

Moss Environmental


University of New England Tamworth Central Campus

Flora and Fauna Assessment

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Proposal description

Applicant	University of New England
Land to be developed	545 Peel Street Tamworth
Legal description	Lot 73 DP1107041
Project description	Construction of University of New England Central Tamworth Campus

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Executive summary

Moss Environmental was engaged by University of New England (UNE) to prepare a flora and fauna assessment as part of the proposed development of a new university campus located at 545 Peel St Tamworth. The FFA (Flora and Fauna Assessment) would be submitted as part of a development application for the proposed construction of carparks and multi-level commercial buildings. The site is a disused concrete outdoor cycling velodrome, constructed for the centre of the velodrome to be below ground surface, with the Tamworth levy bank providing the western embankment. UNE has commissioned this report to fulfil its requirements under Part 4 of the NSW Environmental Planning and Assessment Act 1979 (EP&A ACT) and the NSW Biodiversity Conservation Act 2019 (BC Act). This report describes impacts on native vegetation, threatened species, populations and communities listed under the BC Act. The impact assessment in this report is based on information gathered from database searches and a field investigation. The report sets out the legislative context, methods used, impacts to the environment and recommendations to minimise these impacts.

Background research on the Plant Community Types of the surrounding area was conducted to identify any threatened species, communities, populations and/or associated habitats.

The research identified a total of 37 threatened species within a ten-kilometre radius of the proposal site. A targeted flora and fauna survey was conducted on 5th July 2023 by one ME ecologist and identified 28 Flora species and Five Fauna species, none of which were threatened. There was one species outside the proposal area but within the study area that may be indirectly impacted by the proposal. This is the grey-headed flying fox, which is known to roost in the riparian zone adjacent to the proposal site.

The site is not very biodiverse, and the vegetation is in a very disturbed, degraded condition. The grey-headed flying fox passed the test of significance under the BC Act and thus mitigation measures are required. Offsetting is not required for this proposal if mitigation measures are followed. The key mitigation measures are to minimise noise impacts to the flying foxes and to deter flying foxes from the site possibly using sprinklers.

The subject site itself is not a key wildlife connectivity corridor, however the adjacent Peel River in the study area is.

It was concluded that impacts on biodiversity values are not likely to result in a significant impact upon any threatened entity listed under the BC Act.

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Definitions	
Direct impact	Where an event or circumstance is a direct consequence of the action
Habitat	An area or areas occupied, or periodically or occasionally occupied, by a species, population, or ecological community, including any biotic or abiotic component (OEH 2014).
Indirect impact	. Where a primary action is a substantial cause of a secondary event or circumstance which has an impact on a protected matter (ref http://www.environment.gov.au/system/files/resources/0b0cfb1e-6e28-4b23-9a97-fdadda0f111c/files/environment-assessment-manual.pdf).
Mitchell landscape	Landscapes with relatively homogeneous geomorphology, soils, and broad vegetation types, mapped at a scale of 1:250,000 (OEH 2014).
Mitigation	Action to reduce the severity of an impact. (OEH 2014).
Mitigation measure	Any measure that facilitates the safe movement of wildlife and/or prevents wildlife mortality.
Population	All the individuals that interbreed within a given area.
Subject site	The area directly affected by the proposed development.
Study area	The area directly affected by the development and any additional areas likely to be affected by the development, either directly or indirectly (OEH 2014).
Target species	A species that is the focus of a study or intended beneficiary of a conservation action or connectivity measure.

Abbreviations	
ALA	Atlas of Living Australia
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
DP&E	Department of Planning and Environment
DPI	Department of Primary Industries
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Federal).
FM Act	<i>Fisheries Management Act 1994</i> (NSW)
GDE	Groundwater dependent ecosystems
IBRA	Interim Biogeographically Regionalisation of Australia
OEH	Office of Environment and Heritage
PCT	Plant Community Type
SEPP	State Environmental Planning Policy
TECs	Threatened Ecological Communities
VIS	Vegetation information system

1 Introduction

1.1 Proposal background

Moss Environmental was engaged by The University of New England (UNE) to prepare a Flora and Fauna Assessment (FFA) for the development of a new university campus located at 545 Peel Street, Tamworth NSW (Lot 73 DP1107041). The FFA would be submitted as part of a development application (DA) for the proposed construction of roads, a carpark and multi-level commercial buildings. The development site is located within the Tamworth Regional Council Local Government Area (TRC LGA). The land is currently zoned as E2 Commercial Centre under the State Environmental Planning Policy Amendment (Land Use Zones) 2023. Tamworth Regional Council is responsible for pre-construction clearing and bulk earthworks under a separate Development Application (DA).

The surrounding area is largely urban to the north and east, with a vegetated riparian zone along Peel River to the south-west. The location of the proposal is shown in Figure 1 and the study area, showing the subject site and proposal area provided in Figure 2.

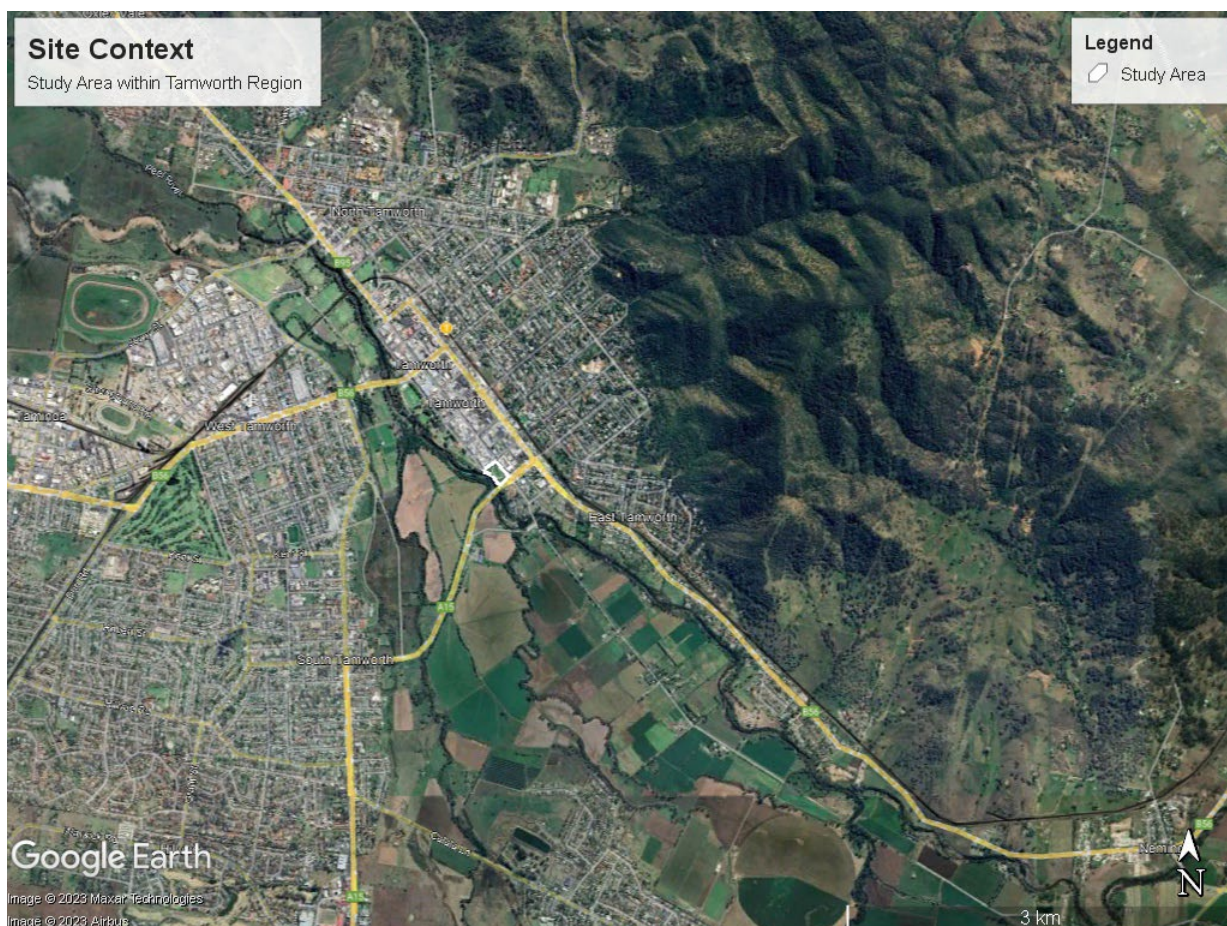


Figure 1. The Location in regional context and study area

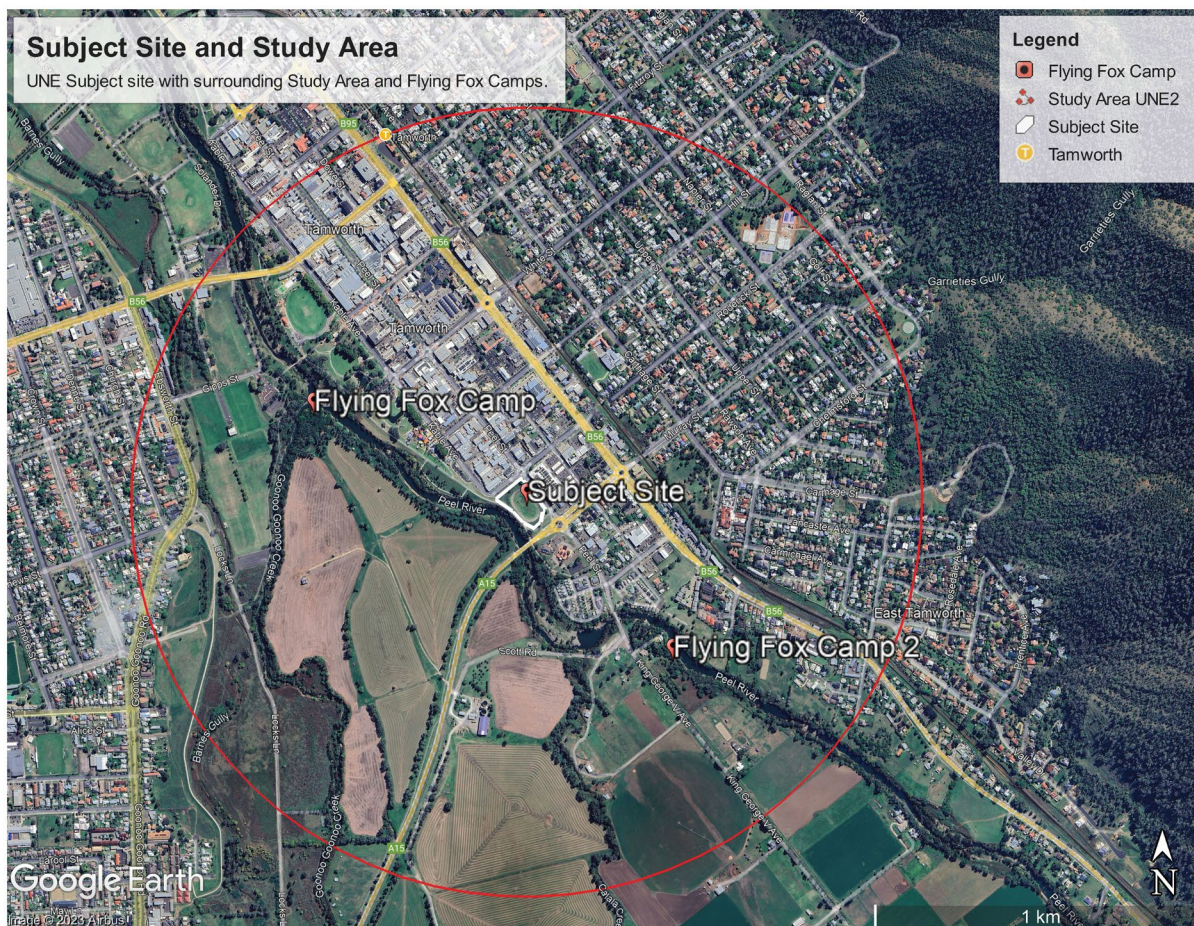


Figure 2 Subject Site and Study Area, with Flying Fox Camps



Figure 3 UNE Subject Site with Peel River and surrounding Urban Area

1.2 Proposal Description

The proposal forms the first stage of development on the Subject Site, with subsequent stages including construction of additional commercial style buildings (*Figure 3*). The land is currently used as public recreation space within Prince of Wales Park and houses the old Tamworth velodrome. The proposal involves cut and fill of the site, and construction of one new building, a cultural ground and 59 parking spaces for the University of New England. All vegetation within the subject site is planned to be removed for cut and fill works. The two proposed options for cut and fill works are provided in Appendix D - Cut and Fill Plans (TTW 2023).

Vegetation clearance works will be undertaken by TRC and are expected to be completed between February and May 2024, while construction works are expected to take place between June and December 2024. The proposal layout drawings are shown in *Figure 4*.

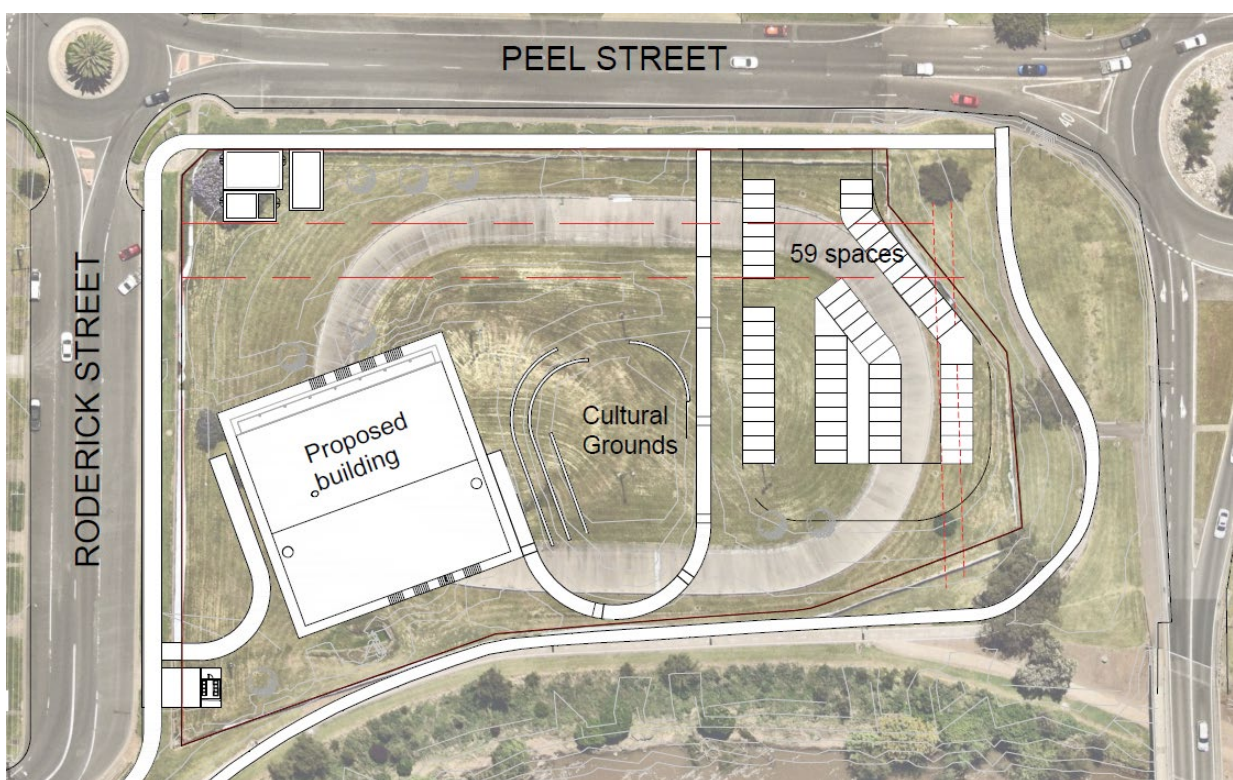


Figure 4 Proposal Area with Building Plans

The study area encompasses the subject site, as well as the area subject to indirect impact bounded by Peel St to the north-east, Roderick St to the north-west, Scott Rd to the south-east and the Peel River to the south-west as shown in *Figure 2*.

1.2.1 Purpose of this report

This Flora and Fauna Assessment is aimed at assessing the likelihood of occurrence and impacts to threatened species, populations or ecological communities and mitigation efforts to minimise impacts from the proposal. This report provides the findings of a database search and literature review and summary of the relevant statutory considerations.

- The vegetation present on site was described and the Plant Community Type and presence of any Threatened Ecological Communities determined. Incidental fauna was recorded.
- Fauna and habitat value was assessed.
- The potential impacts to flora, fauna and ecological communities from the project was assessed.
- A five-part test of significance under Section 7.3 of the BC Act was undertaken to determine the likelihood of the proposal to significantly affect any threatened species, populations, or ecological communities.
- Mitigation measures were described to address and minimise impacts on native flora, fauna, and ecological communities.

1.3 Legislative context

Table 1-1 Legislative context

Legislation	Relevance to the project
Commonwealth	
Environment Protection and Biodiversity Conservation Act 1999	The EPBC Act aims to protect Matters of National Environmental Significance (MNES) including wetlands of international importance, threatened species and communities, and listed migratory species. An action that may or is likely to have a significant impact on MNES should be referred to the Commonwealth to determine whether it is a Controlled Action that requires approval from the Commonwealth. MNES have not been identified on or near the development site. This report concludes that the development is not likely to have a significant impact on MNES.
State	
Environmental Planning and Assessment Act 1979	The proposed development is to be assessed under Part 4 of the EP&A Act.
Biodiversity Conservation Act 2016	<p>The BC Act (2016) outlines the assessment requirements to determine whether a proposed development (Part 4 of the EP&A Act 1979) is likely to significantly affect threatened species or ecological communities, or their habitats under section 7.3, and whether the Biodiversity Offsets Scheme (BOS) will be triggered.</p> <p>This report concludes that a significant impact is unlikely to result, and that a Biodiversity Development Assessment Report is not required. This is due to the following factors:</p> <ul style="list-style-type: none">• The area to be cleared (0.25 ha) does not exceed the area clearing threshold.• The proposal is not on land containing mapped areas of high biodiversity value (Biodiversity Values Map).• The test of significance has concluded that the proposal is unlikely to significantly affect threatened species or ecological communities or their habitats.
Fisheries Management Act	The development does not involve impacts to Key Fish Habitat, does not involve harm to marine vegetation, dredging, reclamation or obstruction of fish passage. A permit or consultation under the FM Act is not required.
Local Land Services Amendment Act 2016	The LLS Act does not apply to areas of the state to which the SEPP (Biodiversity & Conservation) Chapter 2 Vegetation in Non-Rural Areas applies. Chapter 2 of the SEPP will likely apply after re-zoning of the subject land, under the LEP, prior to construction therefore the LLS Act is not applicable.

Water Management Act 2000	If a local development under Part 4 of the EP&A Act 1979 is proposed on 'waterfront land', it is considered a Controlled Activity and requires an approval under s91 of the WM Act 2000. Waterfront land is defined as 40m from the highest bank of any creek line. The proposed development is not within 40m of the highest bank of the Peel River; therefore, the WM Act does not apply.
Planning Instruments	
SEPP (Biodiversity and Conservation) 2021	Chapter 3 of this SEPP concerns koala habitat and aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas. It applies to the Tamworth local government area under schedule 1. However, the Tamworth Regional LEP does not contain any koala habitat at the subject site therefore the area has not been identified as potential koala habitat, no further assessment or management actions are required.
Tamworth Regional Council Local Environment Plan	The subject site is zoned as E2 Commercial Centre under the State Environmental Planning Policy Amendment (Land Use Zones) 2023,
Tamworth Development Control Plan 2010	Commercial/Retail development controls includes landscaping requirements, which shall comprise only low maintenance, drought, and frost tolerant species. The proposed development should also consider landscape plantings that will not attract flying foxes.

2 Methods

2.1 Personnel

Table 2-1 Personnel

Name	Role	Qualifications
Shonelle Gleeson-Willey	Director and Principal of Moss Environmental Pty Ltd Manager, technical review, and quality assurance.	<ul style="list-style-type: none">• Bachelor of Applied Science (Environmental Management and Tourism), The University of Western Sydney• Master of Environmental Management, The University of New England• Certified Professional of Erosion and Sediment Control (CPESC), Envirocert International Inc• Infrastructure Sustainability Accredited Professional (ISAP), The Infrastructure Sustainability Council of Australia• Certified Environmental Practitioner (CEnvP), The Environment Institute of Australia and New Zealand
Gabrielle Rose	Senior Ecologist	<ul style="list-style-type: none">• Bachelor of Environmental Science Southern Cross University, Lismore 2003-2007• Biodiversity Offset Scheme BAM Accredited Assessor
Thomas Carter	Environmental Consultant (Ecology) Ecological Fieldwork and Assessments.	<ul style="list-style-type: none">• Master of Environmental Management, Charles Sturt University• Honours Bachelor of Science Ecology and Environmental Science, University of Adelaide• Bachelor of Arts, University of Adelaide

2.2 Database Search and Literature Review

Desktop research was undertaken prior to commencement of field investigations, including database searches and review of relevant literature. This was undertaken to determine the likely presence of threatened species, populations or ecological communities which may be affected by the proposal and to inform the basis for consideration of any targeted or specific survey requirements required for the proposal.

The following Database sources were investigated:

Table 2-2 Database Search

Source	Name	Date Accessed	Search criteria
NSW Government 2020	Sharing and Enabling Environmental Data(SEED) portal <ul style="list-style-type: none">• Australian Soil Classification (ASC) Soil Type map of NSW	23/06/2023	10 km*10km

	<ul style="list-style-type: none"> • Mitchell Landscapes(version 3.1) • NSW Bionet Koala Species Sightings 		
NSW Government	Bionet Atlas	23/06/2023	10*10km
NSW Government	Bionet Vegetation Classification	23/06/2023	10*10km
Local Government NSW	NSW Council Roadside Reserves Conservation Values	23/06/2023	20km*20km
Australian Government Bureau of Meteorology (BOM)	Atlas of Groundwater Dependent Ecosystems (GDE)	23/06/2023	20km*20km
NSW Department of Primary Industries(DPI)	WeedWise database for the Northern Tablelands	23/06/2023	Northern Tablelands and Northwest Local Land Services Areas
CSIRO	Atlas of Living Australia (ALA) threatened species	26/06/2023	10km radius
NSW Government	State Environmental Planning Polity (Koala Habitat Protection) 2020 (SEPP 2020)	26/06/2023	10km radius
Australian Government Department of Climate Change, Energy, the Environment and Water	National Flying -Fox Monitoring Viewer	31/07/2023	10km*10km
Australian Government Department of Climate Change, Energy, the Environment and Water	Protected Matters Search Tool	31/07/2023	10km*10km

The following literature was reviewed.

Table 2-3 Literature Search

Source	Name	Date Accessed
Living with Flying Foxes Tamworth Regional Council (nsw.gov.au)	TRC Living with flying foxes	1/8/2023
https://lgnsw.org.au/common/Uploaded%20files/Flying-foxes/Flying-Fox_Management-Tamworth_Regional_Council.pdf	Implementation of Peel River Flying Fox Camp Management Plan	9/8/2023
Monitoring Flying-Fox Populations - DCCEE	Monitoring Flying-Fox Populations	1/8/2023

2.3 Field Survey

The field survey was undertaken by ecologist Thomas Carter on 5/07/2023 to assess existing vegetation and habitat values that could support threatened species that may occur in the Study Area. The field survey included a random meander through the entire subject site to identify native plant community types and record flora and fauna on site. Plant samples were taken and later keyed out to species level.

2.3.1 Fauna survey

The fauna survey focused on 21 threatened fauna species identified in the background research. The fauna survey included a one-hour meander through the property recording all fauna observed or heard. Habitat suitability was also noted. All species were recorded with handheld GPS and included scientific name, common name, and location.

2.3.2 Flora Survey

The flora survey recorded all flora observed on site and focused on the six threatened flora species. Given the immediately apparent low diversity of the site, it was decided that the whole proposal area of 1.3 ha would be surveyed rather than a 20m-by-20m BAM plot. The proposal site was systematically searched, with each new species scientific name, common name, location, and growth form recorded. Percentage coverage, number of plants and threatened/native/introduced status recorded, and voucher specimens taken. The Plant community types of the area were assessed, including the riparian zone, although the riparian zone was not subject to an in-depth assessment because it is not in the proposal area of direct impact.

2.3.3 Habitat Assessment

The habitat assessment aimed to detail existing ecological values and area of habitat that could support threatened species that may occur in the study area.

2.3.4 Survey Limitations

The ability to detect plants and accurately identify them to species level can vary greatly with season, prevailing climatic conditions, dormancy, and the presence of reproductive material. The survey undertaken as part of this assessment only represents a 'snapshot' in time. The ability to detect migratory species is also limited by timing and the patterns of migration for each species. This assessment should not completely rule out the possibility of migratory species utilising the area at different times of the year. This survey is not to be regarded as conclusive evidence that certain protected flora and fauna do not occur at the site, however, every effort has been made to detect these species wherever possible.

The survey did not involve dedicated effort such as diurnal aural or visual observations for birds or any nocturnal spotlighting/call-playback techniques. The likely presence of all fauna species has been predicted and assessed in conjunction with desktop searches and based on the habitat assessment described above. A total of three person-hours was dedicated to field survey.

3 Results

3.1 Landscape

The study area is located within the Peel subregion of the Nandewar bioregion (Interim Biogeographical Regionalism of Australia – IBRA).

