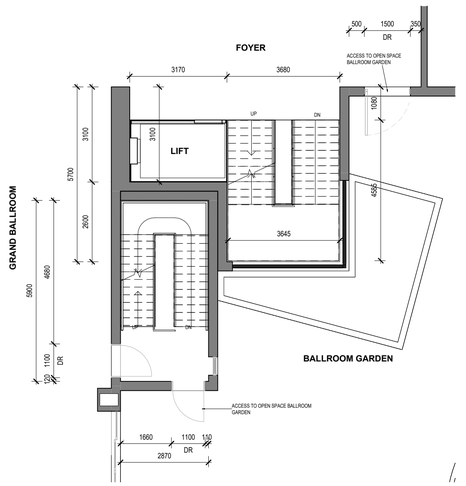
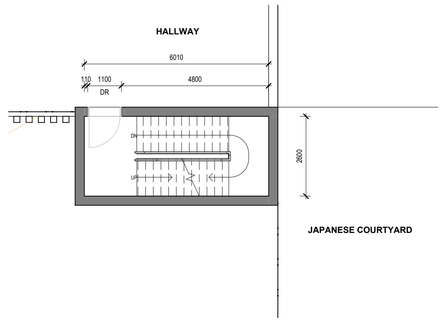
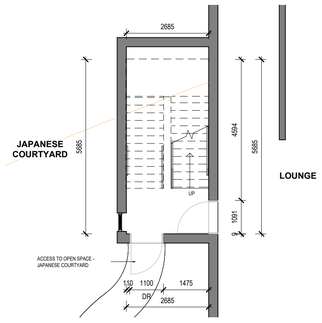


4 A170 FIRE ESCAPE PLAN - 3 — 1 : 100 — Scale @ A1

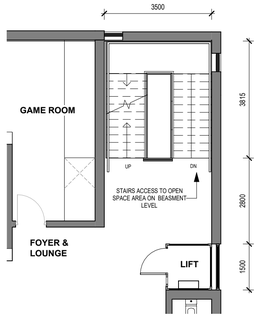


5 A170 FIRE ESCAPE PLAN - 4 — 1 : 100 — Scale @ A1

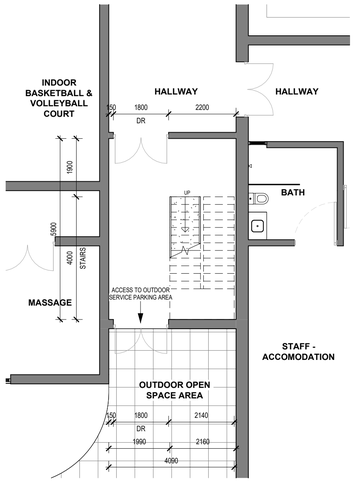
1 A170 09 VERTICAL FIRE ESCAPE PLAN - FIRST FLOOR — 1 : 400 — Scale @ A1



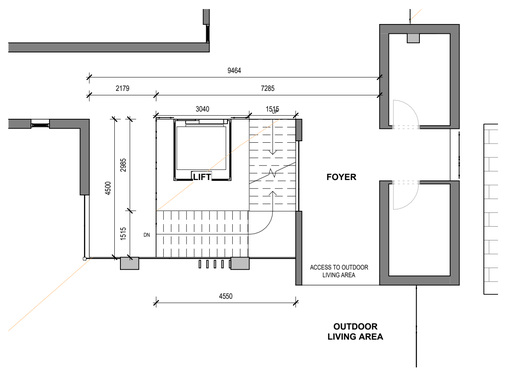
6 A170 FIRE ESCAPE PLAN - 5 — 1 : 100 — Scale @ A1



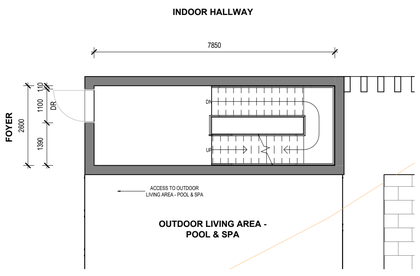
7 A170 FIRE ESCAPE PLAN - 7 — 1 : 100 — Scale @ A1



8 A170 FIRE ESCAPE PLAN - 8 — 1 : 100 — Scale @ A1



9 A170 FIRE ESCAPE PLAN - 9 — 1 : 100 — Scale @ A1



10 A170 FIRE ESCAPE PLAN - 6 — 1 : 100 — Scale @ A1

DRAWING: VERTICAL FIRE ESCAPE PLANS

DRAWING NO: A170

Client	CHITTERING RESORT PTY LTD	Project Number / Revision Number	1403 / DAR3
Project	MADALYN MANOR CHITTERING	Drawn by / Checked by	TNDang & KChan / TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	Date of Issue	05/06/2023
			A3

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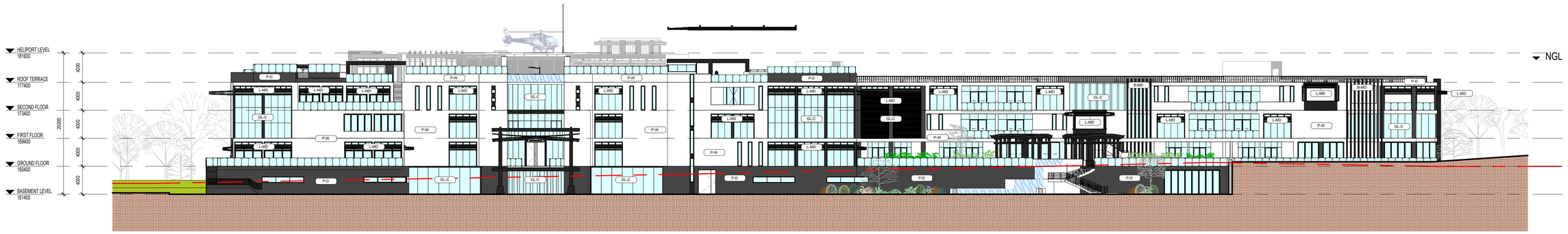

1 NORTH/FRONT ELEVATION

A200

1 : 300

Scale @ A1

2 WEST ELEVATION

A200

1 : 300

Scale @ A1

EXTERNAL CLADDING LEGEND

P-W

WHITE CONCRETE

PRECASTED WHITE CONCRETE WALL

P-D

DARK GREY CONCRETE

PRECASTED DARK GREY CONCRETE

GL-C

GLAZING CLEAR

CURTAIN WALL

L-MD

BIFOLD LOURVES

VERTICAL BIFOLD LOURVES COATED BLACK

VB-MD

VERTICAL BIFOLD

VERTICAL BIFOLD GLASS DOOR FRAME COATED BLACK

B-MD

DECORATION FRAME

METAL FRAME COATED BLACK

M-D

METAL PANNELINGS

METAL PANNELING COATED BLACK

DRAWING: NORTH & WEST ELEVATION

DRAWING NO: **A200**

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403	
		Revision Number	DA/R3	
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan	
		Checked by	TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	06/06/2023	Scale @ A1 As indicated A3

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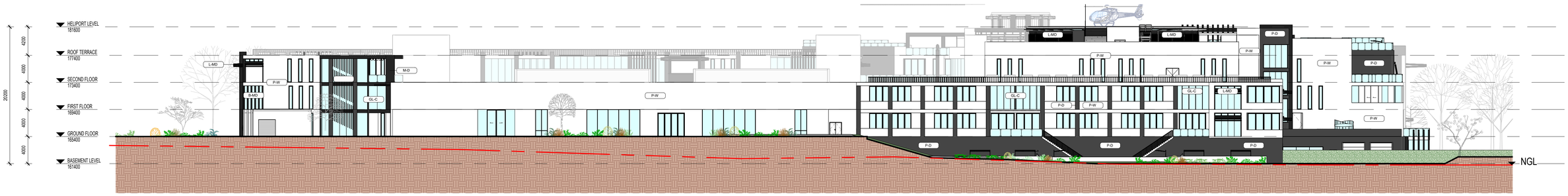


1 SOUTH ELEVATION

A210

1 : 300

Scale @ A1

2 EAST ELEVATION

A210

1 : 300

Scale @ A1

EXTERNAL CLADDING LEGEND

P-W

WHITE CONCRETE

PRECASTED WHITE CONCRETE WALL

P-D

DARK GREY CONCRETE

PRECASTED DARK GREY CONCRETE

GL-C

GLAZING CLEAR

CURTAIN WALL

L-MD

BIFOLD LOURVES

VERTICAL BIFOLD LOURVES COATED BLACK

VB-MD

VERTICAL BIFOLD

VERTICAL BIFOLD GLASS DOOR FRAME COATED BLACK

B-MD

DECORATION FRAME

METAL FRAME COATED BLACK

M-D

METAL PANNELINGS

METAL PANNELING COATED BLACK

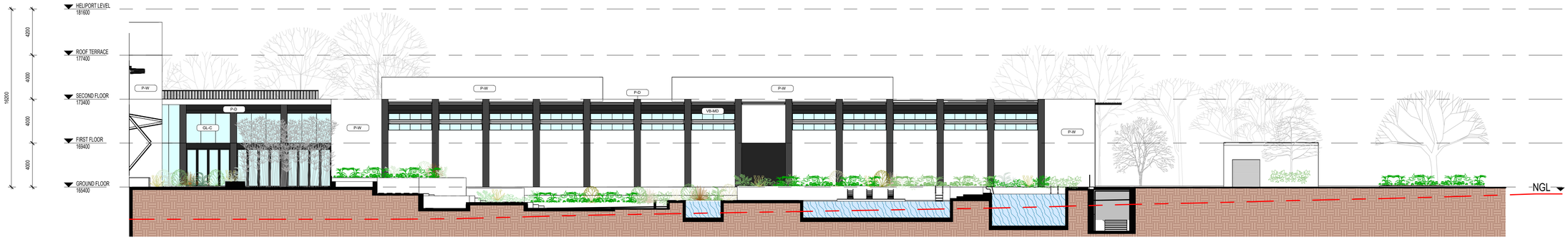
DRAWING:

SOUTH & EAST ELEVATION

DRAWING NO:

A210

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403	**NXT TEC. Ltd** 41 Mordaunt Circuit Canning Vale WA 6155 +61 8 9481 6919 www.nxt-tec.com
		Revision Number	DA#01	
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan	
		Checked by	TNDang & KChan	
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	Scale @ A1 A3 As indicated 06/06/2023	



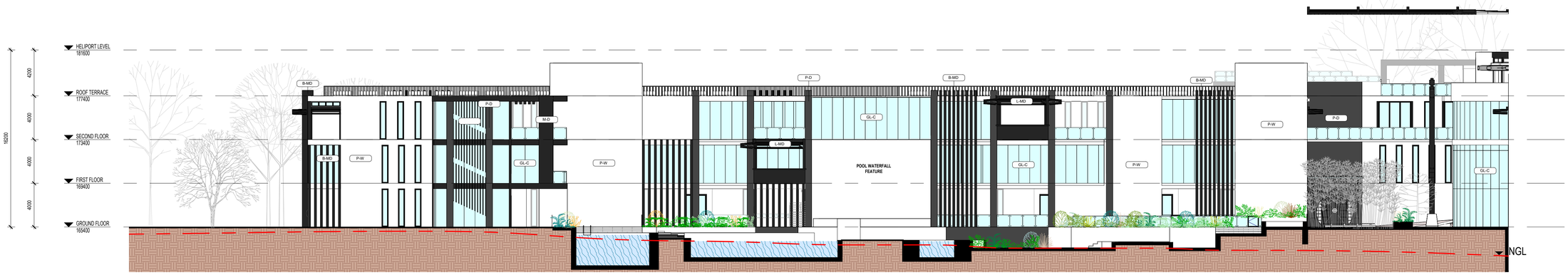
1
A220

COURTYARD ELEVATION - SOUTH

1 : 200

Scale @ A1

0 4 12 20m



2
A220

COURTYARD ELEVATION - NORTH

1 : 200

Scale @ A1

0 4 12 20m

EXTERNAL CLADDING LEGEND

P-W

WHITE CONCRETE

PRECASTED WHITE CONCRETE WALL

P-D

DARK GREY CONCRETE

PRECASTED DARK GREY CONCRETE

GL-C

GLAZING CLEAR

CURTAIN WALL

L-MD

BIFOLD LOURVES

VERTICAL BIFOLD LOURVES COATED BLACK

VB-MD

VERTICAL BIFOLD

VERTICAL BIFOLD GLASS DOOR FRAME COATED BLACK

B-MD

DECORATION FRAME

METAL FRAME COATED BLACK

M-D

METAL PANNELINGS

METAL PANNELING COATED BLACK

DRAWING:

INTERNAL COURTYARD ELEVATIONS

DRAWING NO: **A220**

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403
		Revision Number	DA/R3
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	Scale @ A1 A3
		06/06/2023	As indicated

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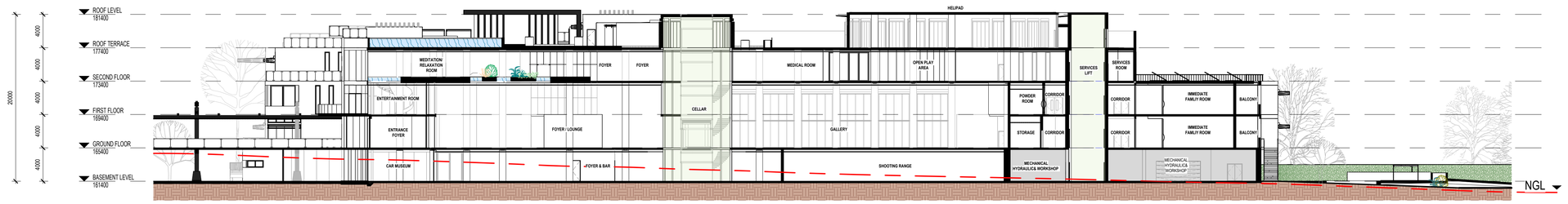

1
A300

SECTION 1

1 : 300

Scale @ A1

DRAWING:

SECTIONS PLAN 1

DRAWING NO:

A300

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	06/06/2023
		Scale @ A1	1 : 300
			A3

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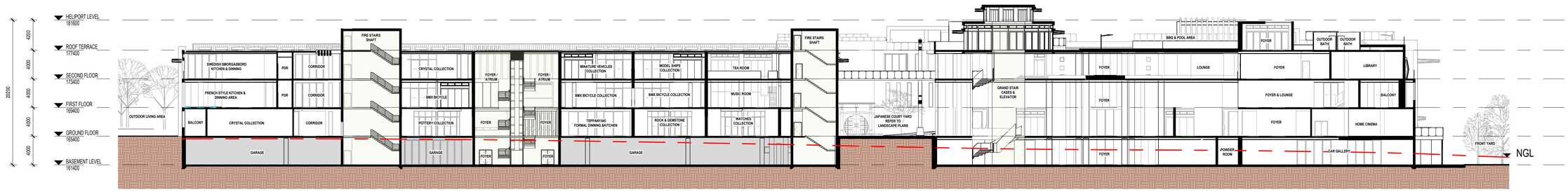
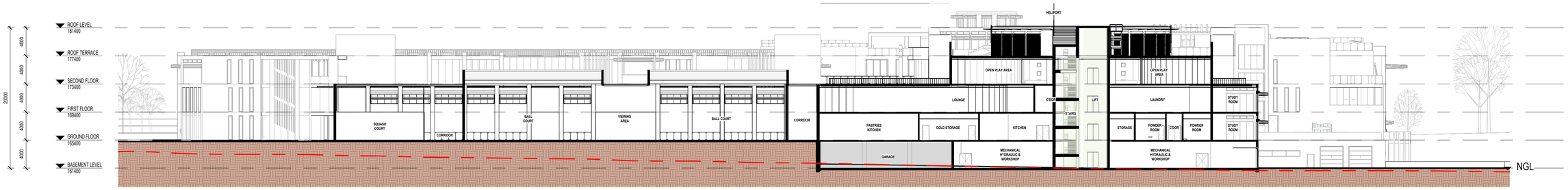


1
A310

SECTION 2

1 : 300

Scale @ A1



2
A310

SECTION 3

1 : 300

Scale @ A1

DRAWING:

SECTIONS PLAN 2

DRAWING NO:

A310

0 2 6m

Client	CHITTERING RESORT PTY LTD	**Project Number**	1403
		Revision Number	DAR3
Project	MADALYN MANOR CHITTERING	**Drawn by**	TNDang & KChan
		Checked by	TNDang & KChan
Address	(LOT 101) 777 TEA TREE ROAD, BINDOON WA 6502	**Date of Issue**	05/06/2023
		Scale @ A1	1 : 300
		A3	

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DS01 - 02/24

Attachment 1

AREA OF CLEARING FOR PROPOSED SINGLE HOUSE DEVELOPMENT APPLICATION

ITEM	AREA (m^2)	COMMENTS
HOUSE, SHED & ASSET PROTECTION ZONE (APZ)	48,385	
FIRE ACCESS TRACK TO BOUNDARY	109,995	12m WIDE
VEHICLE ACCESS ROAD & SERVICE ROAD	28,210	EXCLUDING PORTIONS WITHIN APZ
FIREBREAKS WITHIN SITE	15,862	3m WIDE
TOTAL AREA	**202,452**	**4.76% OF ENVIRONMENTAL CONSERVATION ZONE (425ha)**

BOUNDARY 169 m

FIRE ACCESS TRACK - 12m WIDE

AREA OF FIRE TRACK 109,995m²

TEATREE ROAD

BOUNDARY 2134m

PORTION OF LOT 101
ZONED SPECIAL USE
PROPOSED TOURIST DEVELOPMENT
AS PER ENDORSED STRUCTURE PLAN
AREA 50 ha

6M LONG WIRE FENCE (WITH THE BOTTOM STRAND SET 40CM FROM THE GROUND) IN BETWEEN EVERY 8 PRE-CASTED CONCRETE PANELS (3M HEIGHT 6M WIDE 125MM THICK. THIS FENCING SYSTEM IS TO FOLLOW THE BOUNDARY LINES. (SEE FENCE ELEVATION)

120HA

FIREBREAK - 3m WIDE

116HA

TEATREE ROAD

205.00

BOUNDARY 2945 m

FIRE ACCESS TRACK - 12m WIDE

M.P

PORTION OF LOT 101
ZONED ENVIRONMENTAL CONSERVATION
AREA 425 ha

FIREBREAK - 3m WIDE

FIREBREAK - 3m WIDE

AREA OF FIREBREAK 15,862m²

M.P.

FIRE ACCESS TRACK - 12m WIDE

120HA

PROPOSED UNDERGROUND TUNNEL ENTRY POINT

AREA OF ROAD CLEARING 28,210m²

CLEARING FOR ROUNDABOUT IN UNDERGROUND TUNNEL

PROPOSED UNDERGROUND TUNNEL ENTRY POINT **55m** AWAY FROM BOUNDARY

SERVICE ROAD STARTING POINT CONNECTS TO EXISTING FIRE TRAIL AND BRENAN ROAD

SERVICE ROAD STARTING POINT CONNECTS TO EXISTING FIRE TRAIL

UNDERGROUND TUNNEL ENTRY POINT

APZ

FIREBREAK - 3m WIDE

BRENNAN ROAD

AREA OF HOUSE AND APZ 48,385m²

119HA

FIREBREAK - 3m WIDE

BOUNDARY 1779 m

M.P

M.P.

FIRE ACCESS TRACK - 12m WIDE

M.P.

M.P.

BOUNDARY 1989 m

SHIRE OF CHITTERING BY-LAWS - LOTS NO LARGER THAN 120 HECTARES

DRAWING:

CHITTERING FIRE ACCESS TRACK PLAN

DRAWING NO: **F100**

Client	Chittering Resort Pty Ltd	Project Number Revision Number	1403		
Project	Chittering Resort & Estates	Drawn by Checked by	ST RL		
Address	Lot 101, 777 Teatree Road, Bindoon WA 6502	Date of Issue 20/06/2023	Scale @ A1 1 : 4000	**A3**	

100 m 50 25 0

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<table>
<tr><th colspan="4">AGENCY SUBMISSIONS</th></tr>
<tr><th>Submitter</th><th>Comment</th><th>Proponent Response</th><th>Shire Officer Response</th></tr>
<tr>
<td>Department of Fire & Emergency Services</td>
<td>I refer to your email dated 5 December 2022 regarding the submission of a Bushfire Management Plan (BMP) (Version 3), prepared by Bushfire Smart and dated 7 July 2022, for the above development application.
This advice relates only to State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7) and the Guidelines for Planning in Bushfire Prone Areas (Guidelines). It is the responsibility of the proponent to ensure the proposal complies with relevant planning policies and building regulations where necessary. This advice does not exempt the applicant/proponent from obtaining approvals that apply to the proposal including planning, building, health or any other approvals required by a relevant authority under written laws.
Assessment
• The proposal has been referred by the Shire as ‘Unavoidable Development’, however the proposal does not meet the definition of ‘Unavoidable Development’ as per the Guidelines section 5.7.
• The referral has noted development in BAL-40/BAL-FZ however following a review of the BMP it appears that development with be located with BAL-29 areas only.
• DFES has provided comments given the scale of the proposed development although it is noted that a referral has not been formally triggered.

1. Policy Measure 6.5 a) (i) Preparation of a BAL assessment

<table>
<tr><th>Issue</th><th>Assessment</th><th>Action</th></tr>
<tr><td>Vegetation classification</td><td>Vegetation Plot 2 cannot be substantiated as Class C Shrubland with the limited information and photographic evidence available. Height sticks have not been used and as such it is unclear how tall the vegetation is.

The BMP should detail specifically how the Class C Shrubland classification was derived as opposed to Class A Forest.

If unsubstantiated, the vegetation classification should be revised to consider the vegetation at maturity as per AS3959:2018, or the resultant BAL ratings may be inaccurate.</td><td>Modification to the BMP is required.</td></tr>
</table>
</td>
<td>The BMP from Bushfire Smart did not reference the proposal as Unavoidable Development. It is unclear if the referral by the Shire included this reference or if this is an error in the DFES assessment.

The BMP clearly states that BAL 29 is achievable with a suitable Asset Protection Zone (‘APZ’) The extent of the APZ is indicated within the BMP. Additionally, the APZ area is shown on the Architectural Drawings as managed gardens.

The photos clearly show low shrubs around knee height. Areas with trees have been separated into a separate plot classified as ‘Forest’. The vegetation is at its mature state, with no modification works undertaken prior to the assessment.

Bushfire Smart is confident, should DFES or any other party wish to visit the site, they will see the vegetation classification is correct.

All measurements for the APZ and the BAL ratings have been calculated using the worst-case vegetation - Forest - at the appropriate slope.</td>
<td>Shire Officers referred the application to DFES as ‘unavoidable development’ due to the significant scope of the development proposed. It is acknowledged that the application does not meet the definition of ‘Unavoidable Development’ as per the Guidelines section 5.7.

Noted.</td>
</tr>
</table>

Vegetation Classification Map	A Vegetation Classification Map is a scale map of the subject lot/s illustrating the vegetation remaining within 100 metres of the assessment area after development is complete. Vegetation Classification Map is required to be prepared in accordance with the methodology detailed in Appendix 3 of the Guidelines. The submitted Vegetation Classification Map does not assess vegetation in accordance with Appendix 3 of the guidelines, as vegetation within 100m of the external lot boundaries of the lot have not been assessed. An amended Vegetation Classification Map is required to address the above, ensuring that all vegetation within 100m of the external edge of the subject lot is assessed.	Modification to the BAL is required.

2. Policy Measure 6.5 c) Compliance with the Bushfire Protection Criteria

Element	Assessment	Action
Location, and Siting & Design	**A1.1 & A2.1 – not demonstrated** The BAL ratings cannot be validated for the reasons outlined in the above table.	Modification to the BMP required.
Vehicular Access	**A3.1, A3.2a and A3.2b – not demonstrated** The BMP incorrectly states that the above elements are not applicable to the assessment, however SPP 3.7 notes that each element is applicable at the development application stage. It is noted that the existing public road network appears to provide multiple access routes to multiple destinations, however this has not been confirmed. It is also unclear if the existing public roads servicing the site comply with the applicable standards for the local government area, and if the required trafficable surface width and additional horizontal clearance will be provided. **A3.6 – not demonstrated** Table 6 Column 4 requires a trafficable surface width of 4m plus an additional horizontal clearance of 6m, as well as a vertical clearance of 4.5m. The provided 'fire access track' is noted in the BMP to provide compliant access through a paved 6m wide track through the perimeter of the lot, however this track does not provide the additional 6m horizontal clearance required for a private driveway due to the location of 3m wide tree planting areas directly abutting the 6m paved surface. It is also unclear how the 'fire access track' will run over the proposed tunnel, as the cross section of the tunnel details a shallow garden bed located over the tunnel, as well as tunnel openings, however the 'fire access track' is noted to run over the full length of the tunnel.	Modification to the BMP is required. Please demonstrate compliance or provide substantiated evidence of a performance principle-based solution.

Appendix 3 refers to the requirements of a BAL contour map. Appendix 3 states:

> *A BAL Contour Map should be used for strategic planning proposals where appropriate and at the subdivision stage.*

This proposal is neither a strategic planning proposal or a subdivision, therefore a BAL contour map is not the appropriate tool for this Application and therefore Appendix 3 does not apply.

Table 8 of the guidelines shows the correct tool in this case is a BAL Assessment.

Table 8: Bushfire Management Plan Section Checklist

SECTIONS		Local planning strategies	Schemes and amendments	Structure plans	Subdivision	Development approval
Coversheet		✓	✓	✓	✓	✓
Executive summary		optional	optional	optional	optional	optional
1.	Proposal details	✓	✓	✓	✓	✓
2.	Environmental considerations	✓	✓	✓	✓	✓
3.	Bushfire assessment results					
3.1	Assessment inputs	✓	✓	✓	✓	✓
3.2	Assessment outputs					
	BHL assessment	✓	✓ or	✓ or		
	BAL contour map		✓	✓	✓ or	
	BAL assessment				✓	✓
4.	Bushfire hazard issues	✓	✓	✓	✓	✓
5.	Assessment against the bushfire protection criteria	✓	✓	✓	✓	✓
6.	Implementation	✓	✓	✓	✓	✓

If future lot layout has been determined, a BAL contour map showing the BAL ratings for each lot should be prepared instead of a BHL assessment.

A BAL assessment is to be carried out as per AS 3959, which dictates all vegetation within 100 metres of the building site be classified. To provide context, the BMP has extended the assessment area to 150 metres as per FPAA recommendations.

SPP3.7 does not reference elements within the Guidelines or Appendices to the Guidelines such as 3.1, A3.2a, A3.2b, but rather refences the Guidelines as a complete document.

Appendix 4 of the Guidelines states that:

> *the acceptable solutions do not apply at every stage of the planning process. Refer to the annotations next to each acceptable solution to determine if they apply.*

Given this is a Development Application for a single dwelling, A3.1, A3.2s and A3.2b DO NOT apply.

With respect to A3.6, the requirement for a trafficable surface of 4 metres and horizontal clearance of 6 metres are separate requirements and DO NOT get added together. Therefore, the BMP complies with A3.6.

Finer details of levels etc, will be incorporated into civil engineering drawings at the Building Permit stage. All levels will be assessed at this

Noted.

Noted.

The tunnel driveway that provides direct access from Brennan Road to the proposed development has a vertical clearance of less than 4.5m, which is not compliant with the SPP3.7 Guidelines. The tunnel would only allow for small fire appliances to access the proposed house directly, with larger appliances needing to access the proposed house from the periphery access tracks. It is recommended that if the application is approved, it is subject to a condition that the BMP and development plans are suitably updated to ensure compliance with the SPP3.7 Guidelines access requirements.

	The proposed tunnel itself does not provide the required horizontal clearance due to the use of concrete barriers, and the overall width of the tunnel, with the required 4.5m vertical clearance also not provided due to the location of ventilation ducting. Overall while the BMP notes compliance with the requirements of A3.6, the submitted plans do not align with this compliance statement.		stage to ensure the fire access track is compliant and works in conjunction with the tunnel. The proposed tunnel will not be used as a fire access track. A separate fire service route is proposed as detailed in A3.6.	
Water	**A4.2 – not demonstrated** The BMP has incorrectly referenced A4.1 in the compliance statement for Element 4. The BMP states that a 50,000L tank will be provided dedicated to firefighting, however it notes that as the tank is not within 3m of the driveway/turnaround area a hydrant will be located within 3m of this area. The submitted plans detail two 50,000L tanks, however also does not detail a compliant turnaround area. The BMP does not provide detail of the technical specifications of the proposed hydrant, or the pump which may be required to service the hydrant. The BMP notes that as a remote outlet is to be used, the Local Government and DFES should be consulted, however it does not appear that this has occurred.	Modification to the BMP is required.	Incorrect numbering with A4.1 referenced twice. This has been corrected in the revised BMP attached to this Submission. The hydrant will be part of the hydraulic consultants' drawings and specification ensuring it is compliant with all DFES and Shire requirements, including compliance with SPP3.7. By including the proposal for a hydrant within the BMP, this has effectively referred the matter to Local Government and DFES, if required.	Noted.

<u>Recommendation – not supported modifications required</u>
It is critical the bushfire management measures within the BMP are refined to ensure they are accurate and can be implemented to reduce the vulnerability of the development to bushfire. The proposed development is not supported for the following reasons:
1. The development design has not demonstrated compliance to –

Element 1: Location,
Element 2: Siting and Design,
Element 3: Vehicular Access, and
Element 4: Water.

Department of Water & Environmental Regulation	Thank you for providing the above referral for the Department of Water and Environmental Regulation (Department) to consider. The Department has identified that the proposed development has the potential to impact on environment and water values and management. Key issues and recommendations that should be addressed are provided below. <u>Native Vegetation Clearing</u> Under Section 51C of the *Environmental Protection Act 1986* (EP Act), clearing of native vegetation is an offence unless: • it is undertaken under the authority of a clearing permit; • it is done after the person has received notice under Section 51DA(5) that a clearing permit is not required; • the clearing is subject to an exemption. Based on the information provided, should development approval be issued, the proposal is likely to be exempt from the requirement for a clearing permit under Regulation 5, Item 1 of the Clearing Regulations. This exemption does not apply prior to development approval being issued. Under this item you should note that clearing for a building/structure, combined with other exempt clearing activities on the property, must not exceed five hectares in a financial year. This means that if you clear for any of the following purposes, the clearing may not add up to more than five hectares in a financial year: • Clearing to construct a building • Clearing to collect firewood • Clearing to obtain fencing or farming materials • Clearing for woodwork • Clearing for fence lines • Clearing for vehicular tracks • Clearing for walking tracks • Clearing isolated trees If the clearing does exceed the five-hectare limit, a clearing permit application is required. The Department has not received a clearing permit application for this proposal. Further information clearing permit exemptions and links for application forms are provided in Attachment 1. If further clarification is required, please contact the Department's Native Vegetation Regulation section at admin.nvp@dwer.wa.gov.au or 6364 7098. <u>Water Supply</u> The property is located within the Gingin Groundwater Area, proclaimed under the *Rights in Water and Irrigation Act 1914,* where a licence to take groundwater may be required. A licence is not required to construct a well or to take water if: 1. The development is within the water table (non-artesian) aquifer; and 2. Water is only used for domestic purposes such as: • domestic and ordinary use • watering an area of lawn or garden less than 0.2 ha • fire fighting • watering cattle or other stock not raised under intensive conditions as defined in section 21(4) of the *Rights in Water and irrigation Act 1914.* Please note that a licence will be required if the property requires more than 1500 kL/year from the groundwater resource.	The Proponent welcomes confirmation from DWER that clearing to build the house, shed and accessways is exempt from a clearing permit provided that no more than 5ha is cleared per financial year. The requirement to obtain a Groundwater Licence to extract more than 1,500 kL per year is acknowledged. The Applicant's water consultant, Barkley Day, has advised as follows: • Pursuant to Section 26D of the Rights in Water and Irrigation Act, an application has been lodged (Ref. No. 053940) with the intent to construct into the Leederville – Parmelia, Cowalla Confined resource and validate its presence on site. • Once the bore is completed and the resource validated, an appropriate water licence trade will be completed within Zone 3 of this resource, as required under the Gingin Groundwater Allocation Plan. • If a 'CAW' is not granted prior to the execution of a trade, the	Should the development be approved, the applicant is aware of the requirements to obtain a Clearing Permit in accordance with DWER Regulations if the clearing totals more than five hectares per financial year. The Shire has no requirements in relation to groundwater licenses. Noted.

		trade will be completed first and the bore completed after.	

Chittering Landcare	The Chittering Landcare Group has assessed, at length, the above Development Approval and make the following comments. 1. This property has been under development for a number years and appears to have changed ownership, although, company names can change but will have the same principals involved. 2. Originally, it was to be a tourist development for which a 50 Ha section on the corner of Brennan Road and Teatree Road was subdivided and the remaining bushland was to be an Environmental Conservation lot. This subdivision occurred and the TPS 6 amended accordingly. In reading the documents and Shire of Chittering Meetings, all discussion surrounding development on this Lot relates to the 50 Ha area indicated as RU5 on the latest TPS 6 Map 2 as this is the lot that has the Structure Plan. This precludes any development on the remaining portion of the lot. 3. The Structure plan referred to in the submission relates to the 50 Ha Lot and does not include the Environmental Conservation lot. Since there is no structure plan for the Environmental Conservation Lot, an Environmental Management Plan does not apply under TPS6 section 4.9.13, paragraph 1. No structure plan - then no nominated Environmental Management Plan. The EMP submitted with the Development Approval does not apply to the conservation lot while the EMP written and submitted earlier is only for the 50 Hectare lot. 4. Even if the EMP submitted for this Development Approval did apply to the conservation lot, it does not *"demonstrate that the objectives of the zone have been satisfied" (TPS.6 section 4.8.13. The EMP is to address the following, see section k).* 5. The new clause (as outlined in the WAPC letter dated 11th June 2019 indicates that the TPS 6 be amended – Amendment No 61. (The TPS 6 has since been amended) *"4.21. Development Provisions – Environmental Conservation Zone,* *The following applies to subdivision and development in the Environmental Conservation zone.* *(c) Development within the Environmental Conservation zone is to be in accordance with the zone objectives and is not to disturb vegetation."* This section indicates that the proponents need to consult with Department of Biodiversity, Conservation and Attractions, which in all correspondence sourced and scrutinised, does not appear to have happened." 6. Schedule 13 TPS 6– Environmental Conservation Requirements. Condition 1, A conservation covenant in perpetuity shall be registered on the certificate of Title of the land as a condition of subdivision approval when the Environmental Conservation lot is created. Subdivision has been granted for the 50 Ha Lot for the development of tourism. However, there is no Conservation Covenant indicated on the latest Title Deed supplied with the application for a DA. One assumes that if there is a Conservation Covenant over the Environmental Conservation area it would have restrictions in place regarding any development. 7. Advice under Section 48A (1)9a) of the Environmental Protection Act 1986. "The determination was published 26th June 2017. The advice given (not appealable), provided three recommendations	Many of the comments by Chittering Landcare relating to the applicable planning framework are not accurate, and the Applicant takes this opportunity to clarify the current zoning of the site under Local Planning Scheme No.6 ('LPS6'). Amendment 61 to LPS6 was gazetted 25 June 2019 and had the effect of: • Creating a new Environmental Conservation zone and associated land use and development provisions in LPS6; • Excluding the site from the Rural Conservation Zone, removing Rural Conservation Area 'RC1' from the Scheme Map and deleting the corresponding Rural Conservation Area 'RC1' provisions from Schedule 8 of LPS6; • Including the 50-hectare portion of the site at the corner of Teatree Road and Brennan Road in the Special Use ('SU5') zone and including corresponding provisions in Schedule 5 of LPS6; and • Including the 425-hectare portion of the site in the new Environmental Conservation zone and including corresponding provisions in Schedule 13 of LPS6. Below is an extract of the Amendment 61 Zoning Map, showing the existing zoning of the site under LPS6.  The Single House proposed by the Application is situated on the portion of the site zoned Environmental Conservation. The LPS6 provisions for the Special Use zone are not relevant to the Application. <u>Environmental Conservation Zone</u> The Objectives of the Environmental Conservation zone are set out in Clause 3.2.11 of LPS6 and are to:	Noted.

	1. The requirements for a conservation Covenant over the portion of the Lot 101 that is outside of the development area should remain in the scheme. This requirement should only be removed if this portion of the lot is transferred to the State for conservation; 2. The 50 Hectare development area should be located so that it remains as one consolidated area and minimises fragmentation of the vegetation; and 3. The Department of Planning liaise with the shire of Chittering to develop appropriate mechanisms or scheme provisions to ensure that any extraction of water for future development does not impact on the environmental assets of the lot." These recommendations appear to have been accepted in the considerations made by the WA Planning Commission and the Amendment 61 to TPS 6. 8. The Shire minutes dated Wednesday 9th December 2020. These minutes appear to be the latest information pertaining to Lot 101 Teatree Rd. The Local Structure Plan refers only to the 50 Ha subdivided lot for the tourist development and does not refer to the Environmental Conservation area. 9. Water supply to the lot. There is no guaranteed water supply to any part of Lot 101 Tea Tree Road. The information gleaned from all documents is that a minimal supply of groundwater would be allocated to any development on the Lot, certainly not enough for the development proposed or for the tourism precinct. The information provided by AquaFerre suggests that no allocation can be guaranteed from Reserve Road bores either. So the proponents to suggest that they will be allocated water under Licence from the Leederville aquifer (which is over allocated anyway) cannot be substantiated. Nutrien Water are an irrigation firm not water providers. It appears that the allocation of water is not available, therefore, any development on Lot 101 will be severely compromised. 10. Conservation Status of Lot 101. 1. The TPS 6 indicates that Lot 1 is subdivided into a 50 Ha lot – RU5 and the remainder of the lot is Environmental Conservation. Thus subject to certain conditions. 2. The lot is designated as a High Value Conservation Area in the Shire of Chittering's Biodiversity Strategy, 2022. 11. Definition of Single House. The proponents have requested permission to build a single house/dwelling on Lot 101, conservation Block. Research into the definition of a single house is confusing but the definition provided through Department of Planning is: "Single dwelling: A dwelling standing wholly on its own title or strata lot. This excludes a dwelling where areas are held in common" Most other definitions are similar in meaning. Some include that it can only be occupied by a family or group of no more than 6 unrelated people. The design of the single house being requested does not fit this definition. The house seeking approval contains in the submitted design the following components:	*(a) Identify land set aside for environmental conservation purposes.* *(b) Provide for the preservation, maintenance, restoration or sustainable use of the natural environment.* Clause 4.8.13 of LPS6 states that land to be included in the Environmental Conservation zone must identify areas that will be subject to an Environmental Management Plan. Clause 4.8.13 indicates that such areas are to be depicted on a Structure Plan, however, there is no requirement within LPS6 to prepare a Structure Plan for land within the Environmental Conservation zone. The requirement for a Structure Plan relates to the portion of the site zoned Special Use, which is not relevant to this Application. Clause 4.8.13 requires the use, development and management of any land within an area subject to an approved EMP to be in accordance with the EMP, and sets out the matters required to be addressed by an EMP. Clause 4.21 of LPS6 contains the following provisions applicable to the subdivision and development of land in the Environmental Conservation zone: *(a) Adjustments to Environmental Conservation zone boundaries may be considered as 'basic' scheme amendments, subject to environmental surveys and supported by the agency responsible for biodiversity and conservation.* *(b) Subdivision in the Environmental Conservation zone will not be supported.* *(c) Development within the Environmental Conservation zone is to be in accordance with the zone objectives and is not to disturb vegetation.* *(d) Where development is proposed that would affect Environmental Conservation zoned land, the proponent is to prepare an Environmental Management Plan at the time of structure planning, subdivision or development (as relevant), in consultation with the State government department responsible for biodiversity and conservation. The plan is to be approved by the local government with arrangements made for the implementation of the approved plan. The Environmental Management Plan is to address the requirements of clause 4.8.13.* *(e) The parking of a commercial vehicle is not permitted in an Environmental Conservation zone.* *(f) The keeping of livestock is not permitted within an Environmental Conservation zone.* Sub-Clauses (a), (b), (e) and (f) are not relevant to the Application.	

	Design of Madalyn Manor Proposal documentation states gross floor area is 4.11 Ha and groundcover (building footprint?) is 2.12 Ha in a developed zone of 41.48 Ha. Building overall size is 175.65m x 121.80m basement, 171.85m x 121.10m ground floor, 172.15m x 121.10m 1st floor, 172.15m x 104.10m 2nd floor, 171.85m x 104.10m roof top Documentation states 51 bathroom/ ensuite/ shower/ powder room and 12 bedrooms but does not give details of number of other rooms. Floor plan is such that with minimal modification could have at least two separate apartments (each with 3 bedrooms with ensuites, kitchen/kitchenette, living areas its own private garage and rooftop BBQ/pool/spa outdoor living area connected via private stairs & lift) and shared resort facilities or a separate resort/function centre. There are • 51 bathroom, ensuite, shower and/or powder rooms • 9 kitchen/kitchenettes • 2 laundries • 16 lounge rooms • 22 other living /entertaining rooms (study, library, sunroom, common room, gallery, studio, music room, game room, home cinema) • 12 bedrooms (labelled as such) each with ensuite (ensuites included in bathroom tally) • 12 "collection" rooms - design is suggestive that these could be converted to bedrooms or similar (door placement, window placement, balconies – possibly lengthwise division also to create 2 rooms from each). • 4 dining rooms (each with its own kitchen) and not within "apartments" (restaurants?) • Bars x7 - some within "apartments" but also elsewhere suggestive of resort/hotel Large central resort/hotel type area which includes entertainment room, several lounge areas, tearoom, ballroom, art gallery/ studio, multiple powder rooms, connected to large kitchen with separate pastry kitchen, cold store, large laundry, home cinema, karaoke room, arcade, bar and music room and car museum. Also outdoor living area with multiple pools, spas, gardens. Also indoor sport/health resort type facilities • yoga room • massage room x2 • meditation room • beauty room • sauna x 4 \some within "apartments" • gym x3 some within "apartments" • squash court x 2 • basketball/ badminton court x2 • medical room x2 • shooting range 4 lane • bowling alley 3 full size lanes • sports lounge & bar 6 of the bedrooms over two floors (3 on each floor) are labelled as staff bedrooms with each floor including lounge, common room, study, sunroom associated with the bedrooms. Garage area of 5,000+sq m (not including area labelled as car museum)	With respect to Sub-Clauses (c) and (d): • The Application is accompanied by an Environmental Management Plan that addresses the matters listed in Clause 4.8.13 of LPS6; • The Environmental Management Plan is required to be considered by the DBCA prior to approval by the Shire. The Applicant understands that the Environmental Management Plan was referred to DBCA with the Application; • The Application for the proposed Single House requires the clearing of 7.63 hectares of vegetation, representing only 1.8% of the portion of the site (425 hectares) in the Environmental Conservation zone; • Including perimeter firebreaks, approximately 40 hectares will be cleared, representing less than 10% of the portion of the site zoned Environmental Conservation; • The development of the Single House, together with implementation of an approved Environmental Management Plan, is consistent with the Objectives of the Environmental Conservation zone and will have minimal impact on the conservation values of the 425 hectares of land included in the Environmental Conservation zone. In accordance with the Zoning Table of LPS6, a Single House is classed as a discretionary ('D') use in the Environmental Conservation zone, meaning the use may be approved at the discretion of the decision-maker. The only other uses that may be approved in the Environmental Conservation zone are 'Bed and Breakfast' and 'Home Business'. Due to the way in which these uses are defined in LPS6, these uses can only take place in conjunction with a Single House. All other land uses identified in the Zoning table are classed as prohibited ('X') uses. This means a Single House is the only use contemplated within the Environmental Conservation zone, which will necessarily result in some clearing of vegetation (in this case, less than 2% of the portion of the site zoned Environmental Conservation). Schedule 13 of LPS6 contains further requirements for land within the Environmental Conservation zone. Item 1 of Schedule 13 relates to the subject site and sets out the following provisions: 1. *A conservation covenant in perpetuity shall be registered on the Certificate of Title of the land as a condition of subdivision approval when the 'Environmental Conservation' lot is created.*	

	Car servicing area – Is this even a permissible activity in residential or conservation area? Mechanical and hydraulic workshops – Is this even a permissable activity in residential or conservation area? Helipad and helicopter reception area on rooftop with pool, spa, bathroom, bar, outdoor cinema, BBQ areas Separate outbuilding of 3,159 sq m (30m x 104.3m) labelled as workshop and property maintenance machine storage – permissible in residential or conservation area? The recommendations of the Chittering Landcare Group and the Ellen Brockman Integrated Catchment group that this Development Approval should not be endorsed. The main reasons for this recommendation are 1. There is confusion by the proponents on what can be undertaken on the Environmental Conservation lot. All prior documentation about development refers to the subdivided 50 Ha lot (RU5) and does not include the larger conservation lot. 2. Proposed design is indicative of a resort which includes entertainment, tourist attractions and restaurants but also some premium apartment accommodation and onsite staff accommodation and resort maintenance facilities – This does not fit with the definition of a single residence. 3. The development does not comply with *TPS.6 section 4.8.13.* *"demonstrate that the objectives of the zone have been satisfied" (TPS.6 section 4.8.13.* 4. The development does not comply with *"4.21. Development Provisions – Environmental Conservation Zone,* *The following applies to subdivision and development in the Environmental Conservation zone.* *(c) Development within the Environmental Conservation zone is to be in accordance with the zone objectives and is not to disturb vegetation."* 5. There is no conservation covenant on the Environmental Conservation lot as deemed required under schedule 13. Therefore proposal is non-compliant. If no covenant is placed on the Environmental Conservation Lot then that portion should be transferred into the Conservation Estate. TPS 6 Schedule 13 – Environmental Conservation Requirements. Condition 1, A conservation covenant in perpetuity shall be registered on the certificate of Title of the land as a condition of subdivision approval when the Environmental Conservation lot is created. *6.* No guarantees of water supply for such a large structure. Groundwater is limited and extraction would impact on the vegetation within the lot. Water Corp has only suggested a portion of their requirements for the development. 7. There appears to have been no or minimal contact and discussion with the Department of Biodiversity, Conservation and Attractions at any time about the Environmental Conservation lot.	*2. An Environmental Management Plan is to be prepared for the land in accordance with clause 4.8.13 of the Scheme as a condition of subdivision approval when the 'Environmental Conservation' lot is created.* Items 1 and 2 are not relevant to a Development Application and only apply at such time the site is subdivided. Notwithstanding, an Environmental Management Plan has been prepared for the Application pursuant to Clause 4.21 (d) of LPS6. With respect to whether the proposed development constitutes a Single House, the term 'Single House' is defined in the Residential Design Codes as follows: ***Single House*** *A **dwelling** standing wholly on its own green title or survey strata lot, together with any easement over adjoining land for support of a wall or for access or services and excludes dwellings on titles with areas held in common property.* The term 'dwelling' is defined as: ***Dwelling*** *A building or portion of a building being used, adapted, or designed or intended to be used for the purpose of human habitation on a permanent basis by a single person, a single family, or no more than six persons who do not comprise a single family.* As explained in the covering letter to the Application prepared by CLE Town Planning and Design, dated 28 July 2022, the proposed design and occupation of the dwelling is consistent with these definitions. In light of the above, it is considered the proposed development is consistent with the provisions of LPS6 as applicable to a Single House on land zoned environmental Conservation.	Shire Officers are accepting that the application meets the definition of a 'Single House' as defined in the Residential Design Codes, and can be assessed as a single house for this application.

