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Final Report

Scattered Tree Assessment, PSP 1074 Sunbury South

Prepared for

Metropolitan Planning Authority

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Ecology and Heritage Partners Pty Ltd

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- John Petrakos (MPA) for management and provision of landowner details; and,
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DOCUMENT CONTROL

Assessment	Scattered Tree Assessment
Address	PSP 1074 Sunbury South
Project number	5700
Project manager	Marc Freestone
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Other EHP staff	Sandra Mijatovic
Mapping	Monique Elsley
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Bioregion	Victorian Volcanic Plain
CMA	Port Phillip and Westernport
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Draft 1	-		17/4/2014
Draft 2	John Petrakos, MPA	Marc Freestone	25/7/2014
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GLOSSARY

Acronym	Description
BCS	*Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (DEPI 2013d)
DBH	Diameter at Breast Height (cm)
DEPI	Victorian Department of Environment and Primary Industries
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EVC	Ecological Vegetation Class
FFG Act	Flora and Fauna Guarantee Act 1988
LOT	Large Old Tree
MOT	Medium Old Tree
PSP	Precinct Structure Plan
ST	Small Tree
TRZ	Tree Retention Zone
VBA	Victorian Biodiversity Atlas (DEPI)
VLOT	Very Large Old Tree

CONTENTS

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Metropolitan Planning Authority to conduct a Scattered Tree Assessment in previously unassessed properties within PSP 1074 Sunbury South. The purpose of the assessment was to identify the number and type of scattered native trees present within the study area.

This report satisfies and completes the scattered indigenous tree assessment requirements for the preparation of the Sunbury South Precinct Structure Plan (PSP 1074).

2 METHODS

2.1 Nomenclature

Common and scientific names of vascular plants follow the Victorian Biodiversity Atlas (VBA) (DEPI 2013a) and the Census of Vascular Plants of Victoria (Walsh and Stajsic 2007). Vegetation community names follow DEPI's Ecological Vegetation Classes (EVC) benchmarks (DEPI 2013b).

2.2 Desktop Assessment

The following resources and databases were reviewed over the duration of the project:

- Department of Environment and Primary Industries' Biodiversity Interactive Maps showing historic and current EVCs (DEPI 2013c); and,
- *Biodiversity Conservation Strategy for Melbourne's Growth Corridors* (DEPI 2013d).

Liaison was undertaken with the Metropolitan Planning Authority (MPA) to confirm the extent and intensity of the proposed methodology.

The Department of Environment and Primary Industries (DEPI) identified a number of potential scattered trees within the study area and provided point locations on aerial imagery of the trees requiring investigation.

2.3 Field Surveys

The scattered trees identified by DEPI, along with any other scattered trees present in the study area, were identified and, if found to be remnant indigenous trees, mapped for the current assessment. A total of 11 properties were assessed (see Figure 1 for Property Numbers).

Scattered tree assessments were undertaken by a botanist with current Certificates of Competency in conducting Vegetation Quality Assessments from DEPI. The scattered tree assessment was undertaken on 19 – 21 March 2014. All scattered indigenous trees were assigned a sequential number and recorded as a point location on aerial maps using handheld GPS devices and ArcGIS software (Figure 1). A diameter at breast height (DBH) measurement was taken for each tree using a diameter tape. The size class and conservation significance was determined for all indigenous trees according to the relevant Ecological Vegetation Class (EVC) benchmark. Benchmark tree measurements for relevant EVCs are provided in Table 1. The survey assessment date, duration and assessor are provided in Table 2.

Table 1: Relevant EVC benchmark information pertaining to tree size classes.

Bioregion	Ecological Vegetation Class	Very Large Old Tree (cm)*	Large Old Tree DBH (cm)	Medium Old Tree DBH (cm)*	Small Old Tree DBH (cm)*
Victorian Volcanic Plain	Plains Grassy Woodland (EVC 55_61)	>110	80 – 109	60 – 79	<60
Victorian Volcanic Plain	Box Ironbark Forest (EVC 61)	>105	70 - 104	53 – 69	<53
Victorian Volcanic Plain	Plains Woodland (EVC 803)	>105	70 - 104	53 – 69	<53
Victorian Volcanic Plain	Stream Bank Shrubland (EVC 851)	>105	70 - 104	53 – 69	<53

Notes: * Very Large Old Trees are at least 1.5 times the trunk diameter of a large old tree; Large Old Trees are >1.0 to <1.5 times trunk diameter; Medium Old Trees >0.75 to <1.0 times trunk diameter and; Small Old Trees are <0.75 times trunk diameter, as defined by the relevant EVC benchmarks and the Port Phillip and Westernport Native Vegetation Plan (DEPI 2013b; PPWCMA 2006).

Table 2: Scattered Tree survey date, duration, access issues and assessor.

Landowner Number	Parcel_SPI	Access	Assessment Date	Duration	Assessor
16	1C~25\PP2258	Approved – 17/3/2014 Howard from Western Water arranged access.	19-March-14	9.30am – 11.50am	Marc Freestone, Sandra Mijatovic
3, 4	1\TP863725 29\LP88021	Assessed from road.	19-March-14	11.50am – 12.00pm	Marc Freestone, Sandra Mijatovic
9	1\TP759474	Access unattainable – assessed from road	19-March-14	11.50am – 12.00pm	Marc Freestone, Sandra Mijatovic
80, 83-87	1\LP4533, 1\TP747658, 1~26\PP2258, 2~C\PP2258, 1\TP867376	Approved 17/3/2014	19-March-14	12.00pm – 12.30pm	Marc Freestone
45	15\PS404987	Approved – 17/3/2014	19-March-14	12.30pm – 1.00pm	Marc Freestone
70	12\PS404987	Approved 17/3/2014	19-March-14	1.00pm – 1.30pm	Marc Freestone, Sandra Mijatovic
41	1\LP135051	Approved – 17/3/2014 Landowner present during survey	20-March-14	11.30am – 12.00pm	Marc Freestone
29	1\TP946725	Access unattainable – assessed from neighbouring property (Landowner 41)	20-March-14	11.30am – 12.00pm	Marc Freestone
58, 59, 65, 72	1\PS645017, 2\PS645017, 3\PS645017, 2\LP203247	Approved – 17/3/2014 Site Manager and Development Manager present during survey.	20-March-14	1.00pm – 2.00pm	Marc Freestone