The Mitchell Landscape ecosystem meso-grouping at the site is described as Peel Channels and Floodplain and includes channel, floodplain, swamps, lagoons, and terrace remnants on Quaternary alluvium, with general elevation of 300 to 550m and local relief of 20m. Downstream of Attunga the river is incised across the geological structure. River Oak (*Casuarina cunninghamiana*) occurs in higher sectors of the channel, merging with River Red Gum (*Eucalyptus camaldulensis*) as the floodplain widens. Rough-barked Apple (*Angophora floribunda*) and Yellow Box (*Eucalyptus melliodora*) occur on the floodplain. The geology is quaternary alluvium and the soil type is on the boundary between floodplain dermasols and chromosols (Australian Soil Classification, see Appendix D).

The site consists of degraded lawn and planted trees with occasional native ground stratum species. The area has been mown recently and is largely dead. The site occurs at the peri-urban extent of Tamworth CBD and is bound by the vegetated riparian zone along Peel River west of the site. The riparian zone forms part of a key wildlife corridor mapped on the Biodiversity Values Map, indicating this part of the Study Area contains high biodiversity values and is particularly sensitive to impacts from development and clearing.

The riparian area also supports two nationally important Flying Fox Camps for nationally vulnerable Grey-Headed Flying Fox. The Peel River is a mapped 4th order stream under the NSW Strahler stream classification system and mapped key fish habitat (DPI Fisheries) for freshwater threatened fish.

3.2 Database Search

NSW Bionet [accessed 23/06/2023] identified 2 threatened flora and 18 threatened fauna species including migratory species considered as known or likely to occur within a 10km radius of the study area (see Table 1. No threatened flora, fauna or migratory species have been previously recorded within the study area or subject site.

The SEED portal identified five plant community types within a 10km radius with three associated threatened ecological communities that may be present in the area.

Table 3-1 Bionet threatened species records.

Kingdom	Class	Family	Scientific Name	Common Name	NSW status	Comm. status	Records
Animalia	Reptilia	Carphodactylidae	<i>Uvidicolus sphyrurus</i>	Border Thick-tailed Gecko	V, P	V	6
Animalia	Reptilia	Pygopodidae	<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V, P	V	1
Animalia	Aves	Megapodiidae	<i>Alectura lathamii</i>	Australian Brush-turkey population in the Nandewar and Brigalow Belt South Bioregions	E2, P		2
Animalia	Aves	Accipitridae	<i>Hieraaetus morphnoides</i>	Little Eagle	V, P		3

Animalia	Aves	Accipitridae	<i>^Lophoictinia isura</i>	Square-tailed Kite	V, P,3		1
Animalia	Aves	Falconidae	<i>Falco subniger</i>	Black Falcon	V, P		3
Animalia	Aves	Psittacidae	<i>Glossopsitta pusilla</i>	Little Lorikeet	V, P		1
Animalia	Aves	Psittacidae	<i>Lathamus discolor</i>	Swift Parrot	E1, P	CE	2
Animalia	Aves	Psittacidae	<i>^Neophema pulchella</i>	Turquoise Parrot	V, P,3		6
Animalia	Aves	Strigidae	<i>^Ninox strenua</i>	Powerful Owl	V, P,3		1
Animalia	Aves	Climacteridae	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V, P		1
Animalia	Aves	Estrildidae	<i>Stagonopleura guttata</i>	Diamond Firetail	V, P		2
Animalia	Mammalia	Dasyuridae	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V, P	E	7
Animalia	Mammalia	Phascolarctidae	<i>Phascolarctos cinereus</i>	Koala	E1, P	E	12
Animalia	Mammalia	Petauridae	<i>Petaurus norfolcensis</i>	Squirrel Glider	V, P		7
Animalia	Mammalia	Pteropodidae	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V, P	V	26
Animalia	Mammalia	Molossidae	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V, P		1
Animalia	Mammalia	Vespertilionidae	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V, P	V	1
Plantae	Flora	Myrtaceae	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	1
Plantae	Flora	Poaceae	<i>Dichanthium setosum</i>	Bluegrass	V	V	4

3.3 Threatened ecological communities/Plant community Types.

The NSW State vegetation type map (SVTM) maps two native plant community types in the study area. This is PCT 84 River Oak - Rough-barked Apple - Red Gum - Box riparian tall woodland(wetland). and PCT 78 River Red Gum riparian tall woodland/open forest wet. Both these PCTs are not associated with any Threatened Ecological Communities (TEC).

The Department of the Environment listing information guide/policy statement for the EPBC-listed TEC defines a patch as a continuous area containing the ecological community, and requires that when determining the patch size, the patch is defined as the larger of:

1. an area that contains 5 or more trees in which no tree is no greater than 75 m from another tree: or
2. the area over which the understorey is predominantly native.

The proposal area therefore does not qualify as a 'patch' as neither of these conditions are met. Based on the proposed works extensive impacts to the already very degraded existing vegetation. The total impact area is composed of 1.07 ha, the entirety of the proposal site. The area of indirect impact along the riparian zone and around the perimeter of the velodrome site is approximately 0.9ha. There is no native PCTs on the subject site, and the closest PCT to the site, beside the Peel River to the west) is not associated with any threatened ecological communities (TECs)

3.3.1 Threatened Species

Seven threatened flora species were recorded as occurring within a 10km radius of the subject site according to Bionet and The EPBC protected search matters tool. None of these records were found to occur within the subject site. The desktop analysis identified records of 21 threatened fauna species occurring within a ten-kilometre radius of the subject site (Fig 7). No threatened fauna was recorded during field surveys.

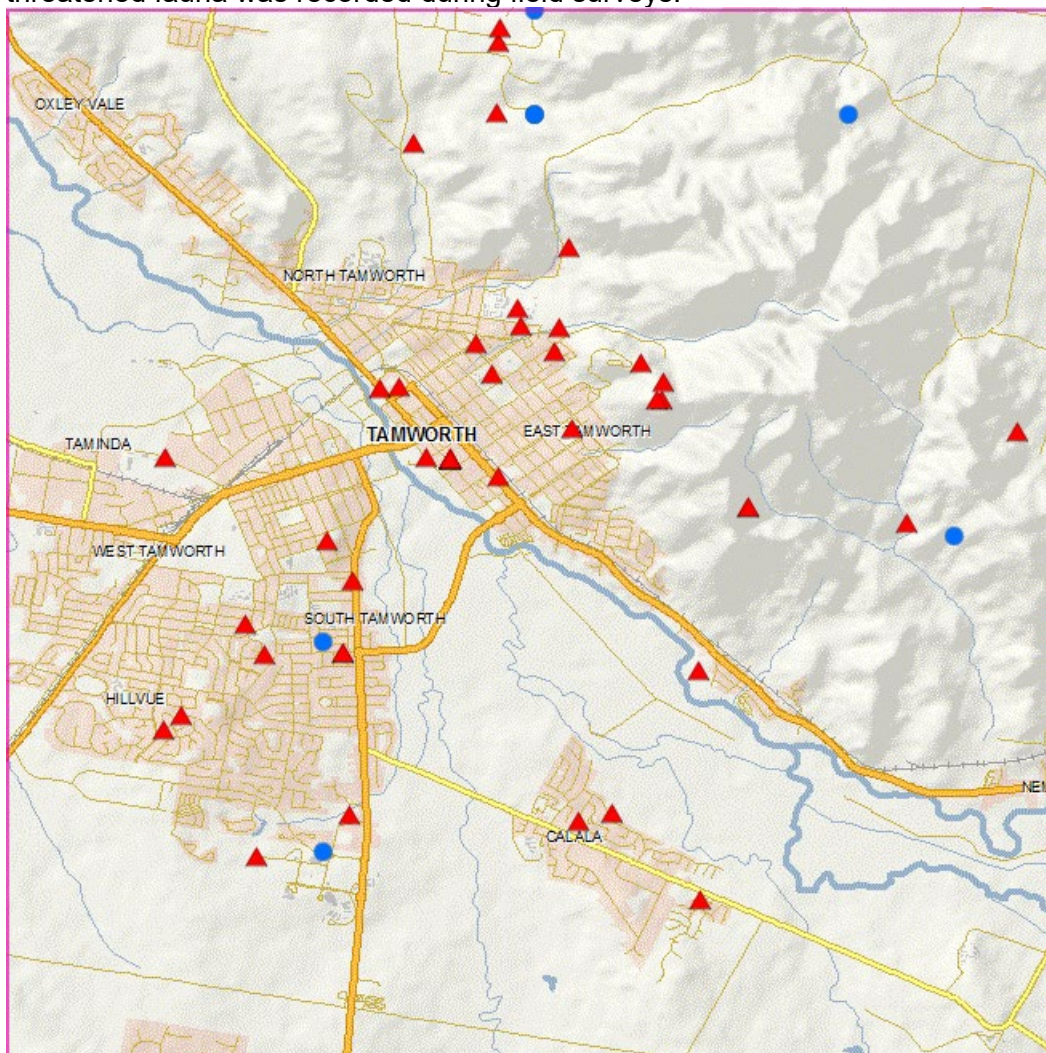


Figure 5 Bionet Records of threatened species within 10km of Tamworth. Threatened (Red triangle). Category 3 sensitive (Blue Circle)

The threatened grey headed flying-fox is known to frequent the area. Two flying fox camps are located within a 10 km radius of the proposal site (DCCEEW 2022), approximately 600m upstream and 1km downstream from the site on the opposite side of the Peel River. These camps are shown in Figure 4 below and impacts on this threatened species is addressed in Section 4.

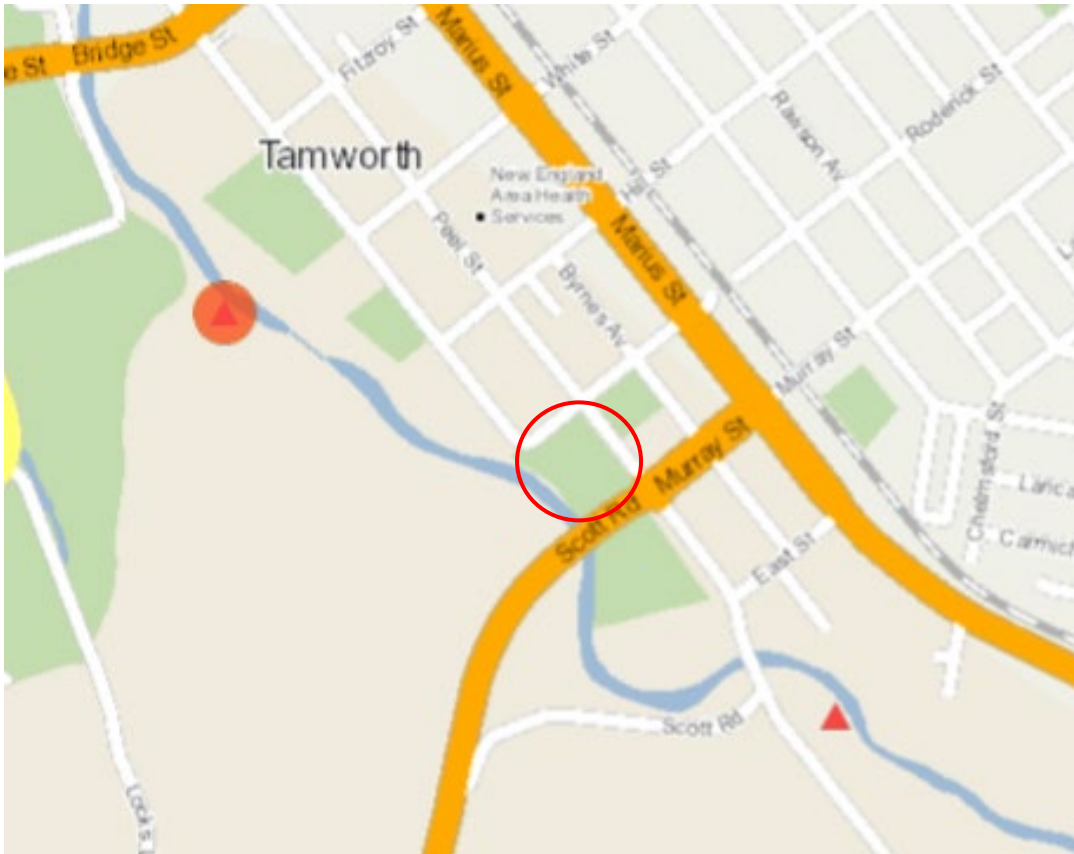


Figure 6 Flying Fox Camps around the Proposal Site circled in red.

The Tamworth flying fox camps are known to have a population of over 80000 (Tamworth Regional Council 2016). The camps are regionally significant, having the highest population of any camp in the northern tablelands and a permanent population since at least 2018, according to the national flying fox monitoring viewer. However, the subject site and the riparian zone immediately to the west of the subject site is unlikely to be used by flying foxes, because there are few large trees, food sources or roosting sites.

3.3.2 Watercourses and Riparian Habitat

There is one 4th order waterway, The Peel River mapped within the study area (Fig 7). The Peel River is mapped as key fish habitat and is known to support the threatened, Purple-spotted Gudgeon and Eel-tailed Catfish. The Peel River is in a fair condition and threatened Murray cod have been found within 10km of the proposal site. The area within 10m of the Peel River is vegetated and in moderate condition. There is an intact tree and shrub layer with exotic understorey..

Table 3-2 Stream Order

Stream Order	Vegetated Riparian Zone (VZR) (DPE 2022)
4th	40m



Figure 7 Key Fish Habitat Peel River



Figure 8 Threatened Fish. Purple spotted Gudgeon (Purple) and Eel-tailed Catfish (Green).

3.4 Groundwater dependent ecosystems

There are no Groundwater Dependent Ecosystems (GDEs) identified within the proposal site,

3.5 Wildlife connectivity corridors

The riparian section of the study area outside the immediate proposal site is mapped on NSW Biodiversity Values Map and Threshold Tool (BMAT) and is a key corridor for wildlife.

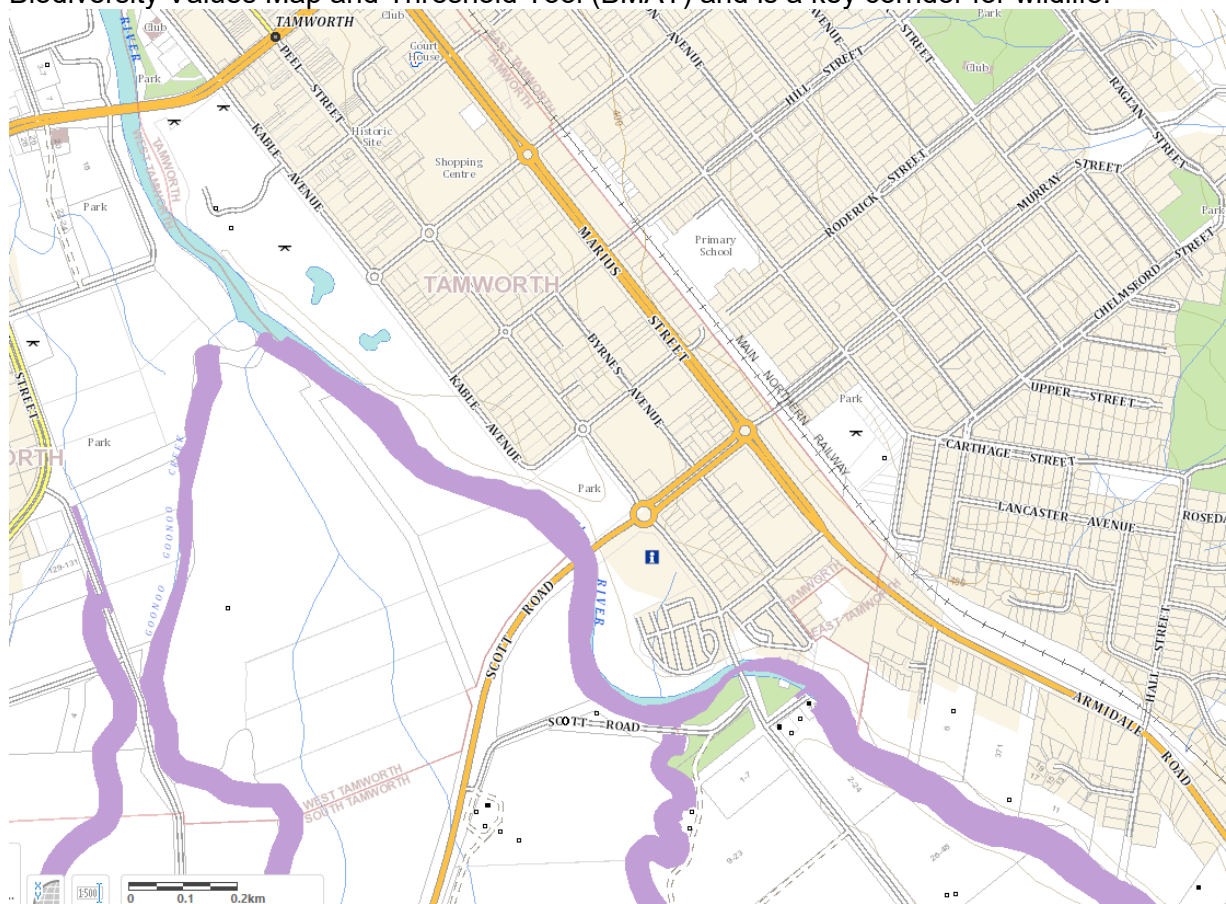


Figure 9 BMAT map of Tamworth Region surrounding site. The area of conservation value and connectivity is marked in purple around the river. There are no areas containing high biodiversity values within the subject site.

3.5.1 Matters of National Environmental Significance

The Protected Matters Search Tool identified the following matters of National Environmental Significance for the Study Area.

Table 3-3 Protected Matters Search Tool

Value	Presence
World Heritage Properties	None
National Heritage Places	None
Wetlands of International Importance (Note The search tool includes wetlands several hundred kms away. There are none within 25km of the study area.)	3
Listed Ecological Communities (Note: these are communities that may not be associated with the PCTs in the study area.)	4
Listed Threatened Species	39
Listed Migratory Species	10

The Protected Matters Search Tool results identified the following Threatened Ecological Communities, which may occur in the study area:

- Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland
- Weeping Myall Woodlands

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. For a full list of Commonwealth threatened species according to the Protected Matters Search Tool, see Appendix D

3.6 Field survey

3.6.1 Vegetation Validation

A field survey undertaken on 05/07/2023 confirmed the presence of 3 vegetation communities within the study area (1.5km radius) and one degraded PCT within the subject site (immediate direct impact zone). The three communities within the study area are shown in table 2 below. Figures 10 and 11 below show the vegetation of the subject site and adjacent riparian area within the study area.

Table 3-4 Plant Community types within Subject Site and Study Area

Plant Community Type (PCT)	Area
PCT Exotic- degraded area dominated by <i>Cynodon dactylon</i> (Common Couch) and infested with weeds with some scattered native plants.	Subject Site (1.38 ha) and Study Area(1.5km radius_)
PCT 84 River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	Study Area (1.5km radius)
PCT 78 River Red Gum Riparian Tall Woodland/open forest wetland in the Nandewar Bioregion and Brigalow Belt South Bioregion.	Study Area (1.5km radius)



Figure 10 Subject Site facing North. Area of Direct Impact.



Figure 11 Riparian Area to the west of the subject site. Area of indirect Impact, PCT 84

The field survey identified one degraded area inside the subject site (direct impact) and two native PCTs present within the study area (indirect impact). The on-site assessment revealed the subject site and surrounding area to have been completely cleared and very degraded. The woodland to the west had river oak and river red gum as the dominant tree species and canopy species. However, the proposal site was dominated by lawn grass such as common couch (*Cynodon dactylon*), yielding a low species richness. It is also dominated by non-native weed species and lacks native trees and shrubs. It therefore does not meet the criteria of a TEC. Tree species recorded within the proposal area comprise planted trees *Jacaranda mimosifolia* (Jacaranda), *Callistemon viminalis* (Bottlebrush) and *Fraxinus excelsior* (European Ash) as well as one *Eucalyptus camaldulensis* with branches within the property. There were no shrubs. The site is subject to ongoing disturbance as it has been mown and infested with weeds. There was however, some scattered occurrences of native species, usually at most a few specimens, that are known to inhabit disturbed sites, such as *Wahlenbergia communis* (Bluebell), *Dichondra repens* (Kidney weed), *Themeda australis* (kangaroo grass), *Bothriochloa macra* (Red legged grass) and *Geranium solanderi* (native geranium).

The adjacent riparian zone outside of the proposal area is dominated by river red gum and casuarina species and this is likely the natural Plant Community type present in the area.

Pattersons' curse (*Echium plantagineum*), a priority weed for the North-West Region was observed onsite, however this species was found in low densities.

There were also numerous other invasive and/or non-native species present such as *Malva parviflora* (Small-flowered Mallow), *Sonchus oleraceus* (Common Sow Thistle), *Hypochaeris radicata* (Catsear), *Erodium cicutarium* (Common storksbill), *Modiola caroliniana* (Red flowered mallow), *Taraxacum officinale* (Dandelion), *Paspalum dilatatum* (Paspalum), *Poa pratensis* (Kentucky Bluegrass), *Cyclospermum leptophyllum* (Slender celery), *Plantago lanceolata* (Plantain), *Capsella bura-pastoris* (Shepherd's purse), and *Galium aparine* (Goosegrass)

The results of the field survey suggest that the subject area, the area of direct impact was dominated by exotic vegetation and does not fit the description of PCT 84 River Oak-Rough Barked Apple-Red Gum-box riparian tall woodland. However, the riparian area within 10m of the river, outside the direct impact zone, contains River Oak and Red Gum and Acacia species, which suggests presence of PCT 84 in the area of indirect impact.

The PCT is not listed under the EPBC or BC act, and the condition of the vegetation within 10m of the river was in moderate condition judged by an intact shrub and tree layer with exotic understorey.

3.6.2 Targeted flora surveys

The flora site assessment focused on targeting the presence of the following identified 7 threatened flora species under the EPBC Act and 2 under the BC Act (Appendix B)), which may or are likely to occur within a 10km radius of the site.

No threatened flora species were observed onsite.

The plant community was in very poor condition due to the high level of disturbance and weed incursion.

3.6.3 Targeted fauna surveys

Where relevant, the Threatened Biodiversity Survey and Assessment Guidelines for Developments and Activities – Working Draft 2004 was applied during field assessments to complete targeted surveys for potentially occurring threatened species.

The fauna site assessment focused on targeting the presence of the following identified 16 threatened fauna species under the EPBC Act and 17 under the BC Act, which may or are likely to occur within a 10km radius of the site.

Opportunistic fauna sightings were recorded in the field assessment (with a total of 5 species recorded over the survey period. No threatened fauna species were recorded during the survey. Species recorded were common and can be found in Appendix A

It is unlikely that the forementioned threatened species will occur within the proposal area, however, while the above-mentioned species were vigilantly searched for, care should be taken during earthworks and construction to avoid any adverse effects.

3.6.4 Flora and fauna habitat values

The riparian area along the western boundary of the study area is the only section of significant flora and fauna habitat, the couch lawn grass that covers most of the site has little value as flora and fauna habitat. No hollow bearing trees were located anywhere in the study area. The riparian area, however, is significant key fish habitat and the trees in this area have value to fauna such as flying foxes and bird species.

3.6.5 Summary of survey effort

The survey was undertaken on 5/07/2023. Weather was cloudy with light rainfall and the temperature ranged was approximately 10 degrees. The ability to detect and/or identify flora and fauna can vary greatly with season, ambient temperature, access to sites and weather. Surveys were vigilantly conducted, and every effort has been made to detect targeted threatened species where possible (Table 3-5)

Table 3-5 – Targeted species survey details

Species	Minimum survey requirements	Survey completed
Flora Target Species (as above in section 2.4.2)	Observational surveying for 1-person hours on 5/06/2023	The entire proposal site was assessed via visual observations to the fence line. The riparian area outside the proposal area was not included in the survey effort.
Fauna Target Species (as above in section 2.4.3)	Fauna opportunistic sightings were also noted during the flora survey.	Animals were identified from vocalization and observed sightings

4 Impact assessment

The following impact assessment identifies and discusses each of the potential environmental impacts of the proposed cut and fill and construction works. In total six native flora species are to be removed, not counting planted *Callistemon* and Couch. These are *Bothriochloa macra*, *Wahlenbergia communis*, *Themeda triandra*, *Geranium solanderi*, *Dichondra repens* and *Lomandra longifolia*. Most of these species are 'native weeds', that is they are found in disturbed environments. They are also very common species and so the effects of their removal will be minimal. No threatened plants were found during the survey and unlikely to occur. The park offers potential foraging habitat for birds, such as the red-browed finch that eat grass seeds. The diamond firetail may possibly use this habitat and is known to frequent riparian areas, however not observed during field surveys. It is highly unlikely that the diamond firetail will be adversely affected due to the minor nature of potential foraging habitat to be removed compared to the extensive area of similar and higher quality habitat nearby.

Injury or mortality risks to fauna are low as there are no hollow-bearing trees and the only fauna likely to utilise the area are highly mobile such as birds and bats, which can fly away from danger. Threatened species known to frequent the study area include the grey-headed flying fox, which while not identified in the survey, has a known colony alongside the river approximately 600m south of the site, and a second 1km north of the site. The colony is regionally significant. The proposal will likely cause noise, light and vibration pollution. This may affect the bats and mitigation methods should be put in place (see section 5.2 below). However, since the both flying fox camps are over 500m from the subject sites, overall effects are expected to be minor. Thus, efforts at mitigation should focus on this threatened species. The proposal will not reduce wildlife connectivity because there is minimal habitat at the site apart from some planted trees. There is likely to be little edge effects on adjacent vegetation as the proposal site is already degraded.

The extensive clearing and earthworks may encourage the invasion and spread of weeds, and thus efforts should be made to manage and control the spread. In the long-term, native species should ideally be planted and the site managed for the control of weeds. This is practical as it is a small area.