	This should have taken place and hasn't. 8. The Environmental Conservation lot is 400 + Ha of good to very good quality native vegetation, possibly with areas that may be deemed Threatened Ecological Community/s. A clearing permit would be required since there is no structure plan over this portion of the Lot 101 It would be unconscionable to allow the destruction of more than 41 Ha of this bushland (including access ways and tunnel entrances) for this development.		
Department of Biodiversity, Conservation & Attractions	**Shire of Chittering Local Planning Scheme No. 6 (Amendment No. 61)** It is noted that the majority of the subject lot is zoned as an 'Environmental Conservation Zone' under the Shire of Chittering Local Planning Scheme No. 6 (Amendment No. 61). Amendment 61 to the Shire of Chittering Local Planning Scheme No.6 included the insertion of development provisions for land within the Environmental Conservation Zone, which specified that development within the Environmental Conservation Zone is to be in accordance with the objective of the zone and is not to disturb vegetation. In addition, it is noted that the development of a single house within this zoning is a "D" land use, meaning the use is not permitted unless the local government has exercised its discretion by granting Development Approval. Given the objectives of the Conservation Zone are to identify land set aside for environmental conservation purposes and provide for the preservation, maintenance, restoration or sustainable use of the natural environment, and there is a general presumption against clearing in this Conservation Zone, DBCA recommends that the Shire consider whether a development of this scale (8ha) and location in the centre of the subject lot is compatible with the intent of the Conservation Zones, given that the primary objective of the zone is for the land to be set aside for conservation. It is noted that in addition to the direct clearing of native vegetation mapped in excellent condition within the development footprint and the installation of a network of roads and other ancillary development within the lot, the development will likely result in fragmentation of the native vegetation and diminish the connectivity function of the vegetation within the local landscape.	In exercising its discretion with respect to the Application, the Shire will consider all relevant matters listed in Deemed Provision 67 of the Local Planning Scheme.	Noted.
	Proposed Clearing Area It is noted that there is a discrepancy in the total area of proposed native vegetation clearing between that specified on Drawing No. 23162-02A supplied with the application and the amount of clearing detailed in the Environmental Management Plan prepared by PGV Environmental (2022). Specifically, Drawing No. 23162-02A specifies that 40ha of clearing will be undertaken whilst the EMP notes that 7.63ha of clearing is proposed as a consequence of the development. DBCA recommends that total amount of clearing proposed for the development be clarified given the clearing of 40ha would have a significantly greater impact on the sites biodiversity values. **Conservation Covenant** It is noted that the requirement for a Conservation Covenant over the portions of the subject lot outside of the tourist development proposal (Amendment 61) remains as a provision of the Scheme. However, the department has no record of a conservation covenant being established for the balance of the lot following the establishment of the Environmental Conservation Zoned Lot. It is recommended that the Shire determine whether this provision requires implementation prior to further development of the site.	The Application for the proposed Single House requires the clearing of 7.63 hectares of vegetation, representing only 1.8% of the portion of the site (425 hectares) within the Environmental Conservation zone. Including perimeter firebreaks, approximately 40 hectares will be cleared, representing less than 10% of the portion of the site zoned Environmental Conservation	The Application has since been revised and 4.83 hectares of clearing is required for the proposed structures and asset protection zone. The total clearing proposed is 15.9 hectares as this includes the additional 9m width of external firebreaks which have already been cleared. This is representative of approximately 3.74% of the site.

	Matters of National Significance The Flora, Vegetation and Fauna Survey Report (PGV Environmental 2022) identified matters of national impact significance (MNES) listed under the Environmental Protection and Biodiversity Conservation Act 1999 occur within the proposed development area. These include 2.33ha of foraging habitat for Carnaby's Black Cockatoo and approximately 0.25 hectares of the Banksia Woodlands of the Swan Coastal Plain threatened ecological community. The proponent should be advised to contact the Department of Climate Change, Energy, the Environment and Water for assessment of impacts to MNES.	The Proponent is aware of its Referral obligations under the EPBC Act. The assessment of the Development Application is not statutorily tied to the Commonwealth EPBC Act and can proceed through to a decision whether or not a referral is made.	Noted.

*Note: Comments are as per original submission received by the Shire.

LOT 101 (NO 777) TEATREE ROAD, BINDOON

ENVIRONMENTAL MANAGEMENT PLAN

Prepared for:	NXT International Pty Ltd
Report Date:	24 June 2022
Version:	2
Report No.	2022-674

pgv ENVIRONMENTAL

CONTENTS

LIST OF ATTACHMENTS

Tables

Plates

Figures

Appendices

SUMARY OF MANAGEMENT ACTIONS

Table 1 outlines the Management Actions for this management plan. All Management Actions will be the responsibility of NXT International Pty Ltd.

Table 1: Management Actions

Factor	No.	Management Action
Long Term Protection and Management	**M1**	Implementation of the Environmental Management Plan
Dieback	**M2**	Initial clearing works will be scheduled as much as possible in drier conditions.
	M3	Soil in the construction footprint will be stabilised so it is not prone to water erosion and being washed into adjoining bushland areas.
	M4	No soil from works will be pushed into surrounding bushland.
	M5	No contours will be created that will allow surface water drainage into the bushland.
	M6	Stockpiles will be constructed to ensure no soil transfer occurs to the adjoining bushland
Weeds	**M7**	Hygiene protocols in place so materials containing weeds are not imported onto the site.
	M8	Any priority weeds that grow in the landscaped areas of the site will be removed during landscaping maintenance works.
	M9	Landscaping species will not include any listed weed species or species that are known garden escapees in Western Australia.
	M10	No clippings or prunings from the landscaped areas will be transferred to the surrounding bushland.
Pest Fauna Species	**M11**	Prior to clearing, the site will be searched for active beehives, and if located, a bee collector-exterminator will be contacted to remove the bees.
	M12	The work area will be kept clean and tidy with all bins to have secure lids.
	M13	The house will ensure that appropriate waste management is available.
Rehabilitation	**M14**	Topsoil from the excavated tunnel will be reinstated to utilise the native seed bank
	M15	The area will be sprayed if there are any weeds prior to planting.
	M16	If follow-up weed control is required as determined by visual monitoring (as prescribed under Monitoring in this plan) (>10% coverage) weed control will be undertaken by an appropriately qualified contractor until completion.
	M17	Tubestock will be sourced from local provenance seed, where possible, and will consist of at least one tree species, four shrub species and five understorey species on the species list as determined by quadrat data from the surrounding vegetation;

Factor	No.	Management Action
Rehabilitation	**M18**	Planting will be undertaken in a random fashion, reflecting the native vegetation surrounding the area with trees planted on the edges of the tunnel but not on top.
	M19	Planting will be at a density of 1 tree per 20m^2 on the edges of the tunnel, 1 shrub species per m^2 and 1.5 understorey species per m^2.
	M20	Success of revegetation will be measured against the completion criteria.
Fire Management	**M21**	The proposal includes an APZ around the house and other structures and access tracks from three sides in the event of emergency.
	M22	The proposal will be undertaken in accordance with the Bushfire Management Plan.
Building Footprint	**M23**	All construction is to be limited to the building footprint and access tracks which is sited outside of the highest quality foraging habitat for Carnaby's Black Cockatoo.
Access	**M24**	A below ground access tunnel will be installed from Brennan Road
	M25	Two service road to the west and south of the house will be constructed in accordance with the requirements under the Bushfire Management Plan
	M26	Access will be restricted at the entry points to the lot.
Fencing	**M27**	Fencing to provide openings for fauna movement.
	M28	No additional internal fences or barriers to wildlife are proposed
Domestic livestock and pets	**M29**	Domestic pets, if introduced to the site must be appropriately penned.

1 INTRODUCTION

1.1 Site Location

Lot 101 (No. 777) Teatree Road, Bindoon is located in the Shire of Chittering, approximately 60 km north-north-east of the Perth Central Business District (Figure 1). Lot 101 has a total land area of 475ha and is bound by Teatree Road reserve to the north, Brennan Road to the east and undeveloped bushland to the south and west (Figure 2). The legal description for the site is Lot 101 on Plan 17335, Certificate of Title Volume 1869 Folio 841 (Appendix 1).

1.2 Proposed Development

The owners of the lot, NXT International Pty Ltd are proposing to construct a house on a portion of the lot. The house will be centrally located within the lot and surrounded by bushland (Figure 3). The proposed development includes a house, associated workshop, a main access tunnel from Brennan Road, two service roads to the south and west of the site and an Asset Protection Zone (APZ) around the house and workshop to manage the risk of bushfire (Appendix 2).

The proposed development will include (but is not necessarily limited to) the following activities:

- Clearing of existing vegetation from the development footprint and three access roads;
- Bulk earthworks, including cutting and filling of the land;
- Civil construction works, servicing and all other associated construction works; and
- Landscaping around the house.

The proposed development will require the clearing of 7.63ha of native vegetation. This represents 1.6% of the 475ha of native vegetation on Lot 101.

1.3 Requirement for the Plan

Most of Lot 101 is zoned as an 'Environmental Conservation Zone' under the Shire of Chittering Local Planning Scheme No. 6 (Amendment No. 61). The proposed house site is within the Environmental Conservation Zone. Under this zoning a 'Single House' is permissible with a discretionary home business, or Holiday House land use.

Under Amendment 61 a new Schedule 13 titled 'Schedule 13-Environmental Conservation Requirements' was added to the scheme text. Under Schedule 13, Condition 2 requires that an Environmental Management Plan is to be prepared for the land in accordance with 4.8.13 of the Scheme as a condition of subdivision approval when the 'Conservation' lot is created. Specifically, the Scheme Text states:

> *Land that is to be included within the Rural Conservation zone or Environmental Conservation zone must identify what area/s will be subject to an Environmental Management Plan (EMP), and this will be depicted on the Structure Plan.*
>
> *The use, development and management of any lot or part thereof that is within an area subject to an approved EMP, shall be in accordance with this plan. The EMP is to be approved by local*

government in consultation with the State government department responsible for biodiversity and conservation and to be submitted with the Structure Plan. Local government may request the EMP to be provided as part of any amendment to the scheme to demonstrate that the objectives of the Rural Conservation zone or Environmental Conservation zone will be achieved.

The EMP is to address the following:

a) long term protection and management of the environmental values;
b) weed and pest control;
c) rehabilitation;
d) fire control including strategic firebreaks;
e) building envelope locations;
f) access;
g) use of suitable fencing to allow environmental values and associated fauna to move unhindered;
h) dealing with domestic livestock (such as poultry or a sheep) that is self-contained within the building envelope;
i) dealing with domestic pets;
j) encourage landowner/s to investigate use of conservation covenants where it will provide management assistance;
k) demonstrates that the objectives of the zone have been satisfied; and
l) any other matter deemed relevant by local government.

1.4 Scope of Works

The EMP has been prepared to address the requirements under the Local Planning Scheme (Schedule 13).

The EMP provides actions to manage the clearing impacts, to allocate areas of responsibility required for the implementation of identified management actions and to provide mechanisms to report on compliance with those actions. Timing in relation to the proposed development for the completion of actions and monitoring are also provided.

1.5 Management Objectives

The EMP has the following objectives:

- No impact to vegetation beyond the prescribed construction area;
- Manage offsite impacts to the surrounding vegetation and ensure that the environmental values of the surrounding area are maintained; and
- Identify key elements of the proposal to ensure environmental values are maintained such as access, fencing, construction management and firebreaks.

2 EXISTING ENVIRONMENT

2.1 Land Use

Review of historical aerial photographs shows that the site has largely been unchanged since 1981 (the oldest historical aerial photography publicly available) (Plates 1 and 2). Three fires have occurred on the site since 1981 and fire breaks have been created as a result.

Plate 1: Aerial Photograph from 1981 (Landgate, 2022)

Plate 2: Aerial Photograph from 2017 (Landgate, 2022)

2.2 Topography

The site is gently undulating with an elevation of approximately 182m Australian Height Datum (AHD) in the northern central part of the site and 160m AHD in the south (Figure 2).

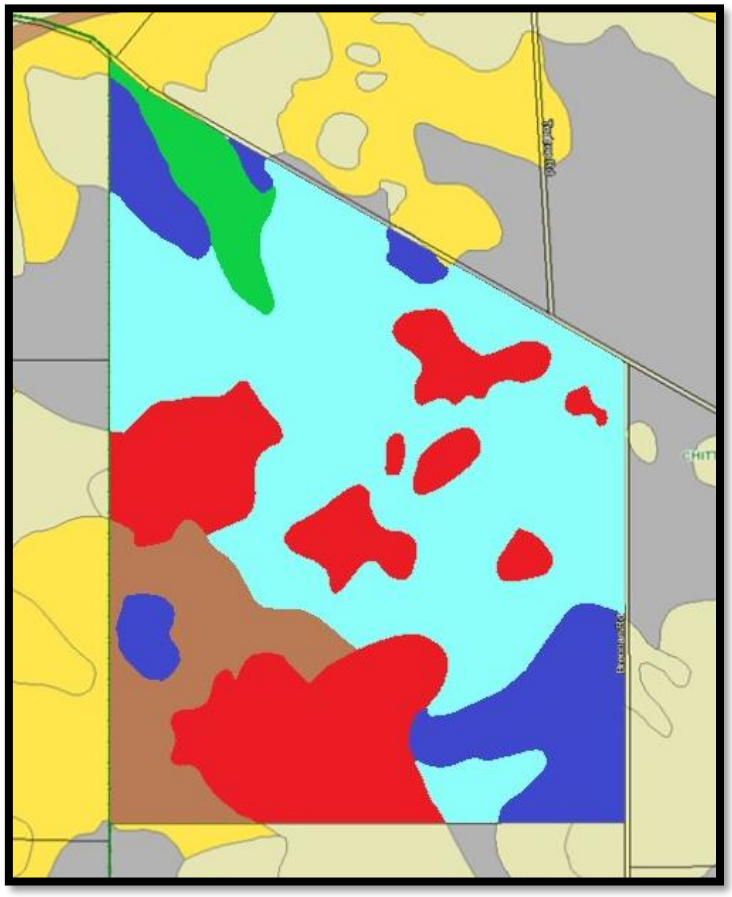
2.3 Geology and Soils

The site is on the Mogumber System which are located on gently undulating plateau made up of colluvium from weathered sandstone. The unit is made up of gentle to moderate sloping sandplain, varying from pale to yellow clayey sand with gravel and laterised ridges (DPIRD, 2022). There is a small area to the west in the Dandaragan system which are subdued dissected lateritic plateau, undulating low hills and rises with narrow alluvial plains. Variable deep sands and sandy gravels plus minor earths, duplexes and clays (DPIRD, 2022).

The Department of Primary Industry and Regional Development (DPIRD) have mapped the following soil subsystems on Lot 101. The location of the soil subsystems is shown on Plate 3:

- Mogumber 1 Subsystem (222Mb_1) which are undulating broad crests and very gentle upper slopes (<10%) with common lateritic duricrust outcrop and shallow gravelly sands (Blue on Plate 3);
- Mogumber 3 Subsystem (222Mb_3) which are gently inclined undulating slopes and minor drainage headwaters consisting of deep grey siliceous or bleached sand (Cyan on Plate 3);
- Mogumber 4 Subsystem (222Mb_4) which are gently to moderately inclined slopes (<10%) with shallow gravelly sands and few areas of lateritic outcrop (Red on Plate 3).
- Dandaragan Karamal Phase 1 (222DaKM1) which are gently undulating dunes. Pale yellow, to yellowish brown sand. Maybe gravelly and/or weakly clayey below a metre (Brown on Plate 3) (DPIRD, 2019).

Plate 3: Soil Landscape Mapping (DPIRD, 2022)



2.4 Hydrology

Groundwater is at depth and there are no surface expressions of groundwater on the site (DWER, 2019). There are no wetlands or water courses on the site (National Map, 2022).

2.5 Flora and Vegetation

A preliminary site survey of the proposed house site was undertaken by PGV Environmental in March 2022. Three vegetation types were mapped on the site as shown on Figure 4 and described below:

Et *Eucalyptus todtiana* Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Hibbertia hypericoides/Eremaea pauciflora* Closed Low Heath

EtAh *Eucalyptus todtiana* Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Allocasuarina humilis/Eremaea pauciflora* Closed Low Heath

Em *Eucalyptus marginata* (Jarrah) Open Woodland over *Jacksonia floribunda/Xanthorrhoea preissii* Open Shrubland over *Hibbertia hypericoides/Calothamnus sanguineus* Open Low Heath

The location for the proposed residence has been selected to minimise disturbance to the Jarrah (Em) vegetation as much as possible.

The vegetation was rated in Excellent to Pristine condition, as is the surrounding vegetation.

A flora survey of the house site and access roads will be undertaken in spring 2022.

2.6 Fauna

The fauna habitat on the proposed house site and access roads is described as an Open Woodland habitat (Plate 4) and low shrub fauna habitat (Plate 5).

Plate 4: Open Woodland Fauna Habitat

Plate 5: Low Shrubland Fauna Habitat

The Jarrah vegetation on the site provides foraging habitat for Carnaby's Black Cockatoos (*Calyptorhynchus latirostris*). The Blackbutt trees and Proteaceous shrubs on the site would also provide some foraging habitat (Valentine and Stock, 2008; Groom, 2011).

The Jarrah trees are mostly young trees up to 5m high with very few old trees that are suitable for nesting either currently or in the near future. As a result, the habitat on the site for Carnaby's Cockatoo is considered foraging habitat only and not roosting or breeding habitat.

3 MANAGEMENT PLAN

3.1 Long Term Protection and Management

3.1.1 Objective

To manage the environmental values in the surrounding area of the development to ensure that the values have ongoing, long-term protection.

3.1.2 Long Term Management

The environmental values in the surrounding area will be managed by the implementation of this EMP. The siting of the house, workshop and associated access roads and driveways have been selected to ensure that the areas of highest environmental value are not impacted by the proposed development.

3.1.3 Management Action

M1 Implementation of the Environmental Management Plan

3.2 Dieback

3.2.1 Objective

To prevent the spread of dieback into the adjoining bushland.

3.2.2 Dieback Risks

Phytophthora Dieback (*Phytophthora cinnamomi*) is a soil-borne pathogen that infects the roots of vulnerable species, limiting the roots' ability to take up water, thereby weakening or killing the host plant. The spores of *Phytophthora* Dieback are transported by water and in soil.

In sloping areas Phytophthora dieback spreads quickly in surface and sub-surface water flows. It spreads slower up-slope and on flat ground because it is restricted to movement by root-to-root contact.

There are no signs of dieback in the vegetation. The surrounding bushland contains proteaceous species and Jarrahs that are susceptible to this disease.

3.2.3 Dieback Management

Hygiene management procedures will be implemented on the site during construction with signage erected at all access points to the development area. The signs will include the following procedures:

- Vehicle inspection protocols to ensure the vehicle is free from soil/organic material prior to entry and exit during construction;
- Brush down of contaminated vehicles and machinery in dry weather
- Wash down of contaminated vehicles and machinery used in clearing with suitable disinfectant such as bleach dilution, methylated spirits or an approved product such as Phytoclean during wet weather.

To prevent transfer of potentially infected soil into the adjoining bushland there will be no access to the adjoining bushland from the development area and no soil will be pushed into these areas.

Earthworks will ensure that no contours are created that drain surface water from the development area to the conservation area. Stockpiles of soil and mulch will be:

- Located in sheltered areas
- Limited in height and steepness;
- Piled lengthways to prevailing winds; and
- Stabilised if required.

All soils or mulch to be imported to the site during works will be disease and pathogen free, including seedlings and any building materials will be free from soil.

Long term the proposed main entry way to the house will be a tunnel which eliminates dirt transfer from vehicles to the surrounding bushland. Other emergency access roads will be used infrequently and these roads will be sealed. Drainage from landscaped areas and the house will be contained within the designated envelope and no overland flow of water from the house to the surrounding bushland.

3.2.4 Management Actions

M2 Initial clearing works will be scheduled as much as possible in drier conditions.

M3 Soil in the construction footprint will be stabilised so it is not prone to water erosion and being washed into adjoining bushland areas.

M4 No soil from works will be pushed into surrounding bushland.

M5 No contours will be created that will allow surface water drainage into the bushland.

M6 Stockpiles will be constructed to ensure no soil transfer occurs to the adjoining bushland

M7 All imported landscaping and revegetation materials (i.e., soil, mulch, seedlings) brought onsite will be weed and certified dieback free. Imported pipes, stone pitching materials and other construction materials are to be free of mud and soil.

3.3 Weeds

3.3.1 Objective

No Declared weed species or Swan Region NRM Priority weeds will be introduced into the conservation area as a result of the development.

3.3.2 Weed Management

The surrounding bushland is in Excellent to Pristine condition and has very few to no weeds. The spread of weed species from the development site to the surrounding bushland would most likely occur due to introduction of weeds from machinery, species planted in landscaping around the house and dumped garden materials. The hygiene protocols in place to mitigate the risk of dieback are also effective when preventing weed material being transferred onto the site. Species selected for landscaping will not include species that are listed as:

- Weeds of National Significance (WoNS);

- Declared Pests under the Biosecurity and Agriculture Management Act 2007 (BAM Act); or
- Garden species that are known to invade bushland areas including but not limited to species identified by the Department of Primary Industries as common garden escapees:
  - Blue periwinkle;
  - Eastern States' wattles;
  - Elephant ears and taro;
  - Fountain grass;
  - Gazania;
  - Lantana;
  - Morning glory;
  - Pampas grass;
  - Sweet pittosporum; and
  - Victorian tea-tree.

No clippings or prunings from the landscaped areas will be transferred to the surrounding bushland but will be appropriately disposed of to the Shire green-waste dump or composted on-site for use in landscaping.

3.3.3 Management Actions

M7 Hygiene protocols in place so materials containing weeds are not imported onto the site.

M8 Any priority weeds that grow in the landscaped areas of the site will be removed during landscaping maintenance works.

M9 Landscaping species will not include any listed weed species or species that are known garden escapees in Western Australia.

M10 No clippings or prunings from the landscaped areas will be transferred to the surrounding bushland.

3.4 Pest Fauna Species

3.4.1 Objective

To appropriately manage pest species.

3.4.2 Beehives

Prior to clearing, the site will be searched for active beehives. If any beehives are identified, then a bee collector-exterminator (i.e., Wild Honey Australia 0434 233 499 or Joe Tonga 0418 918 367) will be contacted to remove or kill the bees.

3.4.3 Terrestrial Pest Fauna

Foxes, feral cats and rabbits are widespread throughout Western Australia and are likely to occur on the site. Any rabbits, cats or foxes are likely to move from the site when machinery is present. The site office and surrounding area will be kept clean and tidy during construction to ensure that no food or resources for pest fauna are available and all bins will be fitted with a secure lid. The house will have appropriate waste management to ensure that rubbish is not spread into the adjoining bushland.

3.4.4 Management Actions

M11 Prior to clearing, the site will be searched for active beehives, and if located, a bee collector-exterminator will be contacted to remove the bees.

M12 The work area will be kept clean and tidy with all bins to have secure lids.

M13 The house will ensure that appropriate waste management is available.

3.5 Rehabilitation

3.5.1 Objective

To rehabilitate the area to be cleared for the installation of the entrance tunnel with appropriate species.

3.5.2 Soil Removal

The main access to the house is proposed to be a tunnel which will require the clearing of native vegetation and then reinstating a soil layer over the tunnel that will be rehabilitated. The topsoil removed for excavation will be utilised for covering the tunnel to allow for use of the native seed bank.

3.5.3 Weeding

The site contains very few weeds so there is no existing weed burden. Initial weed control will therefore not be required. Rehabilitation of the covered tunnel area will commence at the first break of season where any weeds that have subsequently grown on the site of the removed stockpile will be sprayed prior to planting. Weeds will be monitored in the rehabilitation area on a quarterly basis and if weeds have a greater than 10% coverage they will be sprayed or removed by hand by an appropriately qualified weed contractor.

3.5.4 Planting

The re-covered tunnel area will be revegetated with species that are present in the surrounding vegetation. Vegetation types Em and Et are mapped in this area and species that are found in these vegetation types will be used. Due to the installation of the tunnel, there will a be shallower soil profiles so no trees are proposed to be used on top of the tunnel but may be used on the edges of the excavated area. The vegetation descriptions have been used to develop a preliminary list of species to be used in rehabilitation and are outlined in Table 1. Additional species will be added when the Detailed Flora survey to be undertaken in 2022 is complete.

Table 1: Species List

Vegetation Type Et		Vegetation Type Em	
Species	**Common Name**	**Species**	**Common Name**
Trees			
Eucalyptus marginata	Jarrah	*Eucalyptus todtiana*	Blackbutt
Shrubs			
Jacksonia floribunda	Stinkwood	*Adenanthos cygnorum*	Woollybush
Xanthorrhoea preissii	Balga		
Understorey			
Hibbertia hypericoides	Buttercups	*Hibbertia hypericoides*	Buttercups

Vegetation Type Et		Vegetation Type Em	
Species	**Common Name**	**Species**	**Common Name**
Calothamnus sanguineous	Silky-leaved Blood-flower	*Eremaea pauciflora*	Orange-fruited Eremaea
Patersonia occidentalis	Purple Flags	*Stirlingia latifolia*	Blueboys

At least one tree species, four shrub species and five understorey species will be selected to be used in the rehabilitation, dependent on availability of local provenance tubestock.

Species will be planted in a random fashion to reflect the natural vegetation and will be planted to an average density of:

- 1 tree per 20m^2 on the edges of the tunnel area;
- 1 shrub species per m^2 on both the top of the tunnel and on the sides of the tunnel; and
- 1.5 understorey species per m^2 on both the top of the tunnel and on the sides of the tunnel.

Infill planting will be undertaken if any areas do not meet the completion criteria after 1 year.

3.5.5 Timing

Table 2 outlines the proposed timing for rehabilitation works.

Table 2: Timing for Rehabilitation Works

Year	Time	Phase	Pest/Weed Control	Planting	Monitoring
1	Commencement	Soil pile to be removed	Not required – no existing weed burden		
	Winter	Planting commences		After 100mm of rain has fallen (break of season)	
	Spring		Spray September to October if required		Monitoring commences
	Summer				Monitoring
2	Autumn	Infill Planting	Spray in April to May if required		Monitoring
	Winter			Break of season	Monitoring
	Spring		Spray September to October if required		Monitoring
	Summer				Monitoring
If survival completion criteria not met repeat Year 2					
3	Autumn	Maintenance Year 1	Spray in April to May if required		Monitoring
	Winter				Monitoring
	Spring		Spray September to October if required		Monitoring
	Summer				Monitoring
4	Autumn	Maintenance Year 2	Spray in April to May if required		Monitoring
	Winter				Monitoring
	Spring		Spray September to October if required		Monitoring
	Summer				Monitoring
Completion if criteria are met					

3.5.6 Completion Criteria

The following targets will be used to assess the performance of the rehabilitation and identify if additional seeding/planting or management works are required:

- Species representation (establishment of at least 75% of the species selected);
- Minimum 75% survival of tube-stock;
- A native vegetation cover of greater than 40% after the two-year maintenance period;
- Potential ability to achieve maturity in the future (a subjective measure based on visual assessment of species composition, plant density and plant health) documented through the quarterly visual monitoring;
- A maximum of five weeds per m^2, with a maximum of 5% cover;
- No weeds exceeding 15cm height; and
- No bulbous weeds, declared pests (such as Pampas grass, Bridal Creeper, Narrow-Leaf Cotton Bush, Paterson's Curse, Caltrop), noxious weeds, woody weeds and no rhizomatous grass species within the rehabilitated area.

3.5.7 Management Actions

M14 Topsoil from the excavated tunnel will be reinstated to utilise the native seed bank

M15 The area will be sprayed if there are any weeds prior to planting.

M16 If follow-up weed control is required as determined by visual monitoring (as prescribed under Monitoring in this plan) (>10% coverage) weed control will be undertaken by an appropriately qualified contractor until completion.

M17 Tubestock will be sourced from local provenance seed, where possible, and will consist of at least one tree species, four shrub species and five understorey species on the species list as determined by quadrat data from the surrounding vegetation;

M18 Planting will be undertaken in a random fashion, reflecting the native vegetation surrounding the area with trees planted on the edges of the tunnel but not on top.

M19 Planting will be at a density of 1 tree per $20m^2$ on the edges of the tunnel, 1 shrub species per m^2 and 1.5 understorey species per m^2.

M20 Success of revegetation will be measured against the completion criteria.

3.6 Fire Management

3.6.1 Objective

To provide and maintain adequate firebreaks around the perimeter of the house site and provide appropriate access and egress in the event of a fire by providing appropriate access points and tracks throughout the site.

3.6.2 Fire Breaks

The house area will have an APZ that will be maintained. Fire breaks will be kept clear for a width of 4m from the fence. Emergency access in case of fire is provided by the two access roads on the southern and western side and the eastern tunnel. The emergency access tracks also act as firebreaks.

The Bushfire Management Plan prepared for the development includes specifications for the access tracks, including turnaround points as well as the installation of a 50 kL dedicated firefighting water tank. The Bushfire Management Plan will be implemented.

3.6.3 Management Actions

M21 The proposal includes an APZ around the house and other structures and access tracks from three sides in the event of emergency.

M22 The proposal will be undertaken in accordance with the Bushfire Management Plan.

3.7 Building Footprint

3.7.1 Objective

To ensure the location of the building footprint has the least impact on areas of highest conservation significance in Lot 101

3.7.2 Location

The building footprint was selected so there was no impact on the highest quality vegetation that provides habitat for Carnaby's Black Cockatoos which is conservationally significant (Figure 3). Outside of the building footprint the impact on vegetation is minimal. There will be no additional impact outside of the building footprint.

3.7.3 Management Action

M23 All construction is to be limited to the building footprint and access tracks which is sited outside of the highest quality foraging habitat for Carnaby's Black Cockatoo.

3.8 Access

3.8.1 Objective

To provide adequate access and egress from the house.

3.8.2 Access Roads

The main access road to the house will come off Brennan Road and is proposed to be a tunnel. Additional access is provided to the southern and western boundary as service roads. Access to the lot will be restricted at the boundary of Lot 101 with gates and the existing fence.

3.8.3 Management Actions

M24 A below ground access tunnel will be installed from Brennan Road

M25 Two service road to the west and south of the house will be constructed in accordance with the requirements under the Bushfire Management Plan

M26 Access will be restricted at the entry points to the lot.

3.9 Fencing

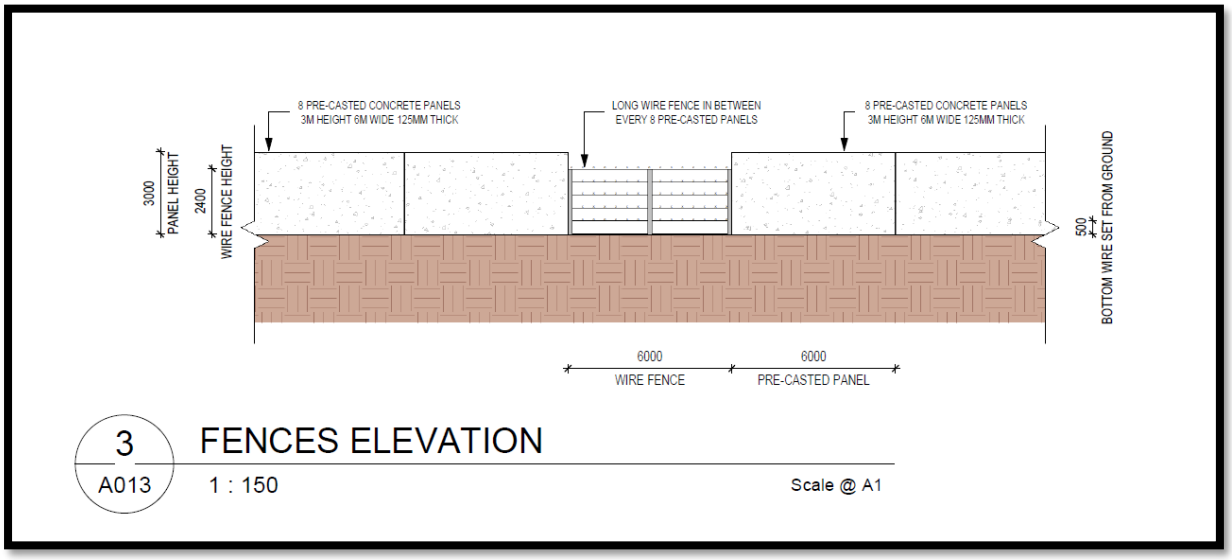
3.9.1 Objective

To provide suitable fencing to allow environmental values and associated fauna to move unhindered.

3.9.2 Proposed Fencing

Fencing around the Lot will consist of a 6m long wire fence alternating with a set of eight pre-casted concrete fencing panels (Plate 6). The concrete panels will be 3m high and 6m wide. The wire sections will be 2.4m high but will have a clearance of 40cm to the ground which will facilitate the movement of fauna and ecological values.

Plate 6: Proposed Fencing



The main access tunnel will ensure that there are no barriers to wildlife moving within the lot. The service roads are not proposed to be fenced to maintain the movement of fauna within the lot.

3.9.3 Management Actions

M27 Fencing to provide openings for fauna movement.

M28 No additional internal fences or barriers to wildlife are proposed.

3.10 Domestic Livestock and Pets

3.10.1 Objective

Prevent damage to the surrounding environment by domestic livestock and pets.

3.10.2 Management

No domestic livestock are proposed to be kept on the site. Any domestic pets must have appropriate runs/pens to restrict access to the surrounding bushland.

3.10.3 Management Action

M29 Domestic pets, if introduced to the site must be appropriately penned.

3.11 Contingency Plans

3.11.1 Vegetation

If any vegetation in the surrounding bushland outside of the footprint is inadvertently cleared, other than for approved development works, the following contingency plan will be enacted:

1. Consider potential causes of the clearing and provide the appropriate action to prevent any further clearing;
2. Map the impacted area;
3. Prepare a Rehabilitation Plan using flora studies on the site and surrounding vegetation as a baseline to determine appropriate species and level of biodiversity that should be reinstated on the cleared area;
4. Implement the Rehabilitation Plan until the completion criteria have been met; and
5. Continue monitoring vegetation health and the effectiveness of remedial actions.

3.11.2 Weeds

If new infestations of invasive weeds are recorded in the adjoining bushland the following will be undertaken:

1. Investigation of the potential sources of the weeds.
2. If the weeds originate in the development area:
   - - The weeds in the development area will be eradicated; and
   - - The weeds will be managed by an appropriate weed contractor that is proficient in managing weeds in bushland.
3. Follow-up monitoring will be undertaken on a monthly basis to ensure the weeds have been managed.

3.12 Implementation

NXT International Pty Ltd has overall responsibility to implement the Environmental Management Plan.

4 REFERENCES

Department of Primary Industries and Regional Development (DPIRD) (2022) Natural Resource Information. Accessed April 2022 http://maps.agric.wa.gov.au/nrm-info/ Government of Western Australia, Perth.

Department of Water and Environmental Regulation (DWER) (2019) Water Information Reporting Accessed September 2019 http://wir.water.wa.gov.au/Pages/Water-Information-Reporting.aspx Government of Western Australia, Perth.

Groom (2011) *Plants Used by Carnaby's Black Cockatoo.* Published by the Department of Environment and Conservation. Perth, Western Australia.

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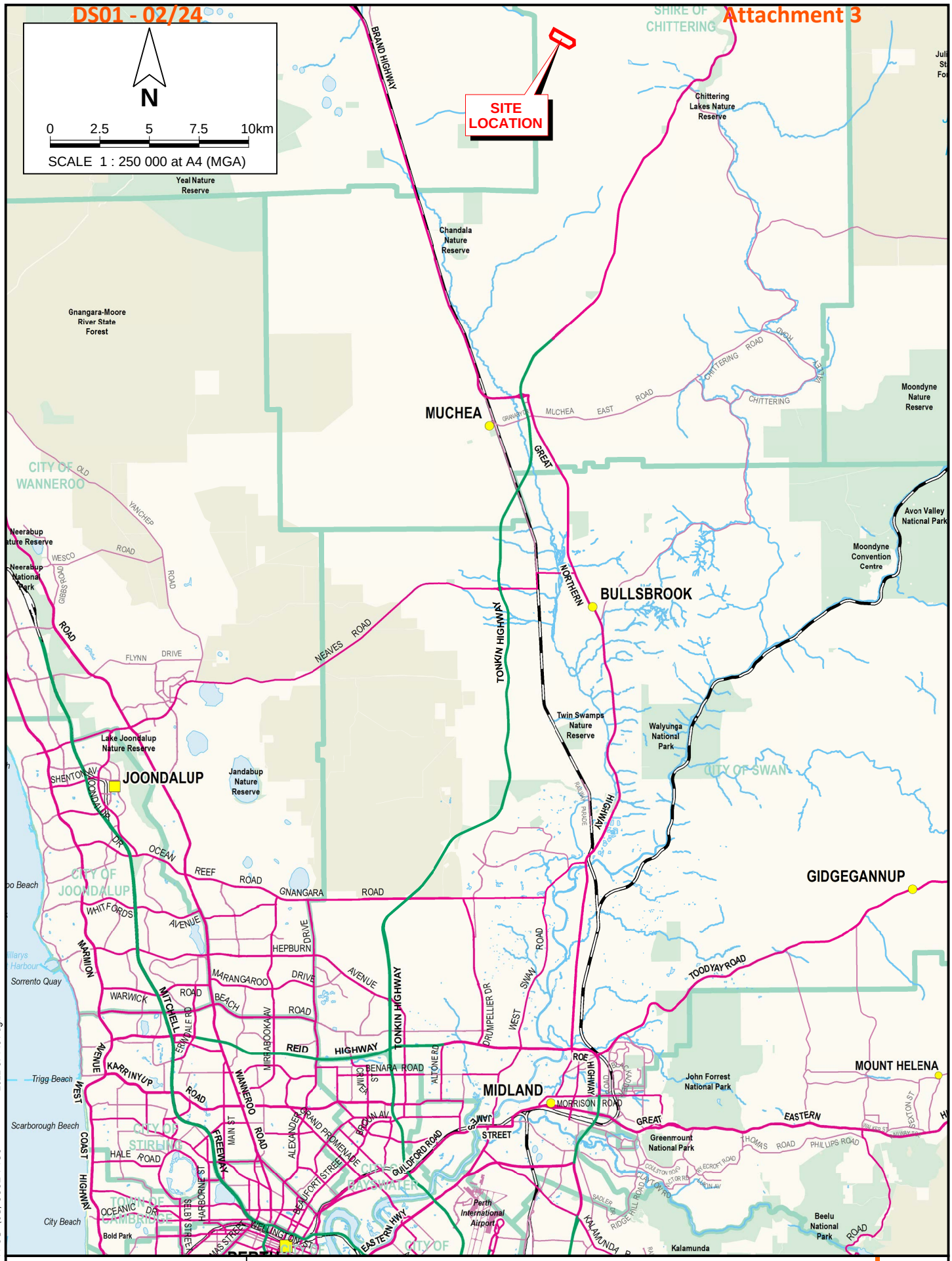
National Map (2022) Map-Based Access to Spatial Data from Australian Government Agencies http://nationalmap.gov.au/#wa Accessed April 2022 Government of Australia

Valentine, L.E. and Stock, W. (2008) *Food Resources of Carnaby's Black Cockatoo (Calyptorhynchus latirostris) In The Gnangara Sustainability Strategy Study Area*. Report for the Gnangara Sustainability Strategy. Government of Western Australia, Perth.

FIGURES



2022-674-f01.dgn

PINPOINT CARTOGRAPHICS (08) 9562 7136

pgv ENVIRONMENTAL

NXT International **Pty Ltd**
ENVIRONMENTAL MANAGEMENT PLAN
LOT 101 (NO 777) TEATREE ROAD BINDOON

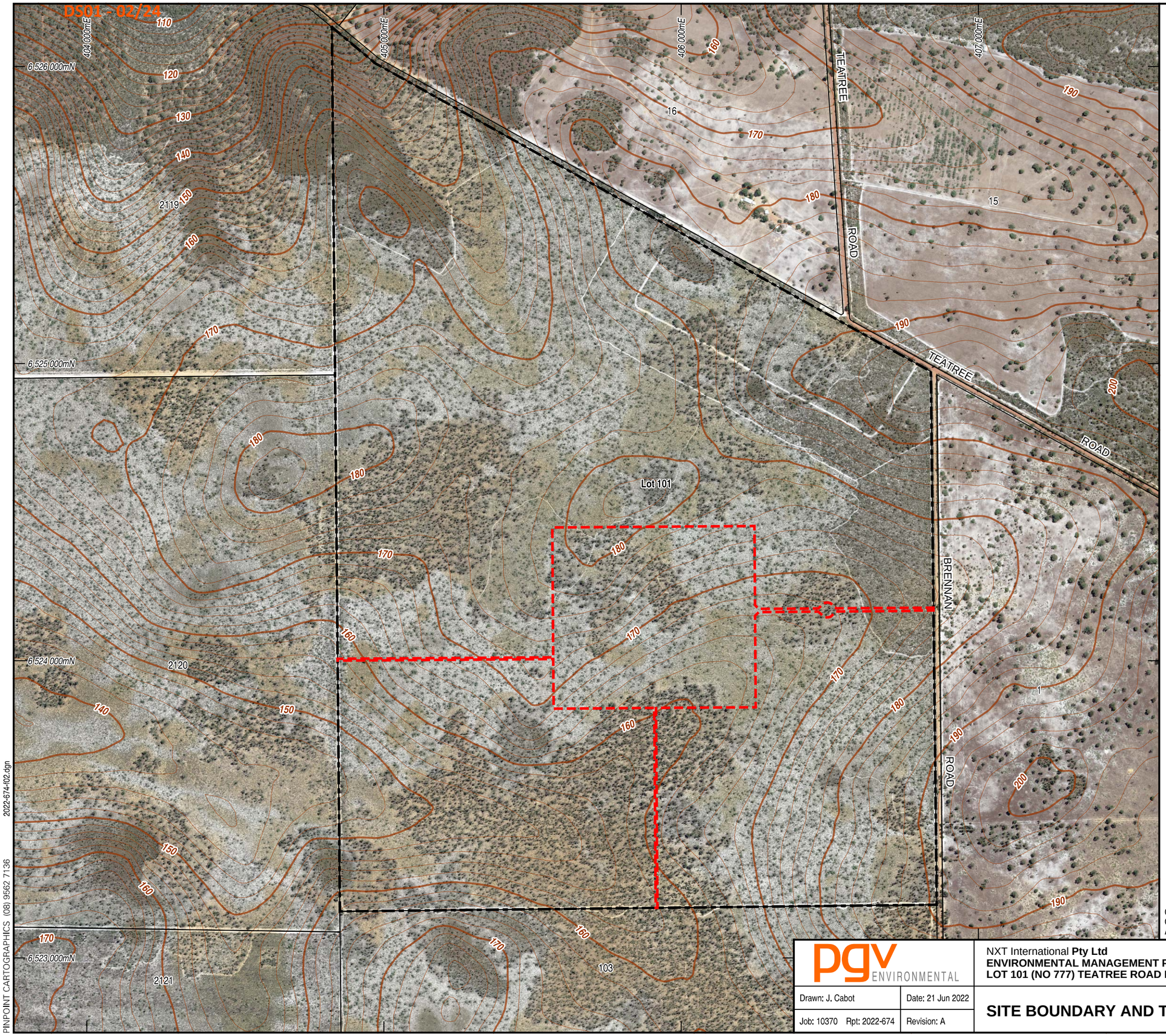
Drawn: J. Cabot	Date: 21 Jun 2022
Job: 10370 Rpt: 2022-674	Revision: A

SITE LOCATION

Figure 1

DS01 - 02/24

Attachment 3



N

0 100 200 300 400 500m

SCALE 1 : 12 500 at A3 (MGA)

Legend

- Site Boundary
- Lot 101 Boundary
- Cadastral Boundary
- Topographic Contour

CONTOUR SOURCE: Dept. of Agriculture, 2000.
CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: Google Earth, flown December 2020.