Landowner Number	Parcel_SPI	Access	Assessment Date	Duration	Assessor
94	1\LP203247	Assessed from Hi Quality property on opposite side of creek.	20-March-14	2.00pm	Marc Freestone
66	2\LP147272	Approved 17/3/2014	21-March-14	12.30pm – 1.00pm	Marc Freestone
1	1\TP857832	Door-knocked and approved by landowner – 21/3/14. Landowner present.	21-March-14	1.00pm – 1.30pm	Marc Freestone
76	1\LP145245	Access unattainable - assessed from road	21-March-14	1.30pm – 2.00pm	Marc Freestone
8	2\PS448006	Access unattainable - assessed from road	21-March-14	2.00pm – 2.30pm	Marc Freestone
-	-	Watsons Road – road reserve	21-March-14	2.30pm – 2.35pm	Marc Freestone
-	-	Sunbury Rd / Lancefield Rd intersection – road reserve	21-March-14	2.45pm – 3.00pm	Marc Freestone
82	4\LP135051	Access unattainable (no details provided) – not assessed	-	-	-
34	1\TP164678	Door-knocked and access refused by landowner – 21/3/14.	-	-	-
53	1\TP156620	Access refused – 17/3/14	-	-	-

3 RESULTS

3.1 Scattered Tree Assessment

A total of 113 indigenous remnant trees were recorded within the study area (Figure 1, Appendix 1). The species include River Red Gum *Eucalyptus camaldulensis*, Yellow Box *E. melliodora*, Grey Box *E. microcarpa* and Manna Gum *Eucalyptus viminalis* subsp. *viminalis*. The number of indigenous remnant trees within each size class is as follows:

- 18 Very Large Old Trees (VLOT);
- 25 Large Old Trees (LOT);
- 13 Medium Old Trees (MOT); and,
- 57 Small Trees (ST).

All trees correspond to Plains Grassy Woodland (EVC 55_61), Box-Ironbark Forest (EVC 61), Plains Woodland (EVC 803) or Stream Bank Shrubland (EVC 851) Ecological Vegetation Classes (DEPI 2013c, Table 1).

All scattered small trees are of Low conservation significance (DSE 2007). Scattered old trees within the study area are assigned the lowest conservation significance rating based on the Bioregional Conservation Status (BCS) of the relevant pre-1750s EVC (DSE 2007; DEPI 2013c). Plains Grassy Woodland, Plains Woodland and Stream Bank Shrubland have a Bioregional Conservation Status of Endangered. Therefore, all scattered old trees from these EVCs are of High conservation significance. Box Ironbark Forest has a Bioregional Conservation Status of Vulnerable, therefore all scattered old trees from this EVC are assigned a Medium conservation significance.

All other trees within the study area identified by DEPI as being possible scattered indigenous trees are non-indigenous or exotic species, such as Sugar Gum *Eucalyptus cladocalyx*. The details of indigenous trees recorded within each property are presented in Appendix 1. Scattered trees were absent from properties 2\PS448006, 1\LP135051, 1\LP145245, 2\LP147272 and 1\LP203247.

No trees recorded during this assessment were within a patch of native vegetation.

Under the Biodiversity Conservation Strategy (BCS), habitat compensation fees are only required for the removal of Very Large Old Trees, Large Old Trees and Medium Old Trees. No fees apply to Small Trees.

4 HABITAT COMPENSATION COSTS FOR SCATTERED TREE REMOVAL

Under the BCS DEPI have outlined habitat compensation costs (offset costs) that are required to be paid to DEPI before the removal of native vegetation and scattered trees is permitted. These costs go towards managing conservation areas within the Urban Growth Boundary. The cost to remove a scattered tree is the same for all size classes of scattered tree (VLOT, LOT, MOT), although no fee is required to remove Small Trees (DEPI 2013e). Under the *Draft Habitat Compensation Under the Biodiversity Compensation Strategy* (DEPI 2013e) released in May 2013, the cost is $13,218 per scattered tree considered removed. This includes stags, and trees that experience impacts to their Tree Retention Zone, but are not physically removed (Appendix 1.2).

5 REFERENCES

DEPI 2013a. Victorian Biodiversity Atlas. Victorian Department of Environment and Primary Industries.

DEPI 2013b. Ecological Vegetation Class (EVC) Benchmarks for each Bioregion [WWW Document]. URL http://www.dse.vic.gov.au/conservation-and-environment/native-vegetation-groups-for-victoria/ecological-vegetation-class-evc-benchmarks-by-bioregion (accessed 1.4.12). Victorian Department of Environment and Primary Industries.

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NRE 2002. Native Vegetation Management: A Framework for Action. Department of Natural Resources and Environment, Victoria.

PPWCMA 2006. Port Phillip and Western Port Native Vegetation Plan. Port Phillip and Western Port Catchment Management Authority.