4.1 Avoidance and minimisation

All efforts have been made to avoid and minimise disturbance and impacts to biodiversity and to avoid impacts to adjacent areas by containing all works including all trafficable areas, access, stockpiling of materials etc within the site. Where possible, direct impacts must be avoided or minimised for the following Biodiversity Values identified in the study area:

- The Plant community type 84 River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) is intact to the west of the site and is habitat for fauna and flora including threatened species.
- Riparian corridor to the west also serves as a fauna corridor and is marked on the biodiversity values map.
- The riparian area is also known habitat for the grey-headed flying fox.

4.2 Direct impacts

4.2.1 Removal of native vegetation

No native PCT is to be removed and the effect on native flora will be negligible because the area comprises non-native managed grassland. This impact would include removal of six individual native species shown in **Table 4.1**.

Table 4-1 – Impacts on vegetation.

Species	Latitude	Longitude
Red-legged Grass <i>Bothriochloa macra</i>	31.0976	150.9352
Tufted Bluebell <i>Wahlenbergia communis</i>	-31.0976	150.9359
Kangaroo grass <i>Themeda triandra</i>	-31.0979	150.9358
Native Geranium <i>Geranium solanderi</i>	-31.0974	150.9353
Kidney Weed <i>Dichondra repens</i>	-31.098	150.9354
Spiny-headed Mat-Rush <i>Lomandra longifolia</i>	-31.0975	150.9347

4.2.2 Removal of threatened fauna habitat

There is no removal of threatened fauna habitat. The BC Act Test of significance did not identify any activity as likely to significantly affect a threatened species. The Grey-headed flying fox (*Pteropus poliocephalus*) was not identified during the field survey, however, are likely to occur due to records of them found near the proposed construction site. An assessment of potential impact on these species habitats was conducted out of due diligence. Removal of threatened flora.

No threatened flora occurs onsite. The proposed development involves removing a concrete velodrome and lawn and replacing it with a building, carpark and footpaths and would introduce a new impact to the area. The extent of habitat likely to be removed or modified because of the proposed development is minor and is not considered likely to modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction. The vegetation indicated for removal is not considered to be of outstanding Biodiversity Value (BV) and is not mapped on the NSW BV Map. the proposed development will result in minimal impacts to existing vegetation in the riparian zone, however the couch dominated area will be completely removed. The proposed works are considered unlikely to result in a significant impact on the woodland community in the study area.

4.3 Indirect Impacts

Indirect effects mostly concern the flying fox through noise pollution and fish from sediment pollution. The proposal area is surrounded by an urban area and is highly disturbed. Weed control measures should be put in place as the cut and fill works will result in a large amount of disturbance, which favours weeds. These weeds may then invade the less disturbed habitat beside the river. Measures should also be put in place to avoid sediment and runoff into the river.

The flying fox camps around the river may be indirectly impacted by the construction works by noise and light effects. Threats to the Grey-headed flying fox include disturbance leading to potential electrocution on powerlines, entanglement in netting and on barbed wire, heat stress, and conflict with humans. Of these threats, conflict with humans is the most significant as human construction activities may disturb the species, however the effects are expected to be minor because the only threat is likely to be noise and the chance that the flying-fox will fly into the construction zone. There is a considerable chance the flying fox will fly over the construction zone. Care should be taken in the breeding season between January and March which will coincide with the construction period. The grey-headed flying fox can travel up to 50km from

the camp to forage and can feed in cultivated areas particularly on the nectar and pollen of native trees. It is advised that native vegetation be planted, however not species that are likely to attract the flying foxes on campus.

4.3.1 Aquatic impacts

Potential impacts to waterways and aquatic habitats to be addressed includes changes to turbidity, sedimentation, and other pollution due to runoff from earthworks in the construction zone. The Peel River is estimated to have a fair fish community around Tamworth according to the NSW Fisheries Spatial Data portal and is marked as key fish habitat and freshwater habitats as 'moderately sensitive' (NSW DPI 2013)

Threatened Murray cod (*Maccullecheilla peelii*) have been found within 10km of the proposal zone. Sedimentation is a threat to the Murray Cod that should be managed, and the species should be assumed to be present and thus a test of significance is required.

4.3.2 Key threatening processes

There are 2 key threatening processes associated with the proposed development, these are.

- Clearing of native vegetation.
- Invasion, establishment and spread of Paterson's Curse (*Echium plantagineum*).

4.4 Assessments of Significance

Assessments of Significance are undertaken under part 7.3 of the BC Act 2016, if it is considered that there is likely to be an impact on threatened species or ecological communities. Three threatened species was identified for assessment based on a moderate to high likelihood of occurrence: the Grey-headed flying fox, the Purple spotted gudgeon and the Eel-tailed Catfish. A full five part assessment of significance for each species is provided in Appendix B.

5 Avoid, minimise, and mitigate impacts.

Given the nature of the proposal and the minimal scope, it is expected that no threatened species and/or TECs will be significantly impacted by the proposed works. To ensure that compliance within the relevant environmental legislation, mitigation measures and the relevant management plans are required to be in place.

5.1 Mitigation measures

The proposed development is unlikely to result in any significant impacts to threatened species of native plants or animal, populations, ecological communities, or their habitats, however, to ensure compliance with the relevant environmental legislation impacts and mitigation measures are provided in **Table 5.1**:

Table 5-1 – Summary of impacts and mitigation measures

Impact	Biodiversity values	Nature of impact	Extent of impact	Duration	Does the proposal constitute or exacerbate a key threatening process?	Confidence in assessment	Mitigation measures	Residual impacts anticipated.	Likely efficacy of mitigation
Aquatic impacts	The Peel River is marked as key fish habitat and the threatened Purple spotted gudgeon and Eel-tailed Catfish have been observed within 10km of the site	Indirect	Offsite	Short term	<ul style="list-style-type: none"> No, if erosion and sedimentation controls are in place. 	High	Erosion and Sediment control Plan in place prior to and during construction	Residual impacts will be minor if sediment or pollution entering the river is minimised.	Effective
Injury and mortality of fauna	Bats and Birds may fly into the construction area and be impacted	Direct	Indirect	Short-term	<ul style="list-style-type: none"> No 	Unpredicted	Work should temporarily cease if any threatened native fauna is discovered, and veterinarians contacted. Sprinklers could be installed to discourage flying foxes from entering worksite.	Residual impacts will be minor	Effective

Impact	Biodiversity values	Nature of impact	Extent of impact	Duration	Does the proposal constitute or exacerbate a key threatening process?	Confidence in assessment	Mitigation measures	Residual impacts anticipated.	Likely efficacy of mitigation
Invasion and spread of weeds	Area beside river is mapped as biodiversity value and may be affected by the spread of weeds from disturbance in the construction site	Indirect	Indirect	Long-term	<ul style="list-style-type: none"> Risk of spreading weeds and invasive species 	Known	Treatment of weeds with an appropriate herbicide. Plant native species	Provided weeds are treated before during and after works and native species planted, residual impacts will be minor.	Effective
Habitat loss	There may be some minor habitat loss for roosting habitat as five planted trees are planned to be removed and some foraging habitat loss.	Direct	Site-based	Short-term	<ul style="list-style-type: none"> Habitat Loss 	Known	Plant native species. Provide alternative habitat for flying foxes outside area if possible.	Residual impacts will be minor.	Effective
Noise, light and vibration	Construction impacts	Direct/indirect	Site-based	Short-term	<ul style="list-style-type: none"> Noise, light and vibration will occur during the works 	Known	Noise and lighting impacts will be minimised through detailed design.	Residual impacts are expected to be short term.	Effective

6 Conclusion

This FFA has been prepared to support the DA for the University of New England new campus. Background research, followed by a Flora and Fauna survey of the 1.07 ha site was undertaken on 5/07/2023 by Moss Environmental Ecologist Thomas Carter. The field survey confirmed that the site consisted mostly of dead cultivated couch lawn grass and weeds, with some scattered native ground flora species and cultivated trees. No native plant communities occur within the subject site. Twenty-eight flora species were recorded, including eight native species. No threatened flora was detected at the site. Most flora species are weeds or cultivated natives not of local provenance.

The area adjacent to the proposal site comprises PCT 84 River Oak - Rough-barked Apple - red gum - box riparian tall woodland due to presence of river oak and river red gum. It is expected that this PCT is the natural state of the proposal area, but the proposal area was so degraded that it no longer fits the description.

Five fauna species were observed onsite, all birds, significantly including the Red-browed Finch (*Neochimia temporalis*). However, the Grey-headed flying fox is known to frequent the riparian area outside the immediate proposal area but within the study area and thus impacts to this threatened species must be managed to meet requirements under the legislation.

While the site is planned to be completely cleared of vegetation this is likely to have little if any effects on native habitat or threatened species.

The only threatened species that may be affected therefore is the grey-headed flying fox which is known to frequent adjacent riparian areas, and mitigation measures to reduce any possible impacts should be followed.

An invasive species, Pattersons curse (*Echium plantagineum*) was recorded on site and the site should be managed to prevent any further weed incursions.

Given the minimal biodiversity value of the site it is concluded that the development will have little if any negative impacts on threatened flora and fauna, and consequently a BDAR is not required. It is concluded that the development of the site satisfies the requirements of relevant Commonwealth, State and Local environmental legislation and is supported from an ecological perspective.

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Appendix A – Species recorded.

Recorded flora

Family	Scientific Name	Common name
Amaranthaceae	<i>Alternanthera pungens</i>	Khaki weed
Apiaceae	<i>Cyclospermum leptophyllum</i>	Slender celery
Asparagaceae	<i>Lomandra longifolia</i>	Spiny-headed mat rush
Asteraceae	<i>Hypochaeris glabra</i>	Smooth Catsear
Asteraceae	<i>Hypochoeris radicata</i>	Catsear
Asteraceae	<i>Sonchus oleraceus</i>	Common Sow thistle
Asteraceae	<i>Taraxacum officinalis</i>	Dandelion
Bignoniaceae	<i>Jacaranda mimosifolia</i>	Jacaranda
Boraginaceae	<i>Echium plantagineum</i>	Patterson's curse
Brassicaceae	<i>Capsella bursa-pastoris</i>	Shepherd's purse
Campanulaceae	<i>Wahlenbergia communis</i>	Tufted Bluebell
Convolvulaceae	<i>Dichondra repens</i>	Kidney weed
Geraniaceae	<i>Erodium cicutarium</i>	Common Storksbill
Geraniaceae	<i>Geranium solanderi</i>	Native Geranium
Malvaceae	<i>Malva parviflora</i>	Small-flowered Mallow
Malvaceae	<i>Modiola caroliniensis</i>	Red-flowered Mallow
Myrtaceae	<i>Callistemon viminalis</i>	Bottlebrush
Myrtaceae	<i>Eucalyptus camaldulensis</i>	River Red Gum
Oleaceae	<i>Fraxinus elatior</i>	European Ash
Onagraceae	<i>Oenothera mollissima</i>	None
Plantaginaceae	<i>Plantago lanceolata</i>	Lamb's tongues
Poaceae	<i>Bothriochloa macra</i>	Red-leg Grass
Poaceae	<i>Cynodon dactylon</i>	Couch
Poaceae	<i>Paspalum dilatatum</i>	Paspalum
Poaceae	<i>Poa pratensis</i>	Kentucky Bluegrass
Poaceae	<i>Themeda triandra</i>	Kangaroo Grass
Rubiaceae	<i>Galium aparine</i>	Goosegrass
Verbenaceae	<i>Verbena bonariensis</i>	Purpletop

Recorded fauna

Class	Scientific Name	Common name
Aves	<i>Grallina cyanoleuca</i>	Magpie lark
Aves	<i>Gymnorhina tibicen</i>	Australian Magpie
Aves	<i>Neochmia temporalis</i>	Red browed finch
Aves	<i>Rhipidura albiscapa</i>	Grey Fantail
Aves	<i>Rhipidura leucophrys</i>	Willie wagtail

Appendix B – Test of Significance

7.1 Assessments of significance

Assessments of significance are required for each threatened species or ecological community recorded or to have a medium to high potential (as per **sections 2.4.3 & 2.4.2**) to be within the study area. As per **section 3.5** above the species has been evaluated against these criteria for matters of state and national significance have been assessed below (**table 4.3**).

Table 7-1 – Summary findings of significance assessments.

TSC Act significance assessments						
Threatened species, or communities	Significance assessment question ¹					Likely significant impact?
	a	b	c	d	e	
Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>)	N	X	Y	N	N	Yes
EPBC Act Assessments						
Threatened species	Important population ²					Likely significant impact?
Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>)	Yes					No

Notes: Y= Yes (negative impact), N= No (no or positive impact), X= not applicable

Test for determining whether proposed development or activity likely to significantly affect threatened species or ecological communities, or their habitats.	Grey Headed Flying Fox
In the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	No. The species life cycle will not be affected because the breeding camps are located several hundred metres from the subject site. Flying foxes will only be affected when they fly to the site, but not to an extent that they will become locally extinct.
In the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity— is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	Not Applicable. There are no endangered ecological communities associated with the Plant Community Types present in the Study Area.
In relation to the habitat of a threatened species or ecological community— the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and the importance of the habitat to be removed, modified, fragmented, or isolated to the long-term survival of the species or ecological community in the locality,	Yes. The vegetation of the subject site is to be completely removed. However, except for some cultivated trees, only exotic dominated understorey will be removed, which is not relevant to the flying fox population. However, there will be some impact from light and noise pollution.

Whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),	No. The flying fox habitat will not be removed or modified as a result of the proposal because the subject site is not a feeding area, the only impacts may be noise and light pollution. There will be no habitat fragmentation.
Whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.	No. The study area is not located near any declared area of outstanding biodiversity value.
	There is no clearing of native vegetation, which is the only relevant Key Threatening Process.

Appendix C –Likelihood of occurrence table

Table 7-2 – Targeted Threatened Flora

Species	NSW Status (BC Act)	National Status (EPBC Act)	Distribution / Habitat	Likelihood of occurrence (Low, Moderate, High, Recorded)	Impact Assessment Required?
<i>Syzygium paniculatum</i> Magenta Lily pilly	E1	V	Grows in subtropical or littoral Rainforest.	Low. Area not Rainforest	Low
<i>Dichanthium setosum</i> Bluegrass	V	V	Grows in Woodland on the Northern tablelands and Northwest and Central Western Slopes.	Low. Subject site is exotic grassland	Low
<i>Cadellia pentastylis</i> Ooline	V	V	Grows in thickets on the northwest slopes	Low. On the edge of range, no specimens recorded within 25km of Tamworth.	Low
<i>Euphrasia arguta</i>	E	CE	Grows in grassy areas near rivers. Vulnerable to disturbance. Rediscovered near Nundle in 2008 after 100 years,	Low. Species is vulnerable to disturbance. The Study Area is highly disturbed.	Low
<i>Thesium australe</i> Austral toadflax	V	V	Grows in very small populations scattered across eastern NSW, usually associated with Kangaroo grass in moist areas.	Moderate. Moist grassy area near creek.	High. The entire ground layer is to be removed on the subject site.
<i>Eucalyptus nicholii</i> Narrow-leaved peppermint	V	V	Found in shallow and relatively infertile soils on slate and shale in the northern tablelands.	Low. Slate or shale are not found in the study area.	Low

<i>Callistemon pungen</i>	N/A	V	Grows near rocky watercourses on the Northern Tablelands.	Low. The Area is not a rocky watercourse.	
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*CE = Critically Endangered, E = Endangered, E1 = Endangered (BC Act), E2 = Endangered Population, E4A = Critically Endangered (BC Act), V = Vulnerable. P = Protected (BC Act) (refers to fauna not listed in Schedule 11 of the NPW Act 1974), 2 = Category 2 sensitive species, 3 = Category 3 sensitive species, M = Marine, MW = Migratory Wetlands, MM = Migratory Marine, MT = Migratory Terrestrial.

Table 7-3 –Targeted Threatened Fauna

Species	Common name	NSW Status (BC Act)	National Status (EPBC Act)	Distribution / Habitat	Likelihood of occurrence (Low, Moderate, High, Recorded)	Impact Assessment Required?
Amphibians						
<i>Litoria booroolongensis</i> Booroolong frog	Booroolong frog	E	E	Western-flowing streams of the Great Dividing Range. Lives along permanent streams. Shelter under rocks or amongst vegetation	Low. Lack of suitable habitat.	Low
Avian						
<i>Hirundapus caudacutus</i> White-throated Needletail	White-throated Needletail	N/A	V	Migratory species in Australia from October to April. Less common inland. Seen before approaching storms or cold fronts. Feeds on swarms of insects.	Low. Not common inland, aerial habitat.	Low
<i>Alectura lathamii</i> Australian Brush-turkey population in the Nandewar and Brigalow Belt South Bioregions	Australian Brush-turkey population in the Nandewar and Brigalow Belt South Bioregions	E2, P	N/A	Prefers dry rainforest found within semi-evergreen vine thicket. The species is found in the Nandewar and Brigalow Belt region	Low. No semi-evergreen vine thicket within Study Area.	Low
<i>Hieraaetus morphnoides</i> Little Eagle	Little Eagle	V, P	N/A	Found in open Eucalypt Forest or	Low. No Eucalypt Forest or	Low

				Woodland through Australian Mainland.	woodland directly or indirectly impacted.	
<i>^^Lophoictinia isura</i> Square-tailed Kite	Square-tailed Kite	V, P,3	N/A	Found in coastal and Sub-Coastal Areas. Large hunting range. Timbered habitats, dry woodland, preference for stony country.	Low. Subject site not well timbered	Low
<i>Falco subniger</i> Black Falcon	Black Falcon	V, P	N/A	Widely distributed in NSW. Loss of Old trees a threat	Low. Lack of appropriate habitat for prey.	Low
<i>Glossopsitta pusilla</i> Little Lorikeet	Little Lorikeet	V, P	N/A	Forages in Eucalypt Forest. Along the Coast, Slopes and Tablelands of NSW.	Low. Lack of Eucalypt Forest on site.	Low
<i>Lathamus discolor</i> Swift Parrot	Swift Parrot	E1, P	CE	Favours Eucalypts, occurring in areas where Eucalypts are blossoming in Southeastern Australia.	Low. Lack of Eucalypt is the subject site.	Low
<i>^^Neophema pulchella</i> Turquoise Parrot	Turquoise Parrot	V, P,3	N/A	Coastal Plains to Slopes of NSW. Lives on the edge of eucalypt woodland.	Low. No Eucalypt woodland on site.	Low
<i>^^Ninox strenua</i> Powerful Owl	Powerful Owl	V, P,3	N/A	Found in Eastern and South-eastern Australia. The species is hollow dependent.	Low. There is a lack of appropriate habitat including hollow bearing trees onsite.	Low
<i>Climacteris picumnus victoriae</i> Brown Treecreeper (eastern subspecies)	Brown Treecreeper (eastern subspecies)	V, P	N/A	Found in Eucalypt woodlands through central NSW and drier	Low, there are no eucalypt woodlands near by the proposal	Low

				woodlands near the coast.		
<i>Stagonopleura guttata</i> Diamond Firetail	Diamond Firetail	V, P	N/A	Endemic to South-eastern Australia. Occurs in grassy woodland and open forest. Has been recorded near towns.	Low. Lack of appropriate grassy woodland habitat. Has been recorded near towns but this is not common and therefore unlikely.	Low
<i>Calidris ferruginea</i>	Curlew Sandpiper	E	CE	The species occupies littoral and estuarine habitats and sometimes inland near non tidal swamps and lagoons.	Low. The species uncommon in inland districts and there is a lack of lakes or swamps near the subject site.	Low
Reptiles						
<i>Uvidicolus sphyrurus</i> Border Thick-tailed Gecko	Thick-tailed Gecko	V, P	V	Found only on the slopes and tablelands of Northern NSW. Occurs on steep rocky or scree slopes. Favours forest and woodland areas with boulders, rock slabs fallen timber and deep leaf litter.	Low. Lack of rocky areas onsite and no woodland.	Low
<i>Aprasia parapulchella</i> Pink-tailed Legless Lizard	Pink-tailed Legless Lizard	V, P	V	Inhabits sloping, open woodland areas with predominantly native grasses, in well drained areas with rocky outcrops.	Low. Lack of suitable habitat. The subject site is dominated by exotic grasses.	Low
Mammals						

<i>Dasyurus maculatus</i> Spotted-tailed Quoll	Spotted-tailed Quoll	V, P	E	Found throughout eastern NSW in range of habitat types with home ranges 500-4000 hectares.	Low. A larger habitat patch is required.	Low
<i>Phascolarctos cinereus</i> Koala	Koala	E1, P	E	Inhabits eucalypt forest and woodlands. Found in fragmented patches throughout Eastern Australia.	Low. There are no eucalypts in the subject site and a lack of Mature eucalypts in the Study Area.	Low
<i>Petaurus norfolcensis</i> Squirrel Glider	Squirrel Glider	V, P	N/A	Inhabits mature or old growth box or box-ironbark woodland and River red Gum Forest west of the Great Dividing Range and Blackbutt-Bloodwood Forest in coastal areas.	Low. Lack of suitable mature woodland in the study area.	Low
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox	Grey-headed Flying-fox	V, P	V	Found within 200km of the East Coast of Australia. Roosting Camps are located within 20km of a regular food source. Can travel up to 50km to feed on native trees.	High. There is a known population within 600m of the property.	Moderate. Possible impact from noise of construction works. However, there will be no clearing of riparian habitat.
<i>Micronomus norfolkensis</i> Eastern Coastal Free-tailed Bat	Eastern Coastal Free-tailed Bat	V, P	N/A	Found along the east coast in dry sclerophyll forest, woodland, swamps, and mangroves. Roost mainly	Low. Lack of forest or woodland habitat and suitable roosting sites.	Low

				in tree hollows.		
<i>Chalinolobus dwyeri</i> Large-eared Pied Bat	Large-eared Pied Bat	V, P	V	Found mainly in areas with caves and cliffs with patchy distribution in NSW and scattered records from the New England tablelands and North West Slopes.	Low. Lack of Caves or Cliffs.	Low

*CE = Critically Endangered, E = Endangered, E1 = Endangered (BC Act), E2 = Endangered Population, E4A = Critically Endangered (BC Act), V = Vulnerable. P = Protected (BC Act) (refers to fauna not listed in Schedule 11 of the NPW Act 1974), 2 = Category 2 sensitive species, 3 = Category 3 sensitive species, M = Marine, MW = Migratory Wetlands, MM = Migratory Marine, MT = Migratory Terrestrial, J = Listed on Japan Australia Migratory Bird Agreement, K = Listed on Republic of Korea Australia Migratory Bird Agreement, C = Listed on China Australia Migratory Bird Agreement.

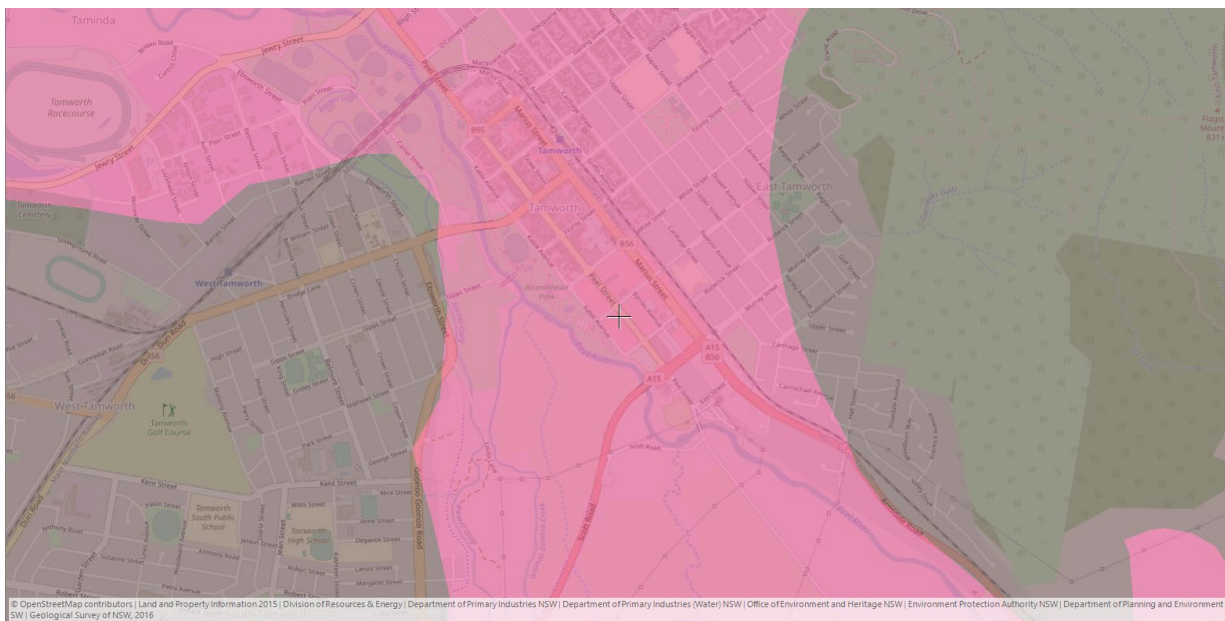
1 Listed under the EPBC Act as *Dasyurus maculatus* (SE mainland population).

2 Listed under the BC Act as *Myuchelys bellii* (Western Sawshelled Turtle).

Appendix D Background Research

<https://geo.seed.nsw.gov.au/PublicViewer/index.html?viewer=PublicViewer&locale=en-AU>

- **Mitchell Landscapes (version 3.1) (Accessed 7/07/2023)**
- The Mitchell landscape for the site is the Peel channel and floodplains of the Nandewar bioregion. The Peel channel and floodplains geologically consists of Quaternary alluvium with an elevation between 300-550m Typical trees include Rough-barked apple (*Angophora floribunda*), yellow box (*Eucalyptus melliodora*) and river red gum (*Eucalyptus camaldulensis*), with River oak (*Casuarina cunninghamiana*) in higher sections.