2022-674-f02.dgn

PINPOINT CARTOGRAPHICS (08) 9562 7136

pgv ENVIRONMENTAL

Drawn: J. Cabot	Date: 21 Jun 2022
Job: 10370 Rpt: 2022-674	Revision: A

NXT International **Pty Ltd**
ENVIRONMENTAL MANAGEMENT PLAN
LOT 101 (NO 777) TEATREE ROAD BINDOON

SITE BOUNDARY AND TOPOGRAPHY

Figure 2

Attachment 3

405 000mE
405 500mE
406 000mE
406 500mE
407 000mE

6 524 500mN
6 524 000mN
6 523 500mN
6 523 000mN

Lot 101

2120
2121
103

N

0 50 100 150 200 250m

SCALE 1 : 7 500 at A3 (MGA)

Legend

- Lot 101 Boundary
- Site Boundary
- Cadastral Boundary
- Proposed Mandalyn House
- Proposed Mandalyn House APZ
- Proposed Workshop
- Proposed Workshop APZ
- Proposed Service Road - Below Ground
- Proposed Service Road - Above Ground

CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: ESRI, flown December 2020.
PROPOSED LAYOUT SOURCE: CLE, Plan No. 3729-08A-01, 16 June 2022.

pgv ENVIRONMENTAL

NXT International Pty Ltd
ENVIRONMENTAL MANAGEMENT PLAN
LOT 101 (NO 777) TEATREE ROAD BINDOON

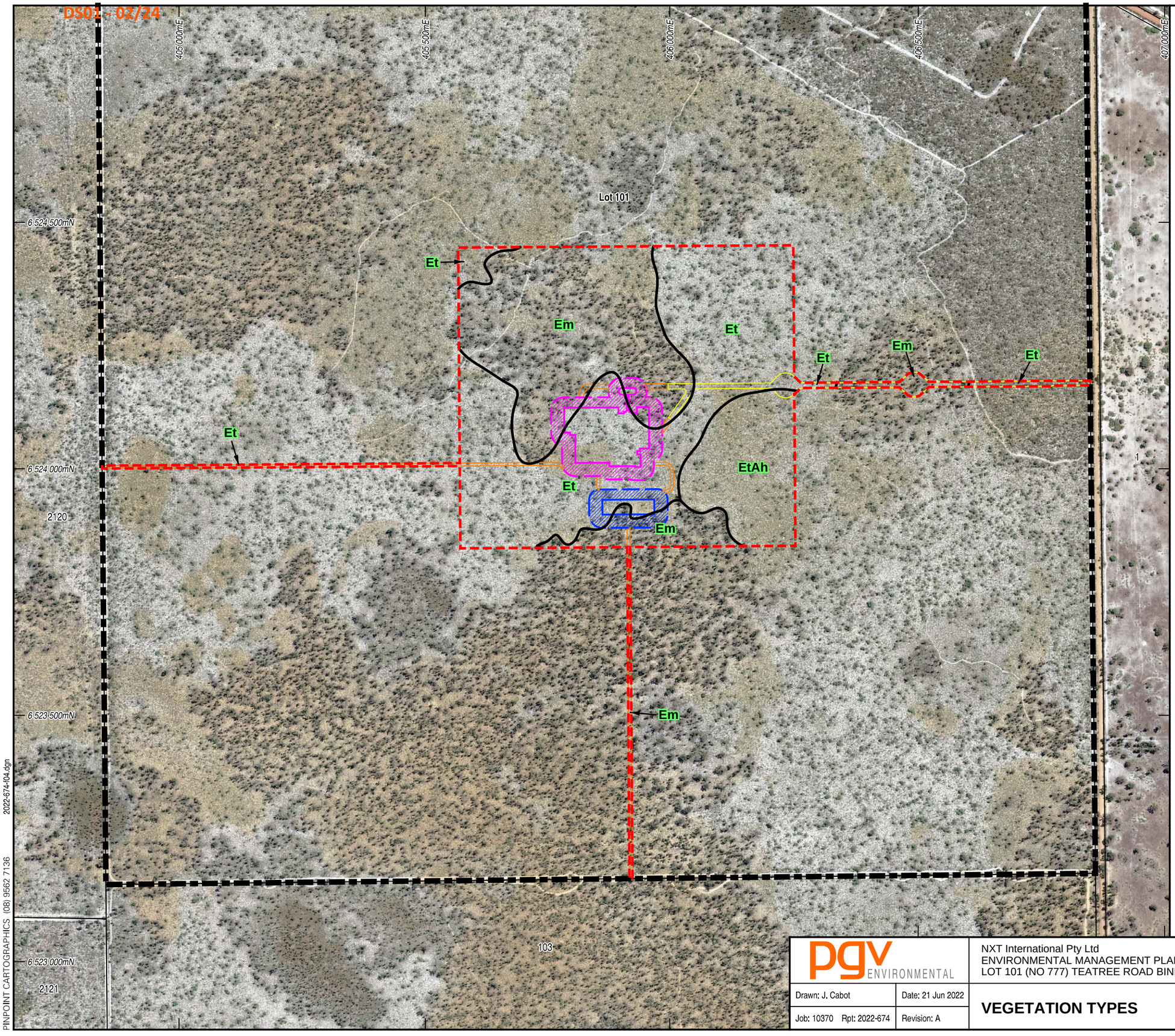
Drawn: J. Cabot	Date: 21 Jun 2022
Job: 10370 Rpt: 2022-674	Revision: A

PROPOSED SITE LAYOUT

Figure 3

2022-674-f03.dgn

PINPOINT CARTOGRAPHICS (08) 9562 7136



N

0 50 100 150 200 250m

SCALE 1 : 7 500 at A3 (MGA)

Legend

- Lot 101 Boundary
- Site Boundary
- Cadastral Boundary
- Vegetation Type Boundary
- Em Vegetation Type
- Proposed Mandalyn House
- Proposed Mandalyn House APZ
- Proposed Workshop
- Proposed Workshop APZ
- Proposed Service Road - Below Ground
- Proposed Service Road - Above Ground

Vegetation Types

Et
Eucalyptus todtiana Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Hibbertia hypericoides/Eremaea pauciflora* Closed Low Heath

EtAh
Eucalyptus todtiana Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Allocasuarina humilis/Eremaea pauciflora* Closed Low Heath

Em
Eucalyptus marginata (Jarrah) Open Woodland over *Jacksonia floribunda/ Xanthorrhoea preissii* Open Shrubland over *Hibbertia hypericoides/Calothamnus sanguineus* Open Low Heath

CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: ESRI, flown December 2020.
PROPOSED LAYOUT SOURCE: CLE, Plan No. 3729-08A-01, 16 June 2022.

pgv ENVIRONMENTAL

NXT International Pty Ltd
ENVIRONMENTAL MANAGEMENT PLAN
LOT 101 (NO 777) TEATREE ROAD BINDOON

Drawn: J. Cabot	Date: 21 Jun 2022
Job: 10370 Rpt: 2022-674	Revision: A

VEGETATION TYPES

Figure 4

2022-674-f04.dgn
PINPOINT CARTOGRAPHICS (08) 9562 7136

APPENDIX 1

Certificate of Title

REGISTER NUMBER	
101/P17335	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
3	5/10/2021

WESTERN AUSTRALIA

VOLUME 1869 FOLIO 841

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

BGRoberts

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 101 ON PLAN 17335

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

CHITTERING RESORT PTY LTD OF ATF CGR UNIT TRUST OF 41 MORDAUNT CIRCUIT CANNING VALE WA 6155
(T O968972) REGISTERED 7/12/2021

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. EXCEPT AND RESERVING METALS, MINERALS, GEMS AND MINERAL OIL SPECIFIED IN TRANSFER 25983/1964.
2. *O968973 MORTGAGE TO NATIONAL AUSTRALIA BANK LTD REGISTERED 7/12/2021.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	1869-841 (101/P17335)
PREVIOUS TITLE:	1462-767
PROPERTY STREET ADDRESS:	777 TEATREE RD, BINDOON.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF CHITTERING

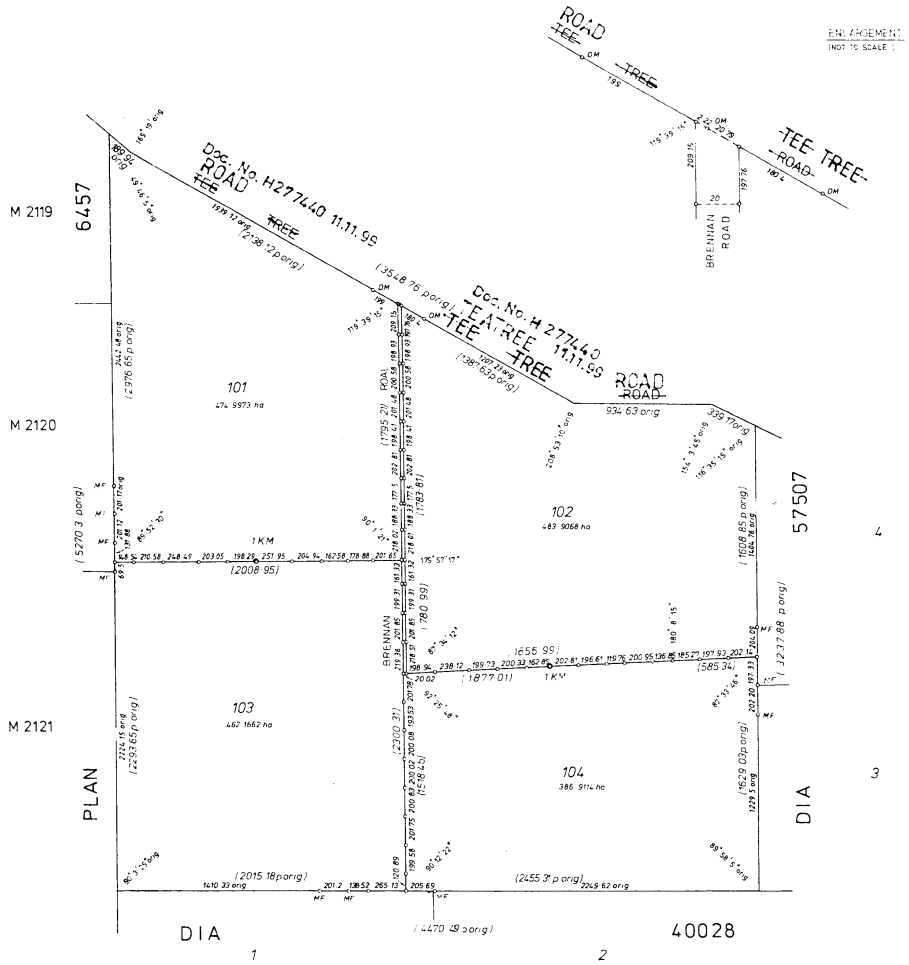
NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING O968973

P 017335 F 01

PLAN 17335

SUBDIVISION OF LOT M 2104 OF SWAN LOCATION 1371

TOTAL AREA = 1813.1233 ha.
F.B. 58409
PLAN 6492(1)
INDEX PLAN 8445
C/T 1462-767



IN ORDER FOR DEALINGS
subject to sec. 295(5) LGA.
for ELT 4/12/89

CERTIFICATE

I hereby certify that this survey was performed by me personally (or under my own personal supervision, inspection and field check) in strict accordance with the Licensed Surveyors (Guidance of Surveyors) Regulations, 1961.

Date 15-9-1989

Licensed Surveyor.

Approved by ~~Town Planning Board~~

79204

Chairman.

Date 14/11/89

SCALE
200 0 200 400 600 800 1000 1200 1400 1600 1800 2000
ALL DISTANCES ARE IN METRES

Approved.
APPROVED
Inspector of Plans and Surveys.

Examined
P. BROEKMEULEN 43980
DKT. DIA 75814

Date 22-3-90

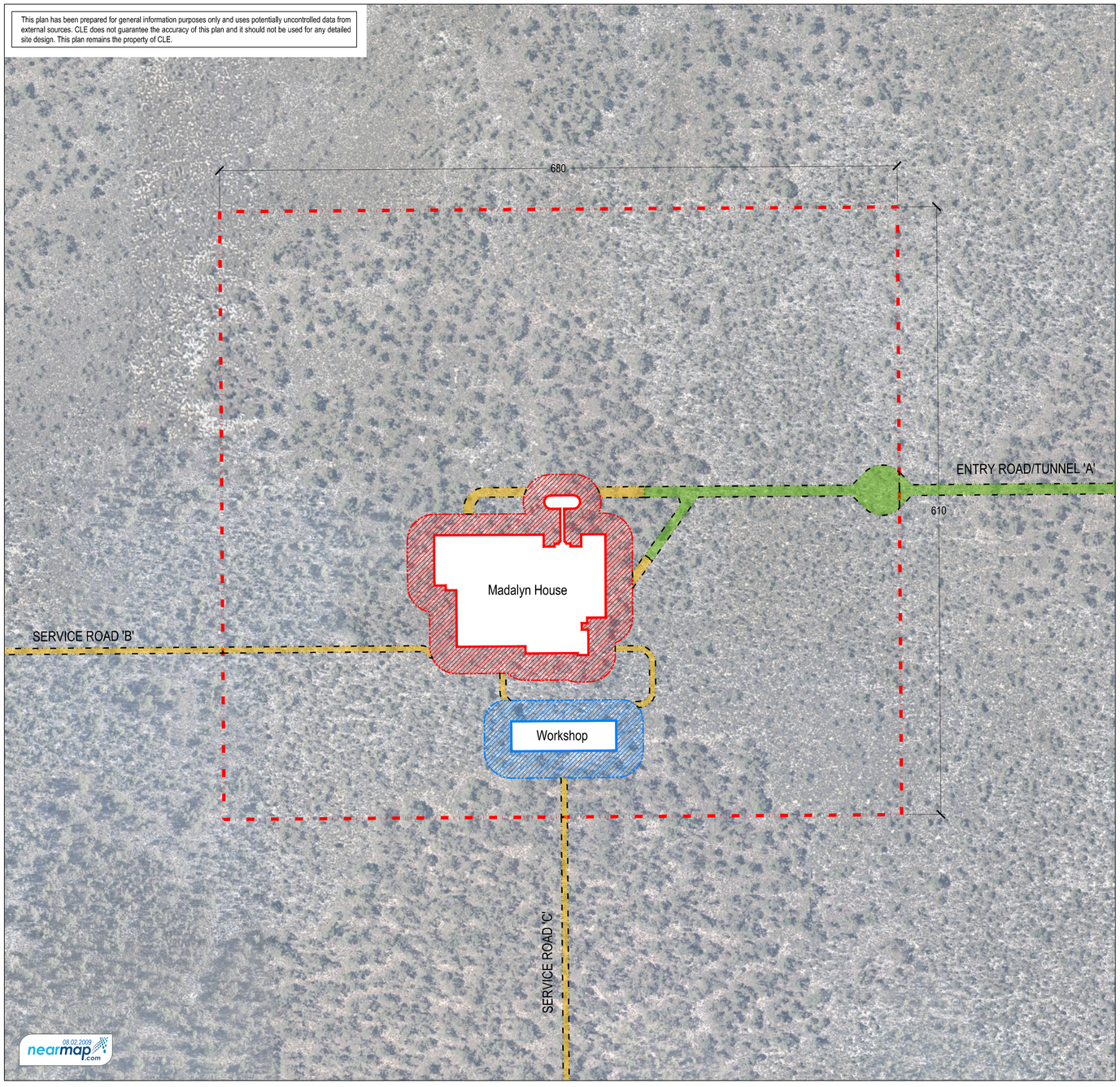
Registered
5368 $180
15-11-89

OFFICE OF TITLES

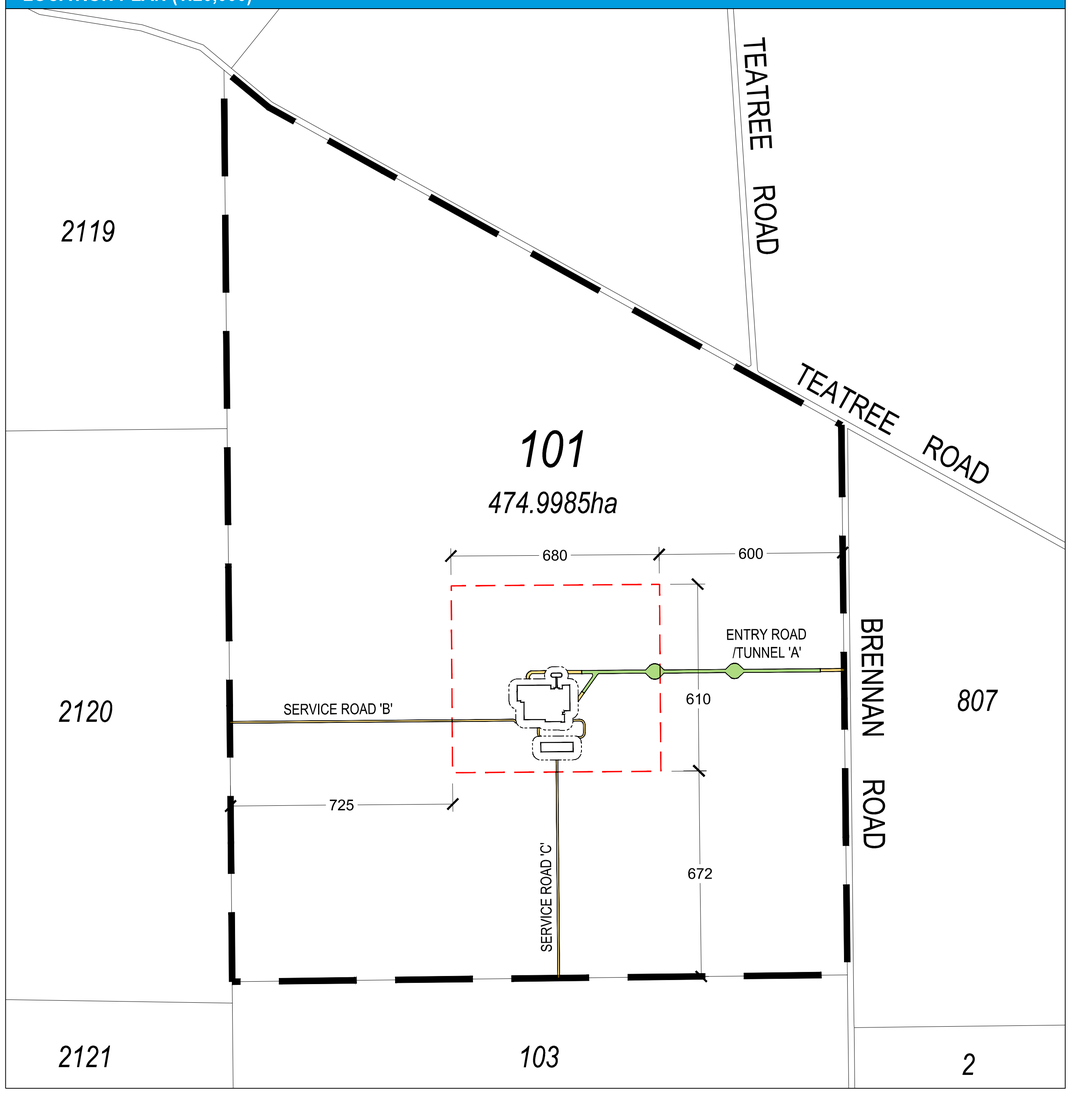
PLAN No.
17335

APPENDIX 2

Proposed Development



LOCATION PLAN (1:20,000)



PROPOSED CLEARING AREAS

Proposed Madalyn House footprint - 1.80ha
Madalyn House Asset Protection Zone - 1.88ha

TOTAL MADALYN HOUSE MINIMUM CLEARING AREA - 3.68ha

Proposed workshop footprint - 0.31 ha
Proposed workshop Asset Protection Zone - 0.88ha

TOTAL WORKSHOP MINIMUM CLEARING AREA - 1.19ha
TOTAL MADALYN HOUSE AND WORKSHOP MINIMUM CLEARING AREA - 4.39ha

PROPOSED SERVICE ROAD WITHIN RESIDENCE BOUNDARY
Proposed service road / tunnel 'A' - 0.145 ha (AGL)
Proposed service road / tunnel 'A' - 0.490 ha (BGL)
Proposed service road 'B' - 0.127 ha (AGL)
Proposed service road 'C' - 0.100 ha (AGL)

TOTAL SERVICE ROAD INSIDE RESIDENCE BOUNDARY - 0.862 ha

PROPOSED SERVICE ROAD OUTSIDE RESIDENCE BOUNDARY
Proposed service road / tunnel 'A' - 0.072 ha (AGL)
Proposed service road / tunnel 'A' - 0.724 ha (AGL)
Proposed service road 'B' - 0.435 ha (AGL)
Proposed service road 'C' - 0.404 ha (AGL)

TOTAL SERVICE ROAD OUTSIDE RESIDENCE BOUNDARY - 1.635 ha

TOTAL SERVICE ROAD MINIMUM CLEARING AREA - 2.497 ha

LEGEND

- Lot 101 - 474.9985ha
- Proposed Boundary of Residence - 41.48ha
- Proposed Service Road (Above Ground Level)
- Proposed Madalyn House footprint
- Madalyn House Asset Protection Zone
- Proposed Service Road (Below Ground Level) - *Cleared vegetation will be replanted / rehabilitated*
- Proposed Workshop
- Workshop Asset Protection Zone

0 50 100 150 200 250 300m

0 200 400 600 800 1km

CLE Town Planning + Design

MADALYN HOUSE / WORKSHOP - ASSET PROTECTION ZONE (APZ)

L101 (777) Teatree Road, Bindoon

plan no: **3729-08B-01**
date: 17 June 2022
scale: 1:4,000 @A3, 1:2,000 @A1

N

Bushfire management plan/Statement addressing the Bushfire Protection Criteria coversheet

Site address: Lot 101 (#777) Teatree Road, Bindoon

Site visit: Yes ☒ No ☐

Date of site visit (if applicable): Day 3 Month March Year 2022

Report author or reviewer: Nathan Peart

WA BPAD accreditation level (please circle):

Not accredited ☐ Level 1 BAL assessor ☐ Level 2 practitioner ☐ Level 3 practitioner ☒

If accredited, please provide the following.

BPAD accreditation number: 38808 Accreditation expiry: Month May Year 2022

Bushfire management plan version number: 5

Bushfire management plan date: Day 3 Month June Year 2022

Client/business name: NXT International

	Yes	No
Has the BAL been calculated by a method other than method 1 as outlined in AS3959 (tick no if AS3959 method 1 has been used to calculate the BAL)?	☐	☒
Have any of the bushfire protection criteria elements been addressed through the use of a performance principle (tick no if only acceptable solutions have been used to address all of the bushfire protection criteria elements)?	☐	☒

Is the proposal any of the following (see SPP 3.7 for definitions)?	Yes	No
Unavoidable development (in BAL-40 or BAL-FZ)	☐	☐
Strategic planning proposal (including rezoning applications)	☐	☐
High risk land-use	☐	☐
Vulnerable land-use	☐	☐

None of the above ☒

Note: Only if one (or more) of the above answers in the tables is yes should the decision maker (e.g. local government or the WAPC) refer the proposal to DFES for comment.

Why has it been given one of the above listed classifications (E.g. Considered vulnerable land-use as the development is for accommodation of the elderly, etc.)?

The information provided within this bushfire management plan to the best of my knowledge is true and correct:

Signature of report author or reviewer 

Date 30.10.22

Bushfire Management Plan (DA)

Proposed new residence at

Lot 101 (#777) Teatree Road, Bindoon

Client: NXT International

October 2022

Document Control

Doc name:	Bushfire Management Plan (DA) - Lot 101 (#777) Teatree Road, Bindoon				
Version	Date	Author		Reviewer	
1	10.03.22	Nathan Peart	NP	Nathan Peart	NP
	Initial report				
2	03.06.22	Nathan Peart	NP	Nathan Peart	NP
	Updated site location				
3	07.06.22	Nathan Peart	NP	Nathan Peart	NP
	Updated water tank location				
4	30.10.22	Nathan Peart	NP	Nathan Peart	NP
	Additional bushfire measures added				
5	20.02.23	Nathan Peart	NP	Nathan Peart	NP
	A4.1 corrected to A4.2				

Disclaimer and Limitation

This report is prepared solely for the client, any future landowners of the subject lot and is not for the benefit of any other person and may not be relied upon by any other person. Bushfire Smart accepts no liability or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material by any third party.

The mitigation strategies contained in this report are considered to be prudent minimum standards only, based on the writer's experience as well as standards prescribed by relevant authorities. It is expressly stated that Bushfire Smart and the writer do not guarantee that if such standards are complied with or if a property owner exercises prudence, that a building or property will not be damaged or destroyed by bushfire or that lives will not be lost in a bush fire. Fire is an extremely unpredictable force of nature. Changing climatic factors (whether predictable or otherwise) either before or at the time of a fire can also significantly affect the nature of a fire and in a bushfire prone area it is not possible to completely guard against bushfire.

Further, the growth, planting or removal of vegetation; poor maintenance of any fire prevention measures; addition of structures not included in this report; or other activity can and will change the bushfire threat to all properties detailed in the report. Further, the achievement of the level of implementation of fire precautions will depend on the actions of the landowner or occupiers of the land, over which Bushfire Smart has no control.

This report does not negate the need to follow Local government authority requirements for Firebreak and Fuel Hazard Reduction. The client agrees that in submitting this report they approve of and will comply with all requirements detailed.

About the author:

Bushfire Smart has been providing bushfire risk management reports and advise for over 7 years and undertake assessments of planning and land development applications to verify compliance with State Planning Policy 3.7 and associated bushfire regulations.

Nathan Peart is the bushfire lead and has over 20 years' experience in the construction and planning fields. Nathan has completed a Graduate Diploma in Bushfire Protection at the University of Western Sydney, and is supported by several other team members with varying levels of accreditation.

Bushfire Smart hold Professional Indemnity Insurance to the value of $2,000,000 which includes cover for bushfire attack level assessments, planning, design and advice services as prescribed in FPA Australia`s Bushfire Planning and Design Accreditation Scheme for a BPAD - Level 3 practitioner.

Author/Reviewer		
Nathan Peart	BPAD 38808	
Level 3 Bushfire Planning and Design (BPAD) Accredited Practitioner		
E: BAL@BushfireSmart.com.au	Ph: 9555 9444	

Executive Summary

The proposal is at Lot 101 (#777) Teatree Road, Bindoon and subject to a development application for a residence.

The proposal is in an area that has been designated as bushfire prone and must therefore comply with State Planning Policy 3.7(SPP3.7). Guidelines for Planning Bushfire Prone Areas Version 1.4 (the Guidelines) has been used to determine the proposals compliance with SPP3.7.

The proposal is within an area that has native vegetation please see report by environmental consultant.

The proposed residence can achieve BAL 29 or below.

An assessment against the bushfire protection criteria (Appendix Four of the guidelines) is required to be undertaken. The following table summarises the outcome of this assessment

Table A.1: Summary of assessment against bushfire protection criteria

Element	Acceptable Solution	Compliance Method	Compliance notes.
1: Location	A1.1 Development location	Acceptable Solution	On completion the application will be in an area subject to BAL 29 or lower.
2: Sitting of development	A2.1 Asset Protection Zone (APZ)	Acceptable Solution	An APZ can be achieved and contained within the lot boundaries. APZ dimensions to be: 21 metres uphill and 27 metres downhill.
3: Vehicular Access	A3.1 Public Roads	N/A	
	A3.2a Multiple access routes	N/A	
	A3.2b Emergency access ways	N/A	
	A3.3 Through-roads	N/A	
	A3.4a Perimeter roads	N/A	
	A3.4b Fire service access routes	N/A	
	A3.5 Battle axes	N/A	
	A3.6 Private driveways	Acceptable Solution	Private driveways can meet the requirements of the guidelines.
4: Water	A4.1 Identification of future water supply	N/A	
	A4.2 Provision of water for firefighting purposes	Acceptable Solution	A 50,000-litre (min) dedicated water tank for firefighting purposes provided.

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Postal: PO Box 4160, Mandurah North, WA, 6210

Compliance with this BMP, and therefore SPP3.7, will require action prior, during and after development. The items requiring implementation include:

- APZ to be established and maintained throughout the life of the proposal
- Driveways and turnarounds to be constructed and maintained to the standard stated in this BMP.
- 50,000 litre dedicated water tank to be provided
- Establish Firebreaks (perimeter and internal) as per Shire of Chittering Firebreak and Bushfire Hazard Reduction Notice and this BMP.

The entire report should be read in conjunction with the guidelines to ensure all requirements are understood.

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Table of Contents

Table of Figures

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1 Proposal and Site Details

1.1 Proposal Details

Lot 101 (#777) Teatree Road, Bindoon (subject lot) is a 425 ha parcel presently vacant. The proposal is to construct a residence on the lot.

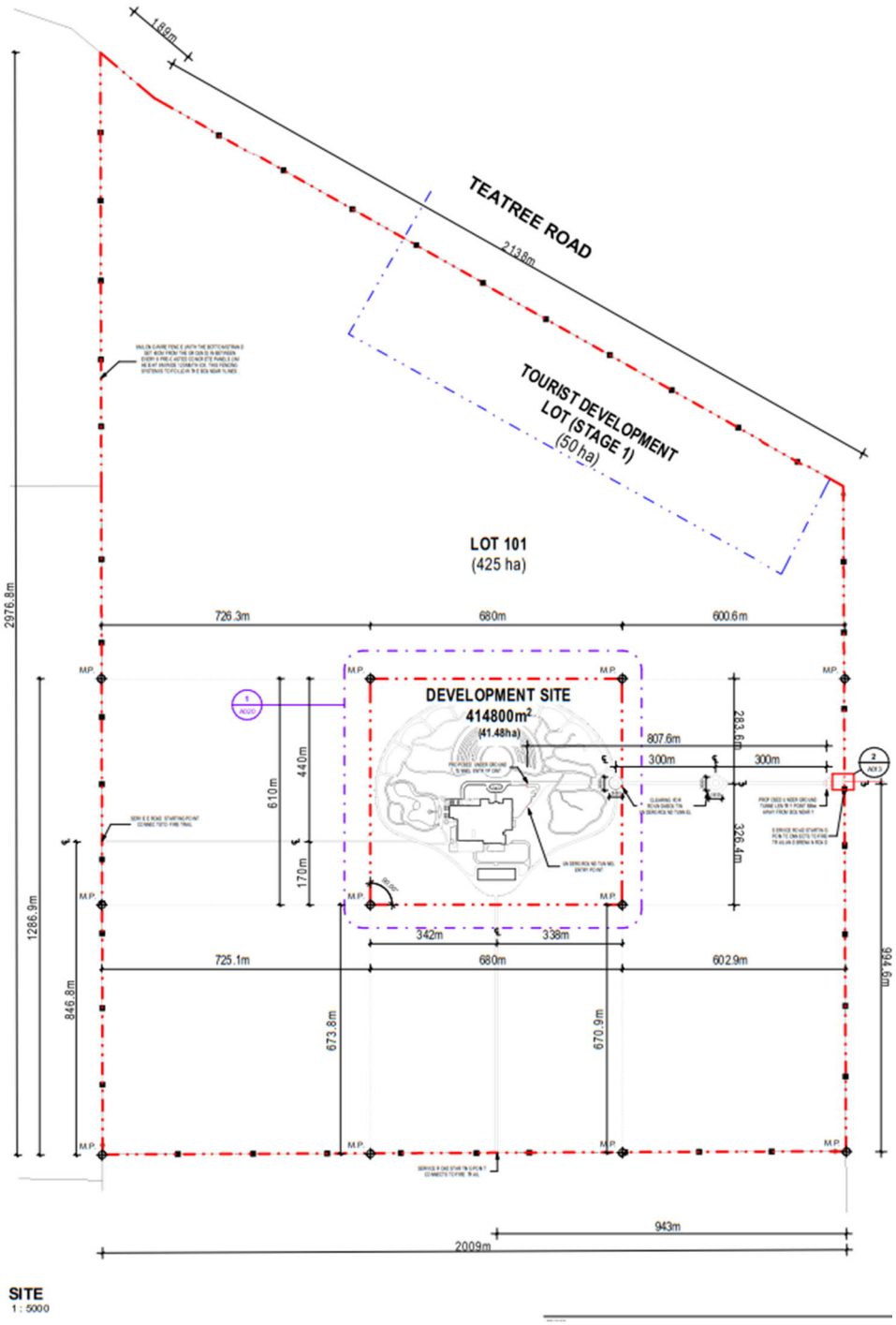

Figure 1: Site Plan

Figure 2: Location Plan

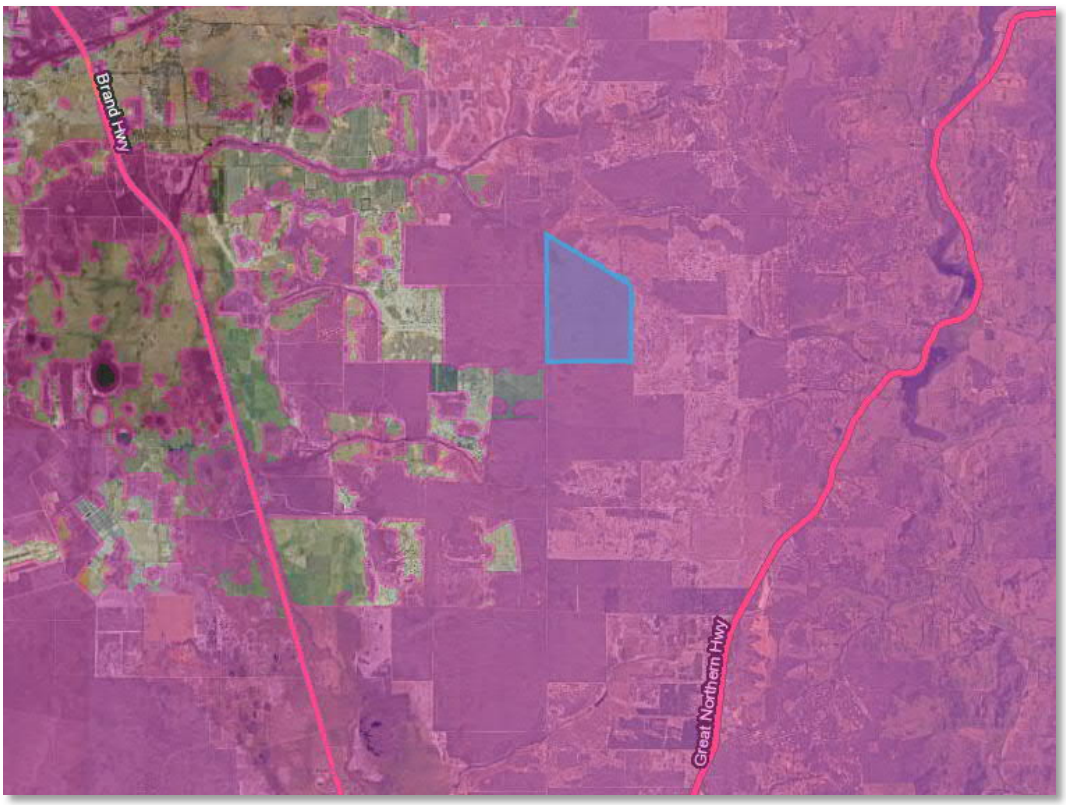

Figure 3: Map of Bushfire Prone Area for Subject Site

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2 Environmental Considerations

In order to identify environmental, biodiversity of conservation values on the subject site, the site has been examined against the following databases as shown in table 2.

Object	Database	Identified	Details
Conservation category wetlands and buffer	DBCA-019/ DBCA-017	No	Site not identified within database.
RAMSAR wetlands	DBCA-010	No	Site not identified within database.
Threatened and priority flora	DBCA-036	No	Site not identified within database.
Threatened and priority fauna	DBCA-037	No	Site not identified within database.
Threatened Ecological Communities	DBCA-038	No	Site not identified within database.
Bush Forever areas 2000	DPLH-019	No	Site not identified within database.
Clearing regulations – Environmentally Sensitive Areas	DWER-046	No	Site not identified within database.
Swan Bioplan Regionally Significant Natural Areas 2010	DWER-070	No	Site not identified within database.
Local government biodiversity/planning	-	No	-

Table 1: Assessment against environmental considerations

The subject site has not been identified in the above databases

2.1 Native vegetation – modification and clearing

The site has been checked against the Native Vegetation mapping conducted by the Department of Primary Industries and Regional Development (DPIRD-005). Native vegetation has been found on the site, as shown in the image below.

A consultant's report has been prepared into the required clearing of native vegetation and assess if this is appropriate for the site.

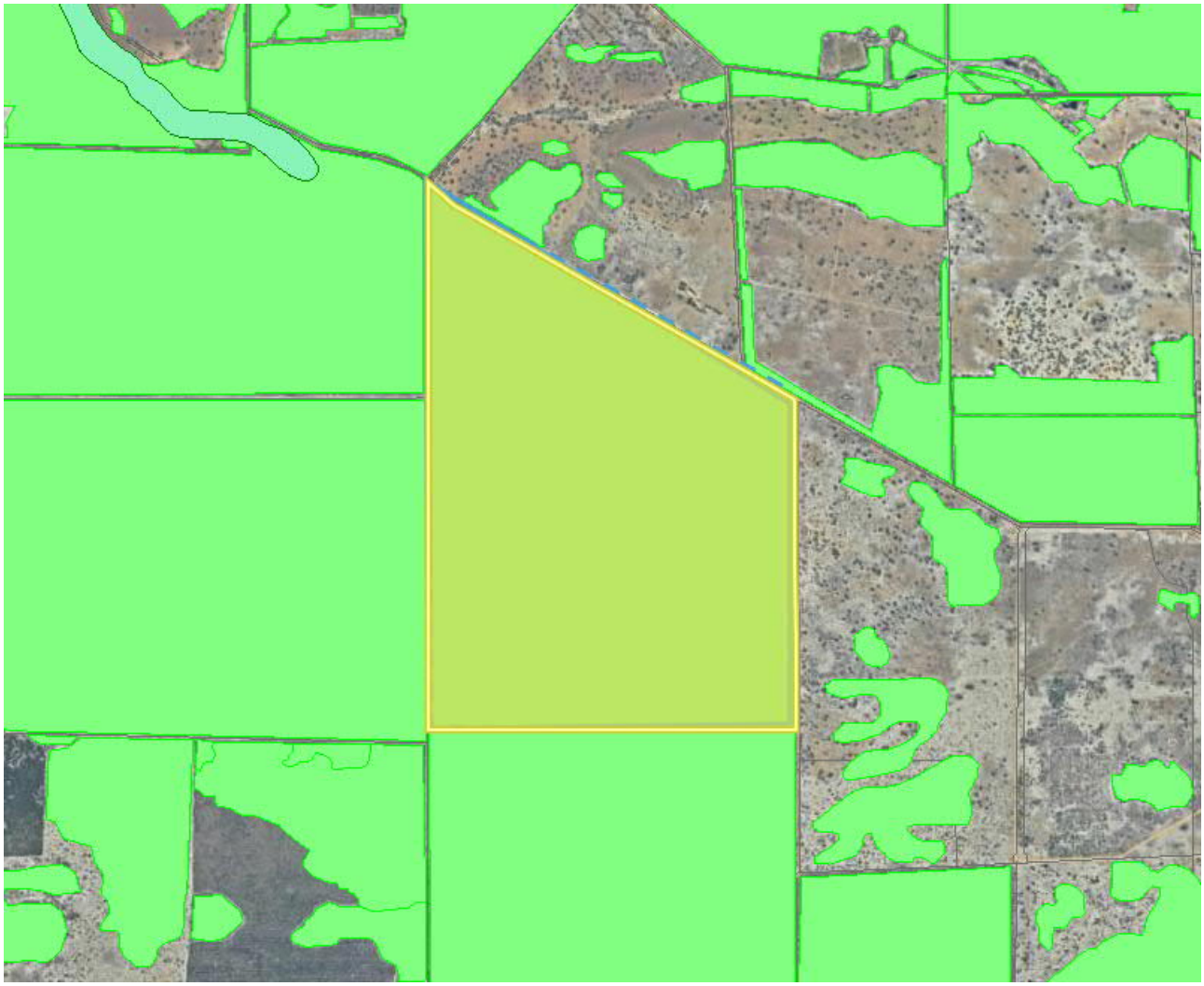

Figure 4: Map of Bushfire Prone Area for Subject Site

2.2 Revegetation/landscape plans

Revegetation and landscaping plans will comply with the APZ requirements of this report.

3 Bushfire Assessment

3.1 Site Assessment

The assessment of this site/development was undertaken on 3 March 2022 by a BPAD Accredited Practitioner for the purpose of determining the Bushfire Attack Level in accordance with AS 3959-2018 Simplified Procedure (Method 1).

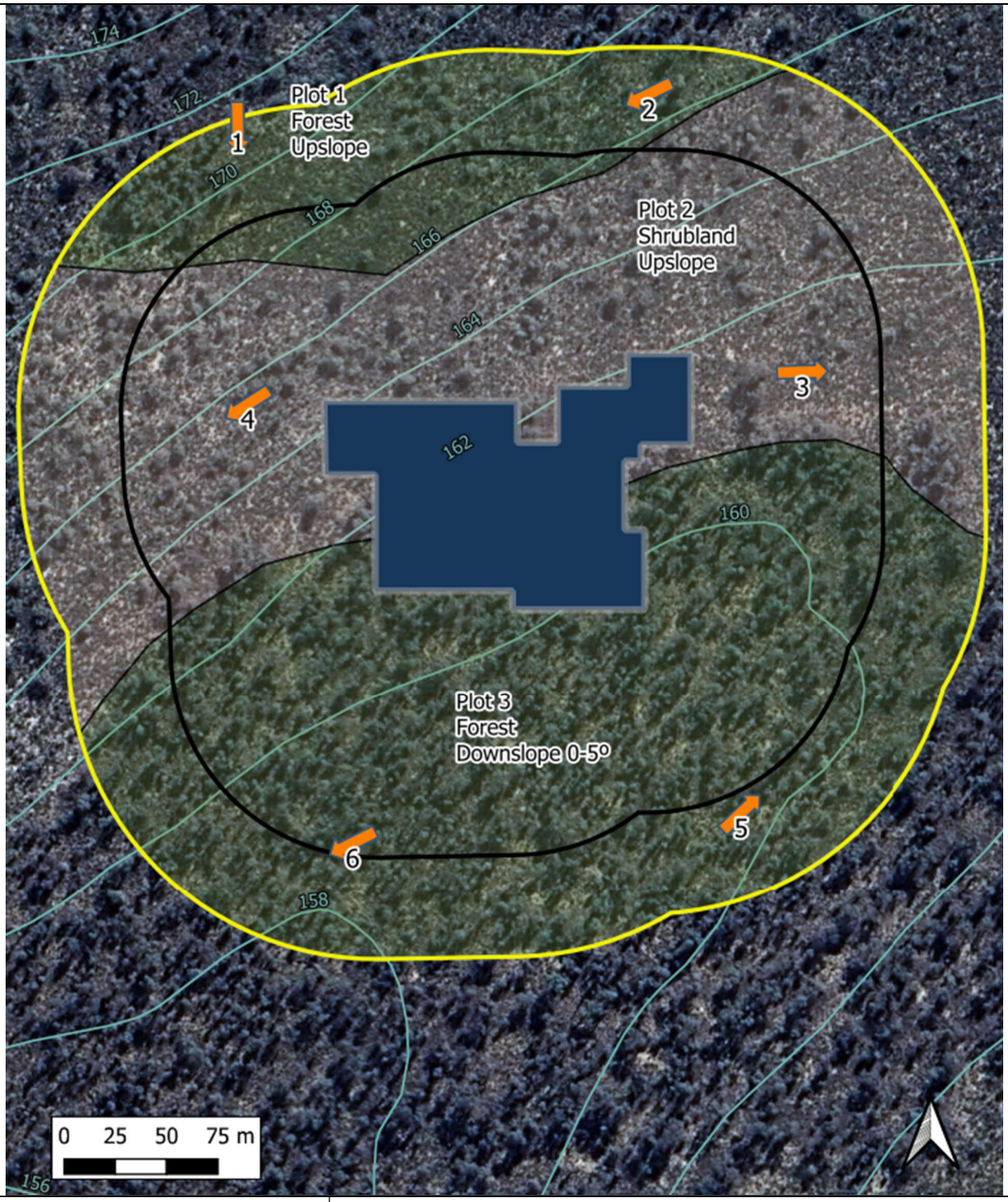

Figure 5: Vegetation Classification	Legend
Lot 101 (#777) Teatree Road, Bindoon	Proposed Development; 150 Metre Line; 100 Metre Line; Class A Forest; Class B - Woodland; Class C - Shrubland; Class D - Scrub; Class G - Grassland; Excludable; Photo Locations
Assessment Date: 3 March 2022 Prepared by: Nathan Peart Accreditation Level: 3 Accreditation Number: 38808	

3.2 Vegetation Classification

All vegetation within 100m of the site / proposed development was classified in accordance with Clause 2.2.3 of AS 3959-2018. Each distinguishable vegetation plot with the potential to determine the Bushfire Attack Level is identified below.

Plot:	1	Vegetation Classification or Exclusion Clause	Class A Forest - Tall woodland A-02

Description / Justification for Classification
Trees up to 15 metres tall, with thick bushy undergrowth.

Photo ID: 1

Photo ID: 2

Plot:	2	Vegetation Classification or Exclusion Clause	Class C Shrubland - Low shrubland C-12

Description / Justification for Classification
Areas of shrubs with no trees. Shrubs less than 2 metres tall.

Photo ID: 3

Photo ID: 4

Plot:	3	Vegetation Classification or Exclusion Clause	Class A Forest - Tall woodland A-02

Description / Justification for Classification

Trees up to 15 metres tall, with thick bushy undergrowth.

Photo ID: 5

Photo ID: 6

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All vegetation within 100 metres of the site was classified in accordance with clause 2.2.3 of AS3959-2018.

The Fire Danger Index (FDI) – 80-and table 2.4.3 AS3959-2018 applied.

Potential Bushfire Impacts

The potential bushfire impact to the site / proposed development from each of the identified vegetation plots are identified below.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	Flat/Upslope	60	BAL – 12.5
2	Class C Shrubland	Flat/Upslope	0	BAL – FZ
3	Class A - Forest	Downslope 0-5º	0	BAL – FZ

Table 2: BAL Analysis

Determined Bushfire Attack Level (BAL)

The Determined Bushfire Attack Level (highest BAL) for the site / proposed development has been determined in accordance with clause 2.2.6 of AS 3959-2018 using the above analysis.

Determined Bushfire Attack Level	BAL – FZ

Indicative Bushfire Attack Level (BAL)

The Bushfire Attack Level (highest BAL) for the site / proposed development can be reduced to the level indicated below with the inclusion of an Asset protection Zone as prescribed in this report as shown in the following table.

Plot	Vegetation Classification	Effective Slope	Separation (m)	BAL
1	Class A - Forest	Flat/Upslope	60	BAL – 12.5
2	Class C Shrubland	Flat/Upslope	9m APZ	BAL – 29
3	Class A - Forest	Downslope 0-5º	27m APZ	BAL – 29

Table 3: BAL Analysis with APZ requirements

Indicative Bushfire Attack Level	BAL – 29

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4 Identification of bushfire hazard issues

The development is in the centre of a lot of approximately 425 hectares. The area surrounding the development will be managed to reduce the bushfire risk, however the vegetation over the rest of the lot is considered an extreme bushfire risk. Access and egress routes for both evacuation of occupants and access by emergency services is critical to ensure the bushfire risk can be managed. Strategic internal firebreaks will be a critical component to the access requirements.

SPP3.7 and associated Guidelines do not specify requirements for fire breaks; however, the Shire of Chittering Firebreak & Bushfire Hazard Reduction Notice dictate fire breaks are required around the perimeter and in locations to divide the land into maximum 120 hectare parcels. The fire break notice calls for 3-metre-wide firebreaks, however this would be insufficient in this location considering the length of the firebreaks and would not allow fire appliances or other vehicles to pass each other. It is the view of the author that these fire breaks should consider the guidelines requirements for emergency access ways as the basis for construction requirements. Therefore, all firebreaks, permitter and internal, should be constructed as per Table 6: Vehicular access technical requirements, column 2. Firebreak locations as per Figure 6 below.

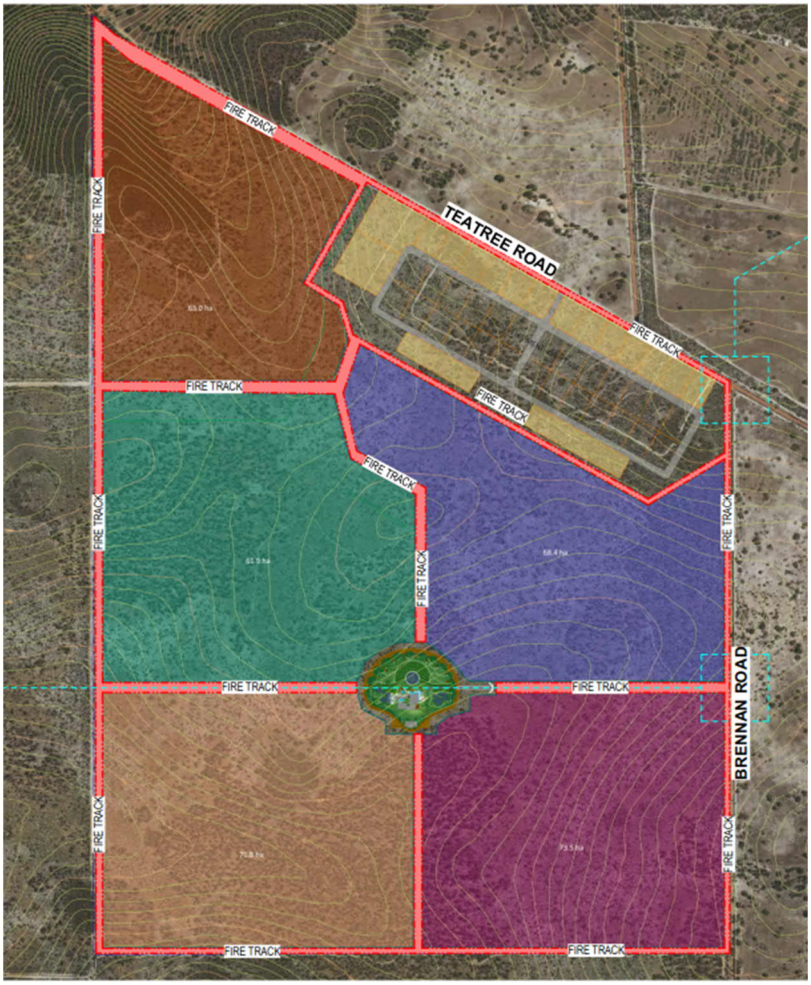


Figure 6: Firebreak locations

5 Assessment against the Bushfire Protection

An assessment against the bushfire protection criteria (Appendix Four of the guidelines) is required to be undertaken for any strategic planning proposal, subdivision and development application for a site that has or will, on completion, have a bushfire hazard level above 'Low' or a BAL rating above BAL LOW. The following section details the measure to be taken so that this proposal complies with these.