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6 FIGURES

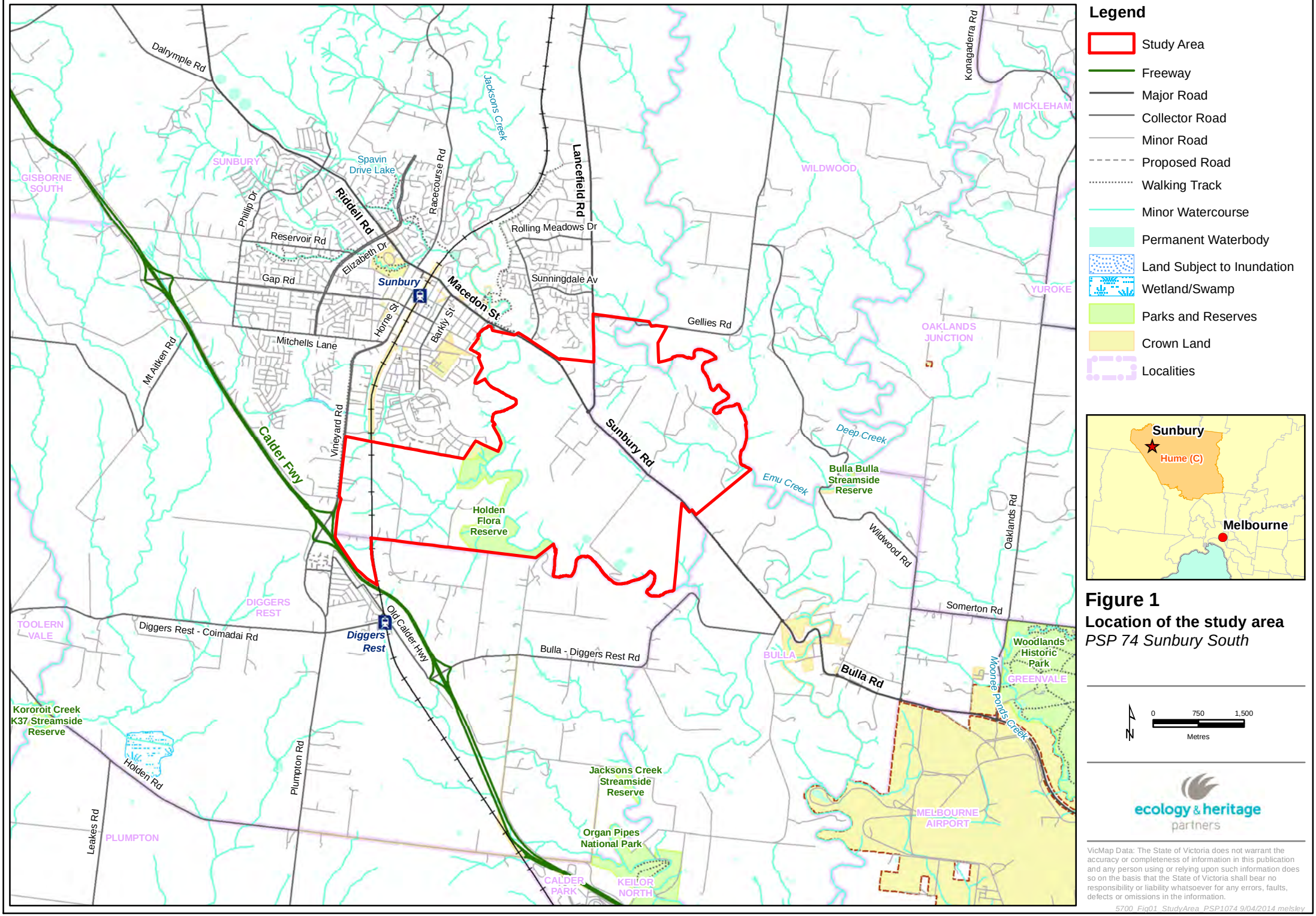

Figure 1

Location of the study area

PSP 74 Sunbury South

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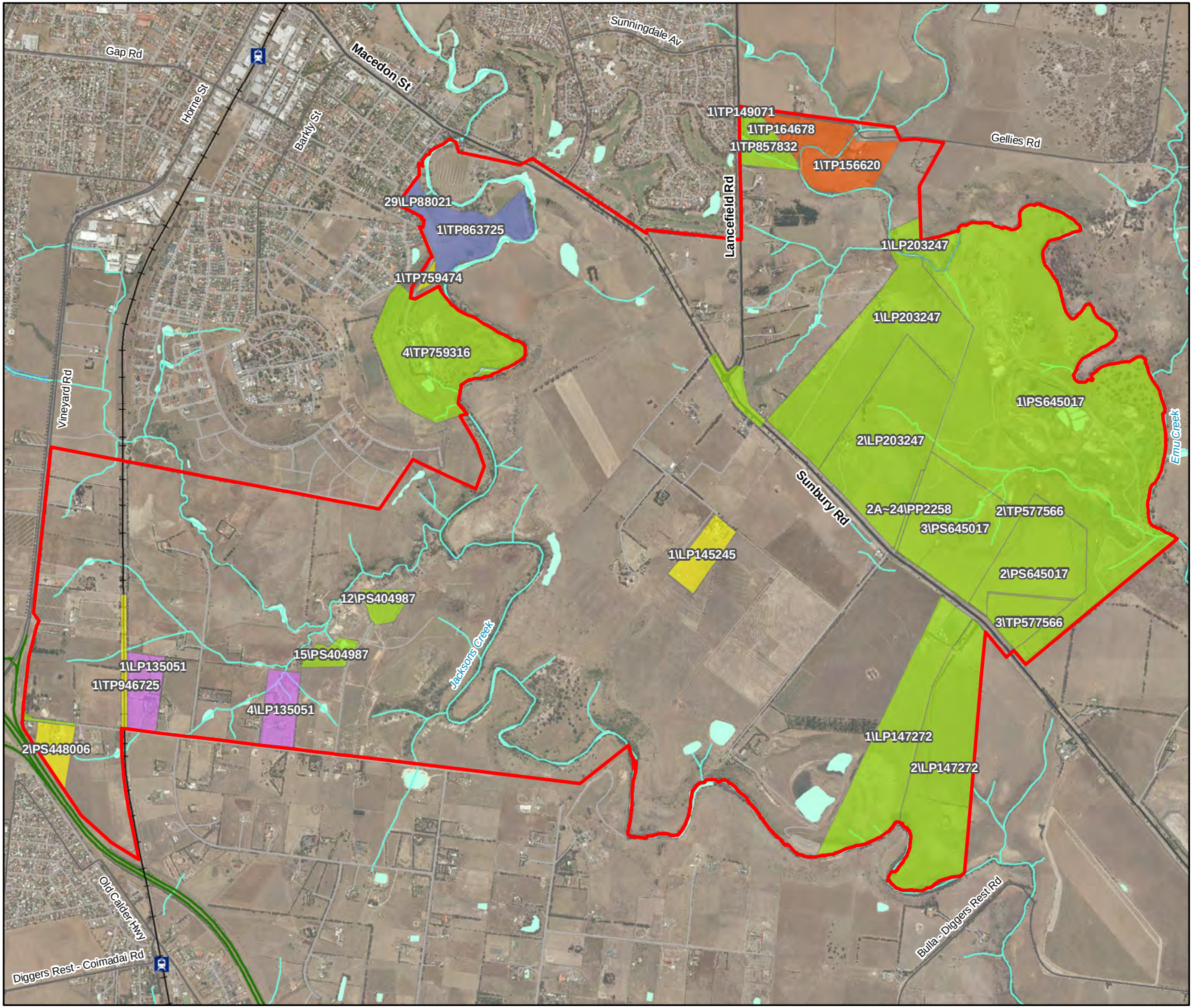


Legend

Study Area

Property access

- Access granted
- Access unattainable - assessed from road/adjacent property
- Assessed from road
- Access unattainable - not assessed
- Access refused