- **Figure 12 Mitchell Landscape (SEED). Peel Channels and Floodplain (Pink) and Tamworth-Keppit slopes and Plains(Grey)**
- **Australian Soil Classification (ASC) Soil Type map of NSW**
The soil type is On the boundary of Chromosols (Figure 13 Yellow)and Dermosols(Figure 13 Blue).

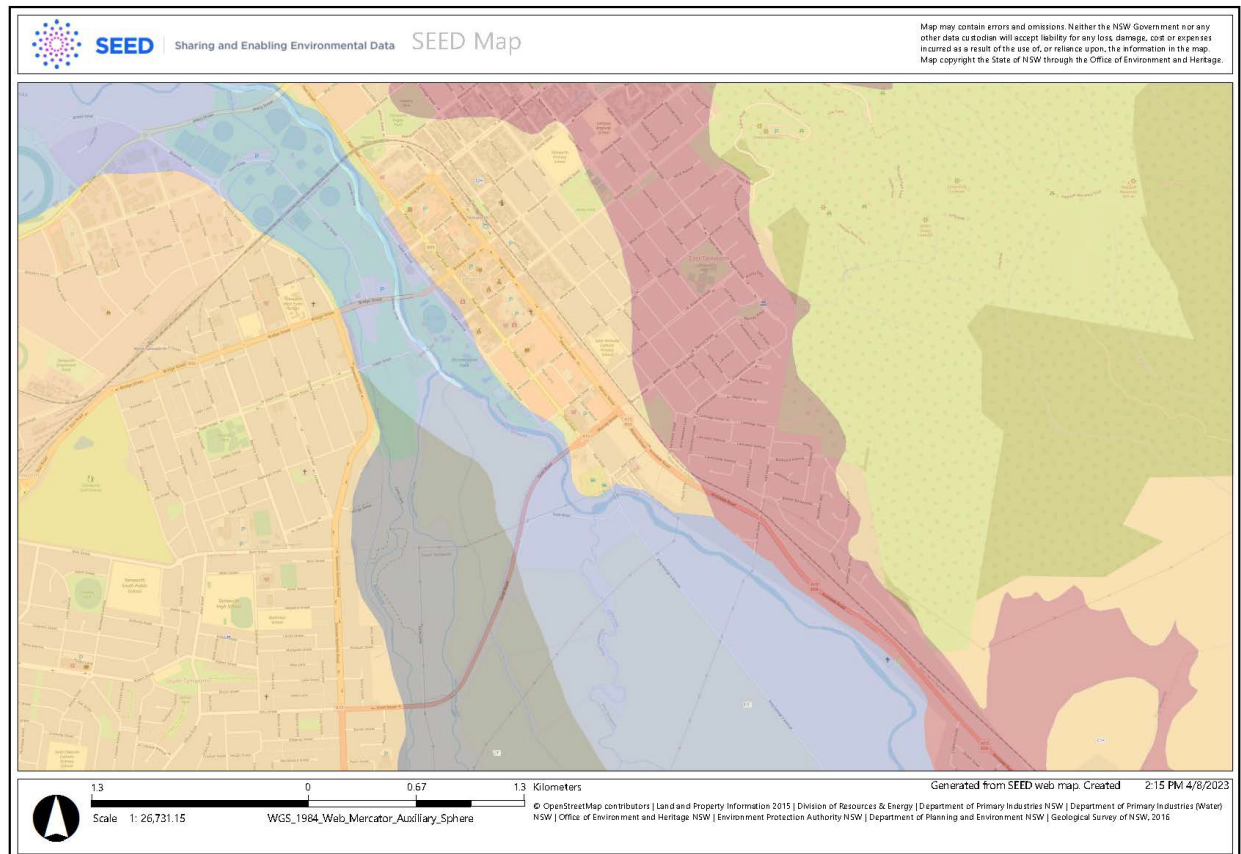


Figure 13 Soil type map Tamworth

- **NSW Bionet Koala Species Sightings, SEPP 2020**

NSW Bionet Koala Species Sightings reports one species sighting in Tamworth from 2014 and 2 from 1980 and one roadkill from Nemingha in 2013. It seems unlikely that the first three Koala sightings mentioned were from within the city itself, but probably surrounding bushland.

- **NSW Council Roadside Reserves Conservation Values**

- There are no NSW Council Roadside Reserves Conservation Values areas within 10km of Tamworth.

- **NSW Bionet Threatened species Sightings 10km radius.**

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Kingdom	Class	Family	Species Code	Scientific Name	Common Name	NSW status	Comm. status	Records
Animalia	Reptilia	Carphodactylidae	2139	<i>Uvidicolus sphyrurus</i>	Border Thick-tailed Gecko	V, P	V	6
Animalia	Reptilia	Pygopodidae	2144	<i>Aprasia parapulchella</i>	Pink-tailed Legless Lizard	V, P	V	1

Animalia	Aves	Megapodiidae	0008	<i>Alectura lathamii</i>	Australian Brush-turkey population in the Nandewar and Brigalow Belt South Bioregions	E2, P		2
Animalia	Aves	Accipitridae	0225	<i>Hieraaetus morphnoides</i>	Little Eagle	V, P		3
Animalia	Aves	Accipitridae	0230	<i>^Lophoictinia isura</i>	Square-tailed Kite	V, P,3		1
Animalia	Aves	Falconidae	0238	<i>Falco subniger</i>	Black Falcon	V, P		3
Animalia	Aves	Psittacidae	0260	<i>Glossopsitta pusilla</i>	Little Lorikeet	V, P		1
Animalia	Aves	Psittacidae	0309	<i>Lathamus discolor</i>	Swift Parrot	E1, P	CE	2
Animalia	Aves	Psittacidae	0302	<i>^Neophema pulchella</i>	Turquoise Parrot	V, P,3		6
Animalia	Aves	Strigidae	0248	<i>^Ninox strenua</i>	Powerful Owl	V, P,3		1
Animalia	Aves	Climacteridae	8127	<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (eastern subspecies)	V, P		1
Animalia	Aves	Estrildidae	0652	<i>Stagonopleura guttata</i>	Diamond Firetail	V, P		2
Animalia	Mammalia	Dasyuridae	1008	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V, P	E	7
Animalia	Mammalia	Phascolarctidae	1162	<i>Phascolarctos cinereus</i>	Koala	E1, P	E	12
Animalia	Mammalia	Petauridae	1137	<i>Petaurus norfolcensis</i>	Squirrel Glider	V, P		7
Animalia	Mammalia	Pteropodidae	1280	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V, P	V	26
Animalia	Mammalia	Molossidae	1329	<i>Micronomus norfolkensis</i>	Eastern Coastal Free-tailed Bat	V, P		1
Animalia	Mammalia	Vespertilionidae	1353	<i>Chalinolobus dwyeri</i>	Large-eared Bat	V, P	V	1
Plantae	Flora	Myrtaceae	4293	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1	V	1
Plantae	Flora	Poaceae	4895	<i>Dichanthium setosum</i>	Bluegrass	V	V	4

■ NSW Bionet Superb Parrot Species Sightings

NSW Bionet Superb Parrot Species Sightings reports one superb parrot sighting from Tamworth in 2017. It is highly unlikely that the species will be present onsite because there are no hollow-bearing trees that the species prefers, and it is located in a highly modified area adjacent to an urban area.

■ NSW Wetlands

The nearest wetland is three kilometres to the north. Wetlands will not be affected by the proposal.

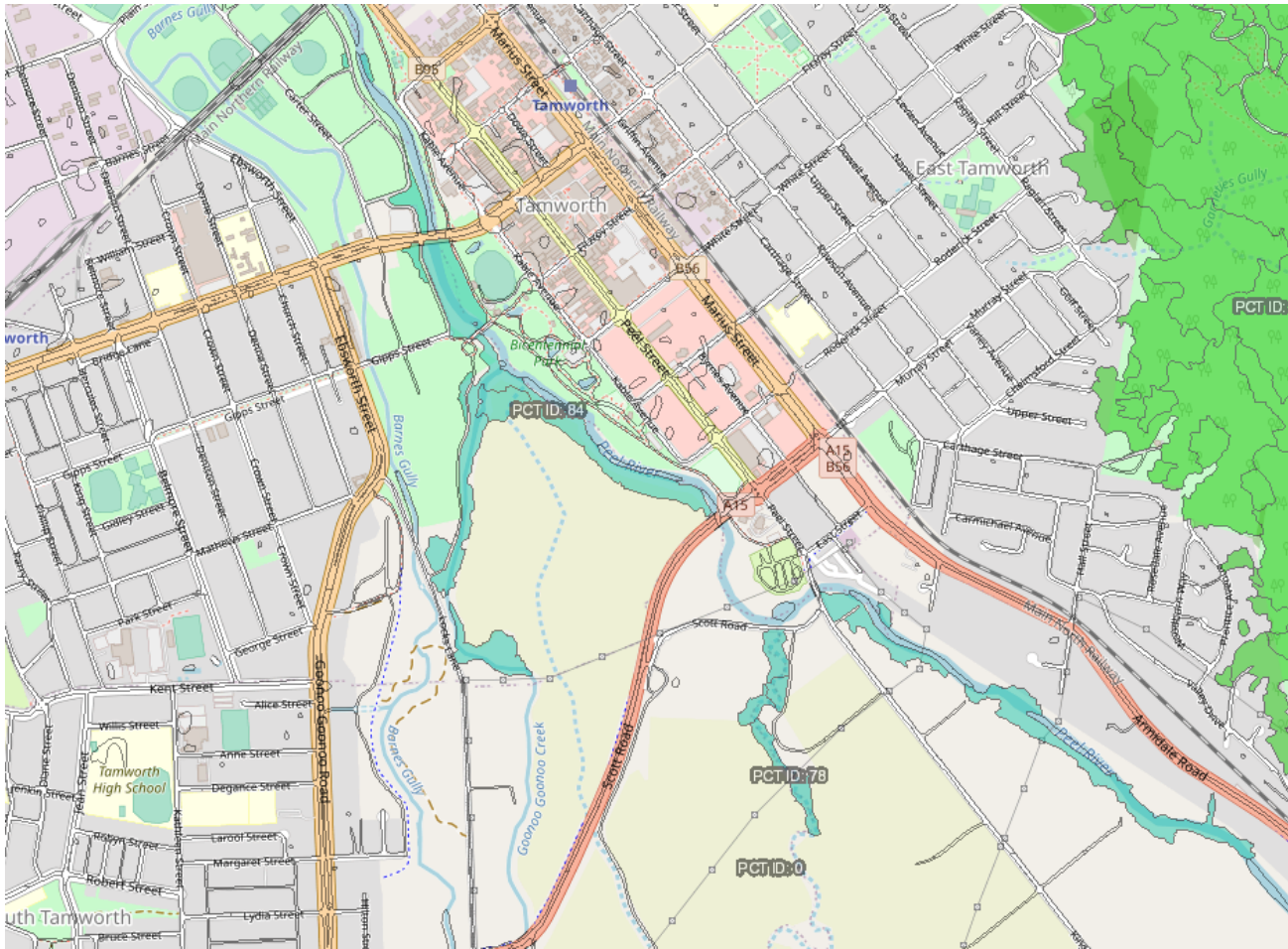
- **Vegetation Classes of NSW**

The Vegetation classes of NSW classes the site as Inland Riverine Forests: Forested Wetlands.

- **Travelling Stock Reserves (TSRs) – Conservation Values (2017)**
https://www.ils.nsw.gov.au/data/assets/pdf_file/0005/839930/NOV-TSR-PoM-MOedits-1.pdf

The nearest travelling stock reserve of conservation value is 6.2 km to the northeast.

Plant community types



The plant community type (PCT) expected to be present was PCT 84 R of the Brigalow Belt South Bioregion and Nandewar Bioregion according to the NSW State Vegetation Type Map.

This PCT consists of tall woodland or open forest dominated by River Oak (*Casuarina cunninghamiana* subsp. *cunninghamiana*), with Rough-barked Apple (*Angophora floribunda*), River Red Gum (*Eucalyptus camaldulensis*), Yellow Box (*Eucalyptus melliodora*), Blakelys Red Gum (*Eucalyptus blakelyi*) and sparse shrub layer may occur including Hickory Wattle (*Acacia implexa*). The area beside the river appears to fit this description with River Oak and River Red gum's present.

The ground cover can be dense or sparse and contains a rich flora of small shrubs, grasses, sedges, and forbs. Grasses include *Microlaena stipoides* var. *stipoides*,

Cynodon dactylon, *Chloris virgata*, *Oplismenus imbecillis*, *Austrostipa verticillata*, *Lachnagrostis filiformis*, *Arundinella nepalensis*, *Elymus scaber* var. *scaber* and *Poa sieberiana*. While *Cynodon dactylon* was abundant on site, it appears to have been cultivated as it is a common lawn grass, and the ground layer was mostly weeds.

The graminoid *Lomandra longifolia* is common in some locations and one young specimen was found on site. Sedges include *Carex appressa*, *Carex incomitata* and *Cyperus vaginatus*. Ferns include *Cheilanthes sieberi*, *Adiantum aethiopicum*, *Doodia aspera* and *Pellaea nana*- none of these occurred on site. Forbs include *Urtica incisa*, *Dichondra repens*, *Ranunculus lappaceus*, *Einadia hastata* and *Scutellaria humilis*. *Dichondra repens* was common onsite. Weeds may be common in some places and were very common at the proposal site. They include Willow (*Salix babylonica*), Tree of Heaven (*Ailanthus altissima*) and forbs such as *Conyza bonariensis*, *Sonchus oleraceus*, *Bidens pilosa*, *Fumaria capreolata*, *Modiola caroliniana* and *Hypochaeris radicata*.

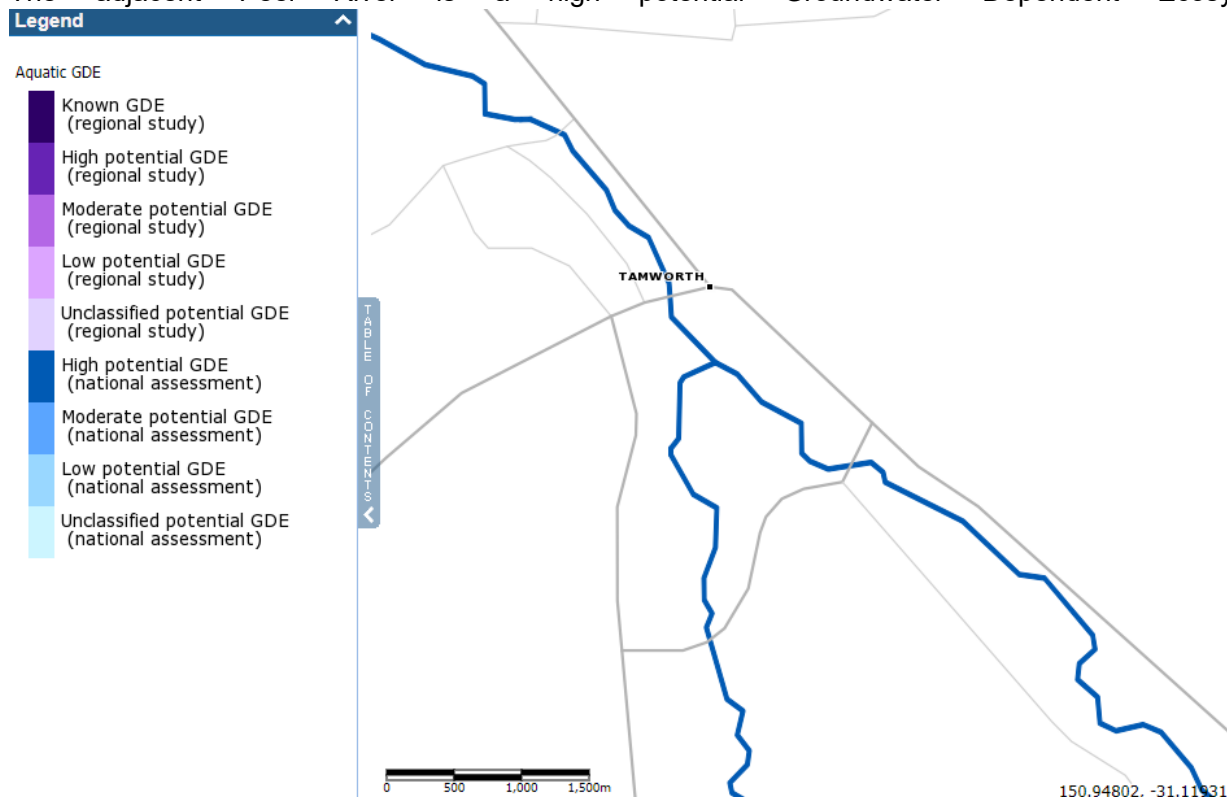
Modiola caroliniana, *Sonchus oleraceus* and *Hypochaeris radicata* were common onsite.

The PCT occurs on clay sand or sandy loam soils on riverine deposits on streambanks and terrace flats of major rivers and creeks in low hills and hills landforms of Nandewar and Brigalow Belt South Bioregions. The site is fairly flat and close to the river, and thus the soils for this PCT are the best fit for the site.

The PCT varies in floristic composition with altitude and substrate with different species occurring on rocky substrates compared to deeper alluviums, however, the site is on alluvium. This community has also been substantially cleared in some regions, including the site and it is subject to weed invasion and this was evident on-site. Weed control is important for management of this PCT.

The federal Bureau of Meteorology's (BOM) Atlas of Groundwater Dependent Ecosystems (GDE); accessed [23/06/2023].

The adjacent Peel River is a high potential Groundwater Dependent Ecosystem



The DPI WeedWise database for the Northern Tablelands; accessed 23/06/2023.

<https://weeds.dpi.nsw.gov.au/>

The NSW DPI weeds database lists the following Priority Weeds that are found within a ten km radius: *Lycium ferocissimum*, *Asparagus asparagoides*, *Dolichandra unguis-cati*, *Nassella neesiana*, *Senecio madagascarensis*, *Cestrum parqui*, *anredera cordifolia*, *Nassella tenuissima*, *Salix fragilis*, *salix sepulcralis*, *rosa rubiginosa*, *solanum elaeagnifolium*. While the majority of species on site were weeds, none of those listed above as priority weeds for the Northwest or Northern Tablelands were present on site.

- DPI NSW (Fisheries) website and on the federal Department of the Environment website; accessed 26/06/2023.

The section of the Peel River beside which the site is situated has a fish community in fair condition and is key fish habitat according to the fisheries database. In particular the vulnerable Murray Cod has been sighted within a 10km radius.

- Atlas of Living Australia (ALA) threatened species Tamworth 10 km radius accessed 26/06/2023. <https://biocache.ala.org.au/explore/your-area#>

Kingdom	Class	Family	Species Name	Vernacular Name	Number of Records

Animalia	Aves	Megapodiidae	Alectura lathamii	Wild Turkey	2
Animalia	Reptilia	Pygopodidae	Aprasia parapulchella	Pink-tailed Worm-lizard	1
Animalia	Mammalia	Vespertilionidae	Chalinolobus dwyeri	Large-eared Pied Bat	1
Animalia	Aves	Climacteridae	Climacteris (Climacteris) picumnus	Brown Treecreeper	22
Animalia	Mammalia	Dasyuridae	Dasyurus maculatus	Spotted-tailed Quoll	12
Plantae	Equisetopsida	Poaceae	Dichanthium setosum	Bluegrass	8
Animalia	Aves	Falconidae	Falco (Hierofalco) subniger	Black Falcon	34
Animalia	Aves	Psittacidae	Glossopsitta concinna	Musk Lorikeet	133
Animalia	Aves	Accipitridae	Hieraaetus (Hieraaetus) morphnoides	Little Eagle	57
Animalia	Aves	Psittacidae	Lathamus discolor	Swift Parrot	7
Animalia	Aves	Accipitridae	Lophoictinia isura	Square-tailed Kite	6
Animalia	Mammalia	Molossidae	Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	1
Animalia	Aves	Psittacidae	Neophema (Neophema) pulchella	Turquoise Parrot	43
Animalia	Aves	Strigidae	Ninox (Rhabdoglaux) strenua	Powerful Owl	1
Animalia	Mammalia	Petauridae	Petaurus norfolcensis	Squirrel Glider	7
Animalia	Mammalia	Phascolarctidae	Phascolarctos cinereus	Koala	15
Animalia	Mammalia	Pteropodidae	Pteropus poliocephalus	Grey-headed Flying-fox	43
Animalia	Aves	Estrildidae	Stagonopleura (Stagonopleura) guttata	Diamond Firetail	31

Plantae	Equisetopsida	Myrtaceae	Syzygium paniculatum	Magenta Cherry	1
Animalia	Reptilia	Carphodactylidae	Uvidicolus sphyrurus	Border Thick-tailed Gecko	7

- Water Management (General) Regulation. (2018). Hydroline Spatial Data 1.0; accessed 26/06/2023; <https://trade.maps.arcgis.com/apps/webappviewer/index.html?id=07b967fd0bdc4b0099fc5be45b6d1392>

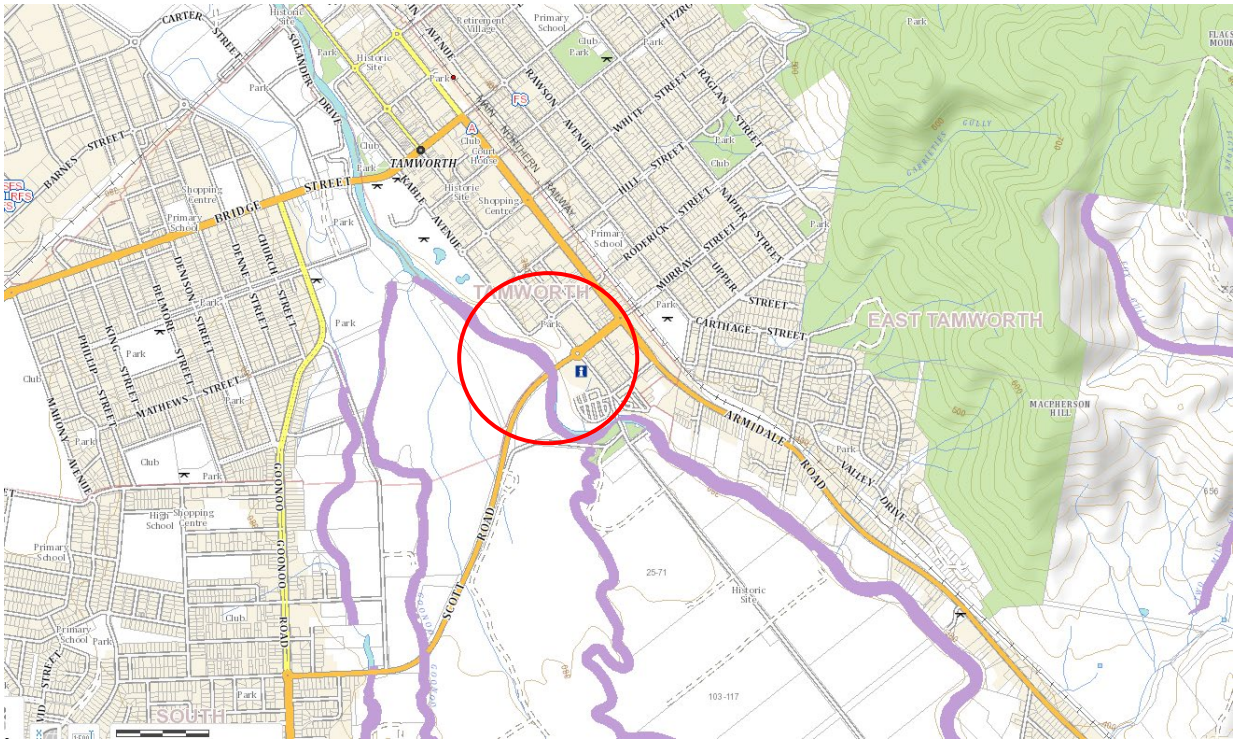
2018 Hydroline spatial data 1.0



- NSW Government Native Vegetation Regulatory Map Viewer. (NVR Map); accessed 26/06/2023 <https://www.lmhc.nsw.gov.au/Maps/index.html?viewer=NVRMap>

The land is zoned E2 Commercial and thus is excluded from the Local Land Services Act

- NSW Government Biodiversity Values Map and Threshold Tool (BMAT); accessed 26/03/2023 <https://www.lmhc.nsw.gov.au/Maps/index.html?viewer=BOSEMap>



The immediate Peel River riparian zone on the edge of the site is marked as an area of Biodiversity Value.

- State Environmental Planning Policy (Koala Habitat Protection) 2020 (SEPP 2020); accessed 26/06/2023.

<https://legacy.legislation.nsw.gov.au/EPLs/2020-698.pdf>

The site is located in Tamworth Regional Council State Environmental Planning Policy (Koala Habitat Protection) 2020 but is not located in an Area of Regional Koala Significance. There were four sightings within 10km of Tamworth. There were two records from 1980 and one from 2014 as well as one roadkill in 2013. It is considered very unlikely that Koalas will be present in the proposal zone. There is only one River Red gum on the edge of the study area.



Figure 14 Koala Sighting in the Tamworth Area

There was low likelihood of Koala occurrence with high confidence.