Element 1: Location

Intent:

The intent of this element is to ensure the proposal is located in the least possible risk of bushfire to facilitate the protection of people, property and infrastructure. To satisfy the intent, the proposal is required to be located in an area where the bushfire hazard assessment is or will, on completion, be moderate or low, or a BAL–29 or below, and the risk can be managed.
The development is not considered to be unavoidable.

Proposed bushfire management strategies:

Element 1 will be satisfied using Acceptable Solution A1.1. The proposal is in an area that on completion, will be in an area that has a BAL level of 29. The area surrounding the development is considered an extreme bushfire risk , therefore good evacuation routes are critical to successful bushfire management.

Element 2: Siting and design of development

Intent:

The intent of this element is to ensure that the siting and design of development minimises the level of bushfire impact.

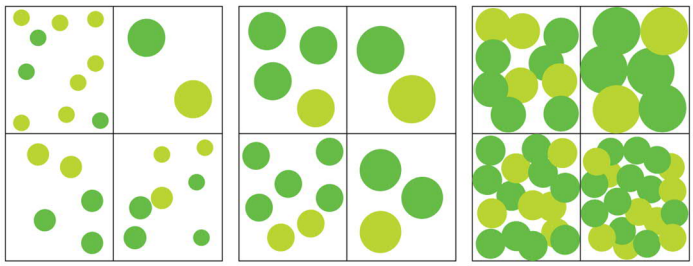
Proposed bushfire management strategies:

Element 2 will be satisfied using Acceptable Solution A2.1 Asset Protection Zone (APZ). APZ distances are measured from rom any external wall or supporting post or column of the proposed building(s) and to be:

21 Metres in all uphill direction and 27 Metres in all downhill directions.

The APZ is to be managed as per Schedule 1 of the guidelines, extract shown below.

Schedule 1: Standards for asset protection zones (WAPC 2021)

Object	Requirement
Fences within the APZ	Should be constructed from non-combustible materials (for example, iron, brick, limestone, metal post and wire, or bushfire-resisting timber referenced in Appendix F of AS 3959)
Fine fuel load (Combustible, dead vegetation matter <6 millimetres in thickness)	• Should be managed and removed on a regular basis to maintain a low threat state. • Should be maintained at <2 tonnes per hectare (on average). • Mulches should be non-combustible such as stone, gravel or crushed mineral earth or wood mulch >6 millimetres in thickness.
Trees* (>6 metres in height)	• Trunks at maturity should be a minimum distance of six metres from all elevations of the building. • Branches at maturity should not touch or overhang a building or powerline. • Lower branches and loose bark should be removed to a height of two metres above the ground and/or surface vegetation. • Canopy cover within the APZ should be <15 per cent of the total APZ area. • Tree canopies at maturity should be at least five metres apart to avoid forming a continuous canopy. Stands of existing mature trees with interlocking canopies may be treated as an individual canopy provided that the total canopy cover within the APZ will not exceed 15 per cent and are not connected to the tree canopy outside the APZ. Figure 19: Tree canopy cover – ranging from 15 to 70 per cent at maturity  15% 30% 70%
Shrub* and scrub* (0.5 metres to six metres in height). Shrub and scrub >6 metres in height are to be treated as trees.	• Should not be located under trees or within three metres of buildings. • Should not be planted in clumps >5 square metres in area. • Clumps should be separated from each other and any exposed window or door by at least 10 metres.
Ground covers* (<0.5 metres in height. Ground overs >0.5 metres in height are to be treated as shrubs)	• Can be planted under trees but must be maintained to remove dead plant material, as prescribed in 'Fine fuel load' above. • Can be located within two metres of a structure, but three metres from windows or doors if >100 millimetres in height.
Grass	Grass should be maintained at a height of 100 millimetres or less, at all times. Wherever possible, perennial grasses should be used and well-hydrated with regular application of wetting agents and efficient irrigation
Defendable space	Within three metres of each wall or supporting post of a habitable building, the area is kept free from vegetation, but can include ground covers, grass and non-combustible mulches as prescribed above.
LP Gas Cylinders	• Should be located on the side of a building furthest from the likely direction of a bushfire or on the side of a building where surrounding classified vegetation is upslope, at least one metre from vulnerable parts of a building. • The pressure relief valve should point away from the house. • No flammable material within six metres from the front of the valve. • Must sit on a firm, level and non-combustible base and be secured to a solid structure.

Element 3: Vehicular Access

Intent:

To ensure that the vehicular access serving a subdivision/development is available and safe during a bushfire event.

Proposed bushfire management strategies:

Element 2 will be satisfied using Acceptable Solutions:

A3.1 Public Roads – Not Applicable

A3.2a Multiple access routes – Not Applicable

A3.2b Emergency access way – Not Applicable

A3.3 Through-roads - – Not Applicable

A3.4a Perimeter Roads – Not Applicable

A3.4b Fire service access route – Not Applicable

A3.5 Battle-axe access legs – Not Applicable

A3.5 Private Driveways

Private driveways are to meet the following requirements:

- requirements in Table 6, Column 4;
- passing bays every 200 metres with a minimum length of 20 metres and a minimum additional trafficable width of two metres (i.e. the combined trafficable width of the passing bay and constructed private driveway to be a minimum six metres); and
- turn-around area as shown in Figure 28 and within 30 metres of the habitable building.

The building will have access via the service road and a paved 6-metre-wide fire access track around the perimeter of the lot. Service road to be signposted as the preferred fire access way. Access is also provided via the main access to the building, however, requires access via a tunnel.

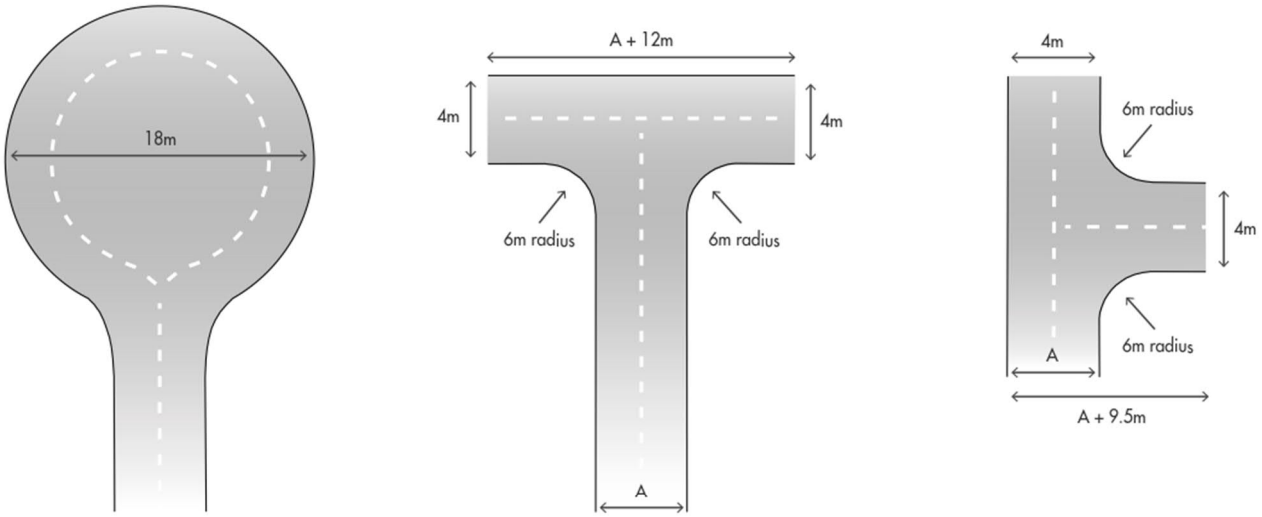


Figure 28: Design requirements for a turn-around area for a private driveway or battle-axe

Extract from Guidelines: Table 6: Vehicular access technical requirements

TECHNICAL REQUIREMENTS	1 Public roads	2 Emergency access way[1]	3 Fire service access route[1]	4 Battle-axe and private driveways[2]
Minimum trafficable surface (metres)	In accordance with A3.1	6	6	4
Minimum horizontal clearance (metres)	N/A	6	6	6
Minimum vertical clearance (metres)	4.5			
Minimum weight capacity (tonnes)	15			
Maximum grade unsealed road[3]	As outlined in the IPWEA Subdivision Guidelines	1:10 (10%)		
Maximum grade sealed road[3]		1:7 (14.3%)		
Maximum average grade sealed road		1:10 (10%)		
Minimum inner radius of road curves (metres)		8.5		

Notes:

[1] To have crossfalls between 3 and 6%.

[2] Where driveways and battle-axe legs are not required to comply with the widths in A3.5 or A3.6, they are to comply with the Residential Design Codes and Development Control Policy 2.2 Residential Subdivision.

[3] Dips must have no more than a 1 in 8 (12.5% -7.1 degree) entry and exit angle.

Element 4: Water

Intent:

To ensure that water is available to enable people, property and infrastructure to be defended from bushfire.

Proposed bushfire management strategies:

Element 4 will be satisfied using Acceptable Solutions:

A4.1 Identification of future water supply – Not Applicable

A4.2 Provision of water for firefighting purposes

A dedicated firefighting water tank will be provided with a minimum effective capacity of 50,000 litres. The water tank is to comply with the bushfire guidelines technical requirements as per extract below. The water tank is not within 3 metres of the driveway and turnaround area; therefore, a hydrant is to be located within 3 metres of the hardstand/turnaround area. Hydrant to be incorporated into hydraulic consultants drawings and specification at building licence stage.

Water tank technical requirements:

Construction and design

- An above-ground tank and associated stand should be constructed of non-combustible material. The tank may need to comply with AS/NZS 3500.1:2018.
- Below ground tanks should have a 200mm diameter access hole to allow tankers or emergency service vehicles to refill direct from the tank, with the outlet location clearly marked at the surface. The tank may need to comply with AS/NZS 3500.1:2018. An inspection opening may double as the access hole provided that the inspection opening meets the requirements of AS/NZS 3500.1:2018. If the tank is required under the BCA as part of fire hydrant installation, then the tank will also need to comply with AS 2419.
- Where an outlet for an emergency service vehicle is provided, then an unobstructed, hardened ground surface is to be supplied within four metres of any water supply.

Pipes and fittings

- All above-ground, exposed water supply pipes and fittings should be metal. Fittings should be located away from the source of bushfire attack and be in accordance with the applicable section below, unless otherwise specified by the local government.

Fittings for above-ground water tanks:

- Commercial land uses: 125mm Storz fitting; or
- Strategic water tanks: 50mm or 100mm (where applicable and adapters are available) male camlock coupling with full flow valve; or
- Standalone water tanks: 50mm male camlock coupling with full flow valve; or

- Combined water tanks: 50mm male camlock coupling with full flow valve or a domestic fitting, being a standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.

Remote outlets

In certain circumstances, it may be beneficial to have the outlet located away from the water supply. In such instances in which a remote outlet is to be used, the applicant should consult the local government and DFES on their proposal.

6 Implementation

The following tables set out the responsibilities of the developer(s), landowner(s) and local government for the initial implementation and ongoing maintenance associated with this proposal.

Management Action	Timing
Proponent/Landowner	
Establish the Asset Protection Zone (APZ) to the dimensions and standard stated in this BMP	Prior to construction
Establish vehicular access routes to the required surface condition and clearances	Prior to occupancy
Install water 50,000 litre water tank, hydrant, and construct vehicle access to requirements of this BMP	Prior to occupancy
Occupants	
Maintain vehicular access routes to the required surface condition and clearances	Ongoing
Maintain the Asset Protection Zone (APZ) to the dimensions and standard stated in this BMP	Ongoing
Maintain water supply including vehicular access in good condition	Ongoing

6.1 Acknowledgement

Acknowledgement - Proponent

The proponent acknowledges the responsibilities as listed above and the requirement to ensure that should the land transfer to a new owner, that the new owner is aware of the BMP and their ongoing responsibility.

7 General References

WA Department of Planning 2016, Visual Guide for bushfire risk assessment in Western Australia

Standards Australia 2009, AS 3959-2018 Construction of buildings in bushfire-prone areas, Sydney

Western Australian Planning Commission (WAPC) 2015, State Planning Policy 3.7 Planning in Bushfire Prone Areas, Western Australian Planning Commission, Perth, Perth

Western Australian Planning Commission and (WAPC) 2021, Guidelines for Planning in Bushfire Prone Areas Version 1.4, Western Australia

8 Online references

Office of Bushfire Risk management (OBRM) 2017, Map of Bush Fire Prone Areas, Viewed March 22, < https://maps.slip.wa.gov.au/landgate/bushfireprone/>

Office of Bushfire Risk Management (OBRM), Bushfire Risk Management (BRM) Plan Guidelines, Viewed March 22.

WA Local Government Association (WALGA), Environmental Planning Tool, Viewed March 22, < pbp.walga.asn.au/Tools/EnvironmentalPlanningTool.html>

9 Appendices

Appendix A: Spatial Representation of proposed risk management measures (Next Page)

08 9555 9444
BAL@bushfiresmart.com.au
Address: 71 Allnutt Street, Mandurah, 6210
Postal: PO Box 4160, Mandurah North, WA, 6210

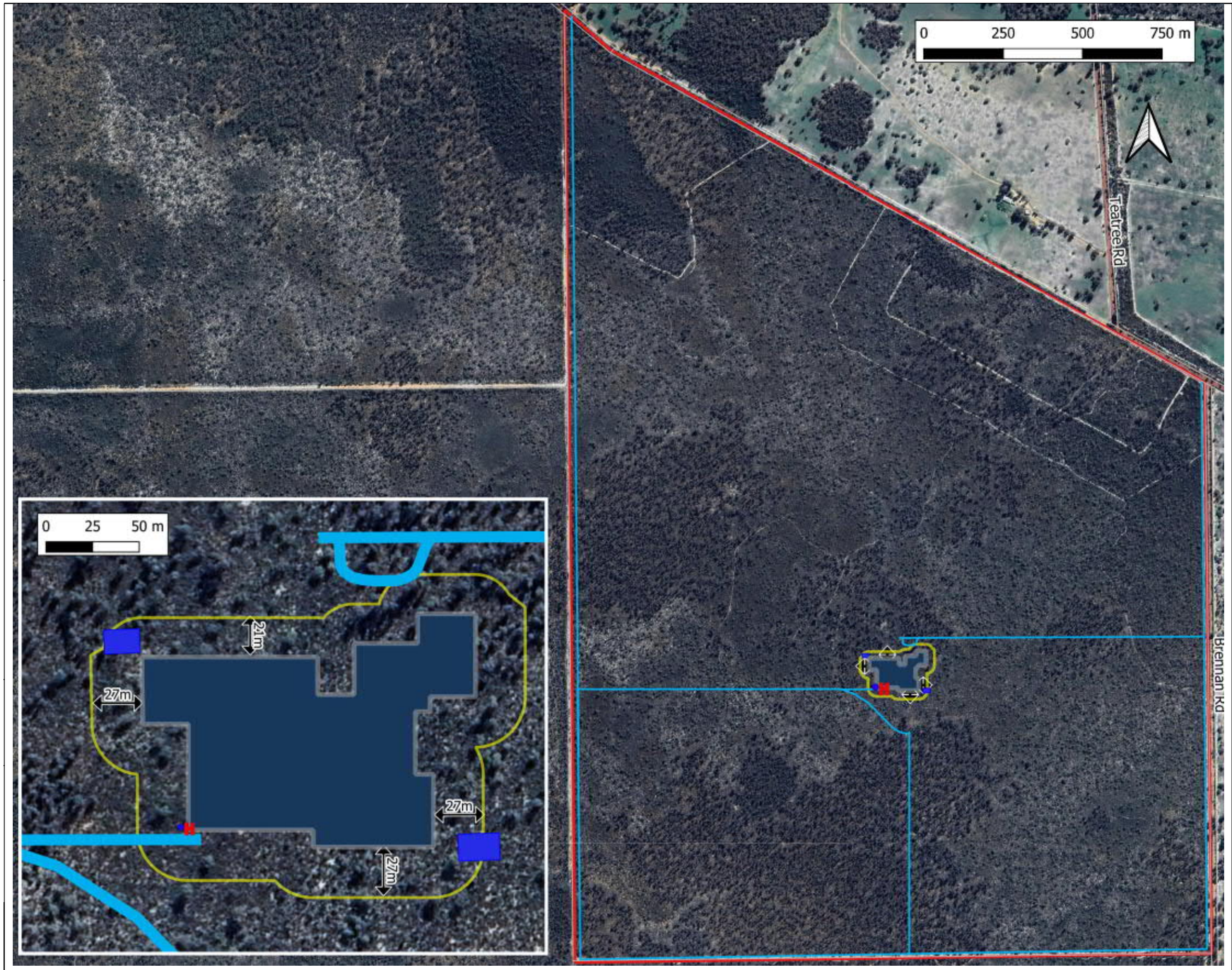


Figure 7: Spatial Representation of proposed risk management measures.

Legend

- Subject Lot
- Proposed Development
- Driveway/Turnaround
- APZ
- Water Tank
- Water Hydrant

Bushfire Protection Criteria

APZ:
APZ required 21 metres up hill and 27 metres down hill and be maintained throughout life of the development.

Driveway:
Driveway to be 6 metres wide paved area with 4.5 high vertical clearance. Turning bay to allow 18 metre diameter to be provided.

Water:
50,000 litre water tank to be provided with hydrant outlet within 3 metres of driveway. Location shown in spatial representation indictive. Refer to plans for final location.

Firebreaks:
Perimeter and internal firebreaks to be treated as emergency access ways. See Section 4 for more detail.

Lot 101 (#777) Teatree Road, Bindoon

Assessment Date: 3 March 2022
Prepared by: Nathan Peart
Accreditation Level: BPAD Level 3
Accreditation Number: 38808
Accreditation Expiry: May 2022

MADALYN MANOR, CHITTERING

FLORA, VEGETATION AND FAUNA SURVEY

Prepared for: NXT International Pty Ltd

Report Date: 8 November 2022

Version: 1

Report No. 2022-705

pgv ENVIRONMENTAL

CONTENTS

LIST OF ATTACHMENTS

Tables

Plates

Figures

Appendices

1 INTRODUCTION

1.1 Background

The proposed development envelope for Madalyn Manor is located in a central area on Lot 101 (No. 777) Teatree Road, Bindoon (the site). The site is located in the Shire of Chittering approximately 63km north-north-east of the Perth Central Business District (Figure 1). Lot 101 has a total area of 475ha and is bound by Teatree Road to the north-east, Brennan Road to the east and undeveloped bushland to the south and west. The Madalyn Manor site is located in the central part of the lot with three access roads from Brennan Road and the adjacent lots (Figure 2). The central part has an area of 41.48ha while the access roads range in length from 603-725m. The total survey area is 43.11ha.

PGV Environmental was commissioned by NXT International to undertake a Flora and Vegetation Survey of the central house site and proposed access roads.

1.2 Proposed Development

The owners of the lot, Chittering Resort Pty Ltd are proposing to construct a house, Madalyn Manor, on a portion of the lot. The house will be centrally located within the lot and surrounded by bushland (Figure 3). The proposed development includes a house, associated workshop, a main access tunnel from Brennan Road, two service roads to the south and west of the site and an Asset Protection Zone (APZ) around the house and workshop to manage the risk of bushfire (Appendix 2).

1.3 Scope of Works

1.3.1 Flora and Vegetation Survey

The Flora and Vegetation Survey was a Detailed Flora and Vegetation Survey in accordance with the *EPA Technical Guidance: Flora and Vegetation Surveys* (EPA, 2016). The survey includes the following:

- Desktop search and review of the Department of Biodiversity, Conservation and Attractions (DBCA) Naturemap database;
- A search of the Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the area that are protected under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999;
- Examination of historic and recent aerial photography and contour and soil maps to provisionally identify vegetation types and condition;
- Field survey using quadrats to record native and introduced species as well as a thorough site walkover of any areas of native vegetation;
- Recording of any significant plant species using a hand-held GPS;
- Description and mapping of vegetation types and vegetation condition; and
- Compilation of a flora list.

The survey width of the three proposed access routes is 10m.

1.3.2 Fauna Survey

A Basic Fauna Survey was undertaken in accordance with EPA Technical Guidance *Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). The survey included the following:

- A search of the DBCA Databases and Naturemap for the general area for Threatened and Priority Species;
- A search of the Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the area that are protected under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 or international migratory bird agreements (JAMBA/CAMBA);
- A review of studies previously undertaken in the vicinity of the site;
- A description of the fauna habitats present on the site from field surveys; and
- An assessment of the significance of the site for conservation significant species in a local and regional context.

The Black Cockatoo Habitat Assessment was undertaken to:

- Describe the Black Cockatoo habitat on the site;
- Determine the impact of potential development on Black Cockatoos if the site was to be cleared; and
- Assess the clearing in the context of the significance of the impact on Black Cockatoos.

2 EXISTING ENVIRONMENT

2.1 Land Use

2.1.1 Historical Land Use

Historical photography shows that the site was vegetated in 1981 (the oldest historical aerial photography available) (Plate 1).

Plate 1: Aerial Photography from 1981 (Landgate, 2019)

2.1.2 Current Land Use

The site is currently not used and is completely vegetated apart from some firebreaks.

2.2 Topography

The site is undulating with an elevation of approximately 160 to 178m Australian Height Datum (AHD) (Figure 2).

2.3 Geology and Soils

The site is located on the Dandaragan Plateau and is largely on the Mogumber System which are located on gently undulating plateau made up of colluvium from weathered sandstone. The unit is made up of gentle to moderate sloping sandplain, varying from pale to yellow clayey sand with gravel and laterised ridges (DPIRD, 2022). A small area to the west is on the Karamal System which is gently undulating dunes with bleached pale to yellowish brown medium sand, sometimes gravelly and clayey at depth (DPIRD, 2022).

The soils mapped on the site are:

- Mogumber 1 Subsystem (222Mb_1) which are undulating broad crests and very gentle upper slopes (<10%) with common lateritic duricrust outcrop and shallow gravelly sands;
- Mogumber 3 Subsystem (222Mb_3) which are gently inclined undulating slopes and minor drainage head-waters consisting of deep grey siliceous or bleached sand;
- Mogumber 4 Subsystem (222Mb_4) which are gently to moderately inclined slopes (<10%) with shallow gravelly sands and few areas of lateritic outcrop; and
- Dandaragan Karamal phase 1 (222DaKM1) which are gently undulating dunes with pale yellow, to yellowish brown sand and maybe gravelly and/or weakly clayey below a metre (DPIRD, 2022).

2.4 Hydrology

Groundwater is at depth and there are no surface expressions of groundwater on the site (DWER, 2022). There are no wetlands or water courses on the site.

3 FLORA AND VEGETATION

3.1 Methodology

3.1.1 Database Searches

Searches of the following databases were undertaken prior to the site survey:

- DBCA Threatened and Priority Flora database and Threatened Ecological Communities database (Appendix 1) with a buffer radius of 15 km;
- DBCA Naturemap Database (DBCA, 2019) (Appendix 2) with a buffer radius of 10 km; and
- The Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the area that are protected under the EPBC Act (DCCEEW, 2022). A radius of 5km was used for this database (Appendix 3).

3.1.2 Initial Survey

An initial investigation of the site to determine the main vegetation types on the site was conducted by Dr Paul van der Moezel of PGV Environmental on 4 March 2022. The site was traversed to record vegetation types.

3.1.3 Detailed Survey

The initial survey was followed up by a Detailed Flora and Vegetation Survey which was undertaken in accordance with EPA Technical Guidance *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016) on 14 and 15 September 2022.

The 2022 spring survey included sampling from 10m x 10m quadrats from within the different vegetation types as well as walking through the site on parallel transects 50m apart to record as many species as possible. The tracklogs for the survey are shown on Plate 2. A total of 21km was walked.

Information on flora composition and vegetation structure was recorded in thirteen 10m x 10m non-permanent quadrats sampled from representative vegetation types.

Most plant species were identified in the field. Some specimens were photographed or taken for identification at the Perth Reference Herbarium or office using standard reference guides.

Plate 2: Track Log

3.1.4 Survey Conditions

The conditions that the survey was undertaken in are presented in Table 1 in order to assess the adequacy of the survey. Rainfall for Chittering (Measured at Lake Chittering, Site Number 009277, 3 km from the site) was above average for August in 2022 being 201.2 mm and below average in September being 61.6 mm compared to mean values of 125.4 mm and 67.8 mm (BOM, 2021). The above average rainfall in August is likely to have compensated for the low rainfall in September and is not considered to be a constraint on the survey.

Table 1: Statement of Botanical Survey Conditions

Issue	Constraints (Y/N)*	Comment
Competency/experience of the consultant conducting the survey	No	Dr Paul van der Moezel has extensive botanical survey experience on the Swan Coastal Plain, including the Kwinana area.
Proportion of the flora identified^	No	The timing of the survey in mid-September was optimal to identify most flora species on the site including all potential Threatened and Priority Flora. No follow-up survey required.
Sources of information (historic/recent or new data)	No	The flora of the Dandaragan Plateau is well documented.
Proportion of the task achieved and further work that may need to be undertaken	No	No follow-up survey required as no Threatened Flora expected to occur in other seasons.

Issue	Constraints (Y/N)*	Comment
Timing/weather/season/cycle	No	The spring survey was optimal for most flora species. 2022 was a good year for ephemeral species.
Disturbances (Fire)	No	Most of the site was burnt between January 2013 and February 2014, making the regrowth around 9 years old. The eastern end of the main access route was older, having been burnt in 2010 (12 years regrowth).
Intensity of survey (e.g. In retrospect was the intensity adequate)	No	The time spent on site, approximately 15 hours and relative ease of access made for a full coverage.
Completeness (e.g. was relevant area fully surveyed)	No	
Resources (e.g. degree of expertise available for plant identification)	No	Experienced botanist undertook most plant identifications on site.
Remoteness and/or access problems	No	Easily accessible site close to the Perth Metropolitan Region.
Availability of contextual (e.g. bioregional) information for the study area.	No	WALGA statistics on remnant bushland

*Constraints have been rated as Significant, Moderate or No constraints

^Fungi and nonvascular flora (e.g. algae, mosses and liverworts) were not specifically surveyed for during the survey.

3.2 Desktop Studies

3.2.1 Flora Database Searches

A search of the DBCA Threatened Flora Databases: the WA Herbarium database (WAHerb and the Threatened (Declared Rare) and Priority Flora Species List (TFPL)) (Appendix 1) and Naturemap (DBCA, 2019) (Appendix 2) identifies Conservation Significant species that have been recorded within a 10km radius of the site. A search of the EPBC Act Protected Matters Search Tool (DCCEEW, 2022) (Appendix 3) identifies species that are listed as Endangered, Threatened or Priority under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) could potentially have habitat within a 5km radius of the site. The results from these database searches are shown in Table 1.

Table 1: Conservation Significant Flora Identified in Database Searches

Species	Common Name	Conservation Status in WA	Status Under EPBC Act 1999
Calectasia cyanea	Blue Tinsel Lily	Schedule 1	Critically Endangered
Drakaea elastica	Glossy-leafed Hammer Orchid	Schedule 1	Endangered
Eucalyptus x balanites	Cadda Road Mallee	Schedule 1	Endangered
Thelymitra dedmaniarum	Cinnamon Sun-orchid	Schedule 1	Endangered
Conospermum densiflorum subsp. unicephalatum	One-headed Smokebush	Schedule 2	Endangered
Diplolaena andrewsii	Native Wild Rose	Schedule 2	Endangered
Eucalyptus leprophloia	Scaly-butt Mallee	Schedule 2	Endangered

Species	Common Name	Conservation Status in WA	Status Under EPBC Act 1999
Grevillea curviloba subsp. *incurva*	Narrow curved-leaf Grevillea	Schedule 2	Endangered
Thelymitra stellata	Star Sun-orchid	Schedule 2	Endangered
Chamelaucium sp. Gingin (N.G. Marchant 6)	Gingin Wax	Schedule 3	Endangered
Eleocharis keigheryi	Keighery's Eleocharis	Schedule 3	Vulnerable
Grevillea corrugata		Schedule 3	Endangered
Ptychosema pusillum	Dwarf Pea	Schedule 3	Vulnerable
Lechenaultia magnifica	Irwin Leschenaultia	Priority 1	
Senecio gilbertii		Priority 1	
Cyanicula ixioides subsp. *candida*		Priority 2	
Gastrolobium nudum		Priority 2	
Hibbertia glomerata subsp. *ginginensis*		Priority 2	
Leucopogon squarrosus subsp. *trigynus*		Priority 2	
Millotia tenuifolia var. laevis		Priority 2	
Tetraria sp. Chandala (G.J. Keighery 17055)		Priority 2	
Acacia anarthros		Priority 3	
Acacia cummingiana		Priority 3	
Acacia drummondii subsp. *affinis*		Priority 3	
Acacia oncinophylla subsp. *oncinophylla*		Priority 3	
Acacia pulchella var. reflexa acuminate bracteole variant (R.J. Cumming 882)		Priority 3	
Adenanthos cygnorum subsp. *chamaephyton*		Priority 3	
Halgania corymbosa		Priority 3	
Isotropis cuneifolia subsp. *glabra*		Priority 3	
Leucopogon allittii		Priority 3	
Persoonia rudis		Priority 3	
Styphelia filifolia		Priority 3	
Tetratheca pilifera		Priority 3	
Verticordia rutilastra		Priority 3	
Verticordia serrata var. *linearis*		Priority 3	
Caladenia speciosa	Sandplain White Spider Orchid	Priority 4	
Calothamnus pachystachyus		Priority 4	
Hibbertia miniata	Orange Hibbertia	Priority 4	
Hypolaena robusta		Priority 4	
Oxymyrrhine coronata		Priority 4	
Persoonia sulcata		Priority 4	
Stylidium longitubum	Jumping Jacks	Priority 4	

Definitions of the Conservation Codes are in Appendix 4.

Table 2 lists the likelihood that any of the conservation significant species identified in the database searches could occur on the site based on the soil types and vegetation condition.

Table 2: Likelihood of Identified Significant Flora Species Occurring on the Site

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Calectasia cyanea	Blue Tinsel Lily	The Blue Tinsel Lily prefers white, grey or yellow sand or gravel. This species is restricted to Torndirrup National Park and Albany region of the South West Botanical Province (Barrett and Dixon, 2001).	No - not native to this area
Drakaea elastica	Glossy-leafed Hammer Orchid	The Glossy-leafed Hammer Orchid prefers low-lying situations adjoining winter-wet swamps. This species does not survive in disturbed areas.	Highly Unlikely – no wetland habitat on site or nearby
Eucalyptus x balanites	Cadda Road Mallee	The Cadda Road Mallee prefers sandy soils with lateritic gravel.	Unlikely – no lateritic gravel on site
Thelymitra dedmaniarum	Cinnamon Sun-orchid	Cinnamon sun orchid is known from only two locations in the Gidgegannup area. It is confined to open wandoo woodland on red-brown sandy loam associated with dolerite and granite outcropping (DEC, 2012a).	Highly Unlikely – no granite or dolerite habitat
Conospermum densiflorum subsp. unicephalatum	One-headed Smokebush	The One-headed Smokebush occurs on clay soils in low-lying areas.	Highly Unlikely – no low-lying habitat
Diplolaena andrewsii	Native Wild Rose	The Native Wild Rose occurs on loam, clay in association with granite outcrops and hillsides.	Highly Unlikely – no granite habitat
Eucalyptus leprophloia	Scaly-butt Mallee	Scaly-butt Mallee occurs on white or grey sand over laterite on valley slopes.	Possible – targeted in survey
Grevillea curviloba subsp. *incurva*	Narrow curved-leaf Grevillea	Narrow curved-leaf Grevillea prefers sand, sandy loam in winter-wet heath.	Highly Unlikely – no wetland habitat
Thelymitra stellata	Star Sun-orchid	The Star Sun-orchid grows in gravelly loam among low heath and scrub in *Eucalyptus marginata* (Jarrah) and *E. wandoo* (Wandoo) woodland, and in low heath on lateritic hill tops.	Unlikely – not typical habitat, no gravelly loam on site.
Chamelaucium sp. Gingin (N.G. Marchant 6)	Gingin Wax	Gingin wax grows in white/yellow sand supporting open low woodland.	Possible – targeted in survey

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Eleocharis keigheryi	Keighery's Eleocharis	Keighery's Eleocharis occurs in clay, sandy loam and is emergent in freshwater: creeks, claypans.	Highly Unlikely – no wetland habitat
Grevillea corrugata		*Grevillea corrugata* occurs in gravelly loam on roadsides.	Unlikely – no gravelly loam on site
Ptychosema pusillum	Dwarf Pea	Dwarf Pea occurs in sand on rises.	Possible – targeted in survey
Lechenaultia magnifica	Irwin Leschenaultia	Irwin Leschenaultia occurs in brown, grey, yellow or white sand, brown sandy loam, laterite on slopes and flats.	Possible – targeted in survey
Senecio gilbertii		*Senecio gilbertii* grows in peaty sand near swamps on slopes.	Highly Unlikely – no wetland habitat
Cyanicula ixioides subsp. *candida*		*Cyanicula ixioides* subsp. *candida* grows in sand, laterite, gravel.	Possible – targeted in survey
Gastrolobium nudum		*Gastrolobium nudum* grows in red-brown clay, brown loam, gravel, laterite, granite on flats, slopes, hilltops, ridges, valleys, breakaways.	Unlikely – Not typical habitat
Hibbertia glomerata subsp. *ginginensis*		*Hibbertia glomerata* subsp. *ginginensis* occurs in sand, brown clay, laterite near roadsides.	Possible – targeted in survey
Leucopogon squarrosus subsp. *trigynus*		*Leucopogon squarrosus* subsp. *trigynus* occurs in Bassendean sands (Hislop, 2011).	Highly Unlikely – no Bassendean habitat
Millotia tenuifolia var. laevis		*Millotia tenuifolia* var. *laevis* grows in granite or laterite soils.	Unlikely –No granite or laterite soils on site
Tetraria sp. Chandala (G.J. Keighery 17055)		*Tetraria* sp. Chandala is recorded from a mound spring in peaty sand (Western Australian Herbarium, 2005).	Highly Unlikely – no mound spring habitat
Acacia anarthros		*Acacia anarthros* grows in lateritic gravelly soils on slopes.	Unlikely – no lateritic gravelly soils on site
Acacia cummingiana		*Acacia cummingiana* grows in grey or yellow sand, lateritic gravel on sandplains, lateritic breakaways.	Possible – targeted in survey
Acacia drummondii subsp. *affinis*		*Acacia drummondii* subsp. *affinis* grows in lateritic gravelly soils.	Unlikely – no lateritic gravelly soils on site

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Acacia oncinophylla subsp. *oncinophylla*		*Acacia oncinophylla* subsp. *oncinophylla* occurs in granitic soils	Highly Unlikely – no granite habitat
Acacia pulchella var. reflexa acuminate bracteole variant (R.J. Cumming 882)		*Acacia pulchella* var. reflexa acuminate bracteole variant prefers sandy loam or sandy clay over laterite in woodland.	Unlikely – no sandy loam or sandy clay soils on site
Adenanthos cygnorum subsp. *chamaephyton*		*Adenanthos cygnorum* subsp. *chamaephyton* occurs in grey sand, lateritic gravel.	Possible – targeted in survey
Halgania corymbosa		*Halgania corymbosa* prefers gravelly soils, soils over granite.	Unlikely – no lateritic gravelly soils on site
Isotropis cuneifolia subsp. *glabra*		*Isotropis cuneifolia* subsp. glabra grows in sand, clay loam on winter-wet flats.	Highly Unlikely – no wetland habitat
Leucopogon allittii		*Leucopogon allittii* grows in sand over gravel	Possible – targeted in survey
Persoonia rudis		*Persoonia rudis* occurs in white, grey or yellow sand, often over laterite.	Possible – targeted in survey
Styphelia filifolia		*Styphelia filifolia* occurs in sandy soils of the coastal plain (with one known occurrence from the northern Darling Scarp), usually in Banksia or Jarrah woodland and in low-lying situations (Hislop and Lelièvre, 2017).	Highly Unlikely – no low-lying habitat
Tetratheca pilifera		*Tetratheca pilifera* occurs in gravelly soils.	Unlikely – no lateritic gravelly soils on site
Verticordia rutilastra		*Verticordia rutilastra* occurs in sand and lateritic gravel on hills.	Unlikely – no lateritic gravelly soils on site
Verticordia serrata var. *linearis*		*Verticordia serrata* var. *linearis* grows in white sand, gravel in open woodland.	Possible – targeted in survey
Caladenia speciosa	Sandplain White Spider Orchid	Sandplain White Spider Orchid occurs in white, grey or black sand.	Possible – targeted in survey

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
Calothamnus pachystachyus		*Calothamnus pachystachyus* grows in lateritic soils, often gravelly on ridges, road verges.	Unlikely – no lateritic gravelly soils on site
Hibbertia miniata	Orange Hibbertia	Orange Hibbertia prefers lateritic gravelly soils.	Unlikely – no lateritic gravelly soils on site
Hypolaena robusta		*Hypolaena robusta* grows in white sand on sandplains.	Possible – targeted in survey
Oxymyrrhine coronata		*Oxymyrrhine coronata* occurs in lateritic gravel.	Unlikely – no lateritic gravelly soils on site
Persoonia sulcata		*Persoonia sulcata* occurs in lateritic or granitic soils.	Unlikely – no lateritic or granitic soils on site
Stylidium longitubum	Jumping Jacks	Jumping Jacks prefer sandy clay, clay in seasonal wetlands.	Highly Unlikely – No suitable granite habitat

* sourced from Florabase as well as the DBCA database searches unless otherwise denoted

3.2.2 TEC/PEC Database Searches

A search of DBCA's Threatened (TEC) and Priority Ecological Communities (PEC) database was conducted within a radius of 5km around the site (06-0919EC) (Appendix 5). Two Priority Ecological Communities were identified that are a federally listed TEC. The communities identified in the database searches are outlined in Table 3.

Table 3: TEC and PECs identified in database searches within 5km of the site

Number	Description	Conservation Status in Western Australia	Status under the EPBC Act
Banksia yellow-orange sands	Banksia woodland of the Gingin area restricted to soils dominated by yellow to orange sands	Priority 2	Endangered as part of the Banksia WL SCP
Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered

3.3 Flora

A total of 149 plant species were recorded during the flora survey (Appendix 6). This total consisted of 145 native species and 4 (2.7%) introduced species. The number and percentage of introduced species is extremely low and is a reflection of the overall Excellent to Pristine condition of the vegetation.

The plant Families with the highest representation of species were the Myrtaceae (Myrtle family – 18 species all native), Proteaceae (Banksia family – 17 species all native), Fabaceae (Wattle and Pea family – 16 species, all native) and Stylidiaceae (Trigger Plant family – 9 species, all native).

There were no Threatened (Declared Rare) species recorded on the site.

One Priority 3 species, *Tetratheca pilifera,* was recorded on the site (Figure 3). *Tetratheca pilifera* is a low shrub up to 0.3m tall and occurs on gravelly soils east and north-east of Perth. A total of 8 plants were recorded in five separate areas in sand over shallow lateritic soils in Jarrah Woodland vegetation.

Plate 3: *Tetratheca pilifera* P3 on the site

Species richness in the 13 quadrats ranged from 28-45 (average 38.0).

3.4 Vegetation

3.4.1 Vegetation Complexes

Vegetation complexes are a very broad mapping unit based on landform and soils type. The vegetation complexes mapped on the site are Karamal Complex-South in the western part of the site and the Mogumber Complex-South in the eastern part (Heddle *et al.*, 1980). The complexes are described below:

- Mogumber Complex-South is an Open woodland of *Eucalyptus calophylla* (Marri), with some admixture of *Eucalyptus marginata* (Jarrah) and a second storey of *Eucalyptus todtiana* (Pricklybark) - *Banksia attenuata* (Candlestick Banksia) - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia); and
- Karamal Complex-South is described as Open forest of *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) with second storey of *Banksia grandis* (Bull Banksia) (Heddle *et al.*, 1980).

The vegetation on the site is more representative of the Mogumber Complex-South. The Karamal Complex-South contains a second storey of *Banksia grandis* which was present in very small numbers.

The site also contained *Eucalyptus todtiana*, *Banksia attenuata* and *Banksia menziesii*, and Jarrah which is more typical to the Mogumber Complex-South.

3.4.2 Vegetation Types

Vegetation types are a finer level of vegetation description and mapping used for small scale sites, such as the survey area. Vegetation types are described based on the structure of the vegetation (eg. woodland, heath) and the dominant species in each structure.

Four vegetation types were described and mapped on the site (Figure 3). The vegetation types are described in Table 5. Quadrat Data are in Appendix 7.

Table 5: Vegetation Types on the Site

Vegetation Type	Description	Photograph
EtAh *Eucalyptus todtiana* Low Open Woodland over *Allocasuarina humilis/ Eremaea pauciflora/ Daviesia nudiflora* Closed Low Heath	This vegetation type occurs on deep sandy soils on the house site and a portion of the western access track. *Eucalyptus todtiana* trees are up to 4m high and sparse (2-5% cover). *Nuytsia floribunda* trees are occasionally present. The understorey is less than 1m and fairly dense with *Allocasuarina humilis* the dominant shrub species. Other common species include *Eremaea pauciflora, Daviesia nudiflora, Acacia pulchella, Melaleuca seriata, Caustis dioica* and *Mesomelaena pseudostygia*. The soils are light yellow-grey sand. Quadrats MH 1, 8 and 7 are representative of this vegetation type. Total area on site = 9.91ha	
EtAc *Eucalyptus todtiana* Low Open Woodland over *Adenanthos cygnorum* Tall Open Shrubland over *Eremaea pauciflora/ Melaleuca trichophylla /Styphelia conostephioides* Closed Low Heath	Occurs on deep sandy soils on the house site as well as most of the western access track. *Eucalyptus todtiana* is always present up to 4m high and 1-5% cover. Occasional *Banksia attenuata* and *B. menziesii* trees are present but never more than 1% cover. Woolly Bush (*Adenanthos cygnorum*) is common up to 2m high and 25% cover. Other common species include *Eremaea pauciflora, Melaleuca trichophylla, Styphelia conostephioides, Hibbertia hypericoides, Hibbertia subvaginata, Petrophile linearis, Conostylis setigera, Anigozanthos humilis* and *Stylidium repens.* The soils are light yellow-grey sand. Quadrats MH 2, 5, 9 and 11 are representative of this vegetation type. Total area on site = 18.90ha	

Vegetation Type	Description	Photograph
EtBaBm *Eucalyptus todtiana/ Banksia attenuata/B. menziesii* Low Open Woodland over *Melaleuca seriata/Eremaea pauciflora/ Lysinema pentapetalum* Closed Low Heath	This vegetation type occurred in a short section of the main eastern access track. The vegetation was similar to the EtAc vegetation type but with *Banksia attenuata* and *B. menziesii* as common tree species with *Eucalyptus todtiana* (compared to EtAc where Banksia trees are scarce to absent). Common understorey species included *Melaleuca seriata, Eremaea pauciflora, Lysinema pentapetalum, Hibbertia subvaginata* and *Scholtzia involucrata.* The soils are light yellow-grey sand. Quadrat MH 12 is representative of this vegetation type. Total area on site = 0.25ha	
Em *Eucalyptus marginata* (Jarrah) Open Woodland over *Xanthorrhoea preissii/ Hibbertia hypericoides* Open Low Heath	This vegetation type occurs on about half of the house site and all of the southern access track on shallow sands over laterite. Jarrah (*Eucalyptus marginata*) occurs at low density with most trees coppiced and with multiple small stems. The understorey is mostly less than 1m high and 50-70% cover with common species *Xanthorrhoea preissii, Hibbertia hypericoides, Philotheca spicata, Leucopogon squarrosus, Conostephium pendulum, Hibbertia subvaginata, Lepidosperma pubisquameum, Banksia dallanneyi* and *Leporella fimbriata.* The soils are dark brown sand. No laterite or gravel occurs at the surface on the site. Quadrats MH 3, 4, 6, 10 and 13 are representative of this vegetation type. Total area on site = 14.06ha	

3.4.3 Vegetation Condition

The condition of the vegetation was assessed according to the system devised by Keighery and described in Bush Forever (Government of Western Australia, 2000) (Table 6).

Table 6: Vegetation Condition Rating Scale.

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Source: Government of Western Australia, 2000.

The site contains intact native vegetation that has not been previously cleared.

The vegetation on the whole site is considered to be in Pristine to Excellent condition due to the lack of disturbance and extremely low coverage of weed species.

3.5 Conservation Significance of Flora and Vegetation

3.5.1 Flora

No Threatened species were recorded on the site.

Seven plants of the Priority 3 species, *Tetratheca pilifera*, were recorded on shallow sand over laterite soils in five separate locations on the site.

Priority 3 species are those that are known from several locations, and the species does not appear to be under imminent threated. The low number of plants on the site is not likely to be considered an important population.

Tetratheca pilifera is known to be present in vegetation on lateritic soils elsewhere on Lot 101.

3.5.2 Vegetation

Vegetation Complexes

The conservation significance of vegetation complexes can be determined based on the Beard vegetation types. The conservation significance is based on the percentage of the original extent of the vegetation type remaining. The amount remaining of each of the complexes mapped on the site is outlined in Table 7.

Table 7: Percentage Remaining of Beard Vegetation Types

Vegetation Type	Description	Original Extent (ha) (WALGA, 2013)	% Remaining (WALGA, 2013)	% Remaining in the Shire of Chittering (DBCA, 2019)
Mogumber Complex-South	Open woodland of *Eucalyptus calophylla* (Marri), with some admixture of *Eucalyptus marginata* (Jarrah) and a second storey of *Eucalyptus todtiana* (Pricklybark) - *Banksia attenuata* (Candlestick Banksia) - *Banksia menziesii* (Firewood Banksia) - *Banksia ilicifolia* (Holly-leaved Banksia)	13985.52	40.20	42.92
Karamal Complex-South	Open forest of *Eucalyptus marginata* (Jarrah) - *Corymbia calophylla* (Marri) with second storey of *Banksia grandis* (Bull Banksia)	24016.67	63.40	52.89

Table 7 shows that the percentage remaining of Mogumber Complex-South is greater than 40% and Karamal Complex-South is greater than 50% (WALGA, 2013).