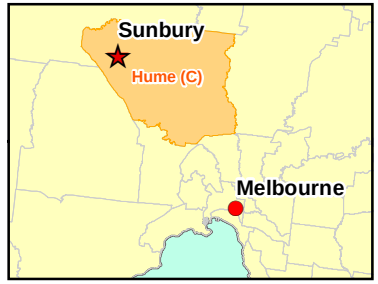


Figure 2

Property Access

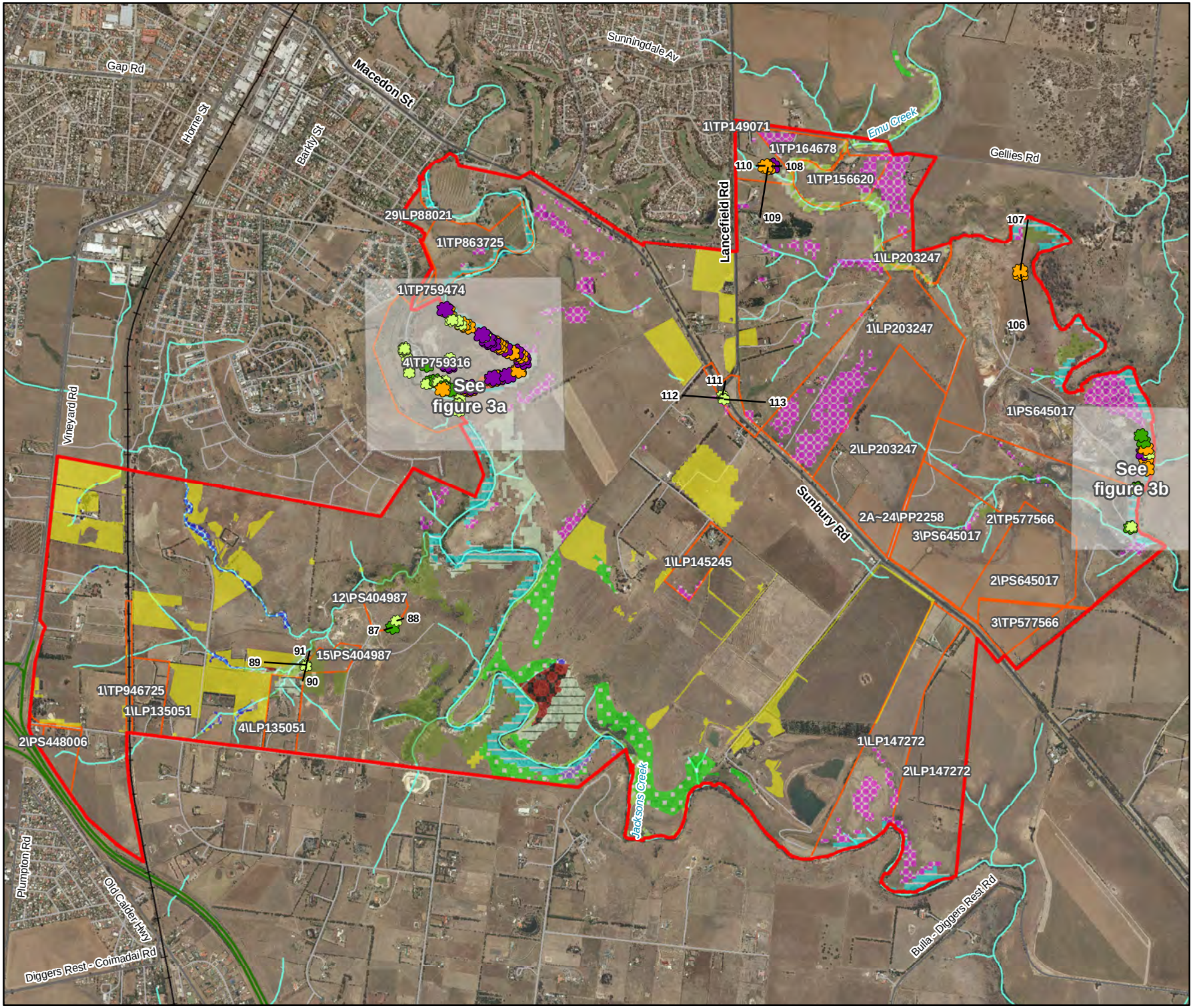
PSP 74 Sunbury South

N

0 500 1,000

Metres

ecology & heritage partners



Legend

- Study Area
- Property boundaries

Scattered Trees

- VLOT
- LOT
- MOT
- ST

Time Stamped Vegetation

- EVC 125 Plains Grassy Wetland
- EVC 132 Plains Grassland
- EVC 175 Grassy Woodland
- EVC 55 Plains Grassy Woodland
- EVC 61 Box Ironbark Forest
- EVC 64 Rocky Chenopod Woodland
- EVC 641 Riparian Woodland
- EVC 647 Plains Sedgy Wetland
- EVC 68 Creekline Grassy Woodland
- EVC 803 Plains Woodland
- EVC 851 Stream Bank Shrubland
- EVC 895 Escarpment Shrubland