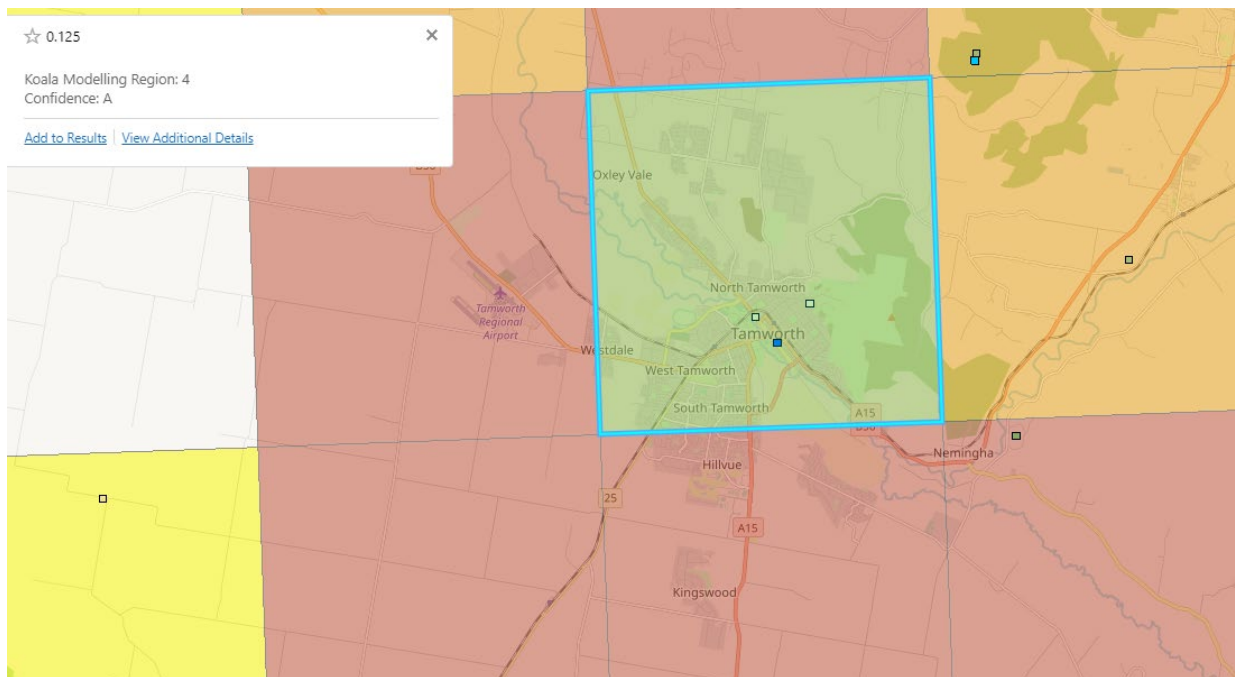
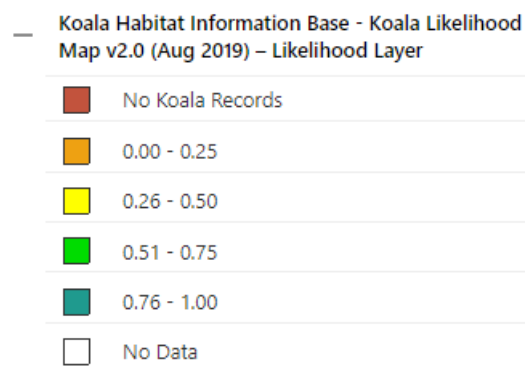


Figure 15 Koala Likelihood map



Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Migratory Status
<i>Lathamus discolor</i>	Swift Parrot	Bird	Known	Species or species habitat known to occur within area	Critically Endangered	
<i>Prasophyllum</i> sp. <i>Wybong</i> (C. Phelps ORG 5269)	a leek-orchid	Plant	May	Species or species habitat may occur within area	Critically Endangered	
<i>Euphrasia arguta</i>	null	Plant	Likely	Species or species habitat likely to occur within area	Critically Endangered	
<i>Calidris ferruginea</i>	Curlew Sandpiper	Bird	May	Species or species habitat may occur within area	Critically Endangered	Migratory
<i>Anthochaera phrygia</i>	Regent Honeyeater	Bird	Known	Species or species habitat known to occur within area	Critically Endangered	
<i>Rostratula australis</i>	Australian Painted Snipe	Bird	Likely	Species or species habitat likely to occur within area	Endangered	
<i>Litoria booroolongensis</i>	Booroolong Frog	Frog	Likely	Species or species habitat likely to occur within area	Endangered	
<i>Phascolarctos cinereus</i> (combined populations of Qld, NSW, and the ACT)	Koala (combined populations of Queensland, New South Wales, and the Australian Capital Territory)	Mammal	Known	Species or species habitat known to occur within area	Endangered	
<i>Hemiaspis damelii</i>	Grey Snake	Reptile	May	Species or species habitat may occur within area	Endangered	
<i>Melanodryas cucullata cucullata</i>	South-eastern Hooded Robin, Hooded Robin (south-eastern)	Bird	Likely	Species or species habitat likely to occur within area	Endangered	

<i>Lepidium monoplocoides</i>	Winged Pepper-cress	Plant	May	Species or species habitat may occur within area	Endangered	
<i>Myuchelys bellii</i>	Western Sawshelled Turtle	Reptile	May	Species or species habitat may occur within area	Endangered	
<i>Dasyurus maculatus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	Mammal	Known	Species or species habitat known to occur within area	Endangered	
<i>Botaurus poeciloptilus</i>	Australasian Bittern	Bird	May	Species or species habitat may occur within area	Endangered	
<i>Vincetoxicum forsteri</i>	null	Plant	May	Species or species habitat may occur within area	Endangered (listed as Tylophora linearis)	
<i>Calyptrorhynchus lathami lathami</i>	South-eastern Glossy Black-Cockatoo	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Cadellia pentastylis</i>	Ooline	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Petaurus australis australis</i>	Yellow-bellied Glider (south-eastern)	Mammal	May	Species or species habitat may occur within area	Vulnerable	
<i>Thesium australe</i>	Austral Toadflax, Toadflax	Plant	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Grantiella picta</i>	Painted Honeyeater	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Maccullochella peelii</i>	Murray Cod	Fish	Known	Species or species habitat known to occur within area	Vulnerable	
<i>Neophema chrysostoma</i>	Blue-winged Parrot	Bird	May	Species or species habitat may occur within area	Vulnerable	
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat, Large Pied Bat	Mammal	Likely	Species or species habitat likely to occur within area	Vulnerable	

<i>Lepidium aschersonii</i>	Spiny Peppercress	Plant	May	Species or species habitat may occur within area	Vulnerable	
<i>Uvidicolus sphyrurus</i>	Border Thick-tailed Gecko, Granite Belt Thick-tailed Gecko	Reptile	Known	Species or species habitat known to occur within area	Vulnerable	
<i>Dichanthium setosum</i>	bluegrass	Plant	Known	Species or species habitat known to occur within area	Vulnerable	
<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat, South-eastern Long-eared Bat	Mammal	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Stagonopleura guttata</i>	Diamond Firetail	Bird	Known	Species or species habitat known to occur within area	Vulnerable	
<i>Aphelocephala leucopsis</i>	Southern Whiteface	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Polytelis swainsonii</i>	Superb Parrot	Bird	May	Species or species habitat may occur within area	Vulnerable	
<i>Eucalyptus nicholii</i>	Narrow-leaved Peppermint, Narrow-leaved Black Peppermint	Plant	May	Species or species habitat may occur within area	Vulnerable	
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Mammal	Known	Roosting known to occur within area	Vulnerable	
<i>Swainsona murrayana</i>	Slender Darling-pea, Slender Swainson, Murray Swainson-pea	Plant	May	Species or species habitat may occur within area	Vulnerable	
<i>Climacteris picumnus victoriae</i>	Brown Treecreeper (south-eastern)	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	
<i>Hirundapus caudacutus</i>	White-throated Needle-tail	Bird	Known	Species or species habitat known to occur within area	Vulnerable	Migratory
<i>Falco hypoleucos</i>	Grey Falcon	Bird	Likely	Species or species habitat likely to occur within area	Vulnerable	

<i>Aprasia parapulchella</i>	Pink-tailed Worm- lizard, Pink-tailed Legless Lizard	Reptile	May	Species or species habitat may occur within area	Vulnerable	
<i>Anomalopus mackayi</i>	Five-clawed Worm- skink, Long-legged Worm-skink	Reptile	May	Species or species habitat may occur within area	Vulnerable	
<i>Callistemon pungens</i>	null	Plant	May	Species or species habitat may occur within area	Vulnerable	

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Com m. status	Records
Plantae	Flora	Acanthaceae	1003	<i>Brunoniella australis</i>		Blue Trumpet			17
Plantae	Flora	Acanthaceae	9256	<i>Rostellularia adscendens</i>		Pink Tongues			7
Plantae	Flora	Acanthaceae	12393	<i>Rostellularia adscendens</i> var. <i>adscendens</i>					17
Plantae	Flora	Acanthaceae	12394	<i>Rostellularia adscendens</i> var. <i>pogonantha</i>		Pink Tongues			1
Plantae	Flora	Adoxaceae	1953	<i>Sambucus australasica</i>		Native Elderberry			1
Plantae	Flora	Alliaceae	8963	<i>Nothoscordum borbonicum</i>	*	Onion Weed			3
Plantae	Flora	Amaranthaceae	7191	<i>Alternanthera pungens</i>	*	Khaki Weed			5
Plantae	Flora	Amaranthaceae	9092	<i>Amaranthus macrocarpus</i> var. <i>macrocarpus</i>					1
Plantae	Flora	Amaranthaceae	1060	<i>Amaranthus powellii</i>	*	Powell's Amaranth			1
Plantae	Flora	Amaranthaceae	1061	<i>Amaranthus quitensis</i>	*	South American Amaranth			1
Plantae	Flora	Amaranthaceae	1062	<i>Amaranthus retroflexus</i>	*	Redroot Amaranth			2
Plantae	Flora	Amaranthaceae	1064	<i>Amaranthus viridis</i>	*	Green Amaranth			3
Plantae	Flora	Amaranthaceae	7056	<i>Gomphrena celosioides</i>	*	Gomphrena Weed			1
Plantae	Flora	Amaranthaceae	6575	<i>Guilleminea densa</i>	*	Small Matweed			1
Plantae	Flora	Amaranthaceae	1067	<i>Nyssanthus diffusa</i>		Barbwire Weed			1
Plantae	Flora	Amaranthaceae	8523	<i>Ptilotus semilanatus</i>		Lambs tails			1
Plantae	Flora	Anacardiaceae	9604	<i>Pistacia chinensis</i>	*	Chinese Pistachio			4
Plantae	Flora	Anacardiaceae	1086	<i>Schinus areira</i>	*	Pepper Tree			8
Plantae	Flora	Anthericaceae	7355	<i>Tricoryne elatior</i>		Yellow Autumn-lily			1
Plantae	Flora	Apiaceae	1098	<i>Ammi majus</i>	*	Bishop's Weed			4
Plantae	Flora	Apiaceae	6505	<i>Berula erecta</i>	*	Water Parsnip			2

Plantae	Flora	Apiaceae	11195	<i>Cyclospermum leptophyllum</i>	*	Slender Celery	11
Plantae	Flora	Apiaceae	1109	<i>Daucus glochidiatus</i>		Native Carrot	11
Plantae	Flora	Apiaceae	8805	<i>Daucus glochidiatus f. F</i>		Native Carrot	1
Plantae	Flora	Apiaceae	10681	<i>Eryngium ovinum</i>		Blue Devil	1
Plantae	Flora	Apiaceae	1118	<i>Foeniculum vulgare</i>	*	Fennel	9
Plantae	Flora	Apiaceae	1123	<i>Hydrocotyle bonariensis</i>	*		1
Plantae	Flora	Apiaceae	1128	<i>Hydrocotyle laxiflora</i>		Stinking Pennywort	14
Plantae	Flora	Apiaceae	1150	<i>Torilis nodosa</i>	*	Knotted Hedge-parsley	1
Plantae	Flora	Apocynaceae	11047	<i>Araujia sericifera</i>	*	Moth Vine	1
Plantae	Flora	Apocynaceae	1227	<i>Gomphocarpus fruticosus</i>	*	Narrow-leaved Cotton Bush	8
Plantae	Flora	Apocynaceae	7005	<i>Mandevilla laxa</i>	*	Chilean Jasmine	1
Plantae	Flora	Apocynaceae	10895	<i>Marsdenia pleiadenia</i>			1
Plantae	Flora	Apocynaceae	10896	<i>Marsdenia viridiflora subsp. viridiflora</i>		Native Pear	1
Plantae	Flora	Apocynaceae	10204	<i>Nerium oleander</i>	*	Oleander	2
Plantae	Flora	Apocynaceae	1178	<i>Parsonsia eucalyptophylla</i>		Gargaloo	1
Plantae	Flora	Apocynaceae	1181	<i>Parsonsia lanceolata</i>		Rough Silkpod	1
Plantae	Flora	Apocynaceae	1239	<i>Tweedia coerulea</i>	*		2
Plantae	Flora	Araliaceae	1207	<i>Hedera helix</i>	*	English Ivy	2
Plantae	Flora	Asparagaceae	12649	<i>Arthropodium fimbriatum</i>			13
Plantae	Flora	Asparagaceae	3517	<i>Arthropodium milleflorum</i>		Pale Vanilla-lily	5
Plantae	Flora	Asparagaceae	3518	<i>Arthropodium minus</i>		Small Vanilla Lily	6
Plantae	Flora	Asparagaceae	15289	<i>Arthropodium sp. Snowy R. catchment</i>			1
Plantae	Flora	Asparagaceae	15290	<i>Arthropodium sp. South-east Highlands</i>			14
Plantae	Flora	Asparagaceae	ARTR	<i>Arthropodium spp.</i>			2

Plantae	Flora	Asparagaceae	11784	<i>Asparagus aethiopicus</i>	*	Asparagus Fern	1
Plantae	Flora	Asparagaceae	3519	<i>Asparagus asparagoides</i>	*	Bridal Creeper	1
Plantae	Flora	Asparagaceae	3521	<i>Asparagus officinalis</i>	*	Asparagus	1
Plantae	Flora	Asphodelaceae	3524	<i>Asphodelus fistulosus</i>	*	Onion Weed	3
Plantae	Flora	Asphodelaceae	3531	<i>Bulbine bulbosa</i>		Bulbine Lily	4
Plantae	Flora	Asphodelaceae	6700	<i>Dianella caerulea</i> var. <i>caerulea</i>			1
Plantae	Flora	Asphodelaceae	6789	<i>Dianella caerulea</i> var. <i>cinerascens</i>			1
Plantae	Flora	Asphodelaceae	7783	<i>Dianella longifolia</i>		Blueberry Lily	8
Plantae	Flora	Asphodelaceae	3542	<i>Dianella revoluta</i>		Blueberry Lily	3
Plantae	Flora	Asphodelaceae	7784	<i>Dianella revoluta</i> var. <i>vinosa</i>			1
Plantae	Flora	Aspleniaceae	8033	<i>Asplenium flabellifolium</i>		Necklace Fern	4
Plantae	Flora	Aspleniaceae	8040	<i>Pleurosorus rutifolius</i>		Bristly Cloak Fern	1
Plantae	Flora	Asteraceae	1273	<i>Arctotheca calendula</i>	*	Capeweed	5
Plantae	Flora	Asteraceae	12692	<i>Artemisia ludoviciana</i>	*		1
Plantae	Flora	Asteraceae	1280	<i>Aster subulatus</i>	*	Wild Aster	2
Plantae	Flora	Asteraceae	1283	<i>Bidens pilosa</i>	*	Cobbler's Pegs	12
Plantae	Flora	Asteraceae	1284	<i>Bidens subalternans</i>	*	Greater Beggar's Ticks	8
Plantae	Flora	Asteraceae	7700	<i>Brachyscome angustifolia</i> var. <i>heterophylla</i>			1
Plantae	Flora	Asteraceae	10403	<i>Brachyscome ciliaris</i> var. <i>subintegrifolia</i>		Variable Daisy	1
Plantae	Flora	Asteraceae	11056	<i>Brachyscome dentata</i>			5
Plantae	Flora	Asteraceae	10175	<i>Calendula officinalis</i>	*	Common Marigold	1
Plantae	Flora	Asteraceae	1337	<i>Calotis cuneifolia</i>		Purple Burr-Daisy	2
Plantae	Flora	Asteraceae	1344	<i>Calotis lappulacea</i>		Yellow Burr-daisy	24
Plantae	Flora	Asteraceae	1347	<i>Calotis scabiosifolia</i>		Rough Burr-daisy	1
Plantae	Flora	Asteraceae	1354	<i>Carduus pycnocephalus</i>	*	Slender Thistle	4

Plantae	Flora	Asteraceae	CARD	<i>Carduus spp.</i>	*		1
Plantae	Flora	Asteraceae	1355	<i>Carduus tenuiflorus</i>	*	Winged Slender Thistle	1
Plantae	Flora	Asteraceae	1358	<i>Carthamus lanatus</i>	*	Saffron Thistle	12
Plantae	Flora	Asteraceae	1367	<i>Cassinia laevis</i>		Cough Bush	3
Plantae	Flora	Asteraceae	1370	<i>Cassinia quinquefaria</i>			26
Plantae	Flora	Asteraceae	1378	<i>Centaurea calcitrapa</i>	*	Star Thistle	1
Plantae	Flora	Asteraceae	1382	<i>Centaurea melitensis</i>	*	Maltese Cockspur	12
Plantae	Flora	Asteraceae	1383	<i>Centaurea solstitialis</i>	*	St Barnabys Thistle	16
Plantae	Flora	Asteraceae	1391	<i>Chondrilla juncea</i>	*	Skeleton Weed	3
Plantae	Flora	Asteraceae	8559	<i>Chrysocephalum apiculatum</i>		Common Everlasting	11
Plantae	Flora	Asteraceae	8562	<i>Chrysocephalum semipapposum</i>		Clustered Everlasting	2
Plantae	Flora	Asteraceae	1397	<i>Cichorium intybus</i>	*	Chicory	3
Plantae	Flora	Asteraceae	1400	<i>Cirsium vulgare</i>	*	Spear Thistle	15
Plantae	Flora	Asteraceae	1404	<i>Conyza bonariensis</i>	*	Flaxleaf Fleabane	21
Plantae	Flora	Asteraceae	10442	<i>Conyza sumatrensis</i>	*	Tall fleabane	10
Plantae	Flora	Asteraceae	1409	<i>Coreopsis lanceolata</i>	*	Coreopsis	1
Plantae	Flora	Asteraceae	1412	<i>Cotula australis</i>		Common Cotula	2
Plantae	Flora	Asteraceae	1426	<i>Cymbonotus lawsonianus</i>		Bear's Ear	6
Plantae	Flora	Asteraceae	14577	<i>Dimorphotheca ecklonis</i>	*	Cape Daisy	2
Plantae	Flora	Asteraceae	9904	<i>Euchiton involucratu</i>		Star Cudweed	1
Plantae	Flora	Asteraceae	11439	<i>Euchiton japonicus</i>			1
Plantae	Flora	Asteraceae	9690	<i>Euchiton sphaericus</i>		Star Cudweed	11
Plantae	Flora	Asteraceae	13989	<i>Glossocardia bidens</i>		Cobbler's Tack	8
Plantae	Flora	Asteraceae	1472	<i>Helianthus annuus</i>	*	Common Sunflower	2
Plantae	Flora	Asteraceae	1502	<i>Helichrysum rutidolepis</i>		Pale Everlasting	1
Plantae	Flora	Asteraceae	1540	<i>Hypochaeris glabra</i>	*	Smooth Catsear	6
Plantae	Flora	Asteraceae	8788	<i>Hypochaeris radicata</i>	*	Catsear	8

Plantae	Flora	Asteraceae	1542	<i>Isoetopsis graminifolia</i>		Grass Cushion	1
Plantae	Flora	Asteraceae	1549	<i>Lactuca saligna</i>	*	Willow-leaved Lettuce	4
Plantae	Flora	Asteraceae	1550	<i>Lactuca serriola</i>	*	Prickly Lettuce	12
Plantae	Flora	Asteraceae	13677	<i>Lactuca serriola f. integrifolia</i>	*		1
Plantae	Flora	Asteraceae	1551	<i>Lagenifera stipitata</i>		Blue Bottle-daisy	2
Plantae	Flora	Asteraceae	11959	<i>Lagenophora gracilis</i>		Slender Lagenophora	2
Plantae	Flora	Asteraceae	LAGP	<i>Lagenophora spp.</i>			1
Plantae	Flora	Asteraceae	12049	<i>Leiocarpa panaetioides</i>		Woolly Buttons	2
Plantae	Flora	Asteraceae	LEIO	<i>Leiocarpa spp.</i>			1
Plantae	Flora	Asteraceae	12769	<i>Leiocarpa websteri</i>			1
Plantae	Flora	Asteraceae	15129	<i>Leontodon rhagadioloides</i>	*	Cretan Weed	4
Plantae	Flora	Asteraceae	1574	<i>Minuria leptophylla</i>			2
Plantae	Flora	Asteraceae	1590	<i>Olearia elliptica</i>		Sticky Daisy-bush	8
Plantae	Flora	Asteraceae	10480	<i>Olearia elliptica subsp. elliptica</i>			25
Plantae	Flora	Asteraceae	1618	<i>Olearia viscidula</i>		Wallaby Weed	6
Plantae	Flora	Asteraceae	8884	<i>Onopordum acanthium subsp. acanthium</i>	*	Scotch Thistle	2
Plantae	Flora	Asteraceae	10684	<i>Picris angustifolia subsp. angustifolia</i>			1
Plantae	Flora	Asteraceae	8911	<i>Pycnosorus globosus</i>		Drumsticks P	1
Plantae	Flora	Asteraceae	14032	<i>Rhaponticum repens</i>	*	Creeping Knapweed	1
Plantae	Flora	Asteraceae	10166	<i>Schkuhria pinnata var. abrotanoides</i>	*	Dwarf Marigold	10
Plantae	Flora	Asteraceae	1650	<i>Scolymus maculatus</i>	*	Spotted Thistle	2
Plantae	Flora	Asteraceae	11809	<i>Senecio bathurstianus</i>			3
Plantae	Flora	Asteraceae	1666	<i>Senecio lautus</i>		Variable Groundsel	2
Plantae	Flora	Asteraceae	6465	<i>Senecio madagascariensis</i>	*	Fireweed	2
Plantae	Flora	Asteraceae	14040	<i>Senecio pinnatifolius var. lanceolatus</i>			1

Plantae	Flora	Asteraceae	12811	<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>		3
Plantae	Flora	Asteraceae	1675	<i>Senecio quadridentatus</i>	Cotton Fireweed	8
Plantae	Flora	Asteraceae	SENE	<i>Senecio</i> spp.	Groundsel, Fireweed	1
Plantae	Flora	Asteraceae	8781	<i>Sigesbeckia australiensis</i>		8
Plantae	Flora	Asteraceae	8789	<i>Sigesbeckia orientalis</i> subsp. <i>orientalis</i>	Indian Weed	4
Plantae	Flora	Asteraceae	1684	<i>Silybum marianum</i> *	Variegated Thistle	8
Plantae	Flora	Asteraceae	7851	<i>Soliva sessilis</i> *	Bindyi	2
Plantae	Flora	Asteraceae	1689	<i>Sonchus asper</i> *	Prickly Sowthistle	4
Plantae	Flora	Asteraceae	1690	<i>Sonchus oleraceus</i> *	Common Sowthistle	17
Plantae	Flora	Asteraceae	1693	<i>Stuartina hamata</i>	Hooked Cudweed	1
Plantae	Flora	Asteraceae	1695	<i>Tagetes minuta</i> *	Stinking Roger	2
Plantae	Flora	Asteraceae	1698	<i>Taraxacum officinale</i> *	Dandelion	7
Plantae	Flora	Asteraceae	TARA	<i>Taraxacum</i> spp.	Dandelion	1
Plantae	Flora	Asteraceae	14049	<i>Tolpis barbata</i> *	Yellow Hawkweed	1
Plantae	Flora	Asteraceae	14051	<i>Tragopogon porrifolius</i> subsp. <i>porrifolius</i> *	Salsify	4
Plantae	Flora	Asteraceae	10164	<i>Verbesina encelioides</i> subsp. <i>encelioides</i> *	Crownbeard	1
Plantae	Flora	Asteraceae	1711	<i>Vittadinia cuneata</i>		9
Plantae	Flora	Asteraceae	6992	<i>Vittadinia cuneata</i> var. <i>hirsuta</i>		4
Plantae	Flora	Asteraceae	1712	<i>Vittadinia dissecta</i>		3
Plantae	Flora	Asteraceae	7069	<i>Vittadinia dissecta</i> var. <i>hirta</i>		4
Plantae	Flora	Asteraceae	1716	<i>Vittadinia muelleri</i>		9
Plantae	Flora	Asteraceae	1717	<i>Vittadinia pterochaeta</i>	Rough Fuzzweed	1
Plantae	Flora	Asteraceae	VITT	<i>Vittadinia</i> spp.	Fuzzweed	1
Plantae	Flora	Asteraceae	1719	<i>Vittadinia sulcata</i>		7
Plantae	Flora	Asteraceae	7130	<i>Xanthium occidentale</i> *	Noogoora Burr	2