The percentage protection is above the 30% minimum criteria for vegetation complexes in the Perth and Peel Region Constrained Areas for retention of vegetation complexes State-wide as outlined in the EPA Position Statement No. 2 *Environmental Protection of Native Vegetation in Western Australia*.

The vegetation complexes mapped on the site are not considered endangered or regionally significant. Any clearing that might occur on the site in the future would not reduce the extent remaining to below 30%.

Threatened and Priority Ecological Communities

The vegetation type EtBaBm contains *Banksia attenuata* and *B. menziesii* trees in co-dominance with *Eucalyptus todtiana*. Only a small amount (xha) of this vegetation type occurs in a portion of the main access track, however that area of vegetation extends further north and south of the track in an area that has not been burnt for 12 years. The portion of the EtBaBm vegetation type on the access track alignment is therefore considered part of the Banksia Woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC) as listed under the Commonwealth EPBC Act.

The Banksia Woodland of the Swan Coastal Plain are listed at the State level as a Priority 3 Ecological Community. The EtBaBm vegetation type on the site is also identified more specifically as the 'Banksia

Woodland of the Gingin area restricted to soils dominated by yellow to orange sands' which is a Priority 2 Ecological Community.

The vegetation type EtAh does not contain Banksia trees and the vegetation type EtAc either does not contain Banksia trees or, if present are, very sparse. These vegetation types are therefore not considered part of the Banksia Woodland TEC and State listed PEC due to the absence or very low density of Banksia trees.

The Em vegetation type is not part of any Threatened or Priority Ecological Communities.

4 FAUNA

4.1 Methodology

A Basic Fauna Survey was undertaken in accordance with EPA Technical Guidance *Fauna Surveys for Environmental Impact Assessment* (EPA, 2020). Desktop studies were undertaken to identify habitats and potential threatened species that may occur on the site. A site reconnaissance was conducted by PGV Environmental on 14 and 15 September 2022. The inspection included traversing the site on foot.

An assessment of Carnaby's Black Cockatoo habitat was undertaken on 12 October. Evidence of foraging was searched for. Any Jarrah trees with a diameter at breast height equal to or greater than 50cm were measured and evidence of breeding looked for. The site is too far north to be Forest Red-tailed or Baudin's Black Cockatoo habitat.

4.2 Desktop Studies

Desktop studies were undertaken to identify conservation significant species potentially present on the site. A search of the DBCA Database in a 5km radius from the site (Appendix 8), Naturemap database in a radius 10km from the site (Appendix 2) and the EPBC Act Protected Matters Search Tool (Appendix 3) in a 5km radius from the site identified threatened species of fauna previously recorded in the search area or potentially having habitat in the search area (Table 8).

Table 8: List of Fauna Species Identified from Fauna Database Searches

Scientific Name	Common Name	Conservation Status, WA	Status under EPBC Act
Calidris ferruginea	Curlew Sandpiper	Schedule 1 - CR	Critically Endangered
Numenius madagascariensis	Eastern Curlew	Schedule 1 - CR	Critically Endangered
Calyptorhynchus latirostris	Carnaby's Black Cockatoo	Schedule 2 - EN	Endangered
Galaxiella nigrostriata	Black-stripe Minnow	Schedule 2 - EN	Endangered
Rostratula australis (Rostratula benghalensis australis)	Australian Painted Snipe	Schedule 2 - EN	Endangered Marine/ Migratory
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo	Schedule 3 - VU	Vulnerable
Dasyurus geoffroii	Chuditch, Western Quoll	Schedule 3 - VU	Vulnerable
Galaxiella munda	Mud Minnow, Western Dwarf Galaxias	Schedule 3 - VU	
Leipoa ocellata	Mallee Fowl	Schedule 3 - VU	Vulnerable
Westralunio carteri	Carter's Freshwater Mussel	Schedule 3 - VU	Vulnerable
Actitis hypoleucos	Common Sandpiper	Schedule 5 - IA	Marine/ Migratory
Apus pacificus	Fork-tailed Swift	Schedule 5 - IA	Marine/Migratory

Scientific Name	Common Name	Conservation Status, WA	Status under EPBC Act
Calidris acuminata	Sharp-tailed Sandpiper	Schedule 5 - IA	Marine/ Migratory
Calidris melanotos	Pectoral Sandpiper	Schedule 5 - IA	Marine/ Migratory
Motacilla cinerea	Grey Wagtail	Schedule 5 - IA	Migratory/ Marine
Pandion cristatus (Pandion haliaetus)	Osprey	Schedule 5 - IA	Marine/ Migratory
Tringa nebularia	Common Greenshank	Schedule 5 - IA	Marine/ Migratory
Phascogale tapoatafa wambenger	South-western Brush-tailed Phascogale, Wambenger	Schedule 6 - CD	
Ardea alba	Great Egret, White Egret		Marine
Ardea ibis	Cattle Egret		Marine
Merops ornatus	Rainbow Bee-eater		Marine
Haliaeetus leucogaster	White-bellied Sea-eagle		Marine
Idiosoma mcclementsorum	Julimar Shield-backed Trapdoor Spider	Priority 2	
Isoodon fusciventer	Southern Brown Bandicoot, Quenda	Priority 4	
Oxyura australis	Blue-billed Duck	Priority 4	

Fauna are classified under five different Priority codes and rare and endangered fauna are classified under the *Wildlife Conservation (Specially Protected Fauna) Notice 2014* into five schedules of taxa. These are outlined in Appendix 4.

4.3 Fauna Habitat

Two fauna habitats occur on the site. The vegetation dominated by *Eucalyptus todtiana* is described as Shrubland habitat while the Jarrah Woodland vegetation is described as Open Woodland habitat.

Plate 4: Shrubland Fauna Habitat

Plate 5: Open Woodland Fauna Habitat

Fauna habitat can be assessed using a number of factors including, the size of the habitat, the level of habitat connectivity, availability of specific resources (e.g. tree hollows) and overall vegetation quality. The habitat was assessed according to the following categories:

High Quality Fauna Habitat – These areas closely approximate the vegetation mix and quality that would have been in the area prior to any disturbance. The habitat has connectivity with other habitats and is likely to contain the most natural vertebrate fauna assemblage.

Very Good Fauna Habitat - These areas show minimal signs of disturbance (e.g. grazing, clearing, fragmentation, weeds) and generally retain many of the characteristics of the habitat if it had not been disturbed. The habitat has connectivity with other habitats and fauna assemblages in these areas are likely to be minimally affected by disturbance.

Good Fauna Habitat – These areas showed signs of disturbance (e.g. grazing, clearing, fragmentation, weeds) but generally retain many of the characteristics of the habitat if it had not been disturbed. The habitat has connectivity with other habitats and fauna assemblages in these areas are likely to be affected by disturbance.

Disturbed Fauna Habitat – These areas showed signs of significant disturbance. Many of the trees, shrubs and undergrowth are cleared. These areas may be in the early succession and regeneration stages. Areas may show signs of significant grazing, contain weeds or have been damaged by vehicle or machinery. Habitats are fragmented or have limited connectivity with other fauna habitats. Fauna assemblages in these areas are likely to differ significantly from what might be expected in the area had the disturbance not occurred.

Highly Degraded Fauna Habitat – These areas often have a significant loss of vegetation, an abundance of weeds, and a large number of vehicle tracks or are completely cleared. Limited or no fauna habitat connectivity. Faunal assemblages in these areas are likely to be significantly different to what might have been in the area pre-disturbance. (Coffey Environments, 2009).

The Shrubland and Open Woodland Fauna Habitats have vegetation in Pristine to Excellent condition with the structure of the vegetation largely intact, although the Jarrah vegetation shows obvious signs

of logging in the past with very few mature trees remaining. The vegetation has linkage to other areas of bushland, therefore the habitat is considered to be High Quality Fauna Habitat.

4.4 Conservation Significant Species

Outlined below in Table 7 is a short description of the preferred habitat for each of the species that were identified in the DBCA Database Search (Appendix 8), NatureMap Species Report (Appendix 2) and the EPBC Protected Matters Search Tool (Appendix 3) in Table 6. The preferred habitat has been compared to the habitats on the site described above and the likelihood of each species to be present was determined.

Table 9: Preferred Habitat of Conservation Significant Fauna Species

Scientific Name	Common Name	Habitat*	Likelihood of occurring on the site
Calidris ferruginea	Curlew Sandpiper	Curlew Sandpipers mainly occur on intertidal mudflats in sheltered coastal areas, such as estuaries, bays, inlets and lagoons, and also around non-tidal swamps, lakes and lagoons near the coast, and ponds in saltworks and sewage farms.	No – not coastal habitat
Numenius madagascariensis	Eastern Curlew	The Eastern Curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets.	No – this species is marine and pelagic
Calyptorhynchus latirostris	Carnaby's Black Cockatoo	Carnaby's Cockatoo is found in the south-west of Australia from Kalbarri through to Ravensthorpe. It has a preference for feeding on the seeds of *Banksia, Hakea, Eucalyptus, Grevillea, Pinus* and *Allocasuarina* spp. It is nomadic often moving toward the coast after breeding. It breeds in tree hollows that are 2.5 - 12m above the ground and have an entrance 23-30cm with a depth of 1-2.5m. Nesting mostly occurs in smooth-barked trees (e.g. Salmon Gum, Wandoo, Red Morrell) (SEWPaC, 2012).	Likely to be intermittently present – the sie contains foraging habitat and potential breeding habitat trees for this species
Galaxiella nigrostriata	Black-stripe Minnow	The Blackstriped Dwarf Galaxias is found only in coastal wetlands of south-west Western Australia. During summer when ephemeral pools dry out, Blackstriped Dwarf Galaxias burrow into the moist soil below and aestivate until the rains return in autumn (Fishes of Australia, 2015).	No – no wetland habitat

Scientific Name	Common Name	Habitat*	Likelihood of occurring on the site
Rostratula australis (Rostratula benghalensis australis)	Australian Painted Snipe	The Australian Painted Snipe has been recorded at wetlands in all states of Australia but is most common in eastern Australia. It generally inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. It also uses inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include a cover of vegetation, including grasses.	No – no wetland habitat
Calyptorhynchus banksii naso	Forest Red-tailed Black-Cockatoo	Forest Red-tailed Black Cockatoos frequent the humid to sub-humid south-west of Western Australia from Gingin in the north, to Albany in the south and west to Cape Leeuwin and Bunbury (SEWPaC, 2012). It nests in tree hollows with a depth of 1-5m, that are predominately Marri (*Corymbia calophylla*), Jarrah (*Eucalyptus marginata*) and Karri (*Eucalyptus diversicolor*) and it feeds primarily on the seeds of Marri.	No – out of the range for this species
Dasyurus geoffroii	Chuditch, Western Quoll	The Chuditch have been known to occupy a wide range of habitats including woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts. They are opportunistic feeders, and forage on the ground at night, feeding on invertebrates, small mammals, birds and reptiles.	Possibly poresent on the site
Galaxiella munda	Mud Minnow, Western Dwarf Galaxias	Mud Minnow occurs in mud, freshwater.	No – no wetland habitat
Leipoa ocellata	Mallee Fowl	Mallee fowl have been found in mallee regions of southern Australia from approximately the 26th parallel of latitude southwards in mallee bushland.	No – not mallee habitat
Westralunio carteri	Carter's Freshwater Mussel	Carter's Feshwater Mussel is South-West Western Australia's only freshwater mussel (Murdoch University & SERCUL, 2012). Carter's Freshwater Mussel occurs in freshwater streams, rivers, reservoirs and lakes (ICUN, 2015b) and is intolerant to dehydration for more than three days and salinity (Murdoch University & SERCUL, 2012).	No – no wetland habitat
Actitis hypoleucos	Common Sandpiper	The Common Sandpiper is mostly found around muddy margins or rocky shores. Generally the species forages in shallow water and on bare soft mud at the edges of wetlands.	No – no wetland habitat

Scientific Name	Common Name	Habitat*	Likelihood of occurring on the site
Apus pacificus	Fork-tailed Swift	The Fork-tailed Swift is almost exclusively aerial and is not known to breed in Australia. They are seen in inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands and sometimes well out to sea. They also occur over settled areas, including towns, urban areas and cities. *Apus pacificus* subsp. *pacificus* is the only subspecies to migrate to Australia.	No – not coastal habitat – possibly could fly over the site but unlikely to land
Calidris acuminata	Sharp-tailed Sandpiper	The Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation.	No – no wetland habitat
Calidris melanotos	Pectoral Sandpiper	The Pectoral Sandpiper prefers shallow fresh to saline wetlands and is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.	No – no wetland habitat
Motacilla cinerea	Grey Wagtail	The Grey Wagtail is mostly recorded in coastal areas in Western Australia (ALA, 2015) however is widespread. There is non-breeding habitat only in Australia and the species has a strong association with water, particularly rocky substrates along water courses but also lakes and marshes.	No – not coastal habitat
Pandion cristatus (Pandion haliaetus)	Osprey	Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They feed on fish, especially mullet where available, and rarely take molluscs, crustaceans, insects, reptiles, birds and mammals.	No – not coastal habitat
Tringa nebularia	Common Greenshank	The Common Greenshank is a wader and does not breed in Australia. This species can be found in many types of wetlands and has the widest distribution of any shorebird in Australia. This species typically feeds on molluscs, crustaceans, insects, and occasionally fish and frogs.	No – no wetland habitat
Phascogale tapoatafa wambenger	South-western Brush-tailed Phascogale, Wambenger	Southern Brush-tailed Phascogales are arboreal marsupials which require tree hollows in suitable woodland or forest and rely on abundant invertebrate prey to sustain populations (Pescott, 2012).	Possibly occur on the site
Ardea alba	Great Egret, White Egret	The Eastern Great Egret has been reported in a wide range of wetland habitats and usually frequents shallow waters. This species feeds on fish, insects, crustaceans, molluscs, frogs, lizards, snakes and small birds and mammals.	No – no wetland habitat

Scientific Name	Common Name	Habitat*	Likelihood of occurring on the site
Ardea ibis	Cattle Egret	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands with breeding in Western Australia recorded in the far north in Wyndham in colonies in wooded swamps such as mangrove forest. This species forages away from water on low lying grasslands, improved pastures and croplands generally in areas that have livestock eating insects, frog, lizards and small mammals.	No - no wetland or pasture habitat
Merops ornatus	Rainbow Bee-eater	Populations of the Rainbow Bee-eater that breed in northern Australia are considered to be resident, and in many northern localities the Rainbow Bee-eater is present throughout the year. The Rainbow Bee-eater nests in a burrow dug in the ground. It is found across the better-watered parts of WA including islands preferring lightly wooded, sandy country near water.	Possible intermittent visitor to the site
Haliaeetus leucogaster	White-bellied Sea-eagle	The White-bellied Sea-Eagle is found in coastal habitats with large areas of open water, especially those close to the sea-shore. This species feeds opportunistically on a variety of fish, birds, reptiles, mammals and crustaceans, and on carrion and offal.	No – not coastal habitat
Idiosoma mcclementsorum	Julimar Shield-backed Trapdoor Spider	Julimar Shield-backed Trapdoor Spider has a highly restricted distribution in the northern Jarrah Forest bioregion of south-western Western Australia, from Chittering Lakes, Julimar, and Toodyay north to Gillingarra on a sandy substrates overlaying laterite (Rix *et al.,* 2018).	Highly Unlikely – this species has limited range and has not been recorded within 5km of the site
Isoodon fusciventer	Southern Brown Bandicoot, Quenda	Southern Brown Bandicoots are small grey marsupials that prefer dense scrub (up to one metre high). Their diet includes invertebrates (including earthworms, adult beetles and their larvae), underground fungi, subterranean plant material, and very occasionally, small vertebrates (DEC, 2012b).	Possibly present on the site

Scientific Name	Common Name	Habitat*	Likelihood of occurring on the site
Oxyura australis	Blue-billed Duck	The Blue-billed Duck is found on terrestrial wetlands in temperate regions, that are freshwater to saline, and may be natural or artificial. It nests in rushes, sedges, Lignum Muehlenbeckia cunninghamii and paperbark Melaleuca (Birdlife International, 2015). The species is almost completely aquatic, and is seldom seen on land. Non-breeding flocks, often with several hundred individuals, congregate on large, deep open freshwater dams and lakes in autumn. The daylight hours are spent alone in small concealed bays within vegetation or communally in large exposed rafts far from the shore (Birds in Backyards, 2015).	No – no permanent water on the site

* Habitat descriptions from DoEE (2016) SPRAT Database unless otherwise denoted

The Open Woodland Habitat containing Jarrah provides foraging habitat for Carnaby's Black Cockatoos (*Calyptorhynchus latirostris*), with the Jarrah trees, scattered Banksia trees as well as some other Proteaceous shrubs (Valentine and Stock, 2008; Groom, 2011). The Em, EtBaBm and EtAc vegetation types have tree species suitable for foraging. The amount of foraging in area is difficult to determine given the sparse nature of the Banksia trees and open nature of the Jarrah Woodland. The extent of Jarrah Woodland on the site is 14.05ha. The area of vegetation containing Banksia trees as a co-dominant tree with *Eucalyptus todtiana* is 0.25ha.

Almost all of the Jarrah trees on the site were coppiced from logging in the past (see Plate 5). Very few mature trees were present, and many of those were fire-affected (Plate 6).

Plate 6: Fire-affected Jarrah Tree

A total of 28 Jarrah trees were recorded with a DBH equal to or greater than 50cm (Figure 4). Several trees had small hollows that were too small for Carnaby's Black Cockatoos to breed in. One tree had a large horizontal hollow. Carnaby's Black Cockatoos do not breed in horizontal hollows.

No evidence of foraging on Jarrah trees or any Banksia trees was observed on the site.The South-western Brush-tailed Phascogale (*Phascogale tapoatafa wambenger*) (Schedule 6 – Conservation Dependant) was identified as having habitat on the site.

The Southern Brown Bandicoot, Quenda (*Isoodon fusciventer*) (Priority 4) could potentially occur on the site.

The Rainbow Bee-eater (*Merops ornatus*), listed Marine under the EPBC Act, may potentially utilise some sections of the site as part of a much larger home range though only likely to occur infrequently.

4.5 Pest Fauna

The site is likely to contain rabbits, feral cats, foxes, rats and mice.

4.6 Biodiversity Value

The EPA's (2002) *Terrestrial Biological Surveys as an Element of Biodiversity Protection Position Statement No. 3* indicated an ecological assessment of a site must consider its biodiversity value at the genetic, species and ecosystem levels; and its ecological functional value at the ecosystem level. The vegetation on the site is largely undisturbed, however there is likely to be introduced feral species such as foxes, cats and rabbits which would have modified the fauna assemblage from pre-European settlement.

5 IMPACT ASSESSMENT

The proposed location of the house and shed and the associated APZs as well as the three access routes will require the clearing of 7.38ha of native vegetation. It is assumed that clearing in the APZ will only impact on understorey and not trees due to the low density of trees and non-interconnecting canopies.

The impact on the respective vegetation types and Black Cockatoo habitat is contained in Table 10.

Table 10: Impact of Clearing for the Proposed Development

Vegetation Type	Area (ha)	Carnaby's Cockatoo Foraging Habitat (ha)	Habitat Trees
Em	2.08	2.08	2
EtAc	3.78	0	0
EtAh	1.27	0	0
EtBaBm	0.25	0.25	0
TOTAL	7.38	2.33	2

6 SUMMARY AND CONCLUSION

6.1 Summary

The Flora, Vegetation and Fauna survey of the site proposed for Madalyn Manor on part of Lot 101 Teatree Road, Bindoon found the following:

- The site contains around 43.11 of native vegetation in Pristine to Excellent condition consisting of vegetation occurring on sandy soil and shallow sand over laterite soils;
- Four vegetation types were recorded and mapped on the site including Low Open Woodlands dominated by *Eucalyptus todtiana* on deep sandy soils and Jarrah Open Woodland on shallow sand over laterite soils. The understorey of the *Eucalyptus todtiana* Low Open Woodland varied with Woolly Bush common in some areas, and *Allocasuarina humilis* dominant in others. One small area containing *Banksia attenuata* and *B. menziesii* trees co-dominant with *Eucalyptus todtiana* occurred along the main eastern access track to the house site;
- A total of 149 plant species were recorded in the flora survey with 145 native species and 4 (2.7%) introduced species. No Threatened flora were recorded on the site. Seven plants of the Priority 3 species, *Tetratheca pilifera*, were recorded on areas of shallow sand over laterite in the Jarrah Open Woodland vegetation in five separate locations on the site. *Tetratheca pilifera* is known to be present elsewhere on Lot 101;
- None of the *Tetratheca pilifera* populations would be impacted by the proposed development;
- The small area of the EtBaBm vegetation type containing *Banksia attenuata* and *B. menziesii* has conservation significance as part of the Commonwealth EPBC Act listed Banksia Woodlands of the Swan Coastal Plain TEC and the State PEC for Banksia woodlands. The site contains 0.25ha of the Banksia Woodland TEC;
- The proposed location of the house and shed and the associated APZs and three access routes will require the clearing of 7.38ha of native vegetation.
- Clearing the small area of Banksia woodland along the main access route may require approval under both State and Commonwealth legislation, although the amount of clearing (0.25ha) is very small and is in an area that will be revegetated following construction of the main access tunnel;
- The fauna habitat on the site is considered High Quality Fauna Habitat. The Jarrah Open Woodland and EtBaBm vegetation types contain 14.30ha of low density foraging habitat suitable for Carnaby's Black Cockatoo which is listed as Endangered under the EPBC Act;
- The proposed development would clear 2.33ha of Carnaby's Black Cockatoo foraging habitat and two potential breeding habitat trees;
- The clearing of more than 1ha of Black Cockatoo foraging habitat may have a significant impact on Carnaby's Black Cockatoo and referral under the Commonwealth EPBC Act would be recommended; and
- The site also contains habitat suitable for the South-western Brush-tailed Phascogale and the Southern Brown Bandicoot (*Isoodon fusciventer*);

6.2 Conclusion

The proposed Madalyn Manor development will require the clearing of around 7.38ha of native vegetation but has been sited on a part of Lot 101 Teatree Road that will minimise the impact on Jarrah Open Woodland which is considered Carnaby's Black Cockatoo foraging and potential breeding habitat. Only 2.33ha of foraging habitat and two potential breeding habitat trees would be cleared for the development. The clearing would not impact on any populations of the Priority 3 plant species *Tetratheca pilifera.*

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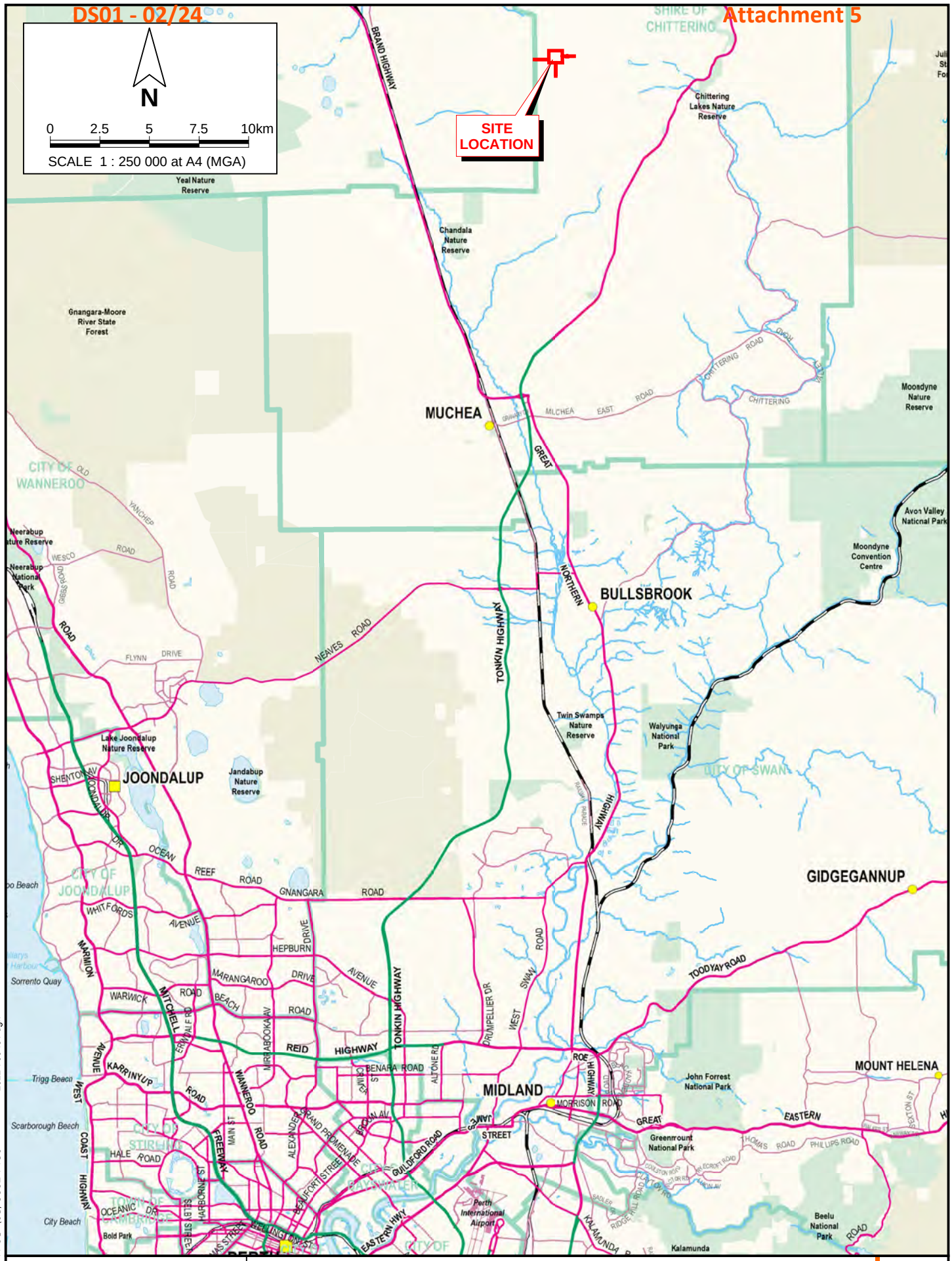
FIGURES

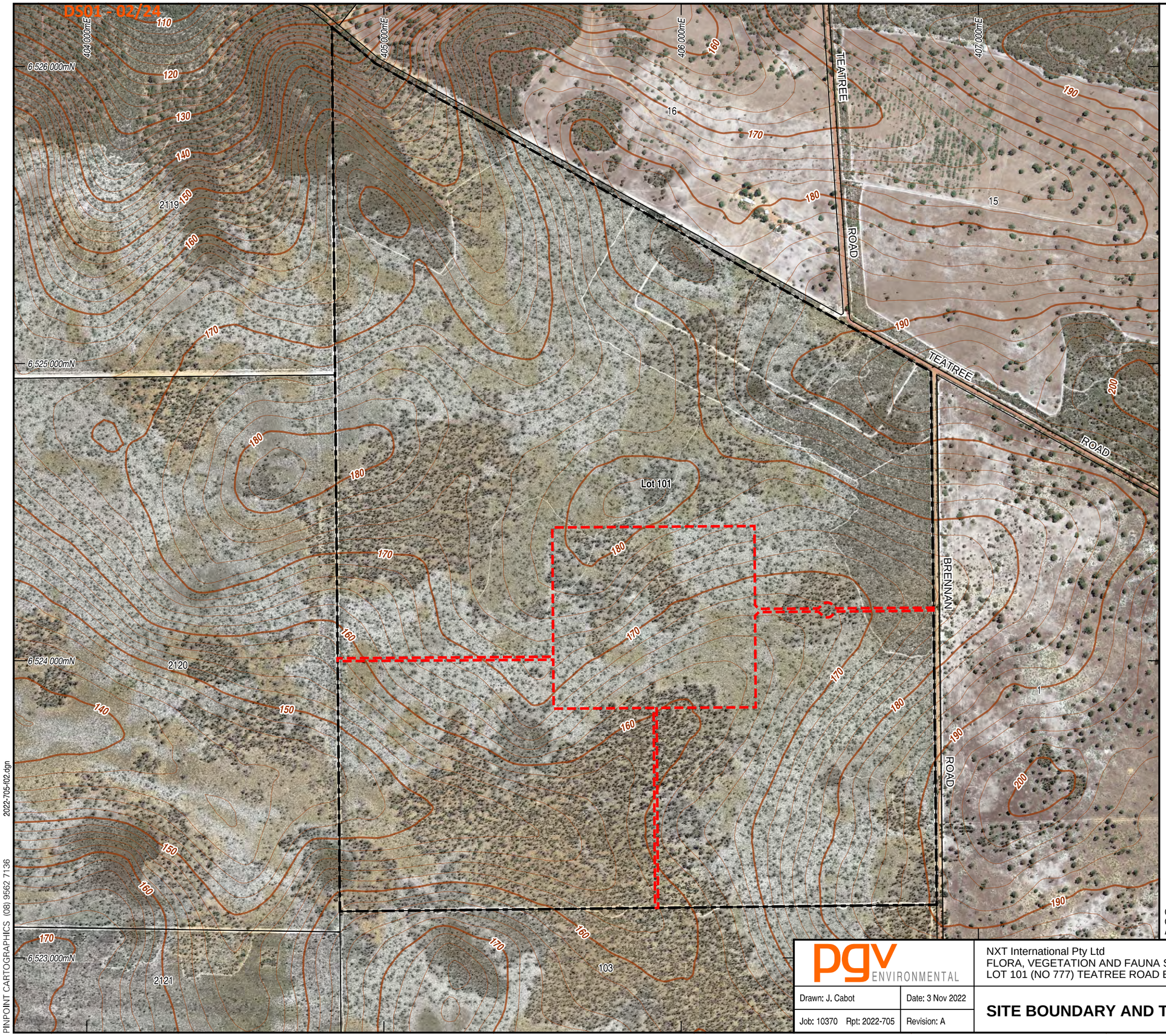


pgv ENVIRONMENTAL	NXT International Pty Ltd FLORA, VEGETATION AND FAUNA SURVEY - MADALYN MANOR LOT 101 (NO 777) TEATREE ROAD BINDOON
Drawn: P. van der Moezel / Date: 3 Nov 2022	**SITE LOCATION**
Job: 10370 Rpt: 2022-705 / Revision: A	Figure 1

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-705-f01.dgn

DS01 - 02/24

Attachment 5



N

0 100 200 300 400 500m

SCALE 1 : 12 500 at A3 (MGA)

Legend

- Site Boundary
- Lot 101 Boundary
- Cadastral Boundary
- Topographic Contour

CONTOUR SOURCE: Dept. of Agriculture, 2000.
CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: Google Earth, flown December 2020.

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-705-f02.dgn

pgv ENVIRONMENTAL

Drawn: J. Cabot	Date: 3 Nov 2022
Job: 10370 Rpt: 2022-705	Revision: A

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FLORA, VEGETATION AND FAUNA SURVEY - MADALYN MANOR
LOT 101 (NO 777) TEATREE ROAD BINDOON

SITE BOUNDARY AND TOPOGRAPHY

Figure 2

405 000mE 405 500mE 406 000mE 406 500mE 407 000mE

6 524 500mN 6 524 000mN 6 523 500mN 6 523 000mN

2120 2121 103

Lot 101

EtAh EtAc Em EtBaBm

MH1 MH2 MH3 MH4 MH5 MH6 MH7 MH8 MH9 MH10 MH11 MH12 MH13

1 4

N

0 50 100 150 200 250m

SCALE 1 : 7 500 at A3 (MGA)

Legend

- Lot 101 Boundary
- Site Boundary
- Cadastral Boundary
- Quadrat Location
- Vegetation Type Boundary
- Em — Vegetation Type
- *Tetratheca pilifera* (P3) locations
- 4 — Number of Plants

Vegetation Types

EtAh
Eucalyptus todtiana Low Open Woodland over *Allocasuarina humilis/Eremaea pauciflora/Daviesia nudiflora* Closed Low Heath

EtAc
Eucalyptus todtiana Low Open Woodland over *Adenanthos cygnorum* Tall Open Shrubland over *Allocasuarina humilis/Eremaea pauciflora/Melaleuca trichophylla /Styphelia conostephioides* Closed Low Heath

EtBaBm
Eucalyptus *todtiana/Banksia attenuata/B. menziesii* Low Open Woodland over *Melaleuca seriata/Eremaea pauciflora/Lysinema pentapetalum* Closed Low Heath

Em
Eucalyptus marginata Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath

CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: ESRI, flown December 2020.
PROPOSED LAYOUT SOURCE: CLE, Plan No. 3729-08A-01, 16 June 2022.

pgv ENVIRONMENTAL

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FLORA, VEGETATION AND FAUNA SURVEY - MADALYN MANOR
LOT 101 (NO 777) TEATREE ROAD BINDOON

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Job: 10370 Rpt: 2022-705 | Revision: A

VEGETATION TYPES

Figure 3

PINPOINT CARTOGRAPHICS (08) 9562 7136 2022-705-f03.dgn

DS01 - 02/24

Attachment 5

405 000mE
405 500mE
406 000mE
406 500mE
407 000mE
6 524 500mN
6 524 000mN
6 523 500mN
6 523 000mN
2120
2121
Lot 101
103
1

N

0 50 100 150 200 250m

SCALE 1 : 7 500 at A3 (MGA)

Legend

- Lot 101 Boundary
- Site Boundary
- Cadastral Boundary
- Foraging Habitat

Breeding Habitat Trees

- Jarrah (Eucalyptus marginata)
- Hollow

CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: ESRI, flown December 2020.
PROPOSED LAYOUT SOURCE: CLE, Plan No. 3729-08A-01, 16 June 2022.

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LOT 101 (NO 777) TEATREE ROAD BINDOON

CARNABY'S BLACK COCKATOO HABITAT

Figure 4

Attachment 5

405 000mE 405 500mE 406 000mE 406 500mE 407 000mE

6 524 500mN

6 524 000mN

6 523 500mN

6 523 000mN

2120

2121

Lot 101

103

EtAh EtAc Em EtBaBm

N

0 50 100 150 200 250m

SCALE 1 : 7 500 at A3 (MGA)

Legend

- Lot 101 Boundary
- Site Boundary
- Cadastral Boundary
- Vegetation Type Boundary
- Em — Vegetation Type
- *Tetratheca pilifera* (P3) locations
- 4 — Number of Plants

Mandalyn House Footprint

- Proposed House
- Proposed House APZ
- Proposed Workshop
- Proposed Workshop APZ
- Proposed Service Road - Below Ground
- Proposed Service Road - Above Ground

Vegetation Types

EtAh
Eucalyptus todtiana Low Open Woodland over *Allocasuarina humilis/Eremaea pauciflora/Daviesia nudiflora* Closed Low Heath

EtAc
Eucalyptus todtiana Low Open Woodland over *Adenanthos cygnorum* Tall Open Shrubland over *Allocasuarina humilis/Eremaea pauciflora/Melaleuca trichophylla /Styphelia conostephioides* Closed Low Heath

EtBaBm
Eucalyptus *todtiana/Banksia attenuata/B. menziesii* Low Open Woodland over *Melaleuca seriata/Eremaea pauciflora/Lysinema pentapetalum* Closed Low Heath

Em
Eucalyptus marginata Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath

CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: ESRI, flown December 2020.
PROPOSED LAYOUT SOURCE: CLE, Plan No. 3729-08A-01, 16 June 2022.

2022-705-f05.dgn

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FLORA, VEGETATION AND FAUNA SURVEY - MADALYN MANOR
LOT 101 (NO 777) TEATREE ROAD BINDOON

PROPOSED DEVELOPMENT OVERLAIN ON VEGETATION TYPES

Figure 5

405 000mE
405 500mE
406 000mE
406 500mE
407 000mE
6 524 500mN
6 524 000mN
6 523 500mN
6 523 000mN
Lot 101
2120
2121
103
1

N

0 50 100 150 200 250m

SCALE 1 : 7 500 at A3 (MGA)

Legend

- Lot 101 Boundary
- Site Boundary
- Cadastral Boundary
- Foraging Habitat

Breeding Habitat Trees

- Jarrah (*Eucalyptus marginata*)
- Hollow

Mandalyn House Footprint

- Proposed House
- Proposed House APZ
- Proposed Workshop
- Proposed Workshop APZ
- Proposed Service Road - Below Ground
- Proposed Service Road - Above Ground

CADASTRAL SOURCE: Landgate, October 2019.
AERIAL PHOTOGRAPH SOURCE: ESRI, flown December 2020.
PROPOSED LAYOUT SOURCE: CLE, Plan No. 3729-08A-01, 16 June 2022.

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LOT 101 (NO 777) TEATREE ROAD BINDOON

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Job: 10370 Rpt: 2022-705 | Revision: A

PROPOSED DEVELOPMENT OVERLAIN ON CARNABY'S BLACK COCKATOO HABITAT

Figure 6

APPENDIX 1

DBCA Flora Database Search

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
221	1645404	3210	Acacia anarthros	3		Hilltop, moist brown loam over laterite.	Open wandoo woodland with scrub beneath.		Abundance: 10 + plants	E roadverge opposite grael extension area of Udmung Brooke reserve, N of Bindoon & 700 m S of juction with Hay Flat road on Great Northern Highway	AUTO	3	27/06/1991
1223	8359784	14066	Acacia cummingiana	3	Spreading, sprawling, multi stemmed shrub with yellow flowers. 4 nerved, a flattish stem prominently ribbed above and below.	Hilltop. Dry white sand.	Scattered marri, Eucalyptus todtiana, Banksia grandis and Nuytsia floribunda with Stirlingia latifolia, Daviesia incrassata, Synaphea spinulosa, Calothamnus sanguineus, Xanthorrhoea preissii.	Counted 38 plants over 200 m NS and 40 EW.		Reserve Road, Muchea/Chittering: road verges 0.7 km N from Yalyal Brook crossing	GPS	1	29/05/2012
1680	319244	11229	Acacia drummondii subsp. affinis	3	Shrub to 0.6 m tall; flower heads slightly drooping.	On hillside in latetitic gravel.				22.5 km from Bullsbrook East towards Chittering	AUTO	3	2/08/1973
1694	7215134	11229	Acacia drummondii subsp. affinis	3		On high ground between the highway and lake.	Remnant woodland. Contiguous with fringing vegetation on lake. Understorey varies from very open with few weeds to patches of thick Watsonia.		Condition is very good to good. Significant management would be required to eradicate the Watsonia infestation.	Site 7, Great Northern Highway, S of Bindoon	TOPO	3	/09/2005

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
3430	342750	14927	Acacia pulchella var. reflexa acuminate bracteole variant (R.J. Cumming 882)	3	Spreading bush 0.3 m; flowers yellow.	Road verge.	Eucalyptus calophylla-wandoo woodland.	Common.	Abundance: Common.	8 km (5 miles) from Bindoon towards Toodyay	AUTO	3	5/09/1981
4854	7215126	11336	Adenanthos cygnorum subsp. chamaephyton	3		On slope above the highway, adjacent to totally cleared paddock.	Isolated remnant woodland. Good understorey diversity remains. Weedy species are present here but are not dominant.		Condition is excellent to very good.	Site 10, Great Northern Highway, S of Bindoon	TOPO	3	/09/2005
4856	1616188	11336	Adenanthos cygnorum subsp. chamaephyton	3	Sprawling shrub; 30 cm x 1.6 m diameter.	Low upland, well drained; shallow grey sand over laterite, some duricrust exposed.	Low Heath C over Low Heath D (Scheme of Muir 1977); Allocasuarina humilis, Calothamnus sanguineus, Hibbetia hypericoides.		Abundance: common.	Private Property, 6.4 km at 250degrees from Bindoon	MAN	1	24/11/1990
14058	8289220	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Erect open branching shrub with white flowers. Height: to ca 1.8 m.	Slope. Dry white/grey sand.	Banksia woodland.	locally common.		Ioppolo Nature Reserve, Ioppolo Road, Chittering	GPS	1	20/10/2010
14059	8153337	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub to 1.5 m. Flowers white/pink.	Undulating. Yellow sand.	With Banksia sp., Hibbertia sp., Jacksonia.			Population occurs on Western Firebreak of Breera Road Nature Reserve and into adjacent Private Property (Eastern boundary)	GPS	1	19/12/2008
14060	3261484	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Open shrub to 1 m, flowers white.	Crest of scarp, white sand.	Open low woodland of Eucalyptus todtiana over scrub to 3 m of Adenanthos cygnorum. Conospermum stoechadis, Macrozamia riedlei, Anigozanthos manglesii, Jacksonia stenbergiana, Hibbertia huegelii.	20+ mature plants.		Ioppolo road, at 4.1 km E of Brand Highway and c. 14 km S of Gingin	TOPO	3	22/09/1992

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
14061	4237609	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T		Hilltop. W aspect. Dry white/brown sand.	Scrub over Open Low Scrub B with Jacksonia sternbergiana, Adenanthos cygnorum, Conospermum stoechadis.		Abundance: 76 plants.	Ioppolo Road, 4.1 km E of Brand Highway, Chittering/Gingin Shire	MAN	0	20/11/1995
14062	8008574	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub to 1.5 m. Flowers white/pink.	Undulating plain. Sand yellow.	With Banksia sp., Gompholobium sp., Hibbertia sp., Jacksonia sp.			Traps set along northern firebreak of Breera Road Nature Reserve	GPS	1	21/11/2008
14063	7782160	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Erect shrub, with white flowers. Height and width 1 m.	Slope, dry red-brown gravel.	No associated species.	1 plant.	Landholder have fenced individual plant.	Lot 439 Breera Road, Gingin, lot number on front entry gate shown as 451, plants located on the W boundary track approx 36 m SSW of house near Western Power Pole	GPS	1	3/09/2007
14065	7576196	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T						Ioppolo road between Muchea and Gingin	UNK	3	16/09/1987
14066	8161305	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub 2 m tall x 1.2 m wide. Pale pink buds and white flowers.	Yellow sand.	Jacksonia sternbergiana, Adenanthos cygnorum, Corymbia calophylla, Hibbertia hypericoides.	over 50 plants.		248 Breera Gora, Gingin	GPS	1	17/10/2008
14067	7934475	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub to 1.5 m. Flowers white.	Undulating plain with yellow sand.	Banksia woodland with Banksia spp., Eucalyptus calophylla, Hibbertia sp., Jacksonia sp. and Macrozamia riedlei.			Breera Road, 3.2 km E of the Brand Highway (N of Muchea)	GPS	1	12/12/2007

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
14068	8656827	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub.	Slope. Dry brown, yellow-orange gravelly sand.	Opne low woodland A over low woodland B over heath over low heath C over open herbs. Corymbia calophylla, Banksia menziesii, Banksia attenuata, Jacksonia sternbergiana, Adenanthos cygnorum, Allocasuarina humilis, Xanthorrhoea preissii, Hibbertia sp., Les	526 plants.	Plants in flower. Population in excellent condition, plants ranging from seedlings to mature adults. Population 3a.	Breera Road Reserve. Population extends from c. 3.1 km E of Brand Highway and Breera Road junction to c. 4.1 km. Plants occur on both sides of the road	GPS	1	19/10/2009
14069	8656789	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub.	Slope. Dry yellow-brown, yellow-orange sand/gravel.	Low Woodland over Heath over Sedges over Herbs. Corymbia calophylla, Banksia grandis, Banksia attenuata, Banksia sessilis, Jacksonia sternbergiana, Adenanthos cygnorum, Xanthorrhoea preissii, Allocasuarina humilis, Hibbertia hypericoides, Ptilotus sp..	320 mature plants and seedlings.	Plants in flower at time of survey. Population 3b.	Firebreak, Lot 1003 Breera Road, Gingin	GPS	1	18/11/2009

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
14070	8656797	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub.	Slope. Dry brown, yellow-orange gravelly sand.	Opne low woodland A over low woodland B over heath over low heath C over open herbs. Corymbia calophylla, Banksia menziesii, Banksia attenuata, Jacksonia sternbergiana, Adenanthos cygnorum, Allocasuarina humilis, Xanthorrhoea preissii, Hibbertia sp., Les	526 plants.	Plants in flower. Population in excellent condition, plants ranging from seedlings to mature adults. Population 3a.	Breera Road Reserve. Population extends from c. 3.1 km E of Brand Highway and Breera Road junction to c. 4.1 km. Plants occur on both sides of the road	GPS	1	19/10/2009
14071	4151348	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Erect and straggly shrub up to 2 m high x 1 m wide. Full flower. Conspicuous.	Lower slope of scarp. Dry and covered with leaf litter. Yellow sand.	Low woodland, Banksia scaevola, Xanthorrhoea.		Abundance: > 30 plants on road verges. Population extends S side 10 m wide, N side 3 m wide. Probably disturbance opportunist as grows where soil has been disturbed for road and fence construction.	3.3 km E Brand Highway on Breera road, S of Gingin	GPS	1	5/10/1995

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
14072	4262069	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub to 1.5 m. Flowers white.	Undulating plain. Yellow sand.	Remnant woodland with Eucalyptus calophylla, Macrozamia riedlei, Jacksonia, Hibbertia, Banksia spp.		Abundance: 300+ plants.	3.3 km E of Brand Highway on Breera Road, N and S verges	GPS	1	22/11/1995
14073	4135768	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub to 1.5 m. Flowers white.	Undulating plain. Yellow sand.	Remnant woodland with Eucalyptus calophylla, Macrozamia riedlei, Jacksonia, Hibbertia, Banksia spp.		Abundance: 300+ plants in area 2-10 m.	3.3 km E of Brand Highway on Breera Road - N and S verges	GPS	1	9/12/1995
14074	4262018	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	Shrub with bright green leaves. Flowers white, buds tinged pink.	Hilltop/rise. White sand.	With Jacksonia sternbergiana, Adenanthos cygnorum, Macrozamia riedlei, Scaevola sp.			4.1 km E of Brand Highway on Ioppolo Road, N road verge	MAN	0	22/11/1995
15909	847917	13827	Cyanicula ixioides subsp. candida	2	Predominantly white form with the odd blue form.		Eucalyptus wandoo and E. calophylla woodland over formerly mid-dense Hakea, herbs regenerating. Burnt summer 1985/86.		Abundance: several hundred flowers.	9 km NNE of Bindoon, access off Stevenson Road	MAN	0	21/09/1986
27410	4360761	14319	Grevillea corrugata	T	Robust shrub 2-5 m high, white flowers.	In gravelly loam.	Beside road in eucalypt forest. Disturbed verge.	frequent.		Julimar road, 1.3 km from Chittering road, c. 10 km S of Bindoon	MAN	0	4/10/1992
27412	4360745	14319	Grevillea corrugata	T	Robust shrub 2-5 m high, white flowers.	In gravelly loam.	Beside road in eucalypt forest. Disturbed verge.	frequent.		Julimar road, 1.3 km from Chittering road, c. 10 km S of Bindoon	MAN	0	4/10/1992
27413	4360753	14319	Grevillea corrugata	T	Robust shrub 2-5 m high, white flowers.	In gravelly loam.	Beside road in eucalypt forest. Disturbed verge.	frequent.		Julimar road, 1.3 km from Chittering road, c. 10 km S of Bindoon	MAN	0	4/10/1992
31131	3072924	19775	Hibbertia glomerata subsp. ginginensis	2	Shrub ca 0.5 m high; foliage grey.		In Eucalyptus-Dryandra-Xanthorrhea woodland.			15.6 km from Gingin toward Bindoon (at Moora-Mogumber turnoff)	MAN	0	28/09/1968
31132	3072940	19775	Hibbertia glomerata subsp. ginginensis	2	Ca 0.15 m high.		In Eucalyptus-Dryandra-Xanthorrhea woodland.		Specimens from different plants.	15.6 km from Gingin toward Bindoon (at Moora - Mogumber turnoff)	MAN	0	28/09/1968