Figure 3 Overview

Scattered Trees

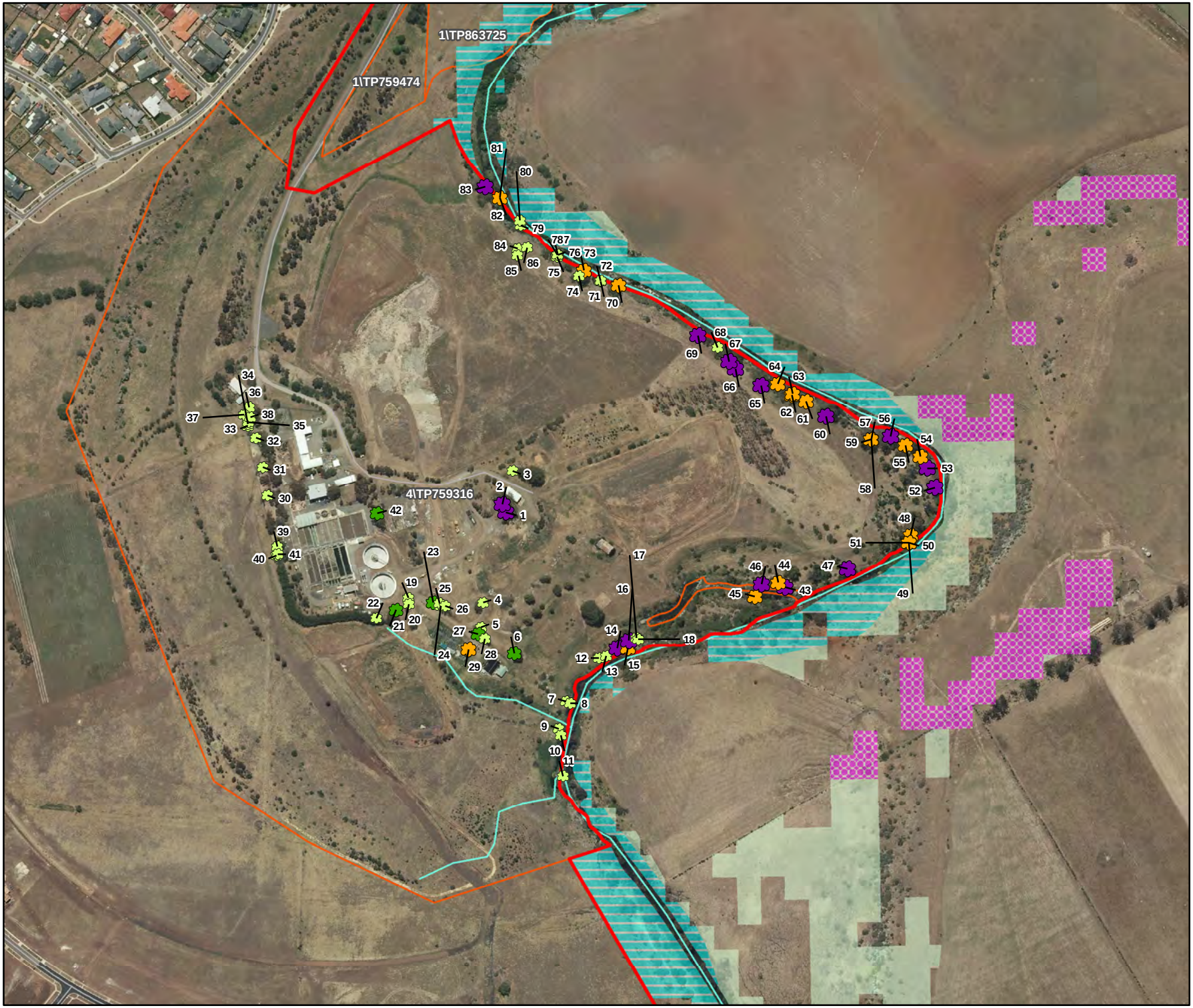
PSP 1074 Sunbury South

N

0 300 600

Metres

ecology & heritage partners



Legend

- Study Area
- Property boundaries

Scattered Trees

- VLOT
- LOT
- MOT
- ST

Time Stamped Vegetation

- EVC 55 Plains Grassy Woodland
- EVC 803 Plains Woodland
- EVC 851 Stream Bank Shrubland

Figure 3a

Scattered Trees

PSP 1074 Sunbury South

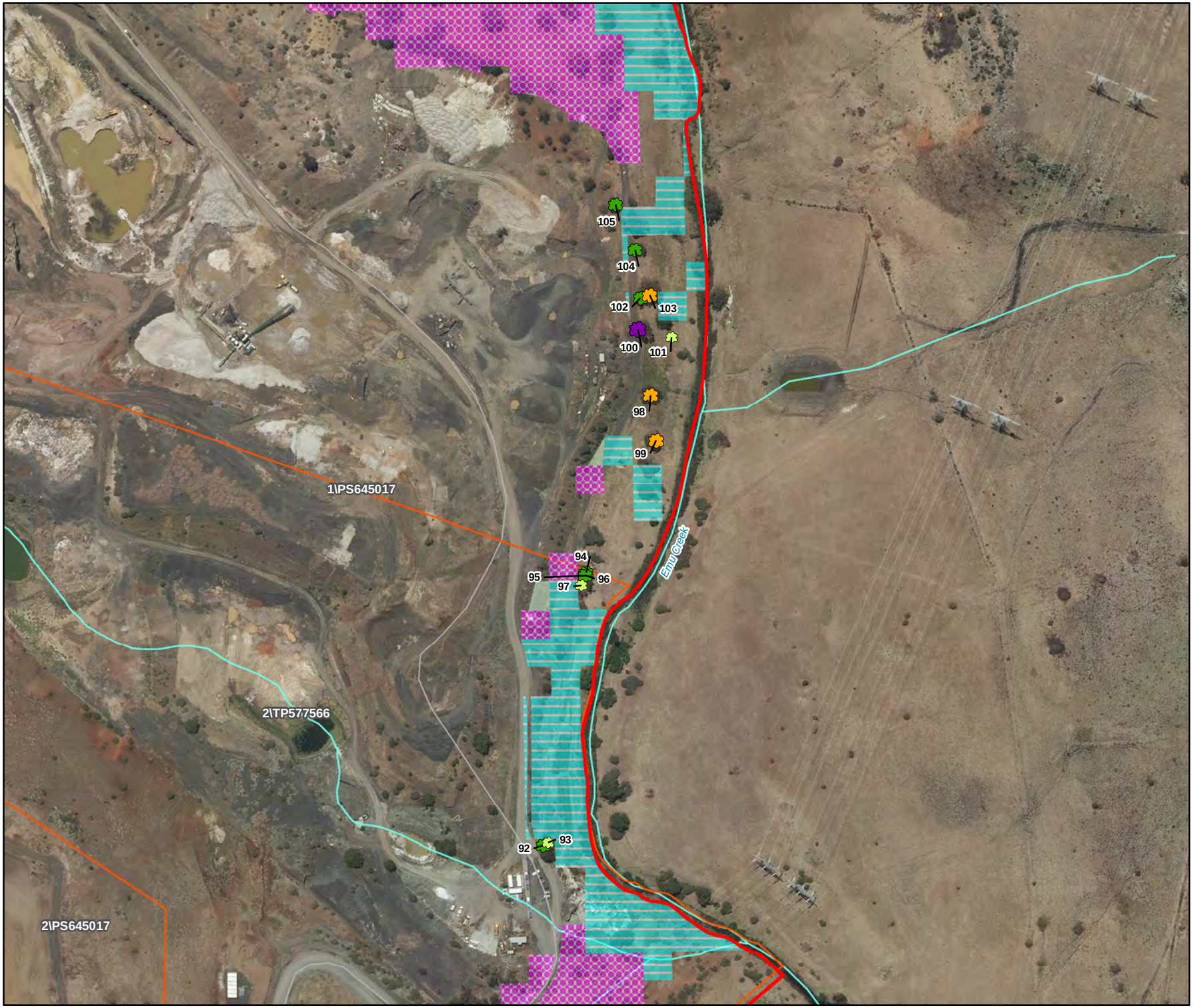
N

0 50 100

Metres

ecology & heritage partners

5700_Fig03_ScatTrees_MB_PSP1074 24/07/2014 melsley



Legend

- Study Area
- Property boundaries

Scattered Trees

- VLOT
- LOT
- MOT
- ST

Time Stamped Vegetation

- EVC 55 Plains Grassy Woodland
- EVC 803 Plains Woodland
- EVC 851 Stream Bank Shrubland