Plantae	Flora	Asteraceae	1729	<i>Xanthium spinosum</i>	*	Bathurst Burr	5
Plantae	Flora	Bignoniaceae	14658	<i>Dolichandra unguis-cati</i>	*		1
Plantae	Flora	Bignoniaceae	8688	<i>Jacaranda mimosifolia</i>	*	Jacaranda	1
Plantae	Flora	Bignoniaceae	1740	<i>Pandorea pandorana</i>		Wonga Wonga Vine	23
Plantae	Flora	Bignoniaceae	10485	<i>Pandorea pandorana</i> subsp. <i>pandorana</i>		Wonga Wonga Vine	2
Plantae	Flora	Blechnaceae	14900	<i>Blechnum neohollandicum</i>			1
Plantae	Flora	Blechnaceae	10523	<i>Doodia australis</i>		Common Rasp Fern	1
Plantae	Flora	Boraginaceae	1742	<i>Amsinckia calycina</i>	*	hairly Fiddleneck	1
Plantae	Flora	Boraginaceae	1744	<i>Amsinckia lycopsoides</i>	*		4
Plantae	Flora	Boraginaceae	8707	<i>Buglossoides arvensis</i>	*	Sheepweed	2
Plantae	Flora	Boraginaceae	1747	<i>Cynoglossum australe</i>			1
Plantae	Flora	Boraginaceae	1751	<i>Echium plantagineum</i>	*	Patterson's Curse	7
Plantae	Flora	Boraginaceae	14935	<i>Hackelia suaveolens</i>			2
Plantae	Flora	Boraginaceae	1758	<i>Heliotropium amplexicaule</i>	*	Blue Heliotrope	2
Plantae	Flora	Boraginaceae	MYOS	<i>Myosotis</i> spp.			1
Plantae	Flora	Brassicaceae	10772	<i>Brassica napus</i>	*	Canola	1
Plantae	Flora	Brassicaceae	BRAS	<i>Brassica</i> spp.	*	Brassica	1
Plantae	Flora	Brassicaceae	1794	<i>Capsella bursa-pastoris</i>	*	Shepherd's Purse	6
Plantae	Flora	Brassicaceae	1814	<i>Hirschfeldia incana</i>	*	Buchan Weed	2
Plantae	Flora	Brassicaceae	1815	<i>Lepidium africanum</i>	*	Common Peppercross	7
Plantae	Flora	Brassicaceae	1817	<i>Lepidium bonariense</i>	*	Argentine Peppercross	3
Plantae	Flora	Brassicaceae	1818	<i>Lepidium campestre</i>	*	Field Cress	1
Plantae	Flora	Brassicaceae	14924	<i>Lepidium didymum</i>	*	Lesser Swinecress	1
Plantae	Flora	Brassicaceae	6643	<i>Lepidium pseudohyssopifolium</i>		Peppercress	2
Plantae	Flora	Brassicaceae	1839	<i>Raphanus raphanistrum</i>	*	Wild Radish	2

Plantae	Flora	Brassicaceae	1841	<i>Rapistrum rugosum</i>	*	Turnip Weed	5
Plantae	Flora	Brassicaceae	7382	<i>Rorippa palustris</i>	*	Yellow Cress	1
Plantae	Flora	Brassicaceae	1853	<i>Sisymbrium irio</i>	*	London Rocket	3
Plantae	Flora	Brassicaceae	1854	<i>Sisymbrium officinale</i>	*	Hedge Mustard	7
Plantae	Flora	Brassicaceae	1855	<i>Sisymbrium orientale</i>	*	Indian Hedge Mustard	3
Plantae	Flora	Cactaceae	1872	<i>Opuntia aurantiaca</i>	*	Tiger Pear	13
Plantae	Flora	Cactaceae	1875	<i>Opuntia stricta</i>	*	Common Prickly Pear	7
Plantae	Flora	Cactaceae	7659	<i>Opuntia stricta</i> var. <i>stricta</i>	*	Common Prickly Pear	14
Plantae	Flora	Campanulaceae	14937	<i>Lobelia concolor</i>		Poison Pratia	4
Plantae	Flora	Campanulaceae	14415	<i>Lobelia purpurascens</i>		whiteroot	1
Plantae	Flora	Campanulaceae	1929	<i>Wahlenbergia communis</i>		Tufted Bluebell	24
Plantae	Flora	Campanulaceae	1933	<i>Wahlenbergia gracilentia</i>		Annual Bluebell	1
Plantae	Flora	Campanulaceae	1934	<i>Wahlenbergia gracilis</i>		Sprawling Bluebell	5
Plantae	Flora	Campanulaceae	7314	<i>Wahlenbergia luteola</i>		Bluebell	4
Plantae	Flora	Campanulaceae	8735	<i>Wahlenbergia planiflora</i> subsp. <i>longipila</i>			2
Plantae	Flora	Campanulaceae	WAHL	<i>Wahlenbergia</i> spp.		Bluebell	3
Plantae	Flora	Campanulaceae	1938	<i>Wahlenbergia stricta</i>		Tall Bluebell	3
Plantae	Flora	Campanulaceae	8708	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>		Tall Bluebell	3
Plantae	Flora	Capparaceae	6374	<i>Capparis lasiantha</i>		Nepine	1
Plantae	Flora	Capparaceae	1945	<i>Capparis mitchellii</i>		Native Orange	2
Plantae	Flora	Caprifoliaceae	1952	<i>Lonicera japonica</i>	*	Japanese Honeysuckle	1
Plantae	Flora	Caryophyllaceae	7154	<i>Arenaria leptoclados</i>	*	Lesser Thyme-leaved Sandwort	3
Plantae	Flora	Caryophyllaceae	1958	<i>Arenaria serpyllifolia</i>	*	Thyme-leaved Sandwort	2

Plantae	Flora	Caryophyllaceae	1960	<i>Cerastium glomeratum</i>	*	Mouse-ear Chickweed	2
Plantae	Flora	Caryophyllaceae	10550	<i>Cerastium vulgare</i>	*	Mouse-ear Chickweed	3
Plantae	Flora	Caryophyllaceae	1973	<i>Moenchia erecta</i>	*	Erect Chickweed	1
Plantae	Flora	Caryophyllaceae	1974	<i>Paronychia brasiliiana</i>	*	Chilean Whitlow Wort, Brazilian Whitlow	2
Plantae	Flora	Caryophyllaceae	13845	<i>Petrorhagia dubia</i>	*		2
Plantae	Flora	Caryophyllaceae	7584	<i>Petrorhagia nanteuillii</i>	*	Proliferous Pink	22
Plantae	Flora	Caryophyllaceae	PETR	<i>Petrorhagia spp.</i>	*		1
Plantae	Flora	Caryophyllaceae	9668	<i>Polycarpha corymbosa</i> var. <i>minor</i>			1
Plantae	Flora	Caryophyllaceae	1979	<i>Polycarpon tetraphyllum</i>	*	Four-leaved Allseed	3
Plantae	Flora	Caryophyllaceae	1985	<i>Scleranthus biflorus</i>		Two-flowered Knewel	1
Plantae	Flora	Caryophyllaceae	2001	<i>Spergularia rubra</i>	*	Sandspurry	1
Plantae	Flora	Caryophyllaceae	2006	<i>Stellaria media</i>	*	Common Chickweed	1
Plantae	Flora	Casuarinaceae	9006	<i>Casuarina cunninghamiana</i> subsp. <i>cunninghamiana</i>		River Oak	6
Plantae	Flora	Celastraceae	14672	<i>Denhamia cunninghamii</i>			4
Plantae	Flora	Chenopodiaceae	2070	<i>Atriplex semibaccata</i>		Creeping Saltbush	3
Plantae	Flora	Chenopodiaceae	2084	<i>Chenopodium album</i>	*	Fat Hen	2
Plantae	Flora	Chenopodiaceae	2091	<i>Chenopodium desertorum</i>		Desert Goosefoot	1
Plantae	Flora	Chenopodiaceae	15347	<i>Dysphania ambrosioides</i>	*	Mexican Tea, Wormseed	2
Plantae	Flora	Chenopodiaceae	15348	<i>Dysphania multifida</i>	*	Scented Goosefoot	1
Plantae	Flora	Chenopodiaceae	14529	<i>Dysphania pumilio</i>		Small Crumbweed	1
Plantae	Flora	Chenopodiaceae	2111	<i>Einadia nutans</i>		Climbing Saltbush	8
Plantae	Flora	Chenopodiaceae	6481	<i>Einadia nutans</i> subsp. <i>linifolia</i>		Climbing Saltbush	1

Plantae	Flora	Chenopodiaceae	6482	<i>Einadia nutans subsp. nutans</i>	Climbing Saltbush	3
Plantae	Flora	Chenopodiaceae	2112	<i>Einadia polygonoides</i>	Knotweed Goosefoot	4
Plantae	Flora	Chenopodiaceae	2113	<i>Einadia trigonos</i>	Fishweed	1
Plantae	Flora	Chenopodiaceae	7909	<i>Einadia trigonos subsp. stellulata</i>		1
Plantae	Flora	Chenopodiaceae	2128	<i>Maireana enchylaenoides</i>	Wingless Fissure-weed	1
Plantae	Flora	Chenopodiaceae	2138	<i>Maireana microphylla</i>	Small-leaf Bluebush	6
Plantae	Flora	Chenopodiaceae	2160	<i>Rhagodia parabolica</i>		1
Plantae	Flora	Chenopodiaceae	7923	<i>Salsola kali var. kali</i>	Buckbush	5
Plantae	Flora	Chenopodiaceae	2191	<i>Sclerolaena tetracuspis</i>	Brigalow Burr	1
Plantae	Flora	Clusiaceae	7240	<i>Hypericum gramineum</i>	Small St John's Wort	14
Plantae	Flora	Clusiaceae	2204	<i>Hypericum perforatum</i> *	St. Johns Wort	1
Plantae	Flora	Colchicaceae	3578	<i>Wurmbea biglandulosa</i>		2
Plantae	Flora	Colchicaceae	WUR M	<i>Wurmbea spp.</i>		1
Plantae	Flora	Commelinaceae	2209	<i>Commelina cyanea</i>	Native Wandering Jew	5
Plantae	Flora	Commelinaceae	COM M	<i>Commelina spp.</i>		1
Plantae	Flora	Commelinaceae	10508	<i>Tradescantia fluminensis</i> *	Wandering Jew	1
Plantae	Flora	Commelinaceae	12262	<i>Tradescantia pallida</i> *	Purple Queen	2
Plantae	Flora	Convolvulaceae	12255	<i>Convolvulus angustissimus</i>		1
Plantae	Flora	Convolvulaceae	2219	<i>Convolvulus arvensis</i> *	Field Bindweed	1
Plantae	Flora	Convolvulaceae	2220	<i>Convolvulus erubescens</i>	Pink Bindweed	14
Plantae	Flora	Convolvulaceae	11616	<i>Convolvulus graminetinus</i>		4
Plantae	Flora	Convolvulaceae	2222	<i>Dichondra repens</i>	Kidney Weed	8
Plantae	Flora	Convolvulaceae	15127	<i>Dichondra sp. Inglewood</i>		27
Plantae	Flora	Convolvulaceae	8278	<i>Evolvulus alsinoides var. decumbens</i>		1

Plantae	Flora	Convolvulaceae	2225	<i>Ipomoea cairica</i>	*		1
Plantae	Flora	Crassulaceae	2237	<i>Crassula colorata</i>		Dense Stonecrop	1
Plantae	Flora	Crassulaceae	2242	<i>Crassula sieberiana</i>		Australian Stonecrop	2
Plantae	Flora	Crassulaceae	6840	<i>Sedum praealtum</i>	*		2
Plantae	Flora	Cucurbitaceae	11072	<i>Cucumis myriocarpus subsp. leptodermis</i>	*	Paddy Melon	1
Plantae	Flora	Cupressaceae	2279	<i>Callitris endlicheri</i>		Black Cypress Pine	3
Plantae	Flora	Cupressaceae	6379	<i>Callitris glaucophylla</i>		White Cypress Pine	15
Plantae	Flora	Cyperaceae	2307	<i>Bolboschoenus medianus</i>			1
Plantae	Flora	Cyperaceae	2310	<i>Carex appressa</i>		Tall Sedge	1
Plantae	Flora	Cyperaceae	2313	<i>Carex breviculmis</i>			2
Plantae	Flora	Cyperaceae	7898	<i>Carex incomitata</i>			3
Plantae	Flora	Cyperaceae	2327	<i>Carex inversa</i>		Knob Sedge	20
Plantae	Flora	Cyperaceae	2353	<i>Cyperus brevifolius</i>	*		1
Plantae	Flora	Cyperaceae	2364	<i>Cyperus eragrostis</i>	*	Umbrella Sedge	2
Plantae	Flora	Cyperaceae	2366	<i>Cyperus exaltatus</i>			1
Plantae	Flora	Cyperaceae	2374	<i>Cyperus gracilis</i>		Slender Flat-sedge	15
Plantae	Flora	Cyperaceae	8483	<i>Cyperus polystachyos</i>			1
Plantae	Flora	Cyperaceae	2393	<i>Cyperus rotundus</i>	*	Nutgrass	1
Plantae	Flora	Cyperaceae	7617	<i>Cyperus vaginatus</i>		Stiff Flat-sedge	3
Plantae	Flora	Cyperaceae	2421	<i>Eleocharis plana</i>		Flat Spike-sedge	1
Plantae	Flora	Cyperaceae	7435	<i>Fimbristylis dichotoma</i>		Common Fringe-sedge	1
Plantae	Flora	Cyperaceae	2514	<i>Scleria mackaviensis</i>			8
Plantae	Flora	Dennstaedtiaceae	6403	<i>Pteridium esculentum</i>		Bracken	1
Plantae	Flora	Dilleniaceae	2526	<i>Hibbertia acicularis</i>			3
Plantae	Flora	Dilleniaceae	2542	<i>Hibbertia obtusifolia</i>		Hoary Guinea Flower	4
Plantae	Flora	Ericaceae	2630	<i>Leucopogon muticus</i>		Blunt Beard-heath	2

Plantae	Flora	Ericaceae	2646	<i>Melichrus urceolatus</i>		Urn Heath	5
Plantae	Flora	Euphorbiaceae	10564	<i>Adriana tomentosa</i> var. <i>tomentosa</i>			1
Plantae	Flora	Euphorbiaceae	2694	<i>Beyeria viscosa</i>		Sticky Wallaby Bush	3
Plantae	Flora	Euphorbiaceae	2704	<i>Croton phebaloides</i>			3
Plantae	Flora	Euphorbiaceae	2710	<i>Euphorbia dallachyana</i>			3
Plantae	Flora	Euphorbiaceae	9752	<i>Euphorbia davidii</i>	*		1
Plantae	Flora	Euphorbiaceae	7628	<i>Euphorbia drummondii</i>		Caustic Weed	4
Plantae	Flora	Euphorbiaceae	14912	<i>Euphorbia hyssopifolia</i>	*	Hyssopleaf Sandmat, Hyssop Leaf Sandmat	1
Plantae	Flora	Euphorbiaceae	15254	<i>Euphorbia maculata</i>	*	Spotted Spurge	1
Plantae	Flora	Euphorbiaceae	2721	<i>Euphorbia peplus</i>	*	Petty Spurge	2
Plantae	Flora	Euphorbiaceae	2723	<i>Euphorbia prostrata</i>	*	Red Caustic Weed	1
Plantae	Flora	Euphorbiaceae	6900	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>			2
Plantae	Flora	Fabaceae (Caesalpinioideae)	1900	<i>Ceratonia siliqua</i>	*	Carob	1
Plantae	Flora	Fabaceae (Caesalpinioideae)	9221	<i>Senna aciphylla</i>		Sprawling Cassia	1
Plantae	Flora	Fabaceae (Caesalpinioideae)	8494	<i>Senna artemisioides</i> subsp. <i>zygophylla</i>			2
Plantae	Flora	Fabaceae (Caesalpinioideae)	6644	<i>Senna barclayana</i>		Smooth Senna	2
Plantae	Flora	Fabaceae (Caesalpinioideae)	8240	<i>Senna coronilloides</i>			2
Plantae	Flora	Fabaceae (Caesalpinioideae)	7377	<i>Senna pendula</i> var. <i>glabrata</i>	*		1
Plantae	Flora	Fabaceae (Faboideae)	9141	<i>Crotalaria dissitiflora</i> subsp. <i>dissitiflora</i>		Grey Rattlepod	1
Plantae	Flora	Fabaceae (Faboideae)	10674	<i>Cullen tenax</i>		Emu-foot	2

Plantae	Flora	Fabaceae (Faboideae)	2860	<i>Glycine clandestina</i>	Twining glycine	20
Plantae	Flora	Fabaceae (Faboideae)	8522	<i>Glycine latifolia</i>		2
Plantae	Flora	Fabaceae (Faboideae)	7208	<i>Glycine microphylla</i>	Small-leaf Glycine	1
Plantae	Flora	Fabaceae (Faboideae)	GLYC	<i>Glycine spp.</i>		2
Plantae	Flora	Fabaceae (Faboideae)	2861	<i>Glycine tabacina</i>	Variable Glycine	18
Plantae	Flora	Fabaceae (Faboideae)	7844	<i>Glycine tomentella</i>	Woolly Glycine	1
Plantae	Flora	Fabaceae (Faboideae)	15314	<i>Grona varians</i>		21
Plantae	Flora	Fabaceae (Faboideae)	2873	<i>Hardenbergia violacea</i>	False Sarsaparilla	5
Plantae	Flora	Fabaceae (Faboideae)	13010	<i>Hedysarum coronarium</i>	*	1
Plantae	Flora	Fabaceae (Faboideae)	2875	<i>Hovea lanceolata</i>		2
Plantae	Flora	Fabaceae (Faboideae)	7544	<i>Indigofera adesmiifolia</i>	Tick Indigo	4
Plantae	Flora	Fabaceae (Faboideae)	2900	<i>Lablab purpureus</i>	* Indian Bean	1
Plantae	Flora	Fabaceae (Faboideae)	2902	<i>Lathyrus latifolius</i>	* Perennial Pea	1
Plantae	Flora	Fabaceae (Faboideae)	2906	<i>Lotus australis</i>	Australian Trefoil	5
Plantae	Flora	Fabaceae (Faboideae)	8928	<i>Lotus uliginosus</i>	* Birds-foot Trefoil	1
Plantae	Flora	Fabaceae (Faboideae)	2911	<i>Lupinus angustifolius</i>	* Narrow-leaved Lupin	1
Plantae	Flora	Fabaceae (Faboideae)	2919	<i>Medicago lupulina</i>	* Black Medic	2
Plantae	Flora	Fabaceae (Faboideae)	2920	<i>Medicago minima</i>	* Woolly Burr Medic	10
Plantae	Flora	Fabaceae (Faboideae)	2921	<i>Medicago orbicularis</i>	* Button Medic	1
Plantae	Flora	Fabaceae (Faboideae)	2922	<i>Medicago polymorpha</i>	* Burr Medic	9
Plantae	Flora	Fabaceae (Faboideae)	2924	<i>Medicago sativa</i>	* Lucerne	3
Plantae	Flora	Fabaceae (Faboideae)	2927	<i>Melilotus albus</i>	* Bokhara	1
Plantae	Flora	Fabaceae (Faboideae)	2928	<i>Melilotus indicus</i>	* Hexham Scent	3
Plantae	Flora	Fabaceae (Faboideae)	15128	<i>Oxytes brachypoda</i>	Large Tick-trefoil	36
Plantae	Flora	Fabaceae (Faboideae)	7304	<i>Rhynchosia minima</i>		3
Plantae	Flora	Fabaceae (Faboideae)	3041	<i>Swainsona galegifolia</i>	Smooth Darling Pea	28

Plantae	Flora	Fabaceae (Faboideae)	3055	<i>Swainsona procumbens</i>		Broughton Pea	1
Plantae	Flora	Fabaceae (Faboideae)	SWAI	<i>Swainsona spp.</i>			1
Plantae	Flora	Fabaceae (Faboideae)	3059	<i>Swainsona swainsonioides</i>		Downy Swainson-pea	1
Plantae	Flora	Fabaceae (Faboideae)	3063	<i>Templetonia stenophylla</i>		Leafy Templetonia	2
Plantae	Flora	Fabaceae (Faboideae)	13054	<i>Tephrosia brachyodon</i> var. <i>brachyodon</i>			2
Plantae	Flora	Fabaceae (Faboideae)	3072	<i>Trifolium angustifolium</i>	*	Narrow-leaved Clover	4
Plantae	Flora	Fabaceae (Faboideae)	3073	<i>Trifolium arvense</i>	*	Haresfoot Clover	19
Plantae	Flora	Fabaceae (Faboideae)	3074	<i>Trifolium campestre</i>	*	Hop Clover	15
Plantae	Flora	Fabaceae (Faboideae)	3075	<i>Trifolium cernuum</i>	*	Drooping-flowered Clover	1
Plantae	Flora	Fabaceae (Faboideae)	3076	<i>Trifolium dubium</i>	*	Yellow Suckling Clover	1
Plantae	Flora	Fabaceae (Faboideae)	3077	<i>Trifolium fragiferum</i>	*	Strawberry Clover	2
Plantae	Flora	Fabaceae (Faboideae)	3079	<i>Trifolium glomeratum</i>	*	Clustered Clover	6
Plantae	Flora	Fabaceae (Faboideae)	3085	<i>Trifolium repens</i>	*	White Clover	4
Plantae	Flora	Fabaceae (Faboideae)	3086	<i>Trifolium resupinatum</i>	*	Shaftal Clover	1
Plantae	Flora	Fabaceae (Faboideae)	3088	<i>Trifolium striatum</i>	*	Knotted Clover	1
Plantae	Flora	Fabaceae (Faboideae)	3091	<i>Trifolium tomentosum</i>	*	Woolly Clover	2
Plantae	Flora	Fabaceae (Faboideae)	10756	<i>Trifolium vesiculosum</i>	*		1
Plantae	Flora	Fabaceae (Faboideae)	3096	<i>Vicia monantha</i>	*	Square-stemmed Vetch	1
Plantae	Flora	Fabaceae (Faboideae)	3097	<i>Vicia sativa</i>	*	Common vetch	2
Plantae	Flora	Fabaceae (Faboideae)	8904	<i>Vigna lanceolata</i> var. <i>lanceolata</i>			2
Plantae	Flora	Fabaceae (Faboideae)	8691	<i>Zornia dyctiocarpa</i> var. <i>dyctiocarpa</i>		Zornia	1
Plantae	Flora	Fabaceae (Mimosoideae)	3758	<i>Acacia dealbata</i>		Silver Wattle	1
Plantae	Flora	Fabaceae (Mimosoideae)	8269	<i>Acacia deanei</i> subsp. <i>deanei</i>		Deane's Wattle	3

Plantae	Flora	Fabaceae (Mimosoideae)	3761	<i>Acacia decora</i>		Western Silver Wattle	10
Plantae	Flora	Fabaceae (Mimosoideae)	3772	<i>Acacia falciformis</i>		Broad-leaved Hickory	1
Plantae	Flora	Fabaceae (Mimosoideae)	12032	<i>Acacia homalophylla</i> <--> <i>melvillei</i>			2
Plantae	Flora	Fabaceae (Mimosoideae)	3792	<i>Acacia implexa</i>		Hickory Wattle	4
Plantae	Flora	Fabaceae (Mimosoideae)	3829	<i>Acacia montana</i>		Mallee Wattle	4
Plantae	Flora	Fabaceae (Mimosoideae)	3835	<i>Acacia neriifolia</i>		Silver Wattle	3
Plantae	Flora	Fabaceae (Mimosoideae)	3845	<i>Acacia paradoxa</i>		Kangaroo Thorn	3
Plantae	Flora	Fabaceae (Mimosoideae)	3853	<i>Acacia podalyriifolia</i>		Queensland Silver Wattle	1
Plantae	Flora	Fabaceae (Mimosoideae)	3872	<i>Acacia salicina</i>		Cooba	3
Plantae	Flora	Fabaceae (Mimosoideae)	3873	<i>Acacia saligna</i>	*	Golden Wreath Wattle	1
Plantae	Flora	Fabaceae (Mimosoideae)	ACAC	<i>Acacia spp.</i>		Wattle	3
Plantae	Flora	Fabaceae (Mimosoideae)	10823	<i>Neptunia gracilis f. gracilis</i>		Sensitive Plant	2
Plantae	Flora	Fabaceae (Mimosoideae)	12157	<i>Vachellia farnesiana</i>	*	Mimosa Bush	2
Plantae	Flora	Fumariaceae	3124	<i>Fumaria bastardii</i>	*	Bastards Fumitory	3
Plantae	Flora	Fumariaceae	7396	<i>Fumaria capreolata subsp. capreolata</i>	*	Climbing Fumitory	5
Plantae	Flora	Gentianaceae	3131	<i>Centaurium erythraea</i>	*	Common Centaury	3
Plantae	Flora	Gentianaceae	CENA	<i>Centaurium spp.</i>	*		4
Plantae	Flora	Gentianaceae	3133	<i>Centaurium tenuiflorum</i>	*	Branched Centaury, Slender centaury	3

Plantae	Flora	Gentianaceae	13834	<i>Schenkia spicata</i>		Spike Centaury	2
Plantae	Flora	Geraniaceae	3141	<i>Erodium cicutarium</i>	*	Common Crowfoot	4
Plantae	Flora	Geraniaceae	3142	<i>Erodium crinitum</i>		Blue Crowfoot	6
Plantae	Flora	Geraniaceae	10093	<i>Geranium molle</i> subsp. <i>molle</i>	*	Cranesbill Geranium	4
Plantae	Flora	Geraniaceae	3156	<i>Geranium solanderi</i>		Native Geranium	6
Plantae	Flora	Geraniaceae	8226	<i>Geranium solanderi</i> var. <i>solanderi</i>			17
Plantae	Flora	Geraniaceae	GERA	<i>Geranium</i> spp.			1
Plantae	Flora	Goodeniaceae	1863	<i>Brunonia australis</i>		Blue Pincushion	3
Plantae	Flora	Goodeniaceae	3181	<i>Goodenia fascicularis</i>		Mallee Goodenia	1
Plantae	Flora	Goodeniaceae	3182	<i>Goodenia glabra</i>		Smooth Goodenia	5
Plantae	Flora	Goodeniaceae	9279	<i>Goodenia hederacea</i> subsp. <i>hederacea</i>			2
Plantae	Flora	Goodeniaceae	3193	<i>Goodenia pinnatifida</i>		Scrambles Eggs	4
Plantae	Flora	Goodeniaceae	3200	<i>Lechenaultia divaricata</i>			1
Plantae	Flora	Goodeniaceae	3216	<i>Velleia paradoxa</i>			3
Plantae	Flora	Haloragaceae	3249	<i>Haloragis aspera</i>		Rough Raspwort	1
Plantae	Flora	Haloragaceae	3254	<i>Haloragis serra</i>			4
Plantae	Flora	Iridaceae	10698	<i>Freesia hybrid</i>	*	Freesia	1
Plantae	Flora	Juncaceae	9311	<i>Juncus acutus</i> subsp. <i>acutus</i>	*	Sharp Rush	1
Plantae	Flora	Juncaceae	3316	<i>Juncus articulatus</i>	*		1
Plantae	Flora	Juncaceae	3326	<i>Juncus continuus</i>			1
Plantae	Flora	Juncaceae	JUNC	<i>Juncus</i> spp.			3
Plantae	Flora	Juncaceae	3348	<i>Juncus subsecundus</i>		Finger Rush	2
Plantae	Flora	Juncaceae	3350	<i>Juncus usitatus</i>			3
Plantae	Flora	Juncaceae	3356	<i>Luzula densiflora</i>		Woodrush	2
Plantae	Flora	Juncaceae	3359	<i>Luzula meridionalis</i>			2
Plantae	Flora	Lamiaceae	3371	<i>Ajuga australis</i>		Austral Bugle	8