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
31137	4377818	19775	Hibbertia glomerata subsp. ginginensis	2	Erect compact shrub 30 cm x 40 cm, flowers yellow.	Brown clay lateritic soil.	Forest.		Abundance: frequent.	15 km E of Gingin	GPS	1	14/09/1995
31254	1131494	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31257	1131524	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31258	1131486	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31262	1131540	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31266	1131508	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31269	1131516	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31270	1131532	5145	Hibbertia miniata	4						Bindoon	MAN	3	8/10/1945
31271	1130447	5145	Hibbertia miniata	4						Bindoon	MAN	3	15/09/1941
31272	1130455	5145	Hibbertia miniata	4						40 - 67 mile pegs, Geraldton Highway. [Between Muchea and Wannamal, 64 - 108 km along the Midlands Road].	MAN	4	5/09/1957
32174	7525842	17622	Hypolaena robusta	4	Erect plant with brown flowers.	Slope. Dry, white-grey sand.	Heath fringed by Jarrah, Marri and Banksia grandis.	100 plants.		Ashworth Road, Mooliabeenee, R 24560/2342, 3.3 km W of Cullala Road then 50 m S	GPS	1	21/10/2006
32192	7835299	17622	Hypolaena robusta	4		Sand, flat, private property.	Low Open Woodland of Eucalyptus todtiana and Banksia attenuata.		Proposed excavation for landfill, healthy population in flower.	Lot 26 Ioppolo Road, Dandaragan Plateau	GPS	1	12/10/2007
34442	6904351	20527	Lechenaultia magnifica	1	Erect, branching shrub with white to pale blue flowers. Height ca 50 cm. Early flowering stage.	Slope with dry white grey sand.	Banksia menzesii and Eucalyptus todtiana with sandplain shrubs on disturbed roadside edges.	scattered.		Mooliabeenee-Gingin Road, Mooliabeenee, 2 km E of Peterson Rise	GPS	1	23/10/2004
35200	8124728	6354	Leucopogon allittii	3	Erect shrub 1.9 m high x 0.8 m wide. Flowers white held at right angles to stem or pendulous, leaves stiff and pungent held horizontal.	Gentle slope, outcrop. Soil surface dry, with some stones on surface. Yellow - grey clayey sand over laterite.	Calothamnus sanguineus, Hibbertia hypericoides.	rare.	Area burnt in summer of 1995/96 or 1996/97.	Lot 451 Breera Road Gingin, S side in jarrah outcrop area near heath area	UNK	2	21/06/2009

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
38150	8897549	14337	Millotia tenuifolia var. laevis	2	Annual herb, 0.1 m tall. White-yellow flowers, plants dry and dehiscing.	Slope. Yellow sand.	Low woodland of Eucalyptus todtiana, Banksia attenuata and B. menziesii over mid sparse shrubland of Allocasuarina humilis and Xanthorrhoea preissii, Hibbertia hypericoides and Melaleuca trichophylla over low open sedgeland of Mesomelaena pseudostygia.	420 + plants.		C. 7 km E of Brand Highway and 11.5 km NNE of Muchea, on E firebreak, 550 m S of N firebreak/extension of Ioppolo Road	GPS	1	9/10/2015
38152	8897565	14337	Millotia tenuifolia var. laevis	2	Annual herb, 0.1 m high. White-yellow flowers, plants dry and dehiscing.	Slope. Yellow sand.	Mid woodland of Eucalyptus marginata and Corymbia calophylla over tall isolated clumps of shrubs of Adenanthos cygnorum over low open shrubland of Astroloma xerophyllum, Hibbertia hypericoides, Leucopogon conostephioides and Stirlingia latifolia over low	460 + plants.		C. 6 km E of the Brand Highway and 11.8 km NNE of Muchea, 40 m S of Ioppolo Road and 50 m W of Reserve Road	GPS	1	9/10/2015
38153	8897557	14337	Millotia tenuifolia var. laevis	2	Annual herb, 0.1 m high. White-yellow flowers, plants dry and dehiscing.	Slope. Yellow sand.	Low isolated clumps on trees of Banksia attenuata, B. grandis and Corymbia calophylla over mid open shrubland of Allocasuarina humilis and Xanthorrhoea preissii over low open shrubland of Calothamnus sanguineus, Eremaea pauciflora and Hibbertia hypericoi	1350 + plants.		C. 5.7 km E of Brand Highway, 10.7 km NNE of Muchea, 950 m S of Ioppolo Road and 100 m W of Reserve Road	GPS	1	9/10/2015

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
39562	8766622	2271	Persoonia rudis	3	Straggly shrub 0.6 m high and 1.1 m wide. Flowers yellow. Young shoots pale green and woolly.	Slope, grey over yellow sand. Burnt in summer of 1995/1996 or 1996/1997.	Mesomelaena pseudostygia and mixed shrubs.	rare.		Lot 451, Breera Road, at top of drive above site BJG 1, Gingin	GPS	1	15/12/2009
39609	4172418	2278	Persoonia sulcata	4						65 mile peg on Geraldton Road [ca 32 km S of Mogumber]	AUTO	3	/09/1948
41476	8124957	4161	Ptychosema pusillum	T	Herb to 10 cm. Yellow flowers; red - striped on back of flower.	On firebreak and slope with dry white sand.	Low woodland B over Low Heath C over Herbs. Banksia attenuata, Eucallyptus todtiana, Adenanthos cygnorum, Stirlingia latifolia, Sholtzia sp., Hibbertia hypericoides, Leucopogon sprengelioides.	500+ mature plants.	Plants located on the eastern firebreak and scattered throughout bare sandy patches in the vegetation.	Breera Nature Reserve, Gingin	GPS	1	9/09/2008
41478	7782152	4161	Ptychosema pusillum	T	Perrenial herb to 10 cm high. Flowers red-brown-yellow, striped on the back of flowers.	Slope, dry white sand.	Low Woodland B over Low Heath Cover Herbs. Banksia menzeisii, B. attenuata, B. illicifolia, Eucalyptus todtiana, Leucopogon sprengelioides, Podotheca angustifolia, Stylidium aff. repens, Ursinia anthemoides, Isolepis marginata and Artotheca calendula.		New population.	Lot 439 Breera Road, Gingin, Plants at NE corner of property on fire breaks and powerline track	GPS	1	18/09/2007
45200	7815336	7756	Stylidium longitubum	4	Slender erect herb. Flowers bright pink, throat white, in flower.	Winter wet flats. Black peaty sand surface. Clay in lower horizons.	Melaleuca rhaphiophylla low woodland.	rare.		Chandala Nature Reserve	GPS	2	21/11/2005

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
46072	8203601	48297	Styphelia filifolia	3		Well drained gentle SW facing slope. Yellow-brown sand over yellow-grey sand. Litter 75% to 1 cm depth; bare ground 15-20%.	Banksia attenuata and Eucalyptus todtiana Open Low Woodland over Allocasuarina humilis and Hakea costata Shrubland over Eremaea pauciflora var. pauciflora Open Low Heath, over Mesomelaena pseudostygia Very Open Sedgeland.		Vegetation condition excellent.	Plot IOPP04, Chandala Nature Reserve Northern Block, Shire of Chittering	GPS	0	2/09/2006
47644	7708491	35581	Tetraria sp. Chandala (G.J. Keighery 17055)	2	Slender erect sedge 1.5 m high x 30 cm. Flowers brown.	Mound spring. Peaty sand.	Dense Melaleuca rhaphiophylla woodland over mound dominated by ferns and Tetraria sedges.	locally common.		Chandala Nature Reserve	GPS	1	28/07/2005
47909	8202931	4540	Tetratheca pilifera	3		Slope, breakaway. Gully, drainage line. Dry - moist brown loam clay over granite, laterite and boulders.	Eucalyptus wandoo fringing shrubland. Associated species: Trymalium floribundum, Hypocalymma angustifolium, Gastrolobium trilobium, Hakea undulata, Melaleuca radula, Hibbertia hypericoides, Xanthorrhoea preissii.	5 plants over 10 m x 10 m.		350 Bindoon Spring Road, ca 750 m E of the farmhouse, Toodyay West	GPS	1	8/10/2009

FID	Sheet	NameID	Taxon	Cons_Code	Plant_Desc	Site	Vegetation	Frequency	Notes	Locality	Geo_Method	Precision	Date
51384	7908857	12456	Verticordia rutilastra	3		Slope. NW aspect. White sand over laterite/mosiac.	(Muir's): Open Shrubland Allocasuarina humilis, Xanthorrhoea preissii and/or Jacksonia floribunda over species rich Low Shrubland to Open Low Heath typically Hibbertia hypericoides and Calothamnus sanguineus, mixed Very Open Sedgeland dominated by Mesome		Condition of population: healthy.	Lot 570. Ioppolo Road, Chittering	GPS	1	1/09/2006
51386	7835302	12456	Verticordia rutilastra	3		Sand, flat, private property.	Low Open Woodland of Eucalyptus todtiana and Banksia attenuata.		Proposed excavation for landfill. Healthy population for landfill.	Lot 26 Ioppolo Road, Dandragan Plateua	GPS	1	12/10/2008
51411	7908865	12460	Verticordia serrata var. linearis	3		Slope. Granite/dolerite. Mosaic limestone and laterite/granite derived deep white and orange sands.	(Muir's): Open Shrubland Allocasuarina humilis, Xanthorrhoea preissii and/or Jacksonia floribunda over species rich Low Shrubland to Open Low Heath typically Hibbertia hypericoides and Calothamnus sanguineus, mixed Very Open Sedgeland dominated by Mesome		Condition of population: healthy.	Lot 570. Ioppolo Road, Chittering	GPS	1	1/11/2006

FID	PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	Location	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatureCoun	JuvenileCo	SeedlingCo	LiveTotal	PlantTypeC	AreaOccupi	inFlower	Population
670	89605	11229	Acacia drummondii subsp. affinis	3		16			Site 7, Great Northern Hwy, S of Bindoon (3.526km SSW of Bindoon - GIS extrapolated), on high ground between highway and lake.	PERTH HILLS	UNKNOWN	UNKNOWN		1/09/2005 0:00		0			0			N	
1612	100727	11336	Adenanthos cygnorum subsp. chamaephyton	3		3	A		South end of Lot 77 Tee Tree Rd. North side of Tee Tree Rd, ca. 0.7 km W of the junction with Great Northern Hwy. Main Roads gravel pit (MRD Stockpile GNH-59).	PERTH HILLS	MRD	GRA		26/10/1996 0:00	ESTMT	350			350			N	
1613	100728	11336	Adenanthos cygnorum subsp. chamaephyton	3		3	B		South end of Lot 76 Tee Tree Rd. North side of Tee Tree Rd, ca. 0.7 km west of the junction with Great Eastern Hwy.	PERTH HILLS	LGA	OTH		26/10/1996 0:00	ESTMT	100			100			N	
1614	100729	11336	Adenanthos cygnorum subsp. chamaephyton	3		3	C		North verge of Tee Tree Rd, from ca. 0.6 to 0.75 km north-west from the junction with Great Eastern Hwy.	PERTH HILLS	LGA	VER		26/10/1996 0:00	ESTMT	50			50			N	
1615	100730	11336	Adenanthos cygnorum subsp. chamaephyton	3		3	D		North verge of Tee Tree Rd, ca. 0.4 km north-west from the junction with Great Northern Hwy.	PERTH HILLS	LGA	VER		26/10/1996 0:00	ESTMT	30			30			N	
1616	89663	11336	Adenanthos cygnorum subsp. chamaephyton	3		4			East verge of Great Northern Hwy, ca. 5.1 km south of the junction with Tee Tree Rd.	PERTH HILLS	MRD	VER		26/10/1996 0:00	ESTMT	20			20			N	
1625	89651	11336	Adenanthos cygnorum subsp. chamaephyton	3		11			Private Property, 6.4 km at 250 degrees from Bindoon. [Ca. 0.2 km north of Tee Tree Rd, ca. 1.85 km south east from the junction with Tee Tree Road North].	PERTH HILLS	PRI			24/11/1990 0:00		0			0			N	
1634	89661	11336	Adenanthos cygnorum subsp. chamaephyton	3		20			Private Property, Lot 8, 6.4km @ 250Â° from Bindoon.	PERTH HILLS	PRI			24/11/1990 0:00		0			0			N	
5327	105384	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	1	A		Crown Reserve 50678. Ioppolo Rd, ca. 4.1km E of Brand Hwy, proposed A-class NR Loc.No.4, Lot 24, S side of rd, around gate, firebreaks and access track.	PERTH HILLS	CC	NRE		18/03/2015 0:00	ACT_IND	2000			0	PLANTS	15000		HEALTHY
5328	105385	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	1	B		PP Lot 3, Ioppolo Road, ca.4.1km E of Brand Hwy, N side of rd.	SWAN COASTAL	PRI			5/10/2016 0:00	ACT_IND	100	80	67	0	PLANTS		N	HEALTHY

FID	PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	Location	District	Vesting	Purpose1	Purpose2	CountDate	Method	MaturEleCoun	JuvenileCo	SeedlingCo	LiveTotal	PlantTypeC	AreaOccupi	inFlower	Population
5329	105386	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	1	C		Road Reserve. Ioppolo Road, ca. 3.6-5km E of Brand Hwy, both sides of rd. Adjacent to Location No. 3 & 4. (This subpopulation previously known as 1C,1E,1H and 1J).	PERTH HILLS	LGA	VER		15/09/2015 0:00	ACT_IND	54	27		0	PLANTS			HEALTHY
5330	105387	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	1	D		PP Lot 25 Loc.No.M2122, Ioppolo Road, ca.4.4-5km E of Brand Hwy, N of rd, also extending N on E side of powerline for 130m.	SWAN COASTAL	PRI			21/10/2000 0:00	ACT_IND	482		177	482			Y	
5331	105388	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	1	E		PP Loc.No.M2091, Ioppolo Road, ca. 4.4km E of Brand Hwy, S of rd, in the north west corner of the property extending from the northern side of the northern firebreak, south approx 245m, along the western firebreak and on the powerline track.	PERTH HILLS	SWA	CFL		11/02/2016 0:00		0			0			N	HEALTHY
5332	116409	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	1	F		Nature Reserve 50678, just west of eastern boundary firebreak at ac. 270m south of Ioppolo Road, 3.3km east of Brand Highway.	PERTH HILLS	SWA	NRE		18/12/2013 0:00	ACT_IND	1299			0	PLANTS		Y	HEALTHY
5333	105390	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	2	A		Ioppolo Road, 6.7km E of Brand Hwy, PP Loc.M2122, Lot 26, N of rd adj. to firebreak.	SWAN COASTAL	PRI			27/07/2000 0:00	ACT_IND	8		6	8			N	
5334	105391	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	2	B		Ioppolo Road, 6.5km E of Brand Hwy yo approx 6.726km, N side of rd adj. to firebreak.	SWAN COASTAL	LGA	VER		21/10/2009 0:00	ACT_IND	4			0	PLANTS	226	Y	HEALTHY
5335	105393	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	3	A		Road Reserve. Breera Rd, 3.1-4.1km E of Brand Hwy, both sides of rd.	SWAN COASTAL	LGA	VER		6/10/2017 0:00	ACT_IND	0			97	PLANTS		Y	HEALTHY
5336	105394	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	3	B		PP Lot 1003 (previously 450) N of Breera Rd, 3.1km E of Brand Hwy. Pop'n occurs from the SE corner of the property and extends northwesterly.	SWAN COASTAL	PRI			12/12/2013 0:00	ACT_IND	202	45		0	PLANTS	14908		HEALTHY

FID	PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	Location	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatureCoun	JuvenileCo	SeedlingCo	LiveTotal	PlantTypeC	AreaOccupi	inFlower	Population
5337	105396	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	4	A		PP Lot 25, Loc.M2122, Breera Road, 4.4km E of Brand Hwy & 1.1km S on track, pop. extends between powerline and W bdry of Lot 25, adj. the SE cnr of NR 47435 (previously Lot 1).	SWAN COASTAL	PRI			11/10/2017 0:00		0			0			N	
5338	105397	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	4	B		Breera Nature Reserve 47435 (previously Lot 1), Breera Road, adj. boundary firebreak starting at E bdry near SE cnr of property clockwise to N bdry ending at E DRF marker on S verge of Breera Rd ca.4.1km E of Brandt Hwy.	SWAN COASTAL	CC	CFF		14/05/2015 0:00	ACT_IND	5134			0	PLANTS		Y	HEALTHY
5339	105398	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	4	C		Private property Loc. M1907 (248 Breera Rd, Gingin). Plants occur in N and E firebreaks & throughout veg. 3 distinct groups along the E firebreak.	SWAN COASTAL	PRI			19/12/2013 0:00	ACT_IND	645			0	PLANTS		Y	HEALTHY
5340	105399	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	4	D		Unmade Road Reserve, immediately S of Breera NR (R 47435). 3 groups: the Western group is near Lot M1907, the Eastern group is near Lot 25, and the Middle group is ca. 1/2 way along Breera NR S road verge.	SWAN COASTAL	LGA	VER		14/05/2015 0:00	ACT_IND	113			0	PLANTS		Y	HEALTHY
5341	96700	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	5			Private Property Loc.3. Ca. 2.5-2.6km east of Brand Hwy on Ioppolo Rd to PP Loc.3, then 0.6-1.1km north.	SWAN COASTAL	PRI			29/11/2013 0:00	ESTMT	0			17	PLANTS		N	
5342	105401	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	6	A		PP Lot 25, Loc.M2122, adj. W bdry firebreak, extending 0.2-1.4km N of Ioppolo Rd in 6 subpopulations (@ 0.2, 0.62, 0.72, 1.09, 1.25 & 1.38km N of rd).	SWAN COASTAL	PRI			11/10/2017 0:00		0			0			N	

FID	PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	Location	District	Vesting	Purpose1	Purpose2	CountDate	Method	MatureCoun	JuvenileCo	SeedlingCo	LiveTotal	PlantTypeC	AreaOccupi	inFlower	Population
5343	105402	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	6	B		PP Lot 25, Loc.M2122, adj.to powerline 0.27-1.02km N of Ioppolo Rd, in 5 subpopulations (@ 0.27, 0.39 & 1.02km N of rd, W of powerline; 0.77km N of rd, E of powerline; 0.56km N of rd and 130m W of powerline along old firebreak).	SWAN COASTAL	PRI			11/10/2017 0:00		0			0			N	
5344	116449	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	6	C		PP, Lot 25, Breera. Pop is located ~350m NE of 6A and ~1km N of Ioppolo Rd. Plants are ~60m North of Pole MOR-MUC 81-304 under the line and outside of the western edge of the transmission line alignment.	PERTH HILLS	PRI	UNKNOWN		21/11/2016 0:00	ACT_IND	0			197	PLANTS		Y	
5345	96701	35776	Chamelaucium sp. Gingin (N.G. Marchant 6)	T	VU	7			Private property. Lot 451 (or 439?) Breera Road, Gingin. Plant located on the western boundary track, ca. 36m SSW of house, near power pole.	SWAN COASTAL	PRI			3/09/2007 0:00	ACT_IND	1			1			Y	
11503	94918	19775	Hibbertia glomerata subsp. ginginensis	2		2	A		Northernand Southern road verges on Mooliabeenee Rd, Mooliabeenee. Approx 150-600m SE of Wells Glover Rd. 14.9 km along Mooliabeenee Rd from Gingin towards Bindoon. Continuous with population 2B (on private property).	PERTH HILLS	LGA	VER		22/04/2014 0:00	ACT_IND	0			18	PLANTS	2000	N	HEALTHY
11505	94919	19775	Hibbertia glomerata subsp. ginginensis	2		3			15.6km from Gingin toward Bindoon, at Moora-Mogumber turnoff.	PERTH HILLS	UNKNOWN	UNKNOWN		28/09/1968 0:00		0			0			N	
11507	94921	19775	Hibbertia glomerata subsp. ginginensis	2		5			15km E of Gingin	PERTH HILLS	UNKNOWN	UNKNOWN		4/09/1995 0:00		0			0			N	
12496	95193	20527	Lechenaultia magnifica	1		4			Mooliabeenee Road (Mooliabeenee-Gingin Road). 2 km E of Peterson Rise Rd. Mondah WA 6503.	SWAN COASTAL	LGA	VER		23/10/2004 0:00		0			0			Y	

FID	PopId	Nameid	Taxon	ConsStatus	WARank	PopNumber	SubPopCode	PopStatus	Location	District	Vesting	Purpose1	Purpose2	CountDate	Method	MaturEcoun	JuvenileCo	SeedlingCo	LiveTotal	PlantTypeC	AreaOccupi	inFlower	Population
14819	86914	4161	Ptychosema pusillum	T	VU	3			PP, Lot 451 (439 Breera Road). Plants in the NE corner of property on firebreaks and scattered throughout vegetation. Plants also occur on powerline track. Gingin.	SWAN COASTAL	PRI			3/09/2007 0:00	ESTMT	1000			1000			Y	
14820	98959	4161	Ptychosema pusillum	T	VU	4	A		Breera Road NR (R 47435). Located on the E firebreak and scattered throughout bare sandy patches in vegetation. Gingin.	SWAN COASTAL	CC	CFF		9/09/2008 0:00	ESTMT	500			500			N	
14821	98960	4161	Ptychosema pusillum	T	VU	4	B		PP Lot 25 467 Ioppolo Road Breera. Not surveyed, seen from fenceline.	SWAN COASTAL	PRI			9/09/2008 0:00		0			0			N	
17143	90128	12460	Verticordia serrata var. linearis	3		9			PRI Lot 2091 (previously 570), Ioppolo Rd. [lot purchased by DPaW Jan 2014]	SWAN COASTAL	SWA	CFL		1/11/2006 0:00		0			0			Y	

APPENDIX 2

Naturemap Report

NatureMap Species Report

Created By Paul van der Moezel on 16/08/2019

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 116° 00' 52" E,31° 24' 17" S
Buffer 10km

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
1.	3200	*Acacia acuminata (Jam, Mangard)*			
2.	3210	*Acacia anarthros*		P3	
3.	15466	*Acacia applanata*			
4.	15469	*Acacia barbinervis subsp. barbinervis*			
5.	3254	*Acacia celastrifolia (Glowing Wattle)*			
6.	14061	*Acacia clydonophora*			
7.	11926	*Acacia drewiana subsp. drewiana*			
8.	11229	*Acacia drummondii subsp. affinis*		P3	
9.	11303	*Acacia drummondii subsp. candolleana*			
10.	11192	*Acacia drummondii subsp. elegans*			
11.	3323	*Acacia ericifolia*			
12.	3331	*Acacia extensa (Wiry Wattle)*			
13.	3374	*Acacia huegelii*			
14.	11611	*Acacia lasiocarpa var. lasiocarpa*			
15.	15721	*Acacia lasiocarpa var. sedifolia*			
16.	3410	*Acacia lateriticola*			
17.	3442	*Acacia microbotrya (Manna Wattle, Kalyang)*			
18.	3454	*Acacia nervosa (Rib Wattle)*			
19.	14129	*Acacia oncinophylla subsp. oncinophylla*		P3	
20.	17860	*Acacia podalyriifolia*	Y		
21.	3502	*Acacia pulchella (Prickly Moses)*			
22.	15482	*Acacia pulchella var. goadbyi*			
23.	15480	*Acacia pulchella var. reflexa*			
24.	14927	*Acacia pulchella var. reflexa acuminate bracteole variant (R.J. Cumming 882)*		P3	
25.	3527	*Acacia saligna (Orange Wattle, Kudjong)*			
26.	30033	*Acacia saligna subsp. lindleyi*			
27.	30032	*Acacia saligna subsp. saligna*			
28.	3541	*Acacia sessilis*			
29.	3543	*Acacia shuttleworthii*			
30.	15484	*Acacia sphacelata subsp. sphacelata*			
31.	3554	*Acacia squamata*			
32.	3557	*Acacia stenoptera (Narrow Winged Wattle)*			
33.	3574	*Acacia teretifolia*			
34.	3591	*Acacia urophylla*			
35.	3602	*Acacia willdenowiana (Grass Wattle)*			
36.	24260	*Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)*			
37.	24261	*Acanthiza chrysorrhoa (Yellow-rumped Thornbill)*			
38.	24262	*Acanthiza inornata (Western Thornbill)*			
39.	24560	*Acanthorhynchus superciliosus (Western Spinebill)*			
40.	25536	*Accipiter fasciatus (Brown Goshawk)*			
41.	25755	*Acrocephalus australis (Australian Reed Warbler)*			
42.	41323	*Actitis hypoleucos (Common Sandpiper)*		IA	
43.	1775	*Adenanthos cygnorum (Common Woollybush)*			
44.	11336	*Adenanthos cygnorum subsp. chamaephyton*		P3	
45.	11837	*Adenanthos cygnorum subsp. cygnorum (Common Woollybush)*			
46.	184	*Aira caryophyllea (Silvery Hairgrass)*	Y		
47.	1056	*Alexgeorgea nitens*			
48.	1721	*Allocasuarina campestris*			
49.	1731	*Allocasuarina huegeliana (Rock Sheoak, Kwowl)*			
50.	1732	*Allocasuarina humilis (Dwarf Sheoak)*			
51.	13380	*Amphibromus nervosus*			
52.	2383	*Amyema preissii (Wireleaf Mistletoe)*			
53.	24312	*Anas gracilis (Grey Teal)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
54.	24315	*Anas rhynchotis (Australasian Shoveler)*			
55.	24316	*Anas superciliosa (Pacific Black Duck)*			
56.	6311	*Andersonia heterophylla*			
57.	6314	*Andersonia lehmanniana*			
58.	11471	*Andersonia lehmanniana subsp. lehmanniana*			
59.	7833	*Angianthus preissianus*			
60.	47414	*Anhinga novaehollandiae (Australasian Darter)*			
61.	1409	*Anigozanthos humilis (Catspaw)*			
62.	1411	*Anigozanthos manglesii (Mangles Kangaroo Paw, Kurulbrang)*			
63.	1416	*Anigozanthos viridis (Green Kangaroo Paw, Kurulbardang)*			
64.	25241	*Antaresia stimsoni subsp. stimsoni (Stimson's Python)*			
65.	24561	*Anthochaera carunculata (Red Wattlebird)*			
66.	24562	*Anthochaera lunulata (Western Little Wattlebird)*			
67.	3688	*Aotus gracillima*			
68.	1117	*Aphelia cyperoides*			
69.	1119	*Aphelia nutans*			
70.	24991	*Aprasia repens (Sand-plain Worm-lizard)*			
71.	24285	*Aquila audax (Wedge-tailed Eagle)*			
72.	7838	*Arctotheca calendula (Cape Weed, African Marigold)*	Y		
73.	41324	*Ardea modesta (great egret, white egret)*			
74.	24340	*Ardea novaehollandiae (White-faced Heron)*			
75.	207	*Aristida contorta (Bunched Kerosene Grass)*			
76.	25566	*Artamus cinereus (Black-faced Woodswallow)*			
77.	24353	*Artamus cyanopterus (Dusky Woodswallow)*			
78.	6580	*Asclepias curassavica (Redhead Cottonbush)*	Y		
79.	20350	*Astartea affinis (West-coast Astartea)*			
80.	20283	*Astartea scoparia (Common Astartea)*			
81.	6328	*Astroloma glaucescens*			
82.	6330	*Astroloma macrocalyx (Swan Berry)*			
83.	42144	*Astroloma oblongifolium*			
84.	6334	*Astroloma pallidum (Kick Bush)*			
85.	6339	*Astroloma xerophyllum*			
86.		*Atherinosoma wallacei*			
87.	43942	*Austroparmelina pruinata*			
88.	17234	*Austrostipa compressa*			
89.	17244	*Austrostipa macalpinei*			
90.	17257	*Austrostipa variabilis*			
91.	233	*Avena barbata (Bearded Oat)*	Y		
92.	24318	*Aythya australis (Hardhead)*			
93.	18279	*Babiana angustifolia*	Y		
94.	36441	*Babingtonia camphorosmae (Camphor Myrtle)*			
95.	45416	*Babingtonia grandiflora (Large-flowered Babingtonia)*			
96.	45403	*Babingtonia pelloeae (Pelloe's Babingtonia)*			
97.		*Backobourkia heroine*			
98.	1800	*Banksia attenuata (Slender Banksia, Piara)*			
99.	32580	*Banksia dallanneyi subsp. dallanneyi var. dallanneyi*			
100.	32560	*Banksia drummondii subsp. hiemalis*			
101.	32523	*Banksia fraseri var. fraseri*			
102.	1819	*Banksia grandis (Bull Banksia, Pulgarla)*			
103.	1834	*Banksia menziesii (Firewood Banksia)*			
104.	32159	*Banksia polycephala (Many-headed Dryandra)*			
105.	32080	*Banksia sessilis var. sessilis*			
106.	33401	*Banksia sphaerocarpa var. pumilio*			
107.	12111	*Banksia sphaerocarpa var. sphaerocarpa (Fox Banksia)*			
108.	32044	*Banksia squarrosa (Pingle)*			
109.	32045	*Banksia squarrosa subsp. squarrosa*			
110.	32315	*Barbula calycina*			
111.		*Barnardius zonarius*			
112.	739	*Baumea acuta (Pale Twig-rush)*			
113.	747	*Baumea rubiginosa*			
114.	5382	*Beaufortia elegans (Elegant Beaufortia)*			
115.	7046	*Bellardia trixago (Bellardia)*	Y		
116.	25788	*Billardiera fraseri (Elegant Pronaya)*			
117.	25798	*Billardiera fusiformis (Australian Bluebell)*			
118.		*Bindoona glauerti*			Y
119.	24319	*Biziura lobata (Musk Duck)*			
120.	1417	*Blancoa canescens (Winter Bell)*			
121.	7856	*Blennospora drummondii*			
122.	11381	*Boronia ramosa subsp. anethifolia*			
123.	11564	*Boronia ramosa subsp. ramosa*			

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124.	16639	*Boronia scabra subsp. scabra*			
125.	4443	*Boronia subsessilis*			
126.	1272	*Borya scirpoidea*			
127.	1273	*Borya sphaerocephala (Pincushions)*			
128.	3710	*Bossiaea eriocarpa (Common Brown Pea)*			
129.		*Bostockia porosa*			
130.	10915	*Brachychiton populneus (Kurrajong)*	Y		
131.	7867	*Brachyscome bellidioides*			
132.	7878	*Brachyscome iberidifolia*			
133.	7883	*Brachyscome pusilla*			
134.	42381	*Brachyurophis semifasciatus (Southern Shovel-nosed Snake)*			
135.	244	*Briza maxima (Blowfly Grass)*	Y		
136.	245	*Briza minor (Shivery Grass)*	Y		
137.	1366	*Bulbine semibarbata (Leek Lily)*			
138.	1383	*Burchardia bairdiae*			
139.	1385	*Burchardia multiflora (Dwarf Burchardia)*			
140.	25714	*Cacatua pastinator (Western Long-billed Corella)*			
141.	24725	*Cacatua roseicapilla subsp. assimilis (Galah)*			
142.	25716	*Cacatua sanguinea (Little Corella)*			
143.	42307	*Cacomantis pallidus (Pallid Cuckoo)*			
144.	1276	*Caesia micrantha (Pale Grass Lily)*			
145.	44893	*Caladenia denticulata subsp. denticulata*			
146.	15348	*Caladenia flava subsp. flava*			
147.	15360	*Caladenia longicauda subsp. borealis*			
148.	15361	*Caladenia longicauda subsp. calcigena*			
149.	15503	*Caladenia paludosa*			
150.	13862	*Caladenia speciosa*		P4	
151.	2846	*Calandrinia calyptrata (Pink Purslane)*			
152.	2848	*Calandrinia corrigioloides (Strap Purslane)*			
153.	2854	*Calandrinia granulifera (Pygmy Purslane)*			
154.	2856	*Calandrinia liniflora (Parakeelya)*			
155.	1213	*Calectasia cyanea (Blue Tinsel Lily)*		T	
156.	27624	*Caloplaca cerina*			
157.	41653	*Caloplaca kaernefeltii*			
158.		*Caloplaca sp.*			
159.	5421	*Calothamnus pachystachyus*		P4	
160.	5429	*Calothamnus sanguineus (Silky-leaved Blood flower, Pindak)*			
161.	25717	*Calyptorhynchus banksii (Red-tailed Black-Cockatoo)*			
162.	24731	*Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black Cockatoo)*		T	
163.	24734	*Calyptorhynchus latirostris (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)*		T	
164.	48400	*Calyptorhynchus sp. (white-tailed black cockatoo)*		T	
165.	5439	*Calytrix angulata (Yellow Starflower)*			
166.	5458	*Calytrix flavescens (Summer Starflower)*			
167.	5460	*Calytrix fraseri (Pink Summer Calytrix)*			
168.	5461	*Calytrix glutinosa*			
169.	5479	*Calytrix strigosa*			
170.	5481	*Calytrix sylvana*			
171.	5485	*Calytrix variabilis*			
172.	32334	*Campylopus australis*			
173.	7909	*Carduus pycnocephalus (Slender Thistle)*	Y		
174.	753	*Carex appressa (Tall Sedge)*			
175.	7911	*Carthamus lanatus (Saffron Thistle)*	Y		
176.	1162	*Cartonema philydroides*			
177.	11206	*Cassytha glabella forma bicallosa*			
178.	1742	*Casuarina obesa (Swamp Sheoak, Kuli)*			
179.	760	*Caustis dioica*			
180.	6539	*Centaurium erythraea (Common Centaury)*	Y		
181.	1120	*Centrolepis alepyroides*			
182.	1121	*Centrolepis aristata (Pointed Centrolepis)*			
183.	1125	*Centrolepis drummondiana*			
184.	1132	*Centrolepis mutica*			
185.	1133	*Centrolepis pilosa*			
186.	1134	*Centrolepis polygyna (Wiry Centrolepis)*			
187.		*Centrolepis sp. Gingin1 not mature*			Y
188.	32462	*Ceratodon purpureus subsp. convolutus*			
189.	24086	*Cercartetus concinnus (Western Pygmy-possum, Mundarda)*			
190.	18156	*Chamaecytisus palmensis (Tagasaste)*	Y		
191.	35776	*Chamelaucium sp. Gingin (N.G. Marchant 6)*		T	
192.	5498	*Chamelaucium uncinatum (Geraldton Wax)*			

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193.	24377	*Charadrius ruficapillus (Red-capped Plover)*			
194.	31	*Cheilanthes austrotenuifolia*			
195.	43380	*Chelodina colliei (South-western Snake-necked Turtle)*			
196.	24321	*Chenonetta jubata (Australian Wood Duck, Wood Duck)*			
197.	272	*Chloris virgata (Feathertop Rhodes Grass)*	Y		
198.	7925	*Chondrilla juncea (Skeleton Weed)*	Y		
199.	3753	*Chorizema dicksonii (Yellow-eyed Flame Pea)*			
200.	6543	*Cicendia filiformis (Slender Cicendia)*	Y		
201.	24288	*Circus approximans (Swamp Harrier)*			
202.	7937	*Cirsium vulgare (Spear Thistle, Scotch Thistle)*	Y		
203.	2929	*Clematis pubescens (Common Clematis)*			
204.	27707	*Collema subconveniens*			
205.		*Colletotrichum gloeosporioides*			
206.	25675	*Colluricincla harmonica (Grey Shrike-thrush)*			
207.	24613	*Colluricincla harmonica subsp. rufiventris (Grey Shrike-thrush)*			
208.	4564	*Comesperma virgatum (Milkwort)*			
209.	1864	*Conospermum crassinervium (Summer Smokebush)*			
210.	14876	*Conospermum densiflorum subsp. densiflorum*			
211.	1874	*Conospermum glumaceum (Hooded Smokebush)*			
212.	1880	*Conospermum polycephalum*			
213.	1882	*Conospermum stoechadis (Common Smokebush)*			
214.	6347	*Conostephium minus (Pink-tipped Pearl flower)*			
215.	6348	*Conostephium pendulum (Pearl Flower)*			
216.	6349	*Conostephium preissii*			
217.	1418	*Conostylis aculeata (Prickly Conostylis)*			
218.	1420	*Conostylis androstemma (Trumpets)*			
219.	1423	*Conostylis aurea (Golden Conostylis)*			
220.	1436	*Conostylis juncea*			
221.	1454	*Conostylis setigera (Bristly Cottonhead)*			
222.	11597	*Conostylis setigera subsp. setigera*			
223.	1457	*Conostylis teretifolia*			
224.	11870	*Conostylis teretifolia subsp. teretifolia*			
225.	6614	*Convolvulus remotus*			
226.	25568	*Coracina novaehollandiae (Black-faced Cuckoo-shrike)*			
227.	25592	*Corvus coronoides (Australian Raven)*			
228.	24417	*Corvus coronoides subsp. perplexus (Australian Raven)*			
229.	33437	*Corynephorus fasciculatus*	Y		
230.	1285	*Corynotheca micrantha (Sand Lily)*			
231.	7945	*Cotula coronopifolia (Waterbuttons)*	Y		
232.	7946	*Cotula cotuloides (Smooth Cotula)*			
233.	24420	*Cracticus nigrogularis (Pied Butcherbird)*			
234.	25595	*Cracticus tibicen (Australian Magpie)*			
235.	25596	*Cracticus torquatus (Grey Butcherbird)*			
236.	13354	*Craspedia variabilis*			
237.	3137	*Crassula colorata (Dense Stonecrop)*			
238.	11709	*Crassula colorata var. acuminata*			
239.	25398	*Crinia georgiana (Quacking Frog)*			
240.	25400	*Crinia insignifera (Squelching Froglet)*			
241.	25401	*Crinia pseudinsignifera (Bleating Froglet)*			
242.	17964	*Crinum moorei*	Y		
243.	13527	*Croninia kingiana*			
244.	30893	*Cryptoblepharus buchananii*			
245.	30899	*Ctenophorus adelaidensis (Southern Heath Dragon, Western Heath Dragon)*			
246.	25027	*Ctenotus australis*			
247.	25039	*Ctenotus fallens*			
248.	25047	*Ctenotus impar*			
249.	25074	*Ctenotus schomburgkii*			
250.	6663	*Cuscuta epithymum (Lesser Dodder, Greater Dodder)*	Y		
251.	13827	*Cyanicula ixioides subsp. candida*		P2	
252.	15404	*Cyanicula sericea*			
253.	54	*Cyclosorus interruptus*			
254.	40661	*Cycnogeton lineare*			
255.	24322	*Cygnus atratus (Black Swan)*			
256.	794	*Cyperus gymnocaulos (Spiny Flat-sedge)*			
257.	806	*Cyperus polystachyos (Bunchy Sedge)*			
258.	810	*Cyperus rotundus (Nut Grass)*	Y		
259.	30901	*Dacelo novaeguineae (Laughing Kookaburra)*	Y		
260.	7420	*Dampiera alata (Winged-stem Dampiera)*			
261.	7428	*Dampiera coronata (Wedge-leaved Dampiera)*			
262.	25673	*Daphoenositta chrysoptera (Varied Sittella)*			

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263.	5508	*Darwinia citriodora (Lemon-scented Darwinia)*			
264.	35779	*Darwinia sp. Bindoon (S. Patrick 281)*			
265.	5531	*Darwinia thymoides*			
266.	18193	*Darwinia thymoides subsp. thymoides*			
267.	24092	*Dasyurus geoffroii (Chuditch, Western Quoll)*		T	
268.	6218	*Daucus glochidiatus (Australian Carrot)*			
269.	3793	*Daviesia angulata*			
270.	19747	*Daviesia decurrens subsp. decurrens*			
271.	18560	*Daviesia divaricata subsp. divaricata*			
272.	11879	*Daviesia hakeoides subsp. hakeoides*			
273.	3815	*Daviesia horrida (Prickly Bitter-pea)*			
274.	3819	*Daviesia longifolia*			
275.	16585	*Daviesia nudiflora subsp. nudiflora*			
276.	3832	*Daviesia physodes*			
277.	3835	*Daviesia preissii*			
278.	3845	*Daviesia triflora*			
279.	24999	*Delma grayii*			
280.	17663	*Desmocladus asper*			
281.	16595	*Desmocladus flexuosus*			
282.	1259	*Dianella revoluta (Blueberry Lily)*			
283.	25607	*Dicaeum hirundinaceum (Mistletoebird)*			
284.	1287	*Dichopogon capillipes*			
285.	1289	*Dichopogon preissii*			
286.	17838	*Dielsia stenostachya*			
287.	20367	*Dillwynia laxiflora*			
288.	1509	*Dioscorea hastifolia (Warrine, Wararn)*			
289.	24929	*Diplodactylus granariensis subsp. granariensis*			
290.	24940	*Diplodactylus pulcher*			
291.	19649	*Disa bracteata*	Y		
292.	7961	*Dittrichia graveolens (Stinkwort)*	Y		
293.	1634	*Diuris laxiflora (Bee Orchid)*			
294.	24470	*Dromaius novaehollandiae (Emu)*			
295.	13204	*Drosera callistos*			
296.	48724	*Drosera collina*			
297.	48751	*Drosera drummondii*			
298.	3095	*Drosera erythrorhiza (Red Ink Sundew)*			
299.	3097	*Drosera gigantea (Giant Sundew)*			
300.	3098	*Drosera glanduligera (Pimpernel Sundew)*			
301.	3109	*Drosera menziesii (Pink Rainbow)*			
302.	48709	*Drosera minutiflora*			
303.	3118	*Drosera pallida (Pale Rainbow)*			
304.	3128	*Drosera ramellosa (Branched Sundew)*			
305.	49090	*Drosera sp. Branched styles (S.C. Coffey 193)*			
306.	13185	*Drosera spilos*			
307.	3131	*Drosera stolonifera (Leafy Sundew)*			
308.	3133	*Drosera subhirtella (Sunny Rainbow)*			
309.	32351	*Eccremidium pulchellum*			
310.	25251	*Echiopsis curta (Bardick)*			
311.		*Edelia vittata*			
312.	25100	*Egernia napoleonis*			
313.		*Egretta novaehollandiae*			
314.	346	*Ehrharta brevifolia (Annual Veldt Grass)*	Y		
315.	347	*Ehrharta calycina (Perennial Veldt Grass)*	Y		
316.	349	*Ehrharta longiflora (Annual Veldt Grass)*	Y		
317.		*Elanus axillaris*			
318.	47937	*Elseyornis melanops (Black-fronted Dotterel)*			
319.		*Eolophus roseicapillus*			
320.	6131	*Epilobium billardiereanum (Glabrous Willow Herb)*			
321.	24567	*Epthianura albifrons (White-fronted Chat)*			
322.	379	*Eragrostis elongata (Clustered Lovegrass)*			
323.	5541	*Eremaea pauciflora*			
324.	5542	*Eremaea purpurea*			
325.	25109	*Eremiascincus richardsonii (Broad-banded Sand Swimmer)*			
326.	15415	*Eriochilus scaber subsp. scaber*			
327.		*Eriophora biapicata*			
328.	4332	*Erodium botrys (Long Storksbill)*	Y		
329.	4335	*Erodium cygnorum (Blue Heronsbill)*			
330.	24379	*Erythrogonys cinctus (Red-kneed Dotterel)*			
331.	13548	*Eucalyptus marginata subsp. thalassica (Blue-leaved Jarrah)*			
332.	5763	*Eucalyptus rudis (Flooded Gum, Kulurda)*			