Figure 3b

Scattered Trees

PSP 1074 Sunbury South

N

0 40 80

Metres

ecology & heritage partners

5700_Fig03_ScatTrees_MB_PSP1074 24/07/2014 melsley

7 APPENDICES

APPENDIX 1

Appendix 1.1 – Scattered Tree Data

Table A1.1. Scattered trees recorded during the present assessment.

Parcel SPI	Tree #	Scientific name	Common name	DBH (cm)	Size Class	Conservation Significance	Bioregion	EVC	Latitude	Longitude
4\TP759316	1	*Eucalyptus camaldulensis*	River Red Gum	122	VLOT	High	VVP	EVC 55_61	-37.59550	144.74029
	2	*Eucalyptus camaldulensis*	River Red Gum	121	VLOT	High	VVP	EVC 55_61	-37.59543	144.74026
	3	*Eucalyptus camaldulensis*	River Red Gum	37	ST	Low	VVP	EVC 55_61	-37.59511	144.74038
	4	*Eucalyptus camaldulensis*	River Red Gum	44	ST	Low	VVP	EVC 55_61	-37.59635	144.74000
	5	*Eucalyptus camaldulensis*	River Red Gum	53	ST	Low	VVP	EVC 55_61	-37.59658	144.73997
	6	*Eucalyptus camaldulensis*	River Red Gum	65	MOT	High	VVP	EVC 55_61	-37.59683	144.74035
	7	*Eucalyptus camaldulensis*	River Red Gum	23	ST	Low	VVP	EVC 851	-37.59730	144.74095
	8	*Eucalyptus camaldulensis*	River Red Gum	48	ST	Low	VVP	EVC 851	-37.59732	144.74100
	9	*Eucalyptus camaldulensis*	River Red Gum	25	ST	Low	VVP	EVC 851	-37.59755	144.74086
	10	*Eucalyptus camaldulensis*	River Red Gum	35	ST	Low	VVP	EVC 851	-37.59762	144.74088
	11	*Eucalyptus camaldulensis*	River Red Gum	41	ST	Low	VVP	EVC 851	-37.59800	144.74089
	12	*Eucalyptus camaldulensis*	River Red Gum	51	ST	Low	VVP	EVC 851	-37.59690	144.74135
	13	*Eucalyptus camaldulensis*	River Red Gum	25	ST	Low	VVP	EVC 851	-37.59688	144.74144
	14	*Eucalyptus camaldulensis*	River Red Gum	195	VLOT	High	VVP	EVC 851	-37.59681	144.74157
	15	*Eucalyptus camaldulensis*	River Red Gum	91	LOT	High	VVP	EVC 851	-37.59681	144.74170
	16	*Eucalyptus camaldulensis*	River Red Gum	107	VLOT	High	VVP	EVC 851	-37.59674	144.74171

Parcel SPI	Tree #	Scientific name	Common name	DBH (cm)	Size Class	Conservation Significance	Bioregion	EVC	Latitude	Longitude
	17	*Eucalyptus camaldulensis*	River Red Gum	15	ST	Low	VVP	EVC 851	-37.59672	144.74180
	18	*Eucalyptus camaldulensis*	River Red Gum	34	ST	Low	VVP	EVC 851	-37.59673	144.74182
	19	*Eucalyptus camaldulensis*	River Red Gum	41	ST	Low	VVP	EVC 55_61	-37.59629	144.73912
	20	*Eucalyptus camaldulensis*	River Red Gum	41	ST	Low	VVP	EVC 55_61	-37.59635	144.73912
	21	*Eucalyptus camaldulensis*	River Red Gum	62	MOT	High	VVP	EVC 55_61	-37.59639	144.73896
	22	*Eucalyptus melliodora*	Yellow Box	42	ST	Low	VVP	EVC 55_61	-37.59647	144.73873
	23	*Eucalyptus camaldulensis*	River Red Gum	62	MOT	High	VVP	EVC 55_61	-37.59634	144.73941
	24	*Eucalyptus camaldulensis*	River Red Gum	51	ST	Low	VVP	EVC 55_61	-37.59637	144.73950
	25	*Eucalyptus camaldulensis*	River Red Gum	48	ST	Low	VVP	EVC 55_61	-37.59635	144.73948
	26	*Eucalyptus camaldulensis*	River Red Gum	47	ST	Low	VVP	EVC 55_61	-37.59637	144.73955
	27	*Eucalyptus camaldulensis*	River Red Gum	62	MOT	High	VVP	EVC 55_61	-37.59665	144.73993
	28	*Eucalyptus camaldulensis*	River Red Gum	45	ST	Low	VVP	EVC 55_61	-37.59669	144.74001
	29	*Eucalyptus camaldulensis*	River Red Gum	109	LOT	High	VVP	EVC 55_61	-37.59679	144.73982
	30	*Eucalyptus camaldulensis*	River Red Gum	34	ST	Low	VVP	EVC 55_61	-37.59529	144.73747
	31	*Eucalyptus camaldulensis*	River Red Gum	51	ST	Low	VVP	EVC 55_61	-37.59502	144.73743
	32	*Eucalyptus camaldulensis*	River Red Gum	45	ST	Low	VVP	EVC 55_61	-37.59474	144.73735
	33	*Eucalyptus camaldulensis*	River Red Gum	48	ST	Low	VVP	EVC 55_61	-37.59463	144.73726
	34	*Eucalyptus camaldulensis*	River Red Gum	30	ST	Low	VVP	EVC 55_61	-37.59461	144.73726
	35	*Eucalyptus camaldulensis*	River Red Gum	20	ST	Low	VVP	EVC 55_61	-37.59460	144.73727
	36	*Eucalyptus camaldulensis*	River Red Gum	42	ST	Low	VVP	EVC 55_61	-37.59446	144.73728
	37	*Eucalyptus camaldulensis*	River Red Gum	35	ST	Low	VVP	EVC 55_61	-37.59452	144.73722
	38	*Eucalyptus camaldulensis*	River Red Gum	27	ST	Low	VVP	EVC 55_61	-37.59455	144.73730