Plantae	Flora	Lamiaceae	3377	<i>Lamium amplexicaule</i>	*	Dead Nettle	2
Plantae	Flora	Lamiaceae	3381	<i>Marrubium vulgare</i>	*	White Horehound	7
Plantae	Flora	Lamiaceae	3384	<i>Mentha diemenica</i>		Slender Mint	2
Plantae	Flora	Lamiaceae	3387	<i>Mentha satureioides</i>		Native Pennyroyal	2
Plantae	Flora	Lamiaceae	3397	<i>Plectranthus parviflorus</i>			1
Plantae	Flora	Lamiaceae	3423	<i>Prostanthera ovalifolia</i>			1
Plantae	Flora	Lamiaceae	3444	<i>Salvia plebeia</i>		Austral Sage	1
Plantae	Flora	Lamiaceae	3445	<i>Salvia reflexa</i>	*	Mintweed	1
Plantae	Flora	Lamiaceae	3446	<i>Salvia verbenaca</i>	*	Vervain	4
Plantae	Flora	Lamiaceae	3447	<i>Scutellaria humilis</i>		Dwarf Skullcap	9
Plantae	Flora	Lamiaceae	3450	<i>Stachys arvensis</i>	*	Stagger Weed	1
Plantae	Flora	Lamiaceae	15130	<i>Teucrium betchei</i>			8
Plantae	Flora	Linaceae	3583	<i>Linum marginale</i>		Native Flax	3
Plantae	Flora	Lomandraceae	7709	<i>Lomandra confertifolia subsp. pallida</i>		Matrush	1
Plantae	Flora	Lomandraceae	6302	<i>Lomandra filiformis</i>		Wattle Matt-rush	3
Plantae	Flora	Lomandraceae	7931	<i>Lomandra filiformis subsp. filiformis</i>			4
Plantae	Flora	Lomandraceae	6512	<i>Lomandra filiformis subsp. flavior</i>		Wattle Matt-rush	1
Plantae	Flora	Lomandraceae	6307	<i>Lomandra leucocephala</i>		Woolly Mat-rush	2
Plantae	Flora	Lomandraceae	7925	<i>Lomandra leucocephala subsp. leucocephala</i>		Woolly Mat-rush	3
Plantae	Flora	Lomandraceae	6308	<i>Lomandra longifolia</i>		Spiny-headed Mat-rush	15
Plantae	Flora	Lomandraceae	8802	<i>Lomandra multiflora subsp. multiflora</i>		Many-flowered Mat-rush	15
Plantae	Flora	Lomandraceae	LOMA	<i>Lomandra spp.</i>		Mat-rush	1
Plantae	Flora	Loranthaceae	6393	<i>Amyema bifurcata</i>			1
Plantae	Flora	Loranthaceae	3599	<i>Amyema cambagei</i>		Needle-leaf Mistletoe	1

Plantae	Flora	Loranthaceae	6394	<i>Amyema miquelii</i>		Box Mistletoe	7
Plantae	Flora	Loranthaceae	3607	<i>Amyema pendula</i>			2
Plantae	Flora	Loranthaceae	AMYE	<i>Amyema spp.</i>		Mistletoe	4
Plantae	Flora	Loranthaceae	6710	<i>Dendrophthoe glabrescens</i>			1
Plantae	Flora	Loranthaceae	3613	<i>Dendrophthoe vitellina</i>			2
Plantae	Flora	Loranthaceae	7910	<i>Lysiana subfalcata</i>			5
Plantae	Flora	Loranthaceae	3618	<i>Muellerina bidwillii</i>			3
Plantae	Flora	Luzuriagaceae	6015	<i>Eustrephus latifolius</i>		Wombat Berry	15
Plantae	Flora	Malaceae	13195	<i>Cotoneaster coriaceus</i>	*		2
Plantae	Flora	Malaceae	5612	<i>Cotoneaster glaucophyllus</i>	*		5
Plantae	Flora	Malaceae	5614	<i>Cotoneaster pannosus</i>	*		3
Plantae	Flora	Malaceae	5616	<i>Crataegus monogyna</i>	*	Hawthorn	1
Plantae	Flora	Malaceae	9939	<i>Photinia serratifolia</i>	*	Chinese Photinia	2
Plantae	Flora	Malaceae	5627	<i>Pyracantha angustifolia</i>	*	Orange Firethorn	3
Plantae	Flora	Malaceae	12465	<i>Pyracantha crenatoserrata</i>	*		1
Plantae	Flora	Malaceae	5628	<i>Pyracantha crenulata</i>	*		2
Plantae	Flora	Malvaceae	3632	<i>Abutilon oxycarpum</i>		Straggly Lantern-bush	1
Plantae	Flora	Malvaceae	3633	<i>Abutilon theophrasti</i>	*		1
Plantae	Flora	Malvaceae	3634	<i>Abutilon tubulosum</i>			2
Plantae	Flora	Malvaceae	6128	<i>Brachychiton populneus</i>		Kurrajong	19
Plantae	Flora	Malvaceae	8961	<i>Brachychiton populneus subsp. populneus</i>			4
Plantae	Flora	Malvaceae	7296	<i>Hibiscus sturtii var. sturtii</i>		Hill Hibiscus	2
Plantae	Flora	Malvaceae	3657	<i>Malva parviflora</i>	*	Small-flowered Mallow	4
Plantae	Flora	Malvaceae	7206	<i>Malvastrum americanum</i>	*	Spiked Malvastrum	3

Plantae	Flora	Malvaceae	3660	<i>Modiola caroliniana</i>	*	Red-flowered Mallow			4
Plantae	Flora	Malvaceae	7267	<i>Pavonia hastata</i>	*				1
Plantae	Flora	Malvaceae	3664	<i>Sida corrugata</i>		Corrugated Sida			14
Plantae	Flora	Malvaceae	3666	<i>Sida cunninghamii</i>		Ridge Sida			8
Plantae	Flora	Malvaceae	3667	<i>Sida filiformis</i>					2
Plantae	Flora	Malvaceae	3673	<i>Sida rhombifolia</i>	*	Paddy's Lucerne			4
Plantae	Flora	Malvaceae	SIDA	<i>Sida spp.</i>					1
Plantae	Flora	Meliaceae	3680	<i>Melia azedarach</i>		White Cedar			4
Plantae	Flora	Moraceae	11662	<i>Ficus carica</i>	*	Common Fig			1
Plantae	Flora	Moraceae	11720	<i>Ficus rubiginosa f. rubiginosa</i>					3
Plantae	Flora	Myrtaceae	3971	<i>Angophora floribunda</i>		Rough-barked Apple			16
Plantae	Flora	Myrtaceae	4019	<i>Callistemon viminalis</i>		Weeping Bottlebrush			1
Plantae	Flora	Myrtaceae	4039	<i>Eucalyptus albens</i>		White Box			66
Plantae	Flora	Myrtaceae	4057	<i>Eucalyptus blakelyi</i>		Blakely's Red Gum			12
Plantae	Flora	Myrtaceae	11385	<i>Eucalyptus blakelyi dealbata</i>	<-->				1
Plantae	Flora	Myrtaceae	6360	<i>Eucalyptus camaldulensis</i>		River Red Gum			10
Plantae	Flora	Myrtaceae	4074	<i>Eucalyptus crebra</i>		Narrow-leaved Ironbark			2
Plantae	Flora	Myrtaceae	4078	<i>Eucalyptus dealbata</i>		Tumbledown Red Gum			7
Plantae	Flora	Myrtaceae	8682	<i>Eucalyptus elliptica</i>		Bendemeer White Gum			1
Plantae	Flora	Myrtaceae	4087	<i>Eucalyptus eugenioides</i>		Thin-leaved Stringybark			1
Plantae	Flora	Myrtaceae	4120	<i>Eucalyptus macrorhyncha</i>		Red Stringybark			1
Plantae	Flora	Myrtaceae	4125	<i>Eucalyptus melliodora</i>		Yellow Box			8
Plantae	Flora	Myrtaceae	4129	<i>Eucalyptus moluccana</i>		Grey Box			2
Plantae	Flora	Myrtaceae	4134	<i>Eucalyptus nicholii</i>		Narrow-leaved Black Peppermint	V	V	1
Plantae	Flora	Myrtaceae	4181	<i>Eucalyptus sideroxylon</i>		Mugga Ironbark			4

Plantae	Flora	Myrtaceae	4191	<i>Eucalyptus tereticornis</i>		Forest Gum	Red	1
Plantae	Flora	Myrtaceae	4293	<i>Syzygium paniculatum</i>		Magenta Lilly Pilly	E1 V	1
Plantae	Flora	Nandinaceae	9645	<i>Nandina domestica</i>	*	Japanese Sacred Bamboo		1
Plantae	Flora	Nyctaginaceae	6841	<i>Boerhavia dominii</i>		Tarvine		6
Plantae	Flora	Ochnaceae	4306	<i>Ochna serrulata</i>	*	Mickey Mouse Plant		1
Plantae	Flora	Oleaceae	12177	<i>Fraxinus angustifolia subsp. angustifolia</i>	*	Desert Ash		2
Plantae	Flora	Oleaceae	6398	<i>Jasminum lineare</i>		Desert Jasmine		9
Plantae	Flora	Oleaceae	4310	<i>Jasminum suavisissimum</i>				12
Plantae	Flora	Oleaceae	4312	<i>Ligustrum lucidum</i>	*	Large-leaved Privet		10
Plantae	Flora	Oleaceae	4313	<i>Ligustrum sinense</i>	*	Small-leaved Privet		1
Plantae	Flora	Oleaceae	4318	<i>Notelaea longifolia</i>		Large Mock-olive		1
Plantae	Flora	Oleaceae	4319	<i>Notelaea microcarpa</i>		Native Olive		10
Plantae	Flora	Oleaceae	6695	<i>Notelaea microcarpa var. microcarpa</i>				44
Plantae	Flora	Oleaceae	11220	<i>Olea europaea subsp. cuspidata</i>	*	African Olive		3
Plantae	Flora	Oleaceae	7688	<i>Olea europaea subsp. europaea</i>	*	Olive		1
Plantae	Flora	Onagraceae	4326	<i>Epilobium billardierianum</i>				1
Plantae	Flora	Onagraceae	7952	<i>Epilobium billardierianum subsp. cinereum</i>				4
Plantae	Flora	Onagraceae	4339	<i>Oenothera affinis</i>	*			2
Plantae	Flora	Orchidaceae	4419	<i>Cymbidium suave</i>		Snake Orchid	P	1
Plantae	Flora	Orchidaceae	4463	<i>Gastrodia sesamoides</i>		Cinnamon Bells	P	1
Plantae	Flora	Orchidaceae	4465	<i>Glossodia major</i>		Waxlip Orchid	P	1
Plantae	Flora	Orchidaceae	7622	<i>Microtis parviflora</i>		Slender Onion Orchid	P	1
Plantae	Flora	Orchidaceae	4473	<i>Microtis unifolia</i>		Common Onion Orchid	P	1

Plantae	Flora	Orchidaceae	4560	<i>Pterostylis mutica</i>		Midget Greenhood	P	1
Plantae	Flora	Oxalidaceae	4610	<i>Oxalis bowiei</i>	*			1
Plantae	Flora	Oxalidaceae	4612	<i>Oxalis chnoodes</i>				6
Plantae	Flora	Oxalidaceae	4615	<i>Oxalis exilis</i>				2
Plantae	Flora	Oxalidaceae	4621	<i>Oxalis perennans</i>				9
Plantae	Flora	Oxalidaceae	4622	<i>Oxalis pes-caprae</i>	*	Soursob		2
Plantae	Flora	Oxalidaceae	4624	<i>Oxalis radicata</i>				3
Plantae	Flora	Oxalidaceae	OXAL	<i>Oxalis spp.</i>				4
Plantae	Flora	Papaveraceae	7115	<i>Argemone ochroleuca subsp. ochroleuca</i>	*	Mexican Poppy		2
Plantae	Flora	Papaveraceae	9362	<i>Argemone subfusiformis subsp. subfusiformis</i>	*	American Poppy		1
Plantae	Flora	Papaveraceae	4632	<i>Eschscholzia californica</i>	*	California Poppy		1
Plantae	Flora	Papaveraceae	4638	<i>Papaver hybridum</i>	*	Rough Poppy		1
Plantae	Flora	Papaveraceae	4640	<i>Papaver somniferum</i>	*	Opium Poppy		2
Plantae	Flora	Papaveraceae	9647	<i>Papaver somniferum subsp. setigerum</i>	*			1
Plantae	Flora	Phyllanthaceae	10696	<i>Breynia cernua</i>				2
Plantae	Flora	Phyllanthaceae	2695	<i>Breynia oblongifolia</i>		Coffee Bush		2
Plantae	Flora	Phyllanthaceae	2750	<i>Phyllanthus subcrenulatus</i>				7
Plantae	Flora	Phyllanthaceae	12969	<i>Phyllanthus virgatus complex</i>				2
Plantae	Flora	Phyllanthaceae	7395	<i>Poranthera microphylla</i>		Small Poranthera		1
Plantae	Flora	Pittosporaceae	4674	<i>Bursaria spinosa</i>		Native Blackthorn		18
Plantae	Flora	Pittosporaceae	11018	<i>Bursaria spinosa subsp. spinosa</i>		Native Blackthorn		17
Plantae	Flora	Pittosporaceae	11202	<i>Pittosporum angustifolium</i>		Butterbush		2
Plantae	Flora	Plantaginaceae	5974	<i>Linaria arvensis</i>	*			1
Plantae	Flora	Plantaginaceae	5978	<i>Linaria pelisseriana</i>	*	Pelisser's Toadflax		2
Plantae	Flora	Plantaginaceae	4691	<i>Plantago debilis</i>		Shade Plantain		18

Plantae	Flora	Plantaginaceae	4699	<i>Plantago lanceolata</i>	*	Lamb's Tongues	13
Plantae	Flora	Plantaginaceae	9779	<i>Plantago scabra</i>	*	Sand Plantain	4
Plantae	Flora	Plantaginaceae	4705	<i>Plantago varia</i>			2
Plantae	Flora	Plantaginaceae	6000	<i>Veronica anagallis-aquatica</i>	*	Blue Water-speedwell	1
Plantae	Flora	Plantaginaceae	6002	<i>Veronica arvensis</i>	*	Wall Speedwell	1
Plantae	Flora	Plantaginaceae	6003	<i>Veronica calycina</i>		Hairy Speedwell	6
Plantae	Flora	Plantaginaceae	6008	<i>Veronica persica</i>	*	Creeping Speedwell	2
Plantae	Flora	Plantaginaceae	6009	<i>Veronica plebeia</i>		Trailing Speedwell	1
Plantae	Flora	Plumbaginaceae	11674	<i>Plumbago auriculata</i>	*	Cape leadwort	1
Plantae	Flora	Poaceae	14896	<i>Anthosachne scabra</i>		Wheatgrass, Common Wheatgrass	18
Plantae	Flora	Poaceae	9334	<i>Aristida calycina</i> var. <i>calycina</i>			2
Plantae	Flora	Poaceae	6439	<i>Aristida jerichoensis</i> var. <i>jerichoensis</i>		Jericho Wiregrass	1
Plantae	Flora	Poaceae	6713	<i>Aristida latifolia</i>		Featherop Wiregrass	2
Plantae	Flora	Poaceae	4762	<i>Aristida leptopoda</i>		White Speargrass	3
Plantae	Flora	Poaceae	4767	<i>Aristida personata</i>			13
Plantae	Flora	Poaceae	4770	<i>Aristida ramosa</i>		Purple Wiregrass	29
Plantae	Flora	Poaceae	ARIS	<i>Aristida spp.</i>			1
Plantae	Flora	Poaceae	4773	<i>Aristida vagans</i>		Threeawn Speargrass	4
Plantae	Flora	Poaceae	4777	<i>Arundo donax</i>	*	Giant Reed	2
Plantae	Flora	Poaceae	10384	<i>Austrostipa aristiglumis</i>		Plains Grass	6
Plantae	Flora	Poaceae	10395	<i>Austrostipa densiflora</i>		Foxtail Speargrass	1
Plantae	Flora	Poaceae	10375	<i>Austrostipa nitida</i>			2
Plantae	Flora	Poaceae	10376	<i>Austrostipa nodosa</i>			1
Plantae	Flora	Poaceae	9918	<i>Austrostipa ramosissima</i>		Stout Bamboo Grass	4
Plantae	Flora	Poaceae	10377	<i>Austrostipa scabra</i>		Speargrass	8
Plantae	Flora	Poaceae	10378	<i>Austrostipa scabra</i> subsp. <i>scabra</i>		Rough Speargrass	15

Plantae	Flora	Poaceae	10382	<i>Austrostipa setacea</i>		Corkscrew Grass	2
Plantae	Flora	Poaceae	10371	<i>Austrostipa verticillata</i>		Slender Bamboo Grass	12
Plantae	Flora	Poaceae	4780	<i>Avena fatua</i>	*	Wild Oats	6
Plantae	Flora	Poaceae	4781	<i>Avena ludoviciana</i>	*	Ludo Wild Oats	2
Plantae	Flora	Poaceae	4782	<i>Avena sativa</i>	*	Oats	2
Plantae	Flora	Poaceae	11194	<i>Axonopus fissifolius</i>	*	Narrow-leafed Carpet Grass	1
Plantae	Flora	Poaceae	4787	<i>Bothriochloa biloba</i>		Lobed Bluegrass	4
Plantae	Flora	Poaceae	7559	<i>Bothriochloa decipiens</i>	var. <i>decipiens</i>	Pitted Bluegrass	9
Plantae	Flora	Poaceae	4790	<i>Bothriochloa macra</i>		Red Grass	21
Plantae	Flora	Poaceae	4800	<i>Briza maxima</i>	*	Quaking Grass	2
Plantae	Flora	Poaceae	4801	<i>Briza minor</i>	*	Shivery Grass	3
Plantae	Flora	Poaceae	10328	<i>Bromus alopecuroides</i>	*		2
Plantae	Flora	Poaceae	7813	<i>Bromus catharticus</i>	*	Prairie Grass	8
Plantae	Flora	Poaceae	4807	<i>Bromus hordeaceus</i>	*	Soft Brome	1
Plantae	Flora	Poaceae	4811	<i>Bromus molliformis</i>	*	Soft Brome	9
Plantae	Flora	Poaceae	4813	<i>Bromus rubens</i>	*	Red Brome	1
Plantae	Flora	Poaceae	4820	<i>Capillipedium parviflorum</i>		Scented-top Grass	1
Plantae	Flora	Poaceae	4822	<i>Catapodium rigidum</i>	*	Rigid Fescue	4
Plantae	Flora	Poaceae	14903	<i>Cenchrus clandestinus</i>	*	Kikuyu Grass	5
Plantae	Flora	Poaceae	14862	<i>Cenchrus longisetus</i>	*	Feathertop, White Foxtail	2
Plantae	Flora	Poaceae	14952	<i>Cenchrus purpurascens</i>			2
Plantae	Flora	Poaceae	7223	<i>Cenchrus setiger</i>	*	Birdwood Grass	1
Plantae	Flora	Poaceae	15299	<i>Cenchrus spinifex</i>	*	Spiny Burrgrass	1
Plantae	Flora	Poaceae	4831	<i>Chloris gayana</i>	*	Rhodes Grass	4
Plantae	Flora	Poaceae	4833	<i>Chloris truncata</i>		Windmill Grass	16
Plantae	Flora	Poaceae	4834	<i>Chloris ventricosa</i>		Tall Chloris	16

Plantae	Flora	Poaceae	6655	<i>Chloris virgata</i>	*	Feathertop Rhodes Grass	5
Plantae	Flora	Poaceae	4839	<i>Cortaderia selloana</i>	*	Pampas Grass	1
Plantae	Flora	Poaceae	4841	<i>Cymbopogon refractus</i>		Barbed Wire Grass	27
Plantae	Flora	Poaceae	6540	<i>Cynodon dactylon</i>		Common Couch	16
Plantae	Flora	Poaceae	4842	<i>Cynodon incompletus</i>	*		2
Plantae	Flora	Poaceae	4846	<i>Dactylis glomerata</i>	*	Cocksfoot	2
Plantae	Flora	Poaceae	7485	<i>Dichanthium sericeum</i>		Queensland Bluegrass	6
Plantae	Flora	Poaceae	7645	<i>Dichanthium sericeum subsp. sericeum</i>		Queensland Bluegrass	18
Plantae	Flora	Poaceae	4895	<i>Dichanthium setosum</i>		Bluegrass	V V 5
Plantae	Flora	Poaceae	4897	<i>Dichelachne crinita</i>		Longhair Plumegrass	3
Plantae	Flora	Poaceae	4898	<i>Dichelachne micrantha</i>		Shorthair Plumegrass	15
Plantae	Flora	Poaceae	4899	<i>Dichelachne rara</i>			1
Plantae	Flora	Poaceae	DICE	<i>Dichelachne spp.</i>			1
Plantae	Flora	Poaceae	6857	<i>Digitaria brownii</i>		Cotton Panic Grass	8
Plantae	Flora	Poaceae	6554	<i>Digitaria ciliaris</i>	*	Summer Grass	3
Plantae	Flora	Poaceae	4907	<i>Digitaria divaricatissima</i>		Umbrella Grass	5
Plantae	Flora	Poaceae	4909	<i>Digitaria hystrichoides</i>		Curly Umbrella Grass	1
Plantae	Flora	Poaceae	6937	<i>Digitaria sanguinalis</i>	*	Crab Grass	2
Plantae	Flora	Poaceae	DIGI	<i>Digitaria spp.</i>			1
Plantae	Flora	Poaceae	7607	<i>Echinochloa colona</i>		Awnless Barnyard Grass	3
Plantae	Flora	Poaceae	4923	<i>Echinochloa crus-galli</i>	*	Barnyard Grass	2
Plantae	Flora	Poaceae	4930	<i>Echinopogon cheelii</i>		Long-flowered Hedgehog Grass	1
Plantae	Flora	Poaceae	4931	<i>Echinopogon intermedius</i>		Erect Hedgehog Grass	3
Plantae	Flora	Poaceae	4934	<i>Echinopogon ovatus</i>		Forest Hedgehog Grass	1

Plantae	Flora	Poaceae	4937	<i>Ehrharta erecta</i>	*	Panic Veldtgrass	1
Plantae	Flora	Poaceae	7196	<i>Eleusine indica</i>	*	Crowsfoot Grass	1
Plantae	Flora	Poaceae	4940	<i>Eleusine tristachya</i>	*	Goose Grass	4
Plantae	Flora	Poaceae	4943	<i>Enneapogon gracilis</i>		Slender Nineawn	4
Plantae	Flora	Poaceae	4945	<i>Enneapogon nigricans</i>		Nine-awn Grass	3
Plantae	Flora	Poaceae	ENNE	<i>Enneapogon spp.</i>		Nineawn Grass, Bottlewashe rs	2
Plantae	Flora	Poaceae	9159	<i>Enneapogon truncatus</i>		Bottlewashe rs	1
Plantae	Flora	Poaceae	6721	<i>Enteropogon acicularis</i>		Curly Windmill Grass	3
Plantae	Flora	Poaceae	11647	<i>Eragrostis alveiformis</i>			2
Plantae	Flora	Poaceae	7921	<i>Eragrostis brownii</i>		Brown's Lovegrass	1
Plantae	Flora	Poaceae	6387	<i>Eragrostis cilianensis</i>	*	Stinkgrass	7
Plantae	Flora	Poaceae	4952	<i>Eragrostis curvula</i>	*	African Lovegrass	1
Plantae	Flora	Poaceae	4960	<i>Eragrostis leptostachya</i>		Paddock Lovegrass	8
Plantae	Flora	Poaceae	4967	<i>Eragrostis parviflora</i>		Weeping Lovegrass	2
Plantae	Flora	Poaceae	4970	<i>Eragrostis pilosa</i>	*	Soft Lovegrass	1
Plantae	Flora	Poaceae	ERAG	<i>Eragrostis spp.</i>			1
Plantae	Flora	Poaceae	7335	<i>Eriochloa pseudoacrotricha</i>		Early Spring Grass	2
Plantae	Flora	Poaceae	4993	<i>Festuca pratensis</i>	*	Meadow Fescue	2
Plantae	Flora	Poaceae	5000	<i>Hainardia cylindrica</i>	*	Common Barbgrass	1
Plantae	Flora	Poaceae	6601	<i>Heteropogon contortus</i>		Bunch Speargrass	1
Plantae	Flora	Poaceae	5005	<i>Holcus lanatus</i>	*	Yorkshire Fog	1
Plantae	Flora	Poaceae	5012	<i>Hordeum leporinum</i>	*	Barley Grass	3
Plantae	Flora	Poaceae	HORD	<i>Hordeum spp.</i>	*		3
Plantae	Flora	Poaceae	9326	<i>Hyparrhenia filipendula</i> var. <i>filipendula</i>		Tambookie Grass	1
Plantae	Flora	Poaceae	5016	<i>Hyparrhenia hirta</i>	*	Coolatai Grass	9