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333.	5790	*Eucalyptus todtiana (Coastal Blackbutt)*			
334.	12906	*Eucalyptus wandoo subsp. wandoo*			
335.	25622	*Falco cenchroides (Australian Kestrel, Nankeen Kestrel)*			
336.	1747	*Ficus carica (Common Fig)*	Y		
337.	27748	*Flavoparmelia rutidota*			
338.	18392	*Freesia alba x leichtlinii*	Y		
339.	25727	*Fulica atra (Eurasian Coot)*			
340.	7321	*Galium divaricatum*	Y		
341.	3887	*Gastrolobium acutum*			
342.	20515	*Gastrolobium axillare*			
343.	3895	*Gastrolobium calycinum (York Road Poison)*			
344.	20475	*Gastrolobium capitatum*			
345.	20473	*Gastrolobium ebracteolatum*			
346.	3906	*Gastrolobium ilicifolium*			
347.	3909	*Gastrolobium microcarpum (Sandplain Poison)*			
348.	20514	*Gastrolobium nudum*		P2	
349.	20512	*Gastrolobium praemorsum*			
350.	3924	*Gastrolobium spinosum (Prickly Poison)*			
351.	3933	*Gastrolobium villosum (Crinkle-leaved Poison)*			
352.	24959	*Gehyra variegata*			
353.	32381	*Gemmabryum preissianum*			
354.	3936	*Genista linifolia (Flaxleaf Broom)*	Y		
355.	4340	*Geranium retrorsum*			
356.	25530	*Gerygone fusca (Western Gerygone)*			
357.	1520	*Gladiolus caryophyllaceus (Wild Gladiolus)*	Y		
358.	6143	*Glischrocaryon aureum (Common Popflower)*			
359.	17043	*Glyceria declinata*	Y		
360.	47962	*Glyciphila melanops (Tawny-crowned Honeyeater)*			
361.	7991	*Gnephosis drummondii*			
362.		*Gnephosis tenuissima - drummondii complex*			
363.	3950	*Gompholobium knightianum*			
364.	3955	*Gompholobium preissii*			
365.	3956	*Gompholobium shuttleworthii*			
366.	3957	*Gompholobium tomentosum (Hairy Yellow Pea)*			
367.	6149	*Gonocarpus cordiger*			
368.	6161	*Gonocarpus pithyoides*			
369.	29362	*Goodenia coerulea*			
370.	12551	*Goodenia micrantha*			
371.	7538	*Goodenia pulchella*			
372.	24443	*Grallina cyanoleuca (Magpie-lark)*			
373.	19628	*Grevillea bipinnatifida subsp. bipinnatifida*			
374.	1965	*Grevillea biternata*			
375.	14319	*Grevillea corrugata*		T	
376.	1997	*Grevillea endlicheriana (Spindly Grevillea)*			
377.	2066	*Grevillea pilulifera (Woolly-flowered Grevillea)*			
378.	17745	*Grevillea shuttleworthiana subsp. canarina*			
379.	2101	*Grevillea synapheae (Catkin Grevillea)*			
380.	14421	*Grevillea synapheae subsp. synapheae*			
381.	32473	*Grimmia pulvinata var. africana*			
382.	5012	*Guichenotia macrantha (Large-flowered Guichenotia)*			
383.	2784	*Gyrostemon ramulosus (Corkybark)*			
384.	1468	*Haemodorum laxum*			
385.	1472	*Haemodorum simplex*			
386.	1473	*Haemodorum simulans*			
387.	1474	*Haemodorum sparsiflorum*			
388.	1476	*Haemodorum venosum*			
389.	2128	*Hakea amplexicaulis (Prickly Hakea)*			
390.	2136	*Hakea candolleana*			
391.	2146	*Hakea costata (Ribbed Hakea)*			
392.	2149	*Hakea cristata (Snail Hakea)*			
393.	2152	*Hakea cyclocarpa (Ramshorn)*			
394.	2158	*Hakea erinacea (Hedge-hog Hakea)*			
395.	2175	*Hakea lissocarpha (Honey Bush)*			
396.	2203	*Hakea ruscifolia (Candle Hakea)*			
397.	2206	*Hakea stenocarpa (Narrow-fruited Hakea)*			
398.	2214	*Hakea trifurcata (Two-leaf Hakea)*			
399.	2215	*Hakea undulata (Wavy-leaved Hakea)*			
400.	6686	*Halgania corymbosa*		P3	
401.	24295	*Haliastur sphenurus (Whistling Kite)*			
402.	3961	*Hardenbergia comptoniana (Native Wisteria)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
403.	25410	*Heleioporus eyrei (Moaning Frog)*			
404.	25412	*Heleioporus psammophilus (Sand Frog)*			
405.	6707	*Heliotropium curassavicum (Smooth Heliotrope)*			
406.	6836	*Hemiandra incana*			
407.	6838	*Hemiandra linearis (Speckled Snakebush)*			
408.	6855	*Hemigenia humilis*			
409.	6875	*Hemigenia westringioides (Open Hemigenia)*			
410.	1293	*Hensmania turbinata*			
411.	5108	*Hibbertia acerosa (Needle Leaved Guinea Flower)*			
412.	5109	*Hibbertia amplexicaulis*			
413.	5114	*Hibbertia commutata*			
414.	19775	*Hibbertia glomerata subsp. ginginensis*		P2	
415.	20046	*Hibbertia hibbertioides var. hibbertioides*			
416.	5134	*Hibbertia huegelii*			
417.	5135	*Hibbertia hypericoides (Yellow Buttercups)*			
418.	45534	*Hibbertia hypericoides subsp. hypericoides*			
419.	5139	*Hibbertia lasiopus (Large Hibbertia)*			
420.	5145	*Hibbertia miniata (Orange Hibbertia)*		P4	
421.	5157	*Hibbertia polystachya*			
422.	5162	*Hibbertia racemosa (Stalked Guinea Flower)*			
423.	43280	*Hibbertia sericosepala*			
424.	48381	*Hibbertia striata*			
425.	5173	*Hibbertia subvaginata*			
426.	47965	*Hieraaetus morphnoides (Little Eagle)*			
427.	25734	*Himantopus himantopus (Black-winged Stilt)*			
428.	24491	*Hirundo neoxena (Welcome Swallow)*			
429.	13758	*Histiopteris incisa*			
430.	6222	*Homalosciadium homalocarpum*			
431.	3966	*Hovea pungens (Devil's Pins, Puyenak)*			
432.	3967	*Hovea stricta*			
433.	3968	*Hovea trisperma (Common Hovea)*			
434.	12741	*Hyalosperma cotula*			
435.	5216	*Hybanthus calycinus (Wild Violet)*			
436.	6223	*Hydrocotyle alata*			
437.	6226	*Hydrocotyle callicarpa (Small Pennywort)*			
438.	6229	*Hydrocotyle diantha*			
439.	5817	*Hypocalymma angustifolium (White Myrtle, Kudjid)*			
440.	35074	*Hypocalymma angustifolium subsp. Dandaragan plateau (S. Patrick 702A)*			
441.	5829	*Hypocalymma xanthopetalum*			
442.	8086	*Hypochaeris glabra (Smooth Catsear)*	Y		
443.	1070	*Hypolaena exsulca*			
444.	17622	*Hypolaena robusta*		P4	
445.	17695	*Hypolepis dicksonioides*	Y		
446.		*Idiommata blackwalli*			
447.	48928	*Idiosoma mcclementsorum (Julimar shield-backed trapdoor spider)*		P2	
448.	910	*Isolepis cernua (Nodding Club-rush)*			
449.	20200	*Isolepis cernua var. setiformis*			
450.	912	*Isolepis cyperoides*			
451.	917	*Isolepis marginata (Coarse Club-rush)*			
452.	10831	*Isolepis prolifera (Budding Club-rush)*	Y		
453.	48588	*Isoodon fusciventer (Quenda, southwestern brown bandicoot)*		P4	
454.	2227	*Isopogon divergens (Spreading Coneflower)*			
455.	2232	*Isopogon linearis*			
456.	7396	*Isotoma hypocrateriformis (Woodbridge Poison)*			
457.	7399	*Isotoma scapigera (Long-scaped Isotome)*			
458.	3992	*Isotropis cuneifolia (Granny Bonnets)*			
459.	16317	*Isotropis cuneifolia subsp. glabra*		P3	
460.	4010	*Jacksonia floribunda (Holly Pea)*			
461.	4012	*Jacksonia furcellata (Grey Stinkwood)*			
462.	4029	*Jacksonia sternbergiana (Stinkwood, Kapur)*			
463.	1298	*Johnsonia pubescens (Pipe Lily)*			
464.	19632	*Johnsonia pubescens subsp. pubescens*			
465.	1177	*Juncus articulatus (Jointed Rush)*	Y		
466.	1178	*Juncus bufonius (Toad Rush)*	Y		
467.	1180	*Juncus capitatus (Capitate Rush)*	Y		
468.	14630	*Juncus imbricatus*	Y		
469.	1186	*Juncus microcephalus*	Y		
470.	1188	*Juncus pallidus (Pale Rush)*			
471.	1190	*Juncus planifolius (Broadleaf Rush)*			
472.	4044	*Kennedia prostrata (Scarlet Runner)*			

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473.	4045	*Kennedia stirlingii (Bushy Kennedia)*			
474.	15498	*Kunzea glabrescens (Spearwood)*			
475.	5835	*Kunzea micrantha*			
476.	17461	*Kunzea micrantha subsp. micrantha*			
477.	17785	*Kunzea micrantha subsp. petiolata*			
478.	5841	*Kunzea recurva*			
479.	11289	*Labichea lanceolata subsp. lanceolata*			
480.	20019	*Lachnagrostis filiformis*			
481.	18585	*Lagenophora huegelii*			
482.	45082	*Lasiopetalum glutinosum subsp. latifolium*			
483.	38323	*Lavandula stoechas subsp. stoechas*	Y		
484.	1307	*Laxmannia ramosa (Branching Lily)*			
485.	11911	*Laxmannia ramosa subsp. ramosa*			
486.	11464	*Laxmannia sessiliflora subsp. australis*			
487.	1309	*Laxmannia squarrosa*			
488.	7568	*Lechenaultia biloba (Blue Leschenaultia)*			
489.	7574	*Lechenaultia floribunda (Free-flowering Leschenaultia)*			
490.	20527	*Lechenaultia magnifica*		P1	
491.	7586	*Lechenaultia stenosepala (Narrow-sepaled Leschenaultia)*			
492.	44490	*Leontodon rhagadioloides*	Y		
493.	1075	*Lepidobolus preissianus*			
494.	936	*Lepidosperma leptostachyum*			
495.	937	*Lepidosperma longitudinale (Pithy Sword-sedge)*			
496.	944	*Lepidosperma scabrum*			
497.		*Lepidosperma sp.*			
498.	1653	*Leporella fimbriata (Hare Orchid)*			
499.	1077	*Leptocarpus canus (Hoary Twine-rush)*			
500.	27839	*Leptogium corniculatum*			
501.	2344	*Leptomeria empetriformis*			
502.	5847	*Leptospermum erubescens (Roadside Teatree)*			
503.	25128	*Lerista christinae*			
504.	25133	*Lerista elegans*			
505.	25165	*Lerista praepedita*			
506.	6354	*Leucopogon allittii*		P3	
507.	6374	*Leucopogon conostephioides*			
508.	6425	*Leucopogon oxycedrus*			
509.	6436	*Leucopogon propinquus*			
510.	6439	*Leucopogon pulchellus (Beard-heath)*			
511.	20086	*Leucopogon sp. Northern Scarp (M. Hislop 2233)*			
512.	6444	*Leucopogon sprengelioides*			
513.	6445	*Leucopogon squarrosus*			
514.	40803	*Leucopogon squarrosus subsp. squarrosus*			
515.	40804	*Leucopogon squarrosus subsp. trigynus*		P2	
516.	7677	*Levenhookia stipitata (Common Stylewort)*			
517.	25005	*Lialis burtonis*			
518.	25661	*Lichmera indistincta (Brown Honeyeater)*			
519.	25415	*Limnodynastes dorsalis (Western Banjo Frog)*			
520.	7075	*Linaria maroccana*	Y		
521.	36160	*Liparophyllum capitatum*			
522.	36179	*Liparophyllum violifolium*			
523.	9289	*Lobelia anceps (Angled Lobelia)*			
524.	7406	*Lobelia rhombifolia (Tufted Lobelia)*			
525.	7407	*Lobelia rhytidosperma (Wrinkled-seeded Lobelia)*			
526.	7408	*Lobelia tenuior (Slender Lobelia)*			
527.	478	*Lolium rigidum (Wimmera Ryegrass)*	Y		
528.	1223	*Lomandra caespitosa (Tufted Mat Rush)*			
529.	1228	*Lomandra hermaphrodita*			
530.	1232	*Lomandra micrantha (Small-flower Mat-rush)*			
531.	14542	*Lomandra micrantha subsp. micrantha*			
532.	1246	*Lomandra suaveolens*			
533.	4059	*Lotus angustissimus (Narrowleaf Trefoil)*	Y		
534.		*Lotus sp. Gingin2*			Y
535.	8564	*Lotus subbiflorus*	Y		
536.	4065	*Lupinus angustifolius (Narrowleaf Lupin)*	Y		
537.	4066	*Lupinus cosentinii*	Y		
538.	1198	*Luzula meridionalis (Field Woodrush)*			
539.	1097	*Lyginia barbata*			
540.	18049	*Lyginia imberbis*			
541.	2396	*Lysiana casuarinae*			
542.	36375	*Lysimachia arvensis (Pimpernel)*	Y		

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543.	36373	*Lysimachia minima*	Y		
544.	34736	*Lysinema pentapetalum*			
545.	5281	*Lythrum hyssopifolia (Lesser Loosestrife)*	Y		
546.	2839	*Macarthuria australis*			
547.	1477	*Macropidia fuliginosa (Black Kangaroo Paw)*			
548.	24132	*Macropus fuliginosus (Western Grey Kangaroo)*			
549.	24326	*Malacorhynchus membranaceus (Pink-eared Duck)*			
550.	25650	*Malurus elegans (Red-winged Fairy-wren)*			
551.	25651	*Malurus lamberti (Variegated Fairy-wren)*			
552.	25652	*Malurus leucopterus (White-winged Fairy-wren)*			
553.	25654	*Malurus splendens (Splendid Fairy-wren)*			
554.	25758	*Megalurus gramineus (Little Grassbird)*			
555.	34676	*Meionectes brownii (Swamp Raspwort)*			
556.	5893	*Melaleuca concreta*			
557.	5926	*Melaleuca lateritia (Robin Redbreast Bush)*			
558.	41120	*Melaleuca marginata*			
559.	5952	*Melaleuca preissiana (Moonah)*			
560.	5959	*Melaleuca rhaphiophylla (Swamp Paperbark)*			
561.		*Melaleuca sp. Gingin3 (M. rhaphiophylla nearby)*			Y
562.	5983	*Melaleuca trichophylla*			
563.	5987	*Melaleuca viminea (Mohan)*			
564.	27852	*Menegazzia caesiopruinosa*			
565.	25184	*Menetia greyii*			
566.	24598	*Merops ornatus (Rainbow Bee-eater)*			
567.	953	*Mesomelaena graciliceps*			
568.	955	*Mesomelaena pseudostygia*			
569.		*Microcarbo melanoleucos*			
570.	6897	*Microcorys longifolia*			
571.	1657	*Microtis alba (White Mignonette Orchid)*			
572.	15419	*Microtis media subsp. media*			
573.	8105	*Millotia myosotidifolia*			
574.	8106	*Millotia tenuifolia (Soft Millotia)*			
575.	14337	*Millotia tenuifolia var. laevis*		P2	
576.		*Missulena granulosa*			
577.	29418	*Monoculus monstrosus*	Y		
578.	7410	*Monopsis debilis*	Y		
579.	25191	*Morethia lineoocellata*			
580.	2415	*Muehlenbeckia polybotrya*			
581.	24223	*Mus musculus (House Mouse)*	Y		
582.	24446	*Myiagra cyanoleuca (Satin Flycatcher)*			
583.	25420	*Myobatrachus gouldii (Turtle Frog)*			
584.	8117	*Myriocephalus helichrysoides*			
585.	27880	*Normandina pulchella*			
586.	25252	*Notechis scutatus (Tiger Snake)*			
587.		*Notiasemus glauerti*			
588.	25564	*Nycticorax caledonicus (Rufous Night Heron)*			
589.	18255	*Opercularia vaginata (Dog Weed)*			
590.	17	*Ophioglossum lusitanicum (Adders Tongue)*			
591.	11749	*Orthrosanthus laxus var. laxus (Morning Iris)*			
592.	24085	*Oryctolagus cuniculus (Rabbit)*	Y		
593.	17756	*Osteospermum ecklonis*	Y		
594.	30375	*Oxalis exilis*			
595.	4352	*Oxalis glabra*	Y		
596.	34843	*Oxymyrrhine coronata*		P4	
597.	24328	*Oxyura australis (Blue-billed Duck)*		P4	
598.	25680	*Pachycephala rufiventris (Rufous Whistler)*			
599.	25253	*Parasuta gouldii*			
600.	25682	*Pardalotus striatus (Striated Pardalote)*			
601.	1550	*Patersonia occidentalis (Purple Flag, Koma)*			
602.	30471	*Patersonia occidentalis var. angustifolia*			
603.	14433	*Patersonia rudis subsp. rudis*			
604.	4346	*Pelargonium littorale*			
605.	24648	*Pelecanus conspicillatus (Australian Pelican)*			
606.	11052	*Persicaria prostrata*			
607.	2271	*Persoonia rudis*		P3	
608.	2273	*Persoonia saccata (Snottygobble)*			
609.	2278	*Persoonia sulcata*		P4	
610.	48061	*Petrochelidon nigricans (Tree Martin)*			
611.	48066	*Petroica boodang (Scarlet Robin)*			
612.	24659	*Petroica goodenovii (Red-capped Robin)*			

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613.	2292	*Petrophile divaricata*			
614.	2308	*Petrophile seminuda*			
615.	2309	*Petrophile serruriae*			
616.	2312	*Petrophile striata*			
617.	19825	*Petrorhagia dubia*	Y		
618.	25697	*Phalacrocorax carbo (Great Cormorant)*			
619.	24667	*Phalacrocorax sulcirostris (Little Black Cormorant)*			
620.	548	*Phalaris aquatica (Phalaris)*	Y		
621.	24409	*Phaps chalcoptera (Common Bronzewing)*			
622.	32408	*Phascopsis rubicunda*			
623.	18534	*Philotheca nodiflora subsp. nodiflora*			
624.	18529	*Philotheca spicata (Pepper and Salt)*			
625.	1172	*Philydrella drummondii*			
626.	1173	*Philydrella pygmaea (Butterfly Flowers)*			
627.	1478	*Phlebocarya ciliata*			
628.	1479	*Phlebocarya filifolia*			
629.	48071	*Phylidonyris niger (White-cheeked Honeyeater)*			
630.	24596	*Phylidonyris novaehollandiae (New Holland Honeyeater)*			
631.	4675	*Phyllanthus calycinus (False Boronia)*			
632.	27973	*Physcia nubila*			
633.		*Phytophthora cinnamomi*			
634.	5232	*Pimelea argentea (Silvery Leaved Pimelea)*			
635.	11928	*Pimelea ciliata subsp. ciliata*			
636.	5244	*Pimelea floribunda*			
637.	12041	*Pimelea suaveolens subsp. suaveolens*			
638.	24841	*Platalea flavipes (Yellow-billed Spoonbill)*			
639.	24747	*Platycercus spurius (Red-capped Parrot)*			
640.	6255	*Platysace juncea*			
641.	25007	*Pletholax gracilis subsp. gracilis (Keeled Legless Lizard)*			
642.	32478	*Pleuridium nervosum var. nervosum*			
643.	66	*Pleurosorus subglandulosus*			
644.	571	*Poa annua (Winter Grass)*	Y		
645.	578	*Poa porphyroclados*			
646.	25704	*Podiceps cristatus (Great Crested Grebe)*			
647.	8175	*Podolepis gracilis (Slender Podolepis)*			
648.	8177	*Podolepis lessonii*			
649.	8182	*Podotheca angustifolia (Sticky Longheads)*			
650.	24907	*Pogona minor subsp. minor (Dwarf Bearded Dragon)*			
651.	8188	*Pogonolepis stricta*			
652.	24681	*Poliocephalus poliocephalus (Hoary-headed Grebe)*			
653.	582	*Polypogon monspeliensis (Annual Beardgrass)*	Y		
654.	4691	*Poranthera microphylla (Small Poranthera)*			
655.	25731	*Porphyrio porphyrio (Purple Swamphen)*			
656.	17211	*Prunus cerasifera*	Y		
657.	46202	*Prunus persica var. persica*	Y		
658.	25261	*Pseudechis australis (Mulga Snake)*			
659.		*Pseudogobius olorum*			
660.	24230	*Pseudomys albocinereus (Ash-grey Mouse)*			
661.	25259	*Pseudonaja affinis subsp. affinis (Dugite)*			
662.	25433	*Pseudophryne guentheri (Crawling Toadlet)*			
663.	57	*Pteridium esculentum (Bracken)*			
664.	45	*Pteris vittata (Chinese Brake)*			
665.	48674	*Pterostylis orbiculata*			
666.		*Pterostylis sp.*			
667.	1698	*Pterostylis vittata (Banded Greenhood)*			
668.	2716	*Ptilotus declinatus (Curved Mulla Mulla)*			
669.	2718	*Ptilotus drummondii (Narrowleaf Mulla Mulla)*			
670.	11260	*Ptilotus drummondii var. drummondii (Pussytail)*			
671.	2733	*Ptilotus humilis*			
672.	15856	*Ptilotus sericostachyus subsp. sericostachyus*			
673.	4161	*Ptychosema pusillum (Dwarf Pea)*		T	
674.	591	*Puccinellia ciliata (Puccinellia)*	Y		
675.		*Purpureicephalus spurius*			
676.	25008	*Pygopus lepidopodus (Common Scaly Foot)*			
677.	8195	*Quinetia urvillei*			
678.	28224	*Ramalina inflata subsp. australis*			
679.	2938	*Ranunculus trilobus (Buttercup)*	Y		
680.	3061	*Raphanus raphanistrum (Wild Radish)*	Y		
681.	24245	*Rattus rattus (Black Rat)*	Y		
682.	6014	*Regelia inops*			

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683.	48096	*Rhipidura albiscapa (Grey Fantail)*			
684.	25614	*Rhipidura leucophrys (Willie Wagtail)*			
685.	13234	*Rhodanthe manglesii*			
686.		*Riccia bifurca*			
687.	1555	*Romulea obscura*	Y		
688.	1556	*Romulea rosea (Guildford Grass)*	Y		
689.	11544	*Romulea rosea var. australis (Guildford Grass)*	Y		
690.	10931	*Rosa chinensis x moschata*	Y		
691.	40425	*Rytidosperma caespitosum*			
692.	6483	*Samolus junceus*			
693.	7603	*Scaevola canescens (Grey Scaevola)*			
694.	7613	*Scaevola glandulifera (Viscid Hand-flower)*			
695.	12585	*Scaevola repens*			
696.	6263	*Schoenolaena juncea*			
697.	984	*Schoenus curvifolius*			
698.	987	*Schoenus elegans*			
699.	994	*Schoenus humilis*			
700.	1006	*Schoenus odontocarpus*			
701.	17614	*Schoenus plumosus*			
702.	1011	*Schoenus rigens*			
703.	1018	*Schoenus subfascicularis*			
704.	1019	*Schoenus subflavus (Yellow Bog-rush)*			
705.	16252	*Schoenus subflavus subsp. subflavus*			
706.	1026	*Schoenus unispiculatus*			
707.	17409	*Schoenus variicellae*			
708.	6033	*Scholtzia involucrata (Spiked Scholtzia)*			
709.		*Scleroderma cepa*			
710.	6	*Selaginella gracillima (Tiny Clubmoss)*			
711.	8203	*Senecio diaschides*			
712.	8205	*Senecio gilbertii*		P1	
713.	25534	*Sericornis frontalis (White-browed Scrubwren)*			
714.	611	*Setaria sphacelata (South African Pigeon Grass)*	Y		
715.	8225	*Siloxerus humifusus (Procumbent Siloxerus)*			
716.	14583	*Siloxerus multiflorus*			
717.	30948	*Smicrornis brevirostris (Weebill)*			
718.	24109	*Sminthopsis dolichura (Little long-tailed Dunnart)*			
719.	24111	*Sminthopsis gilberti (Gilbert's Dunnart)*			
720.	25515	*Sminthopsis griseoventer (Grey-bellied Dunnart)*			
721.	7013	*Solanum hoplopetalum (Thorny Solanum)*			
722.	7018	*Solanum lasiophyllum (Flannel Bush, Mindjulu)*			
723.	7022	*Solanum nigrum (Black Berry Nightshade)*	Y		
724.	8231	*Sonchus oleraceus (Common Sowthistle)*	Y		
725.	1558	*Sparaxis bulbifera*	Y		
726.	33636	*Spergularia brevifolia*			
727.	4207	*Sphaerolobium medium*			
728.	635	*Sporobolus virginicus (Marine Couch)*			
729.	9070	*Stackhousia pubescens (Downy Stackhousia)*			
730.	3076	*Stenopetalum filifolium*			
731.	19403	*Stenopetalum gracile*			
732.	2316	*Stirlingia latifolia (Blueboy)*			
733.		*Storena formosa*			
734.	25597	*Strepera versicolor (Grey Currawong)*			
735.	24943	*Strophurus spinigerus subsp. inornatus*			
736.	7679	*Stylidium adpressum (Trigger-on-stilts)*			
737.	7681	*Stylidium affine (Queen Triggerplant)*			
738.	12846	*Stylidium albolilacinum*			
739.	7684	*Stylidium amoenum (Lovely Triggerplant)*			
740.	25831	*Stylidium araeophyllum (Stilt Walker)*			
741.	48457	*Stylidium bindoon*			
742.	7693	*Stylidium brunonianum (Pink Fountain Triggerplant)*			
743.	7696	*Stylidium calcaratum (Book Triggerplant)*			
744.	12845	*Stylidium carlquistii*			
745.	7709	*Stylidium crossocephalum (Posy Triggerplant)*			
746.	7716	*Stylidium diuroides (Donkey Triggerplant)*			
747.	7719	*Stylidium ecorne (Foot Triggerplant)*			
748.	7756	*Stylidium longitubum (Jumping Jacks)*		P4	
749.	7762	*Stylidium miniatum (Pink Butterfly Triggerplant)*			
750.	25829	*Stylidium neurophyllum (Coastal Plain Triggerplant)*			
751.	7768	*Stylidium obtusatum (Pinafore Triggerplant)*			
752.	7773	*Stylidium petiolare (Horn Triggerplant)*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
753.	7774	*Stylidium piliferum (Common Butterfly Triggerplant)*			
754.	7785	*Stylidium repens (Matted Triggerplant)*			
755.	25806	*Stylidium scariosum*			
756.		*Stylidium sp.*			
757.	3181	*Stylobasium australe*			
758.	1260	*Stypandra glauca (Blind Grass)*			
759.	48297	*Styphelia filifolia*		P3	
760.	6476	*Styphelia tenuiflora (Common Pinheath)*			
761.		*Supunna picta*			
762.	12914	*Synaphea decorticans*			
763.	29186	*Synaphea sp. Udumung (A.S. George 17058)*			
764.	2329	*Synaphea spinulosa*			
765.	15532	*Synaphea spinulosa subsp. spinulosa*			
766.	25705	*Tachybaptus novaehollandiae (Australasian Grebe, Black-throated Grebe)*			
767.	24207	*Tachyglossus aculeatus (Short-beaked Echidna)*			
768.	24331	*Tadorna tadornoides (Australian Shelduck, Mountain Duck)*			
769.	24167	*Tarsipes rostratus (Honey Possum, Noolbenger)*			
770.	20135	*Taxandria linearifolia*			
771.	1036	*Tetraria octandra*			
772.	35581	*Tetraria sp. Chandala (G.J. Keighery 17055)*		P2	
773.	4528	*Tetratheca confertifolia*			
774.	4535	*Tetratheca hirsuta (Black Eyed Susan)*			
775.	48342	*Tetratheca hirsuta subsp. hirsuta*			
776.	4537	*Tetratheca nuda*			
777.	4540	*Tetratheca pilifera*		P3	
778.	1701	*Thelymitra antennifera (Vanilla Orchid)*			
779.		*Thereuopoda lesueurii*			
780.	5080	*Thomasia foliosa*			
781.	24845	*Threskiornis spinicollis (Straw-necked Ibis)*			
782.	1318	*Thysanotus arbuscula*			
783.	1319	*Thysanotus arenarius*			
784.	1328	*Thysanotus dichotomus (Branching Fringe Lily)*			
785.	1338	*Thysanotus manglesianus (Fringed Lily)*			
786.		*Thysanotus manglesianus/patersonii complex*			
787.	1343	*Thysanotus patersonii*			
788.	1351	*Thysanotus sparteus*			
789.	1354	*Thysanotus tenellus*			
790.	25519	*Tiliqua rugosa*			
791.	25207	*Tiliqua rugosa subsp. rugosa*			
792.	25549	*Todiramphus sanctus (Sacred Kingfisher)*			
793.	6280	*Trachymene pilosa (Native Parsnip)*			
794.	1481	*Tribonanthes australis (Southern Tiurndin)*			
795.	1483	*Tribonanthes longipetala (Branching Tiurndin)*			
796.	1485	*Tribonanthes violacea (Violet Tiurndin)*			
797.	48141	*Tribonyx ventralis (Black-tailed Native-hen)*			
798.	25521	*Trichosurus vulpecula (Common Brushtail Possum)*			
799.	17542	*Trifolium arvense var. arvense*	Y		
800.	4293	*Trifolium cernuum (Drooping Flower Clover)*	Y		
801.	4295	*Trifolium dubium (Suckling Clover)*	Y		
802.	4313	*Trifolium subterraneum (Subterranean Clover)*	Y		
803.	33676	*Triglochin calcitrapa*			
804.	33677	*Triglochin centrocarpa*			
805.	147	*Triglochin mucronata*			
806.	4839	*Trymalium angustifolium*			
807.	33418	*Trymalium odoratissimum subsp. odoratissimum*			
808.	98	*Typha domingensis (Bulrush, Djandjid)*			
809.	24983	*Underwoodisaurus milii (Barking Gecko)*			
810.		*Unixenus mjoebergi*			
811.		*Urodacus armatus*			
812.		*Urodacus novaehollandiae*			
813.	8255	*Ursinia anthemoides (Ursinia)*	Y		
814.	38388	*Ursinia anthemoides subsp. anthemoides*	Y		
815.	28086	*Usnea dasaea*			
816.	7145	*Utricularia menziesii (Redcoats)*			
817.	24386	*Vanellus tricolor (Banded Lapwing)*			
818.	25211	*Varanus caudolineatus*			
819.	25218	*Varanus gouldii (Bungarra or Sand Monitor)*			
820.	7665	*Velleia trinervis*			
821.	7666	*Verreauxia reinwardtii (Common Verreauxia)*			
822.	12388	*Verticordia acerosa var. preissii*			

	Name ID	Species Name	Naturalised	Conservation Code	[1]Endemic To Query Area
823.	12395	*Verticordia bifimbriata*			
824.	6076	*Verticordia densiflora (Compacted Featherflower)*			
825.	12411	*Verticordia densiflora var. cespitosa*			
826.	15432	*Verticordia densiflora var. densiflora*			
827.	15433	*Verticordia huegelii var. huegelii*			
828.	12456	*Verticordia rutilastra*		P3	
829.	12458	*Verticordia serrata var. ciliata*			
830.	12460	*Verticordia serrata var. linearis*		P3	
831.	722	*Vulpia bromoides (Squirrel Tail Fescue)*	Y		
832.	33101	*Vulpia myuros forma myuros*	Y		
833.	7384	*Wahlenbergia capensis (Cape Bluebell)*	Y		
834.	7389	*Wahlenbergia preissii*			
835.	13333	*Waitzia suaveolens var. suaveolens*			
836.	34113	*Westralunio carteri (Carter's Freshwater Mussel)*		T	
837.	1394	*Wurmbea dioica (Early Nancy)*			
838.	12072	*Wurmbea dioica subsp. alba*			
839.	1403	*Wurmbea tenella (Eight Nancy)*			
840.	28192	*Xanthoparmelia yowaensis*			
841.	1256	*Xanthorrhoea preissii (Grass tree, Palga)*			
842.	6285	*Xanthosia ciliata*			
843.	6289	*Xanthosia huegelii*			
844.	7113	*Zaluzianskya divaricata (Spreading Night Phlox)*	Y		
845.	25765	*Zosterops lateralis (Grey-breasted White-eye, Silvereye)*			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

[1] For NatureMap's purposes, species flagged as endemic are those whose records are wholely contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

APPENDIX 3

Protected Matters Search Tool Report

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 06-Oct-2022

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	29
Listed Migratory Species:	7

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	11
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	3
Regional Forest Agreements:	1
Nationally Important Wetlands:	1
EPBC Act Referrals:	4
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community may occur within area	In buffer area only

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Zanda latirostris listed as Calyptorhynchus latirostris			
Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area	In feature area
FISH			
Galaxiella nigrostriata			
Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat may occur within area	In feature area
MAMMAL			
Dasyurus geoffroii			
Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macroderma gigas			
Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In buffer area only
OTHER			
Westralunio carteri			
Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat may occur within area	In buffer area only
PLANT			
Andersonia gracilis			
Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area	In feature area
Anigozanthos viridis subsp. terraspectans			
Dwarf Green Kangaroo Paw [3435]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Caleana dixonii listed as Paracaleana dixonii			
Sandplain Duck Orchid [87944]	Endangered	Species or species habitat may occur within area	In feature area
Chamelaucium sp. Gingin (N.G.Marchant 6)			
Gingin Wax [88881]	Endangered	Species or species habitat known to occur within area	In feature area
Conospermum densiflorum subsp. unicephalatum			
One-headed Smokebush [64871]	Endangered	Species or species habitat may occur within area	In feature area
Darwinia foetida			
Muchea Bell [83190]	Critically Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diplolaena andrewsii [6601]	Endangered	Species or species habitat may occur within area	In feature area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat may occur within area	In feature area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eucalyptus leprophloia Scaly Butt Mallee, Scaly-butt Mallee [56712]	Endangered	Species or species habitat may occur within area	In feature area
Grevillea corrugata a shrub [65445]	Endangered	Species or species habitat known to occur within area	In feature area
Grevillea curviloba subsp. curviloba Curved-leaf Grevillea [64908]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat likely to occur within area	In feature area
Hypocalymma sylvestre [86384]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat may occur within area	In feature area
Ptychosema pusillum Dwarf Pea [11268]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat may occur within area	In feature area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat likely to occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius madagascariensis			
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato)			
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Breera Road	Nature Reserve	WA	In buffer area only
Burroloo Well	Nature Reserve	WA	In buffer area only
Unnamed WA42743	Nature Reserve	WA	In buffer area only

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

RFA Name	State	Buffer Status
South West WA RFA	Western Australia	In feature area

Nationally Important Wetlands [Resource Information]

Wetland Name	State	Buffer Status
Chandala Swamp	WA	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Great Northern Highway-Bindoon Bypass, WA	2017/8035	Controlled Action	Post-Approval	In buffer area only
Great Northern Highway Muchea to Wubin Upgrade Stage 2 - Muchea North, WA	2016/7656	Controlled Action	Post-Approval	In buffer area only
Lennard Road site approx 90km north of Perth Central Business District	2010/5620	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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APPENDIX 4

Conservation Codes

Conservation Codes for Western Australian Flora and Fauna

Specially protected fauna or flora are species* which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such. Conservation codes have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018.*

T Threatened species – Schedules 1-4

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

- **Threatened fauna** is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.
- **Threatened flora** is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR Critically endangered species

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN Endangered species

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife*

Conservation (Specially Protected Fauna) Notice 2018 for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

EX Presumed extinct species

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that "*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018.*

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

Priority 1: Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

Priority 2: Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

Priority 3: Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

Priority 4: Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

*Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Western Australian Ecological Communities

Threatened Ecological Communities

The BC Act provides for the statutory listing of threatened ecological communities (TECs) by the Minister.

Presumed Totally Destroyed (PD)

An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.

Critically Endangered (CR)

An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.

Endangered (EN)

An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.

Vulnerable (VU)

An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.

Priority Ecological Communities

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community List under priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community. Ecological communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Priority One: Poorly-known ecological communities

Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha).

Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.

Priority Two: Poorly-known ecological communities

Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.

Priority Three: Poorly known ecological communities

(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:

(ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or;

(iii) munities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.

Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.

Priority Four: Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.

(i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.

(ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for a higher threat category.

(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.

Priority Five: Conservation Dependent ecological communities

Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Commonwealth of Australia Conservation Codes

Threatened Flora and Fauna

Threatened fauna and flora may be listed under Section 178 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in any one of the following six categories:

Extinct

A native species is eligible to be included in the extinct category at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.

Extinct in the wild

A native species is eligible to be included in the extinct in the wild category at a particular time if, at that time:

a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
b) it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

Critically endangered

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations, and it is therefore considered to be facing an extremely high risk of extinction in the wild.

Endangered

A taxon is Endangered when the best available evidence indicates that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations, and it is therefore considered to be facing a very high risk of extinction in the wild.

Vulnerable

A taxon is Vulnerable when the best available evidence indicates that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations, and it is therefore considered to be facing a high risk of extinction in the wild.

Conservation dependent

A native species is eligible to be included in the conservation dependent category at a particular time if, at that time:

a) the species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or
b) the following subparagraphs are satisfied:
   i. the species is a species of fish;

ii. the species is the focus of a plan of management that provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised;
iii. the plan of management is in force under a law of the Commonwealth or of a State or Territory;
iv. cessation of the plan of management would adversely affect the conservation status of the species.

The EPBC Act does not provide for listing in a data deficient category. Where sufficient data (evidence) is unavailable to allow assessment by the Threatened Species Scientific Committee against the criteria for listing, the species are found to be ineligible. A recommendation is made to the Minister to not include the species in any category under the EPBC Act. For reasons of transparency and to inform future research, the Threatened Species Scientific Committee publishes the names of those species found to be data deficient. As data deficient is not a listing category under the EPBC Act, this has no statutory implications and the species is not considered to be listed under the EPBC Act.

Threatened Ecological Communities

Threatened Ecological communities under the EPBC Act are listed in three categories.

Critically endangered

If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).

Endangered

If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).

Vulnerable

If, at that time, an ecological community is not critically endangered or endangered, but is facing a high risk of extinction in the wild in the medium–term future (indicative timeframe being the next 50 years).

APPENDIX 5

TEC/PEC Database Search

OCC_UNIQUE	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUNT	FIRST_S_ID	LAST_S_ID	BUFFER	OCC_CONFID	BDY_ID	ORIG_FID
2534	Banksia yellow-orange sands	Banksia woodland of the Gingin area restricted to soils dominated by yellow to orange sands	Priority 2		1	BYOS06		500	No	1141	922
2533	Banksia yellow-orange sands	Banksia woodland of the Gingin area restricted to soils dominated by yellow to orange sands	Priority 2		1	BYOS05		500	No	1142	923
2532	Banksia yellow-orange sands	Banksia woodland of the Gingin area restricted to soils dominated by yellow to orange sands	Priority 2		1	BYOS04		500	No	1143	924
118513	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12795		200	No	115512	27787
118514	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12796		200	No	115513	27788
118515	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12797		200	No	115514	27789
118516	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12798		200	No	115515	27790
118517	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12799		200	No	115516	27791
118518	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12800		200	No	115517	27792
118519	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12801		200	No	115518	27793
118520	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12802		200	No	115519	27794
118524	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12806		200	No	115523	27798
118525	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12807		200	No	115524	27799
118528	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12810		200	No	115527	27802
118570	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12852		200	No	115569	27844
118588	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12870		200	No	115587	27862
118593	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12875		200	No	115592	27867
118594	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12876		200	No	115593	27868
118597	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12879		200	No	115596	27871

OCC_UNIQUE	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUNT	FIRST_S_ID	LAST_S_ID	BUFFER	OCC_CONFID	BDY_ID	ORIG_FID
118598	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12880		200	No	115597	27872
118599	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12881		200	No	115598	27873
118616	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12898		200	No	115615	27890
118620	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12902		200	No	115619	27894
118624	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12906		200	No	115623	27898
118625	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12907		200	No	115624	27899
118626	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12908		200	No	115625	27900
118627	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12909		200	No	115626	27901
118628	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12910		200	No	115627	27902
118631	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12913		200	No	115630	27905
118632	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12914		200	No	115631	27906
118776	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13058		200	No	115775	28050
118784	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13066		200	No	115783	28058
118789	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13071		200	No	115788	28063
118793	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13075		200	No	115792	28067
118794	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13076		200	No	115793	28068
118795	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13077		200	No	115794	28069
118796	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13078		200	No	115795	28070
118797	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13079		200	No	115796	28071
118798	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13080		200	No	115797	28072

OCC_UNIQUE	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUNT	FIRST_S_ID	LAST_S_ID	BUFFER	OCC_CONFID	BDY_ID	ORIG_FID
118799	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13081		200	No	115798	28073
118800	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13082		200	No	115799	28074
118801	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13083		200	No	115800	28075
118802	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13084		200	No	115801	28076
118804	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13086		200	No	115803	28078
118805	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13087		200	No	115804	28079
118806	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13088		200	No	115805	28080
118807	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13089		200	No	115806	28081
118808	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13090		200	No	115807	28082
118809	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13091		200	No	115808	28083
118810	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13092		200	No	115809	28084
118811	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13093		200	No	115810	28085
118812	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13094		200	No	115811	28086
118813	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13095		200	No	115812	28087
118814	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13096		200	No	115813	28088
118815	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13097		200	No	115814	28089
118816	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13098		200	No	115815	28090
118817	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13099		200	No	115816	28091
118818	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13100		200	No	115817	28092
118819	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13101		200	No	115818	28093

OCC_UNIQUE	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUNT	FIRST_S_ID	LAST_S_ID	BUFFER	OCC_CONFID	BDY_ID	ORIG_FID
118820	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13102		200	No	115819	28094
118821	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13103		200	No	115820	28095
118822	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13104		200	No	115821	28096
118823	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13105		200	No	115822	28097
118824	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13106		200	No	115823	28098
118827	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13109		200	No	115826	28101
118828	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13110		200	No	115827	28102
118829	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13111		200	No	115828	28103
118830	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13112		200	No	115829	28104
118831	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13113		200	No	115830	28105
118832	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13114		200	No	115831	28106
118833	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13115		200	No	115832	28107
118838	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13120		200	No	115837	28112
118839	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13121		200	No	115838	28113
118842	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13124		200	No	115841	28116
118844	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13126		200	No	115843	28118
118845	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13127		200	No	115844	28119
118846	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13128		200	No	115845	28120
118847	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13129		200	No	115846	28121
118848	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13130		200	No	115847	28122

OCC_UNIQUE	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUNT	FIRST_S_ID	LAST_S_ID	BUFFER	OCC_CONFID	BDY_ID	ORIG_FID
118849	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13131		200	No	115848	28123
118850	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13132		200	No	115849	28124
118851	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13133		200	No	115850	28125
118852	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13134		200	No	115851	28126
118853	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13135		200	No	115852	28127
118854	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13136		200	No	115853	28128
118855	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13137		200	No	115854	28129
118856	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13138		200	No	115855	28130
118857	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13139		200	No	115856	28131
122493	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16775		200	No	119492	31765
122494	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16776		200	No	119493	31766
122495	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16777		200	No	119494	31767
122496	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16778		200	No	119495	31768
122497	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16779		200	No	119496	31769
122498	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16780		200	No	119497	31770
122499	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16781		200	No	119498	31771
122500	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld16782		200	No	119499	31772
2540	Banksia yellow-orange sands	Banksia woodland of the Gingin area restricted to soils dominated by yellow to orange sands	Priority 2		1	BYOS11		500	No	1154	935
118526	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12808		200	No	115525	27800
118527	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12809		200	No	115526	27801

OCC_UNIQUE	COM_ID	COM_NAME	STATE_CATG	COMM_CATG	S_ID_COUNT	FIRST_S_ID	LAST_S_ID	BUFFER	OCC_CONFID	BDY_ID	ORIG_FID
118604	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12886		200	No	115603	27878
118605	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12887		200	No	115604	27879
118610	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld12892		200	No	115609	27884
118777	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13059		200	No	115776	28051
118787	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13069		200	No	115786	28061
118790	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13072		200	No	115789	28064
118803	Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered	1	BanksiaWld13085		200	No	115802	28077

APPENDIX 6

Flora List

SPECIES LIST – Pt Lot 101 (777) Teatree Road, Chittering – Madalyn House Site 2022

GYMNOSPERMS

CYCADACEAE
Macrozamia fraseri

MONOCOTYLEDONS

ANARTHRIACEAE
Lyginia barbata

ASPARAGACEAE
Lomandra hermaphrodita
Lomandra sericea
Lomandra preissii
Sowerbaea laxiflora
Thysanotus manglesianus
Thysanotus thyrsoideus

COLCHICACEAE
Burchardia congesta

CYPERACEAE
Caustis dioica
Lepidosperma pubisquameum
Lepidosperma squamatum
Mesomelaena pseudostygia
Mesomelaena tetragona
Schoenus brevisetis
Morelotia octandra

DASYPOGONACEAE
Calectasia narragara
Dasypogon bromeliifolius

HAEMODORACEAE
Anigozanthos humilis subsp. *humilis*
Conostylis aculeata
Conostylis juncea
Conostylis setigera subsp. *setigera*
Haemodorum laxum
Phlebocarya ciliata

HEMEROCALLIDACEAE
Chamaescilla corymbosa
Dianella revoluta var. *divaricata*
Johnsonia pubescens subsp. *pubescens*

IRIDACEAE
**Gladiolus caryophyllaceus*
Patersonia occidentalis

ORCHIDACEAE
Caladenia flava
Leporella fimbriata
Pterostylis vittata
Pyrorchis nigricans

POACEAE
Rytidosperma sp

RESTIONACEAE
Alexgeorgea nitens
Hypolaena exsulca
Lepidobolus preissianus

XANTHORRHOEACEAE
Xanthorrhoea preissii
Xanthorrhoea brunonis

DICOTYLEDONS

AMARANTHACEAE
Ptilotus drummondii var. *drummondii*

ARALIACEAE
Hydrocotyle sp
Trachymene pilosa

APIACEAE
Xanthosia huegelii

ASTERACEAE
Hyalosperma cotula
**Hypochaeris glabra*
Lagenophora huegelii
Millotia myosotidifolia
Pithocarpa pulchella
Podotheca angustifolia

**Ursinia anthemoides*

CASUARINACEAE
Allocasuarina humilis

CELASTRACEAE
Tripterococcus brunonis

CRASSULACEAE
Crassula colorata

DILLENIACEAE
Hibbertia crassifolia
Hibbertia huegelii
Hibbertia hypericoides
Hibbertia subvaginata

DROSERACEAE
Drosera glanduligera
Drosera erythrorhiza
Drosera macrantha

ELAEOCARPACEAE
Tetratheca pilifera **P3**

ERICACEAE
Andersonia heterophylla
Andersonia lehmanniana subsp. *lehmanniana*
Conostephium minus
Conostephium pendulum
Conostephium preissii
Leucopogon squarrosus
Leucopogon polymorphus
Lysinema pentapetalum
Styphelia conostephioides
Styphelia microcalyx
Styphelia xerophylla

FABACEAE
Acacia applanata
Acacia barbinervis subsp. *barbinervis*
Acacia clydonophora
Acacia pulchella var. *glaberrima*
Acacia stenoptera
Bossiaea eriocarpa
Daviesia angulata
Daviesia nudiflora
Daviesia physodes
Daviesia triflora
Gastrolobium capitatum
Gompholobium knightianum
Gompholobium tomentosum
Hovea trisperma
Isotropis cuneifolia subsp. *cuneifolia*
Jacksonia floribunda
Sphaerolobium medium

GOODENIACEAE
Dampiera linearis
Lechenaultia biloba
Scaevola repens

HALORAGACEAE
Gonocarpus pithyoides

LAMIACEAE
Prostanthera canaliculata

LAURACEAE
Cassytha glabella

LORANTHACEAE
Nuytsia floribunda

MYRTACEAE
Calothamnus sanguineus
Calytrix flavescens
Calytrix fraseri
Calytrix leschenaultii
Calytrix sapphirina
Calytrix strigosa
Corymbia calophylla
Eremaea asterocarpa
Eremaea pauciflora
Eucalyptus marginata
Eucalyptus todtiana
Hypocalymma xanthopetalum
Kunzea glabrescens
Melaleuca trichophylla
Scholtzia involucrata

Verticordia nitens

PRIMULACEAE
**Lysimachia arvensis*

PROTEACEAE
Adenanthos cygnorum subsp. *cygnorum*
Banksia attenuata
Banksia dallanneyi
Banksia grandis
Banksia menziesii
Banksia sessilis var. *sessilis*
Conospermum boreale
Conospermum stoechadis
Grevillea pilulifera
Hakea costata
Hakea ruscifolia
Hakea trifurcata
Isopogon dubius
Petrophile linearis
Petrophile macrostachya
Petrophile striata
Stirlingia latifolia
Synaphea spinulosa

RHAMNACEAE
Stenanthemum humile

RUBIACEAE
Opercularia vaginata

RUTACEAE
Cyanothamnus ramosus
Philotheca spicata

SANTALACEAE
Leptomeria empetriformis

STYLIDIACEAE
Stylidium carnosum
Stylidium araeophyllum
Stylidium calcaratum
Stylidium diuroides
Stylidium scariosum
Stylidium piliferum
Stylidium repens
Stylidium schoenoides
Stylidium sp

THYMELEACEAE
Pimelea leucantha
Pimelea sulphurea

VIOLACEAE
Hybanthus calycinus

APPENDIX 7

Quadrat Data

QUADRAT MH1

50 406021 E 6523949 N

Vegetation: *Eucalyptus todtiana* Low Open Woodland over *Allocasuarina humilis/Eremaea pauciflora/Daviesia nudiflora* Closed Low Heath
Condition: Excellent
Soil Type: Light yellow-grey sand
Landform: Flat
Date: 14.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	4	2
Xanthorrhoea preissii	1.7	1
Allocasuarina humilis	0.9	40
Lysinema pentapetalum	0.8	2
Philotheca spicata	0.7	<1
Daviesia physodes	0.7	<1
Pithocarpa pulchella	0.7	<1
Daviesia nudiflora	0.6	3
Acacia pulchella	0.6	2
Lyginia barbata	0.6	1
Petrophile linearis	0.6	<1
Conostephium pendulum	0.6	<1
Synaphea spinulosa	0.5	1
Conospermum stoechadis	0.5	<1
Stirlingia latifolia	0.5	<1
Daviesia triflora	0.5	<1
Acacia stenoptera	0.5	<1
Eremaea pauciflora	0.4	10