Parcel SPI	Tree #	Scientific name	Common name	DBH (cm)	Size Class	Conservation Significance	Bioregion	EVC	Latitude	Longitude
	39	*Eucalyptus camaldulensis*	River Red Gum	42	ST	Low	VVP	EVC 55_61	-37.59578	144.73758
	40	*Eucalyptus camaldulensis*	River Red Gum	46	ST	Low	VVP	EVC 55_61	-37.59586	144.73756
	41	*Eucalyptus camaldulensis*	River Red Gum	15	ST	Low	VVP	EVC 55_61	-37.59585	144.73758
	42	*Eucalyptus camaldulensis*	River Red Gum	63	MOT	High	VVP	EVC 55_61	-37.59548	144.73877
	43	*Eucalyptus camaldulensis*	River Red Gum	135	VLOT	High	VVP	EVC 55_61	-37.59627	144.74358
	44	*Eucalyptus camaldulensis*	River Red Gum	90	LOT	High	VVP	EVC 55_61	-37.59622	144.74350
	45	*Eucalyptus camaldulensis*	River Red Gum	77	LOT	High	VVP	EVC 851	-37.59635	144.74322
	46	*Eucalyptus camaldulensis*	River Red Gum	160	VLOT	High	VVP	EVC 851	-37.59624	144.74330
	47	*Eucalyptus camaldulensis*	River Red Gum	165	VLOT	High	VVP	EVC 851	-37.59611	144.74432
	48	*Eucalyptus camaldulensis*	River Red Gum	70	LOT	High	VVP	EVC 851	-37.59581	144.74508
	49	*Eucalyptus camaldulensis*	River Red Gum	65	MOT	High	VVP	EVC 851	-37.59588	144.74506
	50	*Eucalyptus camaldulensis*	River Red Gum	85	LOT	High	VVP	EVC 851	-37.59588	144.74506
	51	*Eucalyptus viminalis subsp. viminalis*	Manna Gum	86	LOT	High	VVP	EVC 851	-37.59588	144.74506
	52	*Eucalyptus camaldulensis*	River Red Gum	149	VLOT	High	VVP	EVC 851	-37.59537	144.74538
	53	*Eucalyptus viminalis subsp. viminalis*	Manna Gum	142	VLOT	High	VVP	EVC 851	-37.59518	144.74530
	54	*Eucalyptus camaldulensis*	River Red Gum	98	LOT	High	VVP	EVC 851	-37.59507	144.74522
	55	*Eucalyptus camaldulensis*	River Red Gum	90	LOT	High	VVP	EVC 851	-37.59496	144.74505
	56	*Eucalyptus camaldulensis*	River Red Gum	181	VLOT	High	VVP	EVC 851	-37.59488	144.74487
	57	*Eucalyptus camaldulensis*	River Red Gum	84	LOT	High	VVP	EVC 851	-37.59490	144.74464
	58	*Eucalyptus camaldulensis*	River Red Gum	36	ST	Low	VVP	EVC 851	-37.59490	144.74464
	59	*Eucalyptus camaldulensis*	River Red Gum	84	LOT	High	VVP	EVC 851	-37.59490	144.74464

Parcel SPI	Tree #	Scientific name	Common name	DBH (cm)	Size Class	Conservation Significance	Bioregion	EVC	Latitude	Longitude
	60	*Eucalyptus camaldulensis*	River Red Gum	140	VLOT	High	VVP	EVC 851	-37.59467	144.74411
	61	*Eucalyptus camaldulensis*	River Red Gum	80	LOT	High	VVP	EVC 851	-37.59453	144.74388
	62	*Eucalyptus camaldulensis*	River Red Gum	70	LOT	High	VVP	EVC 851	-37.59446	144.74372
	63	*Eucalyptus camaldulensis*	River Red Gum	70	LOT	High	VVP	EVC 851	-37.59445	144.74372
	64	*Eucalyptus camaldulensis*	River Red Gum	100	LOT	High	VVP	EVC 851	-37.59435	144.74355
	65	*Eucalyptus camaldulensis*	River Red Gum	130	VLOT	High	VVP	EVC 851	-37.59437	144.74335
	66	*Eucalyptus camaldulensis*	River Red Gum	110	VLOT	High	VVP	EVC 851	-37.59420	144.74305
	67	*Eucalyptus camaldulensis*	River Red Gum	110	VLOT	High	VVP	EVC 851	-37.59413	144.74298
	68	*Eucalyptus camaldulensis*	River Red Gum	50	ST	Low	VVP	EVC 851	-37.59400	144.74285
	69	*Eucalyptus camaldulensis*	River Red Gum	120	VLOT	High	VVP	EVC 851	-37.59388	144.74262
	70	*Eucalyptus camaldulensis*	River Red Gum	73	LOT	High	VVP	EVC 851	-37.59339	144.74169
	71	*Eucalyptus camaldulensis*	River Red Gum	20	ST	Low	VVP	EVC 851	-37.59335	144.74148
	72	*Eucalyptus camaldulensis*	River Red Gum	40	ST	Low	VVP	EVC 851	-37.59335	144.74148
	73	*Eucalyptus camaldulensis*	River Red Gum	73	LOT	High	VVP	EVC 851	-37.59324	144.74129
	74	*Eucalyptus camaldulensis*	River Red Gum	43	ST	Low	VVP	EVC 851	-37.59329	144.74122
	75	*Eucalyptus camaldulensis*	River Red Gum	43	ST	Low	VVP	EVC 851	-37.59311	144.74097
	76	*Eucalyptus camaldulensis*	River Red Gum	40	ST	Low	VVP	EVC 851	-37.59309	144.74098
	77	*Eucalyptus camaldulensis*	River Red Gum	48	ST	Low	VVP	EVC 851	-37.59309	144.74098
	78	*Eucalyptus camaldulensis*	River Red Gum	8	ST	Low	VVP	EVC 851	-37.59309	144.74098
	79	*Eucalyptus camaldulensis*	River Red Gum	35	ST	Low	VVP	EVC 851	-37.59280	144.74055
	80	*Eucalyptus camaldulensis*	River Red Gum	20	ST	Low	VVP	EVC 851	-37.59276	144.74054
	81	*Eucalyptus camaldulensis*	River Red Gum	51	ST	Low	VVP	EVC 851	-37.59254	144.74031

Parcel SPI	Tree #	Scientific name	Common name	DBH (cm)	Size Class	Conservation Significance	Bioregion	EVC	Latitude	Longitude
	82	*Eucalyptus camaldulensis*	River Red Gum	92	LOT	High	VVP	EVC 851	-37.59254	144.74031
	83	*Eucalyptus camaldulensis*	River Red Gum	132	VLOT	High	VVP	EVC 851	-37.59243	144.74014
	84	*Eucalyptus camaldulensis*	River Red Gum	45	ST	Low	VVP	EVC 55_61	-37.59302	144.74051
	85	*Eucalyptus camaldulensis*	River Red Gum	30	ST	Low	VVP	EVC 55_61	-37.59308	144.74050
	86	*Eucalyptus camaldulensis*	River Red Gum	20	ST	Low	VVP	EVC 55_61	-37.59301	144.74062
12\PS404987	87	*Eucalyptus microcarpa*	Grey Box	56	MOT	Medium	VVP	EVC 61	-37.60969	144.73600
	88	*Eucalyptus microcarpa*	Grey Box	38	ST	Low	VVP	EVC 61	-37.60935	144.73629
	89	*Eucalyptus camaldulensis*	River Red Gum	43	ST	Low	VVP	EVC 55_61	-37.61163	144.73000
	90	*Eucalyptus camaldulensis*	River Red Gum	45	ST	Low	VVP	EVC 55_61	-37.61169	144.73004
	91	*Eucalyptus camaldulensis*	River Red Gum	45	ST	Low	VVP	EVC 55_61	-37.61168	144.73002
2\TP577566	92	*Eucalyptus melliodora*	Yellow Box	62	MOT	High	VVP	EVC 803	-37.60521	144.78667
	93	*Eucalyptus melliodora*	Yellow Box	23	ST	Low	VVP	EVC 803	-37.60519	144.78672
	94	*Eucalyptus melliodora*	Yellow Box	61	MOT	High	VVP	EVC 803	-37.60307	144.78716
	95	*Eucalyptus melliodora*	Yellow Box	49	ST	Low	VVP	EVC 803	-37.60310	144.78716
	96	*Eucalyptus melliodora*	Yellow Box	53	MOT	High	VVP	EVC 803	-37.60309	144.78715
	97	*Eucalyptus melliodora*	Yellow Box	44	ST	Low	VVP	EVC 803	-37.60317	144.78711
1\PS645017	98	*Eucalyptus melliodora*	Yellow Box	85	LOT	High	VVP	EVC 803	-37.60169	144.78784
	99	*Eucalyptus melliodora*	Yellow Box	85	LOT	High	VVP	EVC 803	-37.60205	144.78788
	100	*Eucalyptus melliodora*	Yellow Box	115	VLOT	High	VVP	EVC 803	-37.60117	144.78773
	101	*Eucalyptus camaldulensis*	River Red Gum	20	ST	Low	VVP	EVC 851	-37.60124	144.78806
	102	*Eucalyptus melliodora*	Yellow Box	67	MOT	High	VVP	EVC 803	-37.60093	144.78776
	103	*Eucalyptus melliodora*	Yellow Box	95	LOT	High	VVP	EVC 803	-37.60091	144.78785

Parcel SPI	Tree #	Scientific name	Common name	DBH (cm)	Size Class	Conservation Significance	Bioregion	EVC	Latitude	Longitude
	104	*Eucalyptus melliodora*	Yellow Box	55	MOT	High	VVP	EVC 803	-37.60055	144.78772
	105	*Eucalyptus melliodora*	Yellow Box	55	MOT	High	VVP	EVC 803	-37.60019	144.78754
	106	*Eucalyptus microcarpa*	Grey Box	80	LOT	High	VVP	EVC 803	-37.59127	144.77958
	107	*Eucalyptus microcarpa*	Grey Box	80	LOT	High	VVP	EVC 803	-37.59107	144.77954
1\TP857832	108	*Eucalyptus microcarpa*	Grey Box	110	VLOT	High	VVP	EVC 803	-37.58508	144.76268
	109	*Eucalyptus microcarpa*	Grey Box	100	LOT	High	VVP	EVC 803	-37.58511	144.76244
	110	*Eucalyptus melliodora*	Yellow Box	90	LOT	High	VVP	EVC 803	-37.58504	144.76227
Sunbury Rd / Lancefield Rd intersection – road reserve	111	*Eucalyptus camaldulensis*	River Red Gum	51	ST	Low	VVP	EVC 803	-37.59749	144.75895
	112	*Eucalyptus camaldulensis*	River Red Gum	35	ST	Low	VVP	EVC 803	-37.59749	144.75895
	113	*Eucalyptus camaldulensis*	River Red Gum	25	ST	Low	VVP	EVC 803	-37.59749	144.75895

Appendix 1.2 – Tree Retention Zones

Tree Retention Zones (TRZs) should be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2010). A TRZ applies to a tree and is a specific area above and below the ground, with a radius 12 x the DBH. At a minimum standard a TRZ should consider the following:

- A TRZ of trees should be a radius no less than two metres or greater than 15 metres;
- Construction, related activities and encroachment (i.e. earthworks such as trenching that disturb the root zone) should be excluded from the TRZ;
- Where encroachment exceeds 10% of the total area of the TRZ, the tree should be considered as lost and offset accordingly;
- Directional drilling may be used for works within the TRZ without being considered encroachment. The directional bore should be at least 600 millimetres deep;
- The above guidelines may be varied if a qualified arborist confirms the works will not significantly damage the tree (including stags / dead trees). In this case the tree would be retained and no offset would be required; and,
- Where the minimum standard for a TRZ has not been met an offset may be required.

A Tree *Protection* Zone (TPZ) is different to a TRZ. A TPZ applies to any scattered trees used as an offset and is designed not only to prevent the tree from indirect damage, but also to give it sufficient space to recruit new trees in the future. A TPZ is defined as an area of twice the canopy diameter, which should be fenced and protected from adverse impacts (e.g. grazing, burning, soil disturbance, removal of logs, etc.) (DSE 2007).