SPECIES	HEIGHT (m)	COVER (%)
Mesomelaena pseudostygia	0.4	5
Leptomeria empetriformis	0.4	1
Leucopogon squarrosus	0.4	1
Bossiaea eriocarpa	0.4	<1
Styphelia xerophylla	0.4	<1
Patersonia occidentalis	0.4	<1
Conostylis juncea	0.4	<1
Melaleuca trichophylla	0.3	5
Hibbertia aurea	0.3	2
Hovea trisperma	0.3	<1
Burchardia congesta	0.3	<1
Conostylis aculeata	0.3	<1
Caustis dioica	0.2	2
Calytrix flavescens	0.2	1
Hibbertia subvaginata	0.2	<1
Anigozanthos humilis	0.2	<1
Hibbertia huegelii	0.2	<1
Conostylis setigera	0.1	<1
Stylidium repens	<0.1	1
Trachymene pilosa	<0.1	<1
Xanthosia huegelii	<0.1	<1
Millotia myosotidifolia	<0.1	<1
**Hypochaeris glabra*	Flat	<1
Stylidium piliferum	Flat	<1
Leporella fimbriata	Flat	<1
Drosera erythrorhiza	Flat	<1
Cassytha glabella	Climber	<1

* introduced species

QUADRAT MH2

50 406218 E 6524328 N

Vegetation: *Eucalyptus todtiana* Low Open Woodland over *Adenanthos cygnorum/Banksia menziesii/B. attenuata* Tall Open Shrubland over *Allocasuarina humilis/Eremaea pauciflora/Melaleuca trichophylla /Styphelia conostephioides* Closed Low Heath
Condition: Excellent
Soil Type: light yellow-grey sand
Landform: Gentle slope
Date: 14.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	4	1
Adenanthos cygnorum	2	2
Banksia menziesii	2	1
Banksia attenuata	2	1
Jacksonia floribunda	1.7	2
Conospermum stoechadis	1.1	1
Allocasuarina humilis	1	2
Acacia pulchella	0.7	1
Daviesia nudiflora	0.7	1
Bossiaea eriocarpa	0.6	<1
Hibbertia hypericoides	0.5	2
Lysinema pentapetalum	0.5	1
Daviesia triflora	0.5	<1
Philotheca spicata	0.5	<1
Eremaea pauciflora	0.4	5

SPECIES	HEIGHT (m)	COVER (%)
Styphelia conostephioides	0.4	2
Synaphea spinulosa	0.4	1
Hibbertia subvaginata	0.4	1
Stirlingia latifolia	0.4	1
Conostephium pendulum	0.4	<1
Patersonia occidentalis	0.4	<1
Lyginia barbata	0.4	<1
Daviesia physodes	0.4	<1
Schoenus brevisetis	0.4	<1
Melaleuca trichophylla	0.3	4
Hibbertia huegelii	0.3	<1
Leucopogon squarrosus	0.3	<1
Petrophile linearis	0.3	<1
Calytrix fraseri	0.3	<1
Patersonia occidentalis	0.3	<1
Conospermum boreale	0.3	<1
Calytrix flavescens	0.2	2
Beaufortia squarrosa	0.2	1
Hibbertia aurea	0.2	1
Conostylis setigera	0.1	1
Alexgeorgea nitens	0.1	<1
Anigozanthos humilis	0.1	<1
Scaevola repens	0.1	<1
Stylidium repens	<0.1	1
Stylidium piliferum	Flat	<1
Leporella fimbriata	Flat	<1
Drosera menziesii	Climber	<1

* introduced species

QUADRAT MH3

50 405999 E 6523870 N

Vegetation: *Eucalyptus marginata* Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath
Condition: Excellent
Soil Type: Yellow-brown sand
Landform: Flat
Date: 14.9.22
Recorded by: Paul van der Moezel

Quadrat (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus marginata	12	10
Xanthorrhoea preissii	0.8	5
Daviesia nudiflora	0.5	1
Philotheca spicata	0.5	1
Schoenus brevisetis	0.5	<1
Burchardia congesta	0.5	<1
Hibbertia hypericoides	0.4	25
Leucopogon squarrosus	0.4	2
Calytrix sapphirina	0.4	2
Grevillea pilulifera	0.4	<1
Prostanthera canaliculata	0.4	<1
Conostephium pendulum	0.4	<1
Gastrolobium capitatum	0.4	<1
Lepidosperma pubisquameum	0.4	<1
Ptilotus drummondii	0.4	<1
Hibbertia subvaginata	0.3	4
Petrophile linearis	0.3	1

Hibbertia huegelii	0.3	<1
Bossiaea eriocarpa	0.3	<1
Caustis dioica	0.2	2
Isotropis cuneifolia	0.2	<1
Rytidosperma sp	0.2	<1
Banksia dallanneyi	0.2	<1
**Ursinia anthemoides*	0.1	<1
Stylidium repens	<0.1	<1
Trachymene pilosa	<0.1	<1
Stylidium brunonianum	Flat	<1
Drosera erythrorhiza	Flat	<1
**Hypochaeris glabra*	Flat	<1
Leporella fimbriata	Flat	<1
Lagenophora huegelii	Flat	<1
Drosera menziesii	Climber	<1

* introduced species

QUADRAT MH4

50 405957 E 6524247 N

Vegetation: *Eucalyptus marginata* Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath
Condition: Excellent
Soil Type: yellow-black sand
Landform: Gently sloping, upper slope
Date: 14.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus marginata	15	5
Hakea ruscifolia	1	<1
Xanthorrhoea preissii	0.8	5
Hibbertia hypericoides	0.6	30
Calytrix fraseri	0.6	5
Burchardia congesta	0.5	<1
Lepidosperma pubisquameum	0.5	<1
Conostephium pendulum	0.5	<1
Leucopogon squarrosus	0.4	5
Daviesia nudiflora	0.4	1
Petrophile linearis	0.4	<1
Lyginia barbata	0.4	<1
Synaphea spinulosa	0.4	<1
Lomandra preissii	0.4	<1
Philotheca spicata	0.4	<1
Lysinema pentapetalum	0.4	<1
Styphelia xerophyllum	0.4	<1

SPECIES	HEIGHT (m)	COVER (%)
Gompholobium tomentosum	0.4	<1
Caustis dioica	0.3	1
Lomandra sericea	0.3	<1
Hibbertia huegelii	0.3	<1
Tetraria octandra	0.3	<1
Acacia barbinervis	0.2	<1
**Ursinia anthemoides*	0.1	<1
Anigozanthos humilis	0.1	<1
Banksia dallanneyi	0.1	<1
Gompholobium knightianum	0.1	<1
Hibbertia subvaginata	0.1	<1
Podotheca angustifolia	0.1	<1
Hyalosperma cotula	<0.1	<1
Xanthosia huegelii	<0.1	<1
Stylidium repens	<0.1	<1
Stylidium brunonianum	<0.1	<1
Trachymene pilosa	<0.1	<1
Drosera erythrorhiza	Flat	1
Leporella fimbriata	Flat	<1
Drosera menziesii	Climber	<1

* introduced species

QUADRAT MH5

50 405951 E 6524055 N

Vegetation: *Eucalyptus todtiana/Banksia attenuata* Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Melaleuca trichophylla* Open Low Heath
Condition: Excellent
Soil Type: Light orange-brown sand
Landform: Gentle slope
Date: 14.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	4	5
Banksia attenuata	4	4
Adenanthos cygnorum	1-1.6	25
Daviesia physodes	0.8	1
Philotheca spicata	0.7	<1
Daviesia triflora	0.6	2
Conostephium pendulum	0.6	1
Jacksonia floribunda	0.6	1
Acacia pulchella	0.6	<1
Burchardia congesta	0.6	<1
Stirlingia latifolia	0.4	5
Synaphea spinulosa	0.4	3
Leucopogon squarrosus	0.4	<1
Bossiaea eriocarpa	0.4	<1
Melaleuca trichophylla	0.3	15
Styphelia conostephioides	0.3	2

SPECIES	HEIGHT (m)	COVER (%)
Beaufortia squarrosa	0.3	1
Hibbertia subvaginata	0.3	1
Hibbertia aurea	0.3	1
Conospermum boreale	0.3	<1
Petrophile linearis	0.3	<1
Hovea trisperma	0.2	<1
Acacia barbinervis	0.2	<1
Lomandra hermaphrodita	0.1	<1
Alexgeorgea nitens	0.1	<1
Conostylis setigera	<0.1	<1
Stylidium repens	<0.1	<1
Anigozanthos humilis	<0.1	<1

* introduced species

QUADRAT MH6

50 405920 E 6523422 N

Vegetation: *Eucalyptus marginata* Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath
Condition: Excellent
Soil Type: Yellow-grey sand
Landform: Flat
Date: 14.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus marginata	12	10
Xanthorrhoea preissii	0.9	3
Daviesia nudiflora	0.7	1
Philotheca spicata	0.7	1
Xanthorrhoea brunonis	0.7	1
Calytrix fraseri	0.7	<1
Stirlingia latifolia	0.6	1
**Gladiolus caryophyllaceus*	0.6	<1
Gompholobium tomentosum	0.6	<1
Lepidosperma pubisquameum	0.6	<1
Hibbertia hypericoides	0.5	30
Mesomelaena pseudostygia	0.5	1
Leucopogon squarrosus	0.5	1
Conostephium pendulum	0.5	1
Gastrolobium capitatum	0.5	<1
Burchardia congesta	0.5	<1
Petrophile linearis	0.5	<1

SPECIES	HEIGHT (m)	COVER (%)
Patersonia occidentalis	0.4	1
Bossiaea eriocarpa	0.4	<1
Lomandra preissii	0.4	<1
Hibbertia subvaginata	0.2	<1
Gompholobium knightianum	0.2	<1
Stylidium sp	0.2	<1
Banksia dallanneyi	0.2	<1
Stylidium brunonianum	0.2	<1
Hyalosperma cotula	<0.1	<1
Xanthosia huegelii	<0.1	<1
Trachymene pilosa	<0.1	<1
Drosera erythrorhiza	Flat	<1
**Hypochaeris glabra*	Flat	<1
Leporella fimbriata	Flat	<1

* introduced species

QUADRAT MH7

50 405912 E 6524407 N

Vegetation: *Eucalyptus todtiana* Low Open Woodland over *Eremaea pauciflora/Hibbertia hypericoides* Closed Low Heath
Condition: Excellent
Soil Type: Dark yellow-brown sand
Landform: Gentle slope
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	3	10
Nuytsia floribunda	3	<1
Jacksonia floribunda	1.1	1
Conospermum stoechadis	0.8	1
Daviesia angulata	0.8	<1
Daviesia nudiflora	0.7	2
Hakea ruscifolia	0.7	<1
Hibbertia hypericoides	0.6	25
Schoenus brevisetis	0.6	2
Calothamnus sanguineus	0.6	1
Philotheca spicata	0.6	<1
Gompholobium tomentosum	0.6	<1
Isopogon dubius	0.5	3
Hibbertia aurea	0.5	1
Acacia pulchella	0.5	<1
Pimelea sulphurea	0.5	<1

SPECIES	HEIGHT (m)	COVER (%)
Melaleuca trichophylla	0.4	5
Eremaea pauciflora	0.4	4
Petrophile linearis	0.4	<1
Calytrix fraseri	0.4	<1
Mesomelaena pseudostygia	0.3	4
Leucopogon squarrosus	0.3	<1
Hibbertia huegelii	0.3	<1
Conostylis juncea	0.3	<1
Burchardia congesta	0.3	<1
Synaphea spinulosa	0.3	<1
Stylidium amoenum	0.1	<1
Anigozanthos humilis	0.1	<1
Stylidium sp	0.1	<1
Conostephium pendulum	0.1	<1
Trachymene pilosa	<0.1	<1
Stylidium repens	<0.1	1
**Hypochaeris glabra*	Flat	<1
Leporella fimbriata	Flat	<1
Drosera erythrorhiza	Flat	<1
Drosera menziesii	Climber	<1
Cassytha glabella	Climber	<1

* introduced species

QUADRAT MH8

50 405824 E 6524000 N

Vegetation: *Eucalyptus todtiana* Low Open Woodland over *Allocasuarina humilis/Daviesia nudiflora* Closed Low Heath
Condition: Excellent
Soil Type: Dark yellow-brown sand
Landform: Gentle slope
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	3	5
Allocasuarina humilis	1	50
Conospermum stoechadis	1	1
Hakea ruscifolia	1	<1
Lysinema pentapetalum	0.6	2
Daviesia nudiflora	0.6	2
Leucopogon squarrosus	0.6	1
Philotheca spicata	0.6	<1
Stirlingia latifolia	0.6	<1
Synaphea spinulosa	0.5	1
Styphelia conostephioides	0.5	1
Hovea trisperma	0.5	<1
Conostephium pendulum	0.4	2
Hibbertia aurea	0.4	1
Calytrix fraseri	0.4	1
Hibbertia huegelii	0.4	<1
Burchardia congesta	0.4	<1

SPECIES	HEIGHT (m)	COVER (%)
Mesomelaena pseudostygia	0.3	10
Melaleuca trichophylla	0.3	2
Caustis dioica	0.3	1
Eremaea pauciflora	0.3	1
Leptomeria empetriformis	0.3	<1
Acacia pulchella	0.3	<1
Patersonia occidentalis	0.3	<1
Lomandra preissii	0.3	<1
Acacia barbinervis	0.2	<1
Hibbertia subvaginata	0.2	<1
Styphelia xerophylla	0.2	<1
Stylidium brunonianum	0.1	<1
Conostylis setigera	0.1	<1
Lomandra hermaphrodita	0.1	<1
Drosera glanduligera	<0.1	<1
Anigozanthos humilis	<0.1	<1
Millotia myosotidifolia	<0.1	<1
Stylidium repens	<0.1	<1
Trachymene pilosa	<0.1	<1
Drosera erythrorhiza	Flat	<1
Cassytha glabella	Climber	<1

* introduced species

QUADRAT MH9

50 405686 E 6523891 N

Vegetation: *Eucalyptus todtiana* Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Eremaea pauciflora/Hibbertia hypericoides* Open Low Heath
Condition: Excellent
Soil Type: Dark orange-brown sand
Landform: Gentle slope
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	3	5
Banksia attenuata	3	1
Nuytsia floribunda	2.5	2
Adenanthos cygnorum	1-1.8	25
Xanthorrhoea preissii	1	1
Philotheca spicata	0.8	<1
Daviesia nudiflora	0.6	1
Lysinema pentapetalum	0.6	<1
Eremaea pauciflora	0.5	15
Hibbertia subvaginata	0.5	5
Synaphea spinulosa	0.5	1
Lyginia barbata	0.5	<1
Acacia pulchella	0.5	<1
Burchardia congesta	0.5	<1
Jacksonia floribunda	0.5	<1
Hibbertia hypericoides	0.4	5

SPECIES	HEIGHT (m)	COVER (%)
Daviesia triflora	0.4	4
Daviesia physodes	0.4	1
Leucopogon squarrosus	0.4	1
Petrophile linearis	0.4	<1
Hovea trisperma	0.4	<1
Styphelia conostephioides	0.3	4
Melaleuca trichophylla	0.3	3
Conostephium pendulum	0.3	2
Schoenus brevisetis	0.3	1
Stirlingia latifolia	0.3	<1
Hibbertia aurea	0.3	<1
Mesomelaena pseudostygia	0.3	<1
Acacia barbinervis	0.3	<1
Conospermum boreale	0.3	<1
Patersonia occidentalis	0.3	<1
Bossiaea eriocarpa	0.3	<1
Hibbertia huegelii	0.2	<1
Anigozanthos humilis	0.1	<1
Alexgeorgea nitens	0.1	<1
Lomandra hermaphrodita	0.1	<1
Isolepis marginata	<0.1	<1
Drosera glanduligera	<0.1	<1
Conostylis setigera	<0.1	<1
Stylidium repens	<0.1	<1
Leporella fimbriata	Flat	<1
Drosera erythrorhiza	Flat	<1
**Hypochaeris glabra*	Flat	<1
Cassytha glabella	Climber	<1

* introduced species

QUADRAT MH10

50 405611 E 6524266 N

Vegetation: *Eucalyptus marginata* Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath
Condition: Excellent
Soil Type: Black sand
Landform: Flat
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus marginata	18	20
Kunzea glabrescens	2	1
Xanthorrhoea preissii	1-1.7	5
Xanthorrhoea brunonis	0.8	1
Philotheca spicata	0.6	1
Lepidosperma pubisquameum	0.6	<1
Hibbertia hypericoides	0.5	30
Calothamnus sanguineus	0.5	1
Daviesia nudiflora	0.5	1
Leucopogon squarrosus	0.5	1
Daviesia physodes	0.5	<1
Petrophile linearis	0.5	<1
Stirlingia latifolia	0.5	<1
Bossiaea eriocarpa	0.4	2
Conostephium pendulum	0.4	2
Acacia pulchella	0.4	1
Burchardia congesta	0.4	<1

SPECIES	HEIGHT (m)	COVER (%)
Hibbertia subvaginata	0.3	1
Stylidium brunonianum	0.3	<1
**Gladiolus caryophyllaceus*	0.3	<1
Conospermum stoechadis	0.3	<1
Acacia barbinervis	0.2	2
Hovea trisperma	0.2	<1
Anigozanthos humilis	0.2	<1
Gompholobium tomentosum	0.2	<1
Lomandra sericea	0.2	<1
Johnsonia pubescens	0.1	<1
Stylidium sp	0.1	<1
Banksia dallanneyi	0.1	<1
Stylidium brunonianum	0.1	<1
Gompholobium knightianum	0.1	<1
Caladenia flava	<0.1	<1
Trachymene pilosa	<0.1	<1
Hydrocotyle sp	<0.1	<1
**Hypochaeris glabra*	Flat	<1
Leporella fimbriata	Flat	<1
Cassytha glabella	Climber	<1

* introduced species

QUADRAT MH11

50 405177 E 6524003 N

Vegetation: *Eucalyptus todtiana* Low Open Woodland over *Adenanthos cygnorum* Shrubland over *Hibbertia hypericoides/Styphelia conostephioides* Open Low Heath
Condition: Excellent
Soil Type: Dark brown sand
Landform: Gentle slope
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	4	5
Adenanthos cygnorum	1-2	10
Conospermum stoechadis	1.1	1
Allocasuarina humilis	1	3
Nuytsia floribunda	1	<1
Lysinema pentapetalum	0.8	1
Hibbertia hypericoides	0.6	15
Eremaea pauciflora	0.6	2
Philotheca spicata	0.6	<1
Daviesia nudiflora	0.6	<1
Synaphea spinulosa	0.5	<1
Gompholobium tomentosum	0.5	<1
Burchardia congesta	0.5	<1
Styphelia conostephioides	0.4	10
Hibbertia subvaginata	0.4	3
Calytrix fraseri	0.4	2

SPECIES	HEIGHT (m)	COVER (%)
Bossiaea eriocarpa	0.4	1
Patersonia occidentalis	0.4	<1
Schoenus brevisetis	0.4	<1
Petrophile linearis	0.4	<1
Melaleuca trichophylla	0.3	10
Leucopogon squarrosus	0.3	2
Stirlingia latifolia	0.3	1
Mesomelaena pseudostygia	0.3	1
Styphelia xerophylla	0.3	<1
Calytrix flavescens	0.3	<1
Conostylis aurea	0.3	<1
Lomandra hermaphrodita	0.2	<1
Hibbertia racemosa	0.2	<1
Lomandra sericea	0.2	<1
Hibbertia huegelii	0.2	<1
Banksia dallanneyi	0.1	<1
Johnsonia pubescens	0.1	<1
Conostylis setigera	0.1	<1
Anigozanthos humilis	0.1	<1
Stylidium sp	<0.1	<1
Stylidium repens	<0.1	<1
Drosera erythrorhiza	Flat	<1
Cassytha glabella	Climber	<1

* introduced species

QUADRAT MH12

50 406665 E 6524167 N

Vegetation: *Eucalyptus todtiana/Banksia attenuata/B. menziesii* Low Open Woodland over *Melaleuca trichophylla /Eremaea pauciflora/Lysinema pentapetalum* Closed Low Heath
Condition: Excellent
Soil Type: Light yellow-grey sand
Landform: Flat
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus todtiana	4.5	5
Banksia attenuata	4	5
Banksia menziesii	4	2
Nuytsia floribunda	3	1
Hakea ruscifolia	1.6	<1
Jacksonia floribunda	1.2	<1
Lysinema pentapetalum	1	10
Conospermum stoechadis	1	5
Philotheca spicata	1	<1
Hovea trisperma	0.8	<1
Eremaea pauciflora	0.5	40
Mesomelaena pseudostygia	0.5	1
Hibbertia hypericoides	0.5	<1
Calytrix sapphirina	0.5	<1
Daviesia triflora	0.5	<1
Hibbertia subvaginata	0.4	2

SPECIES	HEIGHT (m)	COVER (%)
Acacia pulchella	0.4	1
Styphelia xerophylla	0.4	<1
Synaphea spinulosa	0.4	<1
Stirlingia latifolia	0.4	<1
Calytrix fraseri	0.4	<1
Melaleuca trichophylla	0.3	5
Conostephium pendulum	0.3	1
Hibbertia aurea	0.3	1
Leucopogon squarrosus	0.3	<1
Hibbertia huegelii	0.3	<1
Bossiaea eriocarpa	0.3	<1
Calothamnus sanguineus	0.3	<1
Calytrix flavescens	0.2	<1
Dampiera linearis	0.2	<1
Conostylis juncea	0.2	<1
Scholtzia involucrata	0.1	2
Haemodorum laxum	0.1	<1
Podotheca angustifolia	0.1	<1
Stylidium repens	<0.1	1
Xanthosia huegelii	<0.1	<1
Conostylis setigera	<0.1	<1
Anigozanthos humilis	<0.1	<1
Leporella fimbriata	Flat	<1
Drosera erythrorhiza	Flat	<1
Cassytha glabella	Climber	<1
Drosera menziesii	Climber	<1

* introduced species

QUADRAT MH13

50 406370 E 6524173 N

Vegetation: *Eucalyptus marginata* Open Woodland over *Xanthorrhoea preissii/Hibbertia hypericoides* Open Low Heath
Condition: Excellent
Soil Type: Dark brown-black sand
Landform: Flat
Date: 15.9.22
Recorded by: Paul van der Moezel

QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
Eucalyptus marginata	15	15
Xanthorrhoea preissii	1.5	1
Xanthorrhoea brunonis	1.1	2
Philotheca spicata	0.8	1
Leucopogon squarrosus	0.6	2
Daviesia nudiflora	0.6	1
Stirlingia latifolia	0.6	<1
Hibbertia hypericoides	0.5	25
Conostephium pendulum	0.5	5
Petrophile linearis	0.5	<1
Burchardia congesta	0.5	<1
**Gladiolus caryophyllaceus*	0.5	<1
Calytrix fraseri	0.4	2
Synaphea spinulosa	0.4	<1
Lepidosperma pubisquameum	0.4	<1
Calothamnus sanguineus	0.4	<1
Bossiaea eriocarpa	0.4	<1

SPECIES	HEIGHT (m)	COVER (%)
Gompholobium tomentosum	0.4	<1
Melaleuca trichophylla	0.3	5
Ptilotus drummondii	0.3	<1
Eremaea asterocarpa	0.3	<1
Hovea trisperma	0.3	<1
Lomandra preissii	0.3	<1
Hibbertia subvaginata	0.2	1
Hibbertia racemosa	0.2	<1
Caustis dioica	0.2	<1
Caladenia flava	0.1	<1
**Ursinia anthemoides*	0.1	<1
Gompholobium knightianum	0.1	<1
Acacia pulchella	0.1	<1
Trachymene pilosa	<0.1	<1
Millotia myosotidifolia	<0.1	<1
Hyalosperma cotula	<0.1	<1
Stylidium repens	<0.1	<1
Podotheca angustifolia	<0.1	<1
Drosera erythrorhiza	Flat	<1
**Hypochaeris glabra*	Flat	<1
Leporella fimbriata	Flat	<1
Drosera menziesii	Climber	<1

* introduced species

APPENDIX 8

DBCA Fauna Database Search

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Calyptorhynchus latirostris	Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo	BIRD	EN	15/11/2012	15	11	2012	1273374|794	BIRDATA						Breera Road1010	0	24734	Psittacidae
Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	BIRD	EN	4/10/1977	4	10	1977	16469|266	BIRDATLAS1	Moderately Certain	Observational	Sighting	1	CHITTERING	CHITTERING	18000	0	Cacatuidae
Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	BIRD	EN	31/01/1978	31	1	1978	22421|266	BIRDATLAS1	Moderately Certain	Observational	Sighting	1	CHITTERING	CHITTERING	18000	0	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	1/09/1999	1	9	1999	32781|794	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Chittering Lakes	100	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	19/09/1999	19	9	1999	33836|794	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Lake Chandala Nature Reserve	100	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	11/11/2001	11	11	2001	186640|794	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Holy Trinity Church, Chittering	100	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	6/08/2005	6	8	2005	5015011|794	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	BINDOON	Chittering Lakes - Bindoon	100	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	15/11/2012	15	11	2012	5115831|794	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	BREERA	Breera Road1010	100	24734	Cacatuidae
Calyptorhynchus sp. 'white-tailed black cockatoo'	white-tailed black cockatoo	BIRD	EN	5/11/1999	5	11	1999	202073|841	BIRDATLAS2						Lake Nangar	500	48400	Psittacidae
Oxyura australis	blue-billed duck	BIRD	P4	1/03/1999	1	3	1999	9257|216	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Chittering Lake	500	24328	Anatidae
Oxyura australis	blue-billed duck	BIRD	P4	5/11/1999	5	11	1999	202072|216	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	BINDOON	Lake Needoonga	500	24328	Anatidae
Oxyura australis	blue-billed duck	BIRD	P4	25/01/2001	25	1	2001	129060|216	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Chittering Lake	100	24328	Anatidae
Oxyura australis	blue-billed duck	BIRD	P4	11/11/2001	11	11	2001	186641|216	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Chittering Lake	100	24328	Anatidae
Oxyura australis	blue-billed duck	BIRD	P4	10/02/2002	10	2	2002	267315|216	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	BINDOON	Lake Chittering	500	24328	Anatidae
Oxyura australis	blue-billed duck	BIRD	P4	11/11/2006	11	11	2006	471035|216	BIRDATLAS2	Moderately Certain	Observational	Sighting	1	CHITTERING	Chittering Lake	100	24328	Anatidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	819GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	820GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	821GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	822GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	823GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	824GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	825GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	826GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	827GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	828GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2007	6	8	2007	829GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	830GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	831GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	832GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	833GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	834GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	835GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	836GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	837GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	838GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	839GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	840GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2007	7	8	2007	841GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/08/2007	8	8	2007	842GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/08/2007	8	8	2007	843GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	9/08/2007	9	8	2007	844GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	9/08/2007	9	8	2007	845GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	846GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	847GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	848GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	849GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	850GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	851GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	852GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	853GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	854GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	855GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	856GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	857GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	858GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	859GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	860GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	861GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	862GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	863GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2008	4	8	2008	865GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	867GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	868GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	869GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	870GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	871GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	872GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	873GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	874GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	875GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	876GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	877GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2008	5	8	2008	878GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2008	6	8	2008	882GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2008	6	8	2008	883GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2008	6	8	2008	886GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2008	6	8	2008	890GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2008	6	8	2008	891GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	895GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	896GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	898GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	900GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	902GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	903GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	904GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	905GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/08/2008	7	8	2008	906GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/08/2008	8	8	2008	911GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/08/2008	8	8	2008	912GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/08/2008	8	8	2008	913GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1123GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1124GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1125GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1126GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1127GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1128GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1129GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1130GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1131GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1132GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1133GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1134GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1135GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1136GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1137GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1140GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2008	11	8	2008	1142GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1143GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1145GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1148GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1149GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1150GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1151GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1152GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1153GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1154GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1155GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1157GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1159GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1160GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1161GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1162GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1163GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1166GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2008	12	8	2008	1167GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1169GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1170GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1173GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1174GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1175GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1176GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1177GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1178GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1180GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1181GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1182GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1184GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1185GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1186GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1188GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1189GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1192GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/08/2008	13	8	2008	1193GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1194GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1197GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1198GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1199GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1200GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1201GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1203GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1204GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1206GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1207GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1208GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1209GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1210GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1211GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1212GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1213GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1214GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1216GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/08/2008	14	8	2008	1217GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1218GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1225GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1228GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1231GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1232GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1233GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1234GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1235GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1237GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1238GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1239GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1240GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1241GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1242GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1243GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1245GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/08/2008	15	8	2008	1246GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/05/2009	4	5	2009	916GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/05/2009	5	5	2009	917GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/05/2009	5	5	2009	921GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	922GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	925GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	926GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	927GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	928GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	929GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2009	6	5	2009	930GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	931GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	932GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	933GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	935GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	937GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	938GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	939GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	940GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2009	7	5	2009	941GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	942GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	943GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	944GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	946GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	947GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	948GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	949GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	8/05/2009	8	5	2009	950GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	951GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	952GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	953GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	954GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	955GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	956GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	957GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	958GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	960GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	961GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2009	11	5	2009	962GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2009	12	5	2009	964GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2009	12	5	2009	965GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2009	12	5	2009	966GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2009	12	5	2009	967GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2009	12	5	2009	968GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2009	12	5	2009	969GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/05/2009	13	5	2009	970GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/05/2009	13	5	2009	971GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/05/2009	13	5	2009	972GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	13/05/2009	13	5	2009	973GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/05/2009	14	5	2009	975GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/05/2009	14	5	2009	976GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/05/2009	14	5	2009	977GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/05/2009	15	5	2009	982GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/05/2009	15	5	2009	983GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/05/2009	15	5	2009	988GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	15/05/2009	15	5	2009	989GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1247GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1248GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1249GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1250GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1251GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1252GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1253GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1254GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1255GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1256GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1257GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1258GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1259GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1260GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2009	18	5	2009	1261GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	19/05/2009	19	5	2009	1262GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	19/05/2009	19	5	2009	1263GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	19/05/2009	19	5	2009	1264GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	19/05/2009	19	5	2009	1265GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	19/05/2009	19	5	2009	1266GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1267GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1268GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1269GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1270GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1271GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1272GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1273GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2009	20	5	2009	1274GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2009	21	5	2009	1275GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2009	21	5	2009	1276GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2009	21	5	2009	1277GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2009	21	5	2009	1278GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	22/05/2009	22	5	2009	1279GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	22/05/2009	22	5	2009	1280GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	22/05/2009	22	5	2009	1281GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	22/05/2009	22	5	2009	1282GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1283GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1284GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1285GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1286GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1287GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1288GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1289GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1290GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1291GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/05/2009	25	5	2009	1292GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	26/05/2009	26	5	2009	1293GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	26/05/2009	26	5	2009	1294GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	26/05/2009	26	5	2009	1295GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	26/05/2009	26	5	2009	1296GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	26/05/2009	26	5	2009	1297GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	27/05/2009	27	5	2009	1298GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	27/05/2009	27	5	2009	1299GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	27/05/2009	27	5	2009	1300GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	27/05/2009	27	5	2009	1301GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	28/05/2009	28	5	2009	1302GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	28/05/2009	28	5	2009	1303GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	29/05/2009	29	5	2009	1304GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	17/08/2009	17	8	2009	997GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	17/08/2009	17	8	2009	999GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	24/08/2009	24	8	2009	1316GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	24/08/2009	24	8	2009	1319GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	24/08/2009	24	8	2009	1320GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	24/08/2009	24	8	2009	1321GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/08/2009	25	8	2009	1345GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/08/2009	25	8	2009	1349GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/08/2009	25	8	2009	1352GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	25/08/2009	25	8	2009	1357GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	26/08/2009	26	8	2009	1363GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	28/08/2009	28	8	2009	1412GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/05/2010	4	5	2010	1044GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/05/2010	4	5	2010	1047GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/05/2010	4	5	2010	1048GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/05/2010	5	5	2010	1049GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/05/2010	5	5	2010	1052GAA	FAUNAFILE							30	25478	Peramelidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/05/2010	5	5	2010	1053GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/05/2010	6	5	2010	1056GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2010	7	5	2010	1059GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	7/05/2010	7	5	2010	1060GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2010	11	5	2010	1068GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2010	11	5	2010	1069GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2010	11	5	2010	1070GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/05/2010	11	5	2010	1072GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/05/2010	12	5	2010	1075GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	14/05/2010	14	5	2010	1084GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2010	18	5	2010	1418GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2010	18	5	2010	1419GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2010	18	5	2010	1420GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	18/05/2010	18	5	2010	1421GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	19/05/2010	19	5	2010	1424GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	20/05/2010	20	5	2010	1430GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2010	21	5	2010	1443GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2010	21	5	2010	1446GAA	FAUNAFILE							30	25478	Peramelidae

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Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	21/05/2010	21	5	2010	1449GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	3/08/2010	3	8	2010	1454GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	3/08/2010	3	8	2010	1455GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	3/08/2010	3	8	2010	1461GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2010	4	8	2010	1466GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2010	4	8	2010	1469GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2010	4	8	2010	1471GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2010	4	8	2010	1474GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2010	5	8	2010	1476GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2010	5	8	2010	1478GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2010	5	8	2010	1482GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2010	6	8	2010	1496GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	6/08/2010	6	8	2010	1501GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	28/09/2010	28	9	2010	1516GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	28/09/2010	28	9	2010	1517GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	29/09/2010	29	9	2010	1525GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	30/09/2010	30	9	2010	1530GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	30/09/2010	30	9	2010	1533GAA	FAUNAFILE							30	25478	Peramelidae

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Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	1/10/2010	1	10	2010	1540GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	1/10/2010	1	10	2010	1545GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	1/10/2010	1	10	2010	1547GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	1/10/2010	1	10	2010	1548GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	2/08/2011	2	8	2011	1087GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	2/08/2011	2	8	2011	1088GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	2/08/2011	2	8	2011	1089GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	2/08/2011	2	8	2011	1091GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	2/08/2011	2	8	2011	1092GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	2/08/2011	2	8	2011	1095GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	3/08/2011	3	8	2011	1097GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	3/08/2011	3	8	2011	1101GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	3/08/2011	3	8	2011	1105GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2011	4	8	2011	1111GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2011	5	8	2011	1118GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	5/08/2011	5	8	2011	1120GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	9/08/2011	9	8	2011	1549GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	9/08/2011	9	8	2011	1550GAA	FAUNAFILE							30	25478	Peramelidae

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Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	9/08/2011	9	8	2011	1553GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	10/08/2011	10	8	2011	1557GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	10/08/2011	10	8	2011	1559GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2011	11	8	2011	1562GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2011	11	8	2011	1567GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2011	11	8	2011	1569GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2011	11	8	2011	1570GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2011	11	8	2011	1571GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	11/08/2011	11	8	2011	1574GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2011	12	8	2011	1579GAA	FAUNAFILE							30	25478	Peramelidae
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	12/08/2011	12	8	2011	1581GAA	FAUNAFILE							30	25478	Peramelidae
Westralunio carteri	Carter's freshwater mussel	INVERTEBRATE	VU	28/11/2009	28	11	2009	138694	FAUNASURVEY	Certain	Survey	Unknown	6	MOOLIABEENEE	Lower Brockman River, Marbling Brook-Chittering Valley Rd	100	34113	Hyriidae
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	BIRD	VU	10/02/2007	10	2	2007	80790	TFAUNA	Certain	Community survey	Day sighting	1	Chittering		10000	0	
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	BIRD	VU	1/05/2015	1	5	2015	96400	TFAUNA	Certain	Opportunistic sighting		1	Bindoon		10000	0	
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	BIRD	VU	1/05/2015	1	5	2015	96401	TFAUNA	Certain	Opportunistic sighting		1	Chittering		10000	0	
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	BIRD	VU	1/05/2015	1	5	2015	96402	TFAUNA	Certain	Opportunistic sighting		1	Chittering		10000	0	
Calyptorhynchus banksii naso	forest red-tailed black cockatoo	BIRD	VU	9/04/2017	9	4	2017	95837	TFAUNA	Moderately certain	Community survey	Sighting	15	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	1/12/2000	1	12	2000	9750	TFAUNA	Certain	Community survey	Day sighting	6	Mooliabeenee		500	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	11/11/2001	11	11	2001	6470	TFAUNA	Certain	Community survey	Day sighting		Lake Chittering		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	24/05/2003	24	5	2003	32530	TFAUNA	Certain	Survey	Day sighting	130	CHITTERING		1000	0	

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Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	24/05/2003	24	5	2003	32531	TFAUNA	Certain	Survey	Day sighting	1	CHITTERING		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	8/09/2003	8	9	2003	26470	TFAUNA	Certain	Survey	Day sighting	1	BINDOON		500	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	9/09/2003	9	9	2003	35430	TFAUNA	Certain	Survey	Day sighting	1	BINDOON		500	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	11/10/2003	11	10	2003	26469	TFAUNA	Certain	Survey	Day sighting	1	BINDOON		500	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	30/09/2004	30	9	2004	34372	TFAUNA	Certain	Survey	Secondary sign	9	Burroloo Well Nature Reserve		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/10/2004	10	10	2004	34371	TFAUNA	Certain	Survey	Day sighting	1	Burroloo Well Nature Reserve		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	18/10/2004	18	10	2004	32539	TFAUNA	Certain	Survey	Day sighting	4	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	21/11/2005	21	11	2005	32529	TFAUNA	Certain	Survey	Day sighting	10	CHITTERING		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	16/12/2006	16	12	2006	32538	TFAUNA	Certain	Survey	Day sighting	16	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	22/11/2007	22	11	2007	32537	TFAUNA	Certain	Survey	Day sighting	1	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	8/03/2008	8	3	2008	30918	TFAUNA	Certain	Survey	Day sighting	1	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	21/08/2008	21	8	2008	32536	TFAUNA	Certain	Survey	Day sighting	10	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	4/10/2008	4	10	2008	32535	TFAUNA	Certain	Survey	Day sighting	6	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	3/09/2009	3	9	2009	32534	TFAUNA	Certain	Survey	Day sighting	25	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	5/09/2009	5	9	2009	34373	TFAUNA	Certain	Survey	Day sighting	4	Burroloo Well Nature Reserve		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	5/09/2009	5	9	2009	34374	TFAUNA	Certain	Survey	Day sighting	1	Burroloo Well Nature Reserve		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	5/09/2009	5	9	2009	34375	TFAUNA	Certain	Survey	Day sighting	2	Burroloo Well Nature Reserve		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	7/10/2013	7	10	2013	75910	TFAUNA	Moderately certain	Survey	Day sighting	28	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	28/10/2013	28	10	2013	75909	TFAUNA	Not sure	Survey	Day sighting	1	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	8/11/2013	8	11	2013	75911	TFAUNA	Moderately certain	Survey	Day sighting	2	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	18/11/2013	18	11	2013	75912	TFAUNA	Moderately certain	Survey	Day sighting	2	BINDOON		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	18/11/2014	18	11	2014	80786	TFAUNA	Moderately certain	Community survey	Day sighting	4	Chittering		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	18/11/2014	18	11	2014	80787	TFAUNA	Moderately certain	Community survey	Secondary sign	0	Chittering		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	18/12/2014	18	12	2014	80124	TFAUNA	Certain	Opportunistic sighting	Day sighting	3	Bindoon		1000	0	

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Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/03/2016	10	3	2016	89509	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing	1	Breera		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/03/2016	10	3	2016	89513	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing	1	Lennard Brook		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/03/2016	10	3	2016	89514	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing	1	Lennard Brook		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/03/2016	10	3	2016	89515	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing	1	Lennard Brook		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/03/2016	10	3	2016	89516	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing	1	Lennard Brook		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/03/2016	10	3	2016	89517	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing	1	Lennard Brook		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/08/2017	10	8	2017	95516	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing		CHITTERING		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	10/08/2017	10	8	2017	95595	TFAUNA	Very Certain (photo, specimen, expert)	Regular monitoring	Remote sensing		LENNARD BROOK		1000	0	
Dasyurus geoffroii	chuditch, western quoll	MAMMAL	VU	4/05/1993	4	5	1993	1012	TFAUNA	Certain	Opportunistic sighting	Dead	1	BINDOON		1000	0	
Dasyurus geoffroii	chuditch, western quoll	MAMMAL	VU	22/06/2000	22	6	2000	3074	TFAUNA	Certain	Survey	Caught or trapped	1	Bindoon		1000	0	
Dasyurus geoffroii	chuditch, western quoll	MAMMAL	VU	12/01/2015	12	1	2015	80123	TFAUNA	Certain	Opportunistic sighting	Night sighting	1	Bindoon		1000	0	
Galaxiella munda	mud minnow, western dwarf galaxias	FISH	VU	1/12/2009	1	12	2009	96362	TFAUNA	Certain	Survey	Caught or trapped	9	Lennard Brook		1000	0	
Isoodon fusciventer	quenda, southwestern brown bandicoot	MAMMAL	P4	4/08/2013	4	8	2013	24950	TFAUNA	Moderately certain	Community survey	Night sighting	1	Bindoon		1000	0	
Westralunio carteri	Carter's freshwater mussel	INVERTEBRATE	VU	10/03/2017	10	3	2017	89146	TFAUNA	Certain	Opportunistic sighting	Sighting	1	Moondah		1000	0	
Westralunio carteri	Carter's freshwater mussel	INVERTEBRATE	VU	27/06/2018	27	6	2018	96034	TFAUNA	Very Certain (photo, specimen, expert)	Opportunistic sighting	Day sighting	40	Moondah		1000	0	
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	24/05/2003	24	5	2003	AVIF:38340	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Great Northern Highway Chittering	10000	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	7/05/2005	7	5	2005	AVIF:38512	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Bindoon	10000	24734	Cacatuidae

NAME_SCI	NAME_COM	CLASS	CONS_	Date	DAY	MONTH	YEAR	SOURCE_ID	SOURCE	CERTAINTY	METHOD	TYPE	COUNT	LOCALITY	SITE	ACCURACY_M	NAME_ID	FAMILY
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	1/12/2005	1	12	2005	AVIF:38302	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Bindoon	10000	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	12/12/2005	12	12	2005	AVIF:38296	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Bindoon	10000	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	12/12/2005	12	12	2005	AVIF:38337	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Bindoon	10000	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	16/02/2008	16	2	2008	AVIF:38305	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Bindoon	10000	24734	Cacatuidae
Calyptorhynchus latirostris	Carnaby's cockatoo	BIRD	EN	16/10/2008	16	10	2008	AVIF:37917	WAM_BIRDS	WAM Vouchered	Collection	Specimen	1	BINDOON	Bindoon	10000	24734	Cacatuidae
Dasyurus geoffroii	chuditch, western quoll	MAMMAL	VU	12/07/1967	12	7	1967	MAMM:M13199	WAM_MAMMALS	WAM Vouchered	Collection	Specimen	1	MOONDAH	PERTH-NEW NORCIA RD.	10000	24092	Dasyuridae
Dasyurus geoffroii	Chuditch, Western Quoll	MAMMAL	VU	12/07/1967	12	7	1967	urn:lsid:taxonomy.org.au:MAMM:M13199	WAM_MAMMALS						PERTH-NEW NORCIA RD.	10000	24092	Dasyuridae
Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	MAMMAL	CD	15/05/2001	15	5	2001	urn:lsid:taxonomy.org.au:MAMM:M49191	WAM_MAMMALS						HOPELANDS RD	10000	24099	Dasyuridae
Phascogale tapoatafa wambenger	south-western brush-tailed phascogale, wambenger	MAMMAL	CD	15/05/2001	15	5	2001	MAMM:M49191	WAM_MAMMALS	WAM Vouchered	Collection	Specimen	1	MOONDAH	HOPELANDS RD	10000	0	Dasyuridae

APPENDIX 9

Tree Survey Results

Madalyn Manor Tree Survey								
Tree Number	Species	Easting MGA zn50	Northing MGA zn50	Height (m)	Diameter (mm)	Second Branch	Third Branch	Notes (hollows, bees etc.)
1	Jarrah (*Eucalyptus marginata*)	406060	6523902	10	670			burnt out base, dead top, small hollow
2	Jarrah (*Eucalyptus marginata*)	406008	6523876	10	840			burnt out base, dead top, small hollow
3	Jarrah (*Eucalyptus marginata*)	405904	6523922	17	910	550		healthy but leaning, no hollow
4	Jarrah (*Eucalyptus marginata*)	405894	6523880	10	500			top broken off
5	Jarrah (*Eucalyptus marginata*)	405889	6523849	11	610			dead top, will never form hollow
6	Jarrah (*Eucalyptus marginata*)	405877	6523879	10	580			no hollows
7	Jarrah (*Eucalyptus marginata*)	405824	6523867	15	660			no hollows
8	Jarrah (*Eucalyptus marginata*)	405711	6524021	12	790	210	190	large horizontal hollow, 9:43
9	Jarrah (*Eucalyptus marginata*)	405678	6524187	10	730	570		burnt out base, dead top, small hollow
10	Jarrah (*Eucalyptus marginata*)	405657	6524227	8	560			daed main trunk, no hollow
11	Jarrah (*Eucalyptus marginata*)	405670	6524260	12	660	630		no hollows
12	Jarrah (*Eucalyptus marginata*)	405629	6524283	14	560	500	320	dead main trunk small hollows
13	Jarrah (*Eucalyptus marginata*)	405623	6524335	9	640			burnt out base, no hollows
14	Jarrah (*Eucalyptus marginata*)	405677	6524389	10	520			no hollows
15	Jarrah (*Eucalyptus marginata*)	405680	6524428	8	600			dead top, small hollows
16	Jarrah (*Eucalyptus marginata*)	405732	6524431	14	680			healthy tree, no hollows
17	Jarrah (*Eucalyptus marginata*)	405774	6524318	9	60			dead top small hollows
18	Jarrah (*Eucalyptus marginata*)	405809	6524250	12	650	340		no hollows
19	Jarrah (*Eucalyptus marginata*)	405737	6524034	11	500			dead top no hollows
20	Jarrah (*Eucalyptus marginata*)	405826	6524223	12	610	290	210	dead top no hollows
21	Jarrah (*Eucalyptus marginata*)	405871	6524220	10	830			burnt base, no hollows
22	Jarrah (*Eucalyptus marginata*)	405939	6524233	8	1060			burnt almost dead, no hollows
23	Jarrah (*Eucalyptus marginata*)	405934	6524146	15	600			small hollows
24	Jarrah (*Eucalyptus marginata*)	405940	6524101	12	770			small hollows
25	Jarrah (*Eucalyptus marginata*)	405976	6524104	10	1170			burnt out base, main trunk broken off
26	Jarrah (*Eucalyptus marginata*)	405972	6524269	8	900			burnt out base, main trunk broken off
27	Jarrah (*Eucalyptus marginata*)	405870	6524331	7	630			burnot out base, no hollows
28	Jarrah (*Eucalyptus marginata*)	405840	6524352	11	1140			burnt out base, small hollows