Plantae	Flora	Poaceae	11388	<i>Lachnagrostis filiformis</i>			1
Plantae	Flora	Poaceae	5023	<i>Lamarckia aurea</i>	*	Goldentop	3
Plantae	Flora	Poaceae	14476	<i>Leptochloa asthenes</i>			2
Plantae	Flora	Poaceae	7726	<i>Leptochloa digitata</i>		Umbrella Canegrass	1
Plantae	Flora	Poaceae	5032	<i>Lolium perenne</i>	*	Perennial Ryegrass	3
Plantae	Flora	Poaceae	5033	<i>Lolium rigidum</i>	*	Wimmera Ryegrass	3
Plantae	Flora	Poaceae	14421	<i>Megathyrsus maximum</i> var. <i>pubiglumis</i>	*	green panic	1
Plantae	Flora	Poaceae	5037	<i>Microlaena stipoides</i>		Weeping Grass	3
Plantae	Flora	Poaceae	7707	<i>Microlaena stipoides</i> var. <i>stipoides</i>		Weeping Grass	8
Plantae	Flora	Poaceae	13451	<i>Nassella tenuissima</i>	*		2
Plantae	Flora	Poaceae	5049	<i>Panicum antidotale</i>	*	Giant Panic Grass	1
Plantae	Flora	Poaceae	5052	<i>Panicum buncei</i>		Native Panic	2
Plantae	Flora	Poaceae	6395	<i>Panicum decompositum</i>		Native Millet	5
Plantae	Flora	Poaceae	5055	<i>Panicum effusum</i>		Hairy Panic	3
Plantae	Flora	Poaceae	7340	<i>Panicum gilvum</i>	*		1
Plantae	Flora	Poaceae	9331	<i>Panicum queenslandicum</i> var. <i>queenslandicum</i>		Yabila Grass	2
Plantae	Flora	Poaceae	5066	<i>Panicum simile</i>		Two-colour Panic	4
Plantae	Flora	Poaceae	PANI	<i>Panicum spp.</i>		Panicum	1
Plantae	Flora	Poaceae	5072	<i>Paspalidium albobillosum</i>			1
Plantae	Flora	Poaceae	5073	<i>Paspalidium aversum</i>		Bent Summer Grass	9
Plantae	Flora	Poaceae	7172	<i>Paspalidium distans</i>			2
Plantae	Flora	Poaceae	5081	<i>Paspalidium gracile</i>		Slender Panic	4
Plantae	Flora	Poaceae	5086	<i>Paspalum dilatatum</i>	*	Paspalum	9
Plantae	Flora	Poaceae	5087	<i>Paspalum distichum</i>		Water Couch	3
Plantae	Flora	Poaceae	6638	<i>Pennisetum glaucum</i>	*	Pearl Millet	2

Plantae	Flora	Poaceae	5106	<i>Phalaris aquatica</i>	*	Phalaris	2
Plantae	Flora	Poaceae	9346	<i>Phalaris arundinacea</i> var. <i>arundinacea</i>	*	Reed Canary Grass	1
Plantae	Flora	Poaceae	5111	<i>Phalaris paradoxa</i>	*	Paradoxa Grass	1
Plantae	Flora	Poaceae	5113	<i>Phragmites australis</i>		Common Reed	1
Plantae	Flora	Poaceae	5121	<i>Poa annua</i>	*	Winter Grass	3
Plantae	Flora	Poaceae	11196	<i>Poa labillardierei</i> var. <i>labillardierei</i>		Tussock	6
Plantae	Flora	Poaceae	5141	<i>Poa sieberiana</i>		Snowgrass	16
Plantae	Flora	Poaceae	8744	<i>Poa sieberiana</i> var. <i>hirtella</i>			2
Plantae	Flora	Poaceae	8742	<i>Poa sieberiana</i> var. <i>sieberiana</i>		Snowgrass	1
Plantae	Flora	Poaceae	POA	<i>Poa spp.</i>			2
Plantae	Flora	Poaceae	7878	<i>Rostraria cristata</i>	*	Annual Cat's Tail	5
Plantae	Flora	Poaceae	14304	<i>Rytidosperma bipartitum</i>		Wallaby Grass	12
Plantae	Flora	Poaceae	14305	<i>Rytidosperma caespitosum</i>		Ringed Wallaby Grass	2
Plantae	Flora	Poaceae	14309	<i>Rytidosperma fulvum</i>		Wallaby Grass	2
Plantae	Flora	Poaceae	14312	<i>Rytidosperma longifolium</i>		Long-leaved Wallaby Grass	5
Plantae	Flora	Poaceae	14313	<i>Rytidosperma monticola</i>		Mountain Wallaby Grass	2
Plantae	Flora	Poaceae	14317	<i>Rytidosperma racemosum</i>		Wallaby Grass	8
Plantae	Flora	Poaceae	14319	<i>Rytidosperma racemosum</i> var. <i>obtusatum</i>		Wallaby Grass	5
Plantae	Flora	Poaceae	14318	<i>Rytidosperma racemosum</i> var. <i>racemosum</i>		Wallaby Grass	7
Plantae	Flora	Poaceae	14320	<i>Rytidosperma richardsonii</i>		Straw Wallaby-grass	3
Plantae	Flora	Poaceae	14322	<i>Rytidosperma setaceum</i>		Small-flowered Wallaby-grass	1
Plantae	Flora	Poaceae	RYTI	<i>Rytidosperma spp.</i>			6
Plantae	Flora	Poaceae	14323	<i>Rytidosperma tenuius</i>			2

Plantae	Flora	Poaceae	13468	<i>Setaria parviflora</i>	*		2
Plantae	Flora	Poaceae	7842	<i>Setaria pumila</i>	*	Pale Pigeon Grass	1
Plantae	Flora	Poaceae	SETA	<i>Setaria spp.</i>			1
Plantae	Flora	Poaceae	12511	<i>Sorghum alnum</i>	*	Columbus Grass	1
Plantae	Flora	Poaceae	5171	<i>Sorghum bicolor</i>	*	Sorghum	5
Plantae	Flora	Poaceae	5172	<i>Sorghum halepense</i>	*	Johnson Grass	7
Plantae	Flora	Poaceae	5173	<i>Sorghum leiocladum</i>		Wild Sorghum	3
Plantae	Flora	Poaceae	SORG	<i>Sorghum spp.</i>			4
Plantae	Flora	Poaceae	5176	<i>Sporobolus africanus</i>	*	Parramatta Grass	1
Plantae	Flora	Poaceae	5177	<i>Sporobolus caroli</i>		Fairy Grass	2
Plantae	Flora	Poaceae	5179	<i>Sporobolus creber</i>		Slender Rat's Tail Grass	5
Plantae	Flora	Poaceae	5181	<i>Sporobolus elongatus</i>		Slender Rat's Tail Grass	4
Plantae	Flora	Poaceae	7770	<i>Themeda triandra</i>			12
Plantae	Flora	Poaceae	5224	<i>Tragus australianus</i>		Small Burrgrass	1
Plantae	Flora	Poaceae	5229	<i>Tripogon loliiformis</i>		Fiveminute Grass	1
Plantae	Flora	Poaceae	5234	<i>Triticum aestivum</i>	*	Wheat	1
Plantae	Flora	Poaceae	5237	<i>Urochloa panicoides</i>	*	Urochloa Grass	7
Plantae	Flora	Poaceae	7506	<i>Urochloa piligera</i>		Hairy Armgrass	1
Plantae	Flora	Poaceae	8516	<i>Vulpia muralis</i>	*	Wall Fescue	2
Plantae	Flora	Poaceae	5242	<i>Vulpia myuros</i>	*	Rat's Tail Fescue	4
Plantae	Flora	Poaceae	VULP	<i>Vulpia spp.</i>	*	Rat's-tail Fescue	1
Plantae	Flora	Polygonaceae	5265	<i>Acetosella vulgaris</i>	*	Sheep Sorrel	4
Plantae	Flora	Polygonaceae	5266	<i>Emex australis</i>	*	Spiny Emex	2
Plantae	Flora	Polygonaceae	5268	<i>Fallopia convolvulus</i>	*	Black Bindweed	1
Plantae	Flora	Polygonaceae	5282	<i>Persicaria lapathifolia</i>		Pale Knotweed	2
Plantae	Flora	Polygonaceae	5287	<i>Polygonum arenastrum</i>	*	Wireweed	1
Plantae	Flora	Polygonaceae	5288	<i>Polygonum aviculare</i>	*	Wireweed	4

Plantae	Flora	Polygonaceae	13486	<i>Polygonum bellardii</i>	*	Tree Hogweed	3
Plantae	Flora	Polygonaceae	5296	<i>Rumex brownii</i>		Swamp Dock	19
Plantae	Flora	Polygonaceae	5298	<i>Rumex crispus</i>	*	Curled Dock	2
Plantae	Flora	Polygonaceae	RUME	<i>Rumex spp.</i>		Dock	1
Plantae	Flora	Polygonaceae	5304	<i>Rumex tenax</i>		Shiny Dock	1
Plantae	Flora	Portulacaceae	5324	<i>Portulaca oleracea</i>		Pigweed	4
Plantae	Flora	Primulaceae	14614	<i>Lysimachia arvensis</i>	*	Scarlet Pimpernel	17
Plantae	Flora	Proteaceae	5396	<i>Grevillea robusta</i>		Silky Oak	1
Plantae	Flora	Proteaceae	9759	<i>Hakea leucoptera subsp. sericipes</i>			1
Plantae	Flora	Pteridaceae	7997	<i>Adiantum aethiopicum</i>		Common Maidenhair	P 5
Plantae	Flora	Pteridaceae	10516	<i>Adiantum atroviride</i>			P 2
Plantae	Flora	Pteridaceae	11226	<i>Adiantum hispidulum</i> var. <i>hispidulum</i>		Rough Maidenhair	P 1
Plantae	Flora	Pteridaceae	6382	<i>Cheilanthes distans</i>		Bristly Cloak Fern	23
Plantae	Flora	Pteridaceae	8006	<i>Cheilanthes lasiophylla</i>			1
Plantae	Flora	Pteridaceae	10439	<i>Cheilanthes sieberi</i>		Rock Fern	5
Plantae	Flora	Pteridaceae	8007	<i>Cheilanthes sieberi subsp. sieberi</i>		Rock Fern	9
Plantae	Flora	Pteridaceae	10489	<i>Pellaea calidirupium</i>			1
Plantae	Flora	Pteridaceae	8444	<i>Pellaea falcata</i>		Sickle Fern	5
Plantae	Flora	Ranunculaceae	5491	<i>Adonis microcarpa</i>	*	Pheasant's Eye	1
Plantae	Flora	Ranunculaceae	5493	<i>Clematis aristata</i>		Old Man's Beard	3
Plantae	Flora	Ranunculaceae	13519	<i>Clematis decipiens</i>			5
Plantae	Flora	Ranunculaceae	5495	<i>Clematis glycinoides</i>		Headache Vine	16
Plantae	Flora	Ranunculaceae	6903	<i>Clematis glycinoides</i> var. <i>glycinoides</i>			6
Plantae	Flora	Ranunculaceae	5496	<i>Clematis microphylla</i>		Small-leaved Clematis	12
Plantae	Flora	Ranunculaceae	5508	<i>Ranunculus lappaceus</i>		Common Buttercup	2

Plantae	Flora	Ranunculaceae	5520	<i>Ranunculus pumilio</i>		Ferny Buttercup	1
Plantae	Flora	Ranunculaceae	8811	<i>Ranunculus sessiliflorus</i>	var. <i>sessiliflorus</i>		2
Plantae	Flora	Resedaceae	5529	<i>Reseda lutea</i>	*	Cut-leaved Mignonette	2
Plantae	Flora	Rhamnaceae	8784	<i>Cryptandra amara</i>		var. <i>longiflora</i>	1
Plantae	Flora	Rosaceae	5604	<i>Acaena novae-zelandiae</i>		Bidgee-widgee	1
Plantae	Flora	Rosaceae	5605	<i>Acaena ovina</i>		Acaena	5
Plantae	Flora	Rosaceae	5609	<i>Aphanes australiana</i>		Australian Pert	1
Plantae	Flora	Rosaceae	5625	<i>Prunus persica</i>	*		2
Plantae	Flora	Rosaceae	12184	<i>Rosa luciae</i>	*		2
Plantae	Flora	Rosaceae	5635	<i>Rosa rubiginosa</i>	*	Sweet Briar	3
Plantae	Flora	Rosaceae	11303	<i>Rubus fruticosus</i>	*	Blackberry complex	1
Plantae	Flora	Rosaceae	5642	<i>Rubus parvifolius</i>		Native Raspberry	3
Plantae	Flora	Rubiaceae	5653	<i>Asperula conferta</i>		Common Woodruff	21
Plantae	Flora	Rubiaceae	5679	<i>Galium aparine</i>	*	Goosegrass	8
Plantae	Flora	Rubiaceae	5681	<i>Galium binifolium</i>			1
Plantae	Flora	Rubiaceae	5682	<i>Galium ciliare</i>			1
Plantae	Flora	Rubiaceae	5684	<i>Galium gaudichaudii</i>		Rough Bedstraw	1
Plantae	Flora	Rubiaceae	5686	<i>Galium migrans</i>			18
Plantae	Flora	Rubiaceae	5687	<i>Galium murale</i>	*	Small Bedstraw	1
Plantae	Flora	Rubiaceae	5688	<i>Galium propinquum</i>		Maori Bedstraw	1
Plantae	Flora	Rubiaceae	5698	<i>Opercularia diphylla</i>		Stinkweed	1
Plantae	Flora	Rubiaceae	5699	<i>Opercularia hispida</i>		Hairy Stinkweed	1
Plantae	Flora	Rubiaceae	11942	<i>Psydrax odorata</i>		Shiny-leaved Canthium	12
Plantae	Flora	Rubiaceae	12317	<i>Psydrax odorata</i>		subsp. <i>australiana</i> f. <i>subnitida</i>	1
Plantae	Flora	Rubiaceae	11943	<i>Psydrax oleifolia</i>			1
Plantae	Flora	Rubiaceae	5714	<i>Sherardia arvensis</i>	*	Field Madder	1

Plantae	Flora	Salicaceae	5848	<i>Populus alba</i>	*	White Poplar	2
Plantae	Flora	Salicaceae	5851	<i>Salix babylonica</i>	*	Weeping Willow	3
Plantae	Flora	Salicaceae	10652	<i>Salix fragilis</i> var. <i>fragilis</i>	*	Crack Willow	1
Plantae	Flora	Santalaceae	5860	<i>Exocarpos cupressiformis</i>		Cherry Ballart	4
Plantae	Flora	Santalaceae	6384	<i>Santalum lanceolatum</i>		Northern Sandalwood	2
Plantae	Flora	Sapindaceae	5873	<i>Alectryon forsythii</i>			2
Plantae	Flora	Sapindaceae	7015	<i>Alectryon oleifolius</i>		Western Rosewood	1
Plantae	Flora	Sapindaceae	7085	<i>Alectryon oleifolius</i> subsp. <i>elongatus</i>			1
Plantae	Flora	Sapindaceae	6365	<i>Atalaya hemiglauca</i>		Whitewood	1
Plantae	Flora	Sapindaceae	5882	<i>Cardiospermum grandiflorum</i>	*	Balloon Vine	3
Plantae	Flora	Sapindaceae	5913	<i>Dodonaea viscosa</i>		Sticky Hop-bush	5
Plantae	Flora	Sapindaceae	7690	<i>Dodonaea viscosa</i> subsp. <i>angustifolia</i>			14
Plantae	Flora	Sapindaceae	7830	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>		Narrow-leaf Hop-bush	1
Plantae	Flora	Scrophulariaceae	9736	<i>Cymbalaria muralis</i> subsp. <i>muralis</i>	*	Ivy-leaved Toadflax	1
Plantae	Flora	Scrophulariaceae	8602	<i>Eremophila debilis</i>		Amulla	1
Plantae	Flora	Scrophulariaceae	10216	<i>Kickxia spuria</i> subsp. <i>integrifolia</i>	*	Round-leaved Toadflax	4
Plantae	Flora	Scrophulariaceae	5973	<i>Limosella curdieana</i>		Large Mudwort	1
Plantae	Flora	Scrophulariaceae	7062	<i>Misopates orontium</i>	*	Lesser Snapdragon	1
Plantae	Flora	Scrophulariaceae	7906	<i>Myoporum acuminatum</i>		Boobialla	2
Plantae	Flora	Scrophulariaceae	3955	<i>Myoporum montanum</i>		Western Boobialla	1
Plantae	Flora	Scrophulariaceae	7625	<i>Verbascum thapsus</i> subsp. <i>thapsus</i>	*	Great Mullein	2
Plantae	Flora	Scrophulariaceae	5999	<i>Verbascum virgatum</i>	*	Twiggy Mullein	5
Plantae	Flora	Simaroubaceae	6012	<i>Ailanthus altissima</i>	*	Tree of Heaven	3
Plantae	Flora	Solanaceae	6027	<i>Cestrum parqui</i>	*	Green Cestrum	8

Plantae	Flora	Solanaceae	6030	<i>Datura ferox</i>	*	Fierce Thornapple	1
Plantae	Flora	Solanaceae	6033	<i>Datura stramonium</i>	*	Common Thornapple	3
Plantae	Flora	Solanaceae	6040	<i>Lycium ferocissimum</i>	*	African Boxthorn	7
Plantae	Flora	Solanaceae	6045	<i>Nicotiana glauca</i>	*	Tree Tobacco	2
Plantae	Flora	Solanaceae	14010	<i>Physalis longifolia</i>	*	Perennial Ground Cherry	2
Plantae	Flora	Solanaceae	7325	<i>Solanum capsicoides</i>	*	Devil's Apple	1
Plantae	Flora	Solanaceae	6072	<i>Solanum cinereum</i>		Narrawa Burr	4
Plantae	Flora	Solanaceae	6078	<i>Solanum elaeagnifolium</i>	*	Silver-leaved Nightshade	1
Plantae	Flora	Solanaceae	6091	<i>Solanum nigrum</i>	*	Black-berry Nightshade	2
Plantae	Flora	Solanaceae	12295	<i>Solanum parvifolium</i> subsp. <i>parvifolium</i>		Nightshade	12
Plantae	Flora	Solanaceae	6101	<i>Solanum pseudocapsicum</i>	*	Madeira Winter Cherry	1
Plantae	Flora	Solanaceae	6115	<i>Solanum vescum</i>			1
Plantae	Flora	Stackhousiaceae	6120	<i>Stackhousia monogyna</i>		Creamy Candles	3
Plantae	Flora	Stackhousiaceae	6125	<i>Stackhousia viminea</i>		Slender Stackhousia	1
Plantae	Flora	Thymelaeaceae	6774	<i>Pimelea curviflora</i> var. <i>divergens</i>			6
Plantae	Flora	Thymelaeaceae	6814	<i>Pimelea linifolia</i> subsp. <i>linifolia</i>			2
Plantae	Flora	Thymelaeaceae	6871	<i>Pimelea micrantha</i>		Silky Rice-flower	1
Plantae	Flora	Thymelaeaceae	6191	<i>Pimelea stricta</i>		Gaunt Rice-flower	1
Plantae	Flora	Thymelaeaceae	6192	<i>Pimelea strigosa</i>			2
Plantae	Flora	Typhaceae	7224	<i>Typha domingensis</i>		Narrow-leaved Cumbungi	3
Plantae	Flora	Ulmaceae	6220	<i>Celtis australis</i>	*		1
Plantae	Flora	Ulmaceae	6761	<i>Trema tomentosa</i> var. <i>aspera</i>		Native Peach	1
Plantae	Flora	Urticaceae	6231	<i>Parietaria debilis</i>		Native Pellitory	3
Plantae	Flora	Urticaceae	6232	<i>Parietaria judaica</i>	*	Pellitory	1
Plantae	Flora	Urticaceae	6237	<i>Urtica incisa</i>		Stinging Nettle	10

Plantae	Flora	Valerianaceae	7303	<i>Centranthus ruber subsp. ruber</i>	*	Red Valerian	1
Plantae	Flora	Verbenaceae	12422	<i>Glandularia aristigera</i>	*	Mayne's Pest	6
Plantae	Flora	Verbenaceae	6249	<i>Lantana montevidensis</i>	*	Trailing Lantana	1
Plantae	Flora	Verbenaceae	11134	<i>Phyla canescens</i>	*	Lippia	1
Plantae	Flora	Verbenaceae	11187	<i>Verbena africana</i>	*		14
Plantae	Flora	Verbenaceae	6256	<i>Verbena bonariensis</i>	*	Purpletop	16
Plantae	Flora	Verbenaceae	10716	<i>Verbena caracasana</i>	*	Shore Verbain	2
Plantae	Flora	Verbenaceae	10717	<i>Verbena gaudichaudii</i>		Verbena	6
Plantae	Flora	Verbenaceae	6636	<i>Verbena hispida</i>	*	Rough Verbena	1
Plantae	Flora	Verbenaceae	10718	<i>Verbena incompta</i>	*		3
Plantae	Flora	Verbenaceae	6259	<i>Verbena officinalis</i>	*	Common Verbena	9
Plantae	Flora	Verbenaceae	10720	<i>Verbena quadrangularis</i>	*		3
Plantae	Flora	Verbenaceae	11406	<i>Verbena rigida var. rigida</i>	*	Veined Verbena	3
Plantae	Flora	Violaceae	6274	<i>Viola odorata</i>	*	Sweet Violet	2
Plantae	Flora	Viscaceae	6277	<i>Notothixos cornifolius</i>		Kurrajong Mistletoe	1
Plantae	Flora	Vitaceae	6281	<i>Cayratia clematidea</i>		Native Grape	3
Plantae	Flora	Vitaceae	14093	<i>Clematicissus opaca</i>		Pepper Vine	10
Plantae	Flora	Xanthorrhoeaceae	8752	<i>Xanthorrhoea glauca subsp. angustifolia</i>		P	1
Plantae	Flora	Xanthorrhoeaceae	8751	<i>Xanthorrhoea glauca subsp. glauca</i>		P	2
Plantae	Flora	Xanthorrhoeaceae	6317	<i>Xanthorrhoea johnsonii</i>		Johnson's Grass Tree P	1
Plantae	Flora	Zamiaceae	6336	<i>Macrozamia stenomera</i>		P	7
Plantae	Flora	Zygophyllaceae	9230	<i>Tribulus micrococcus</i>		Spineless Caltrop	5
Plantae	Flora	Zygophyllaceae	7655	<i>Tribulus terrestris</i>	*	Cat-head	1

Appendix D –Cut and Fill plans

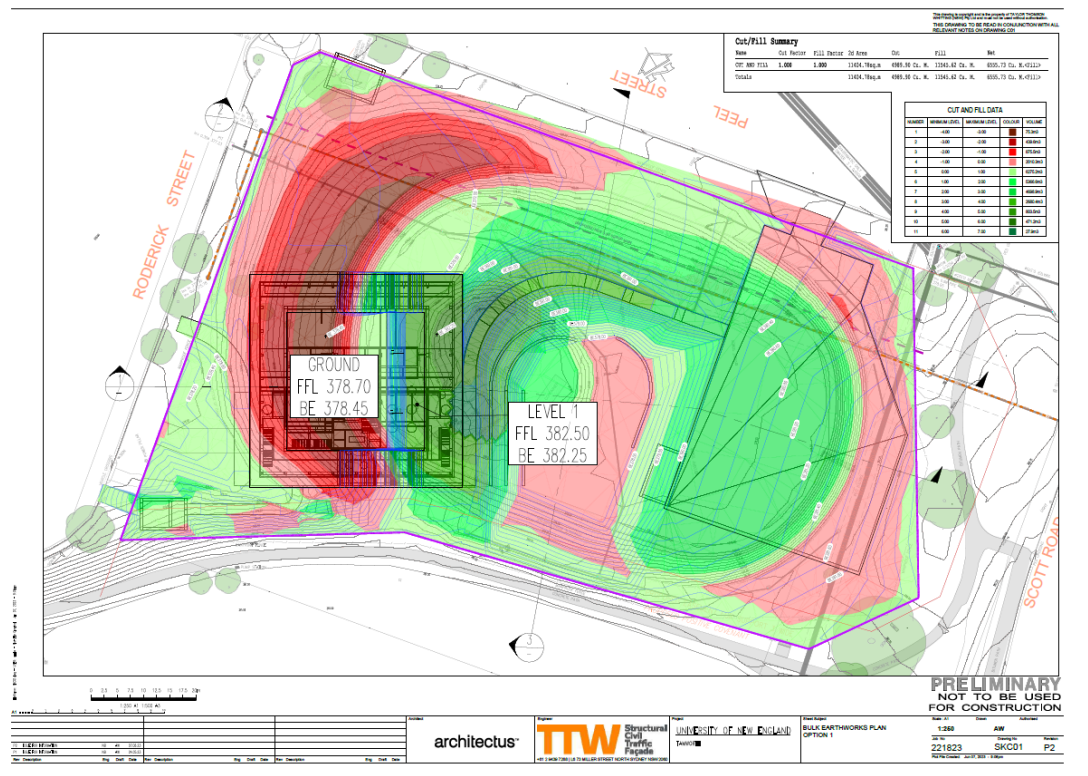


Figure 16 Option 1 Cut and Fill plans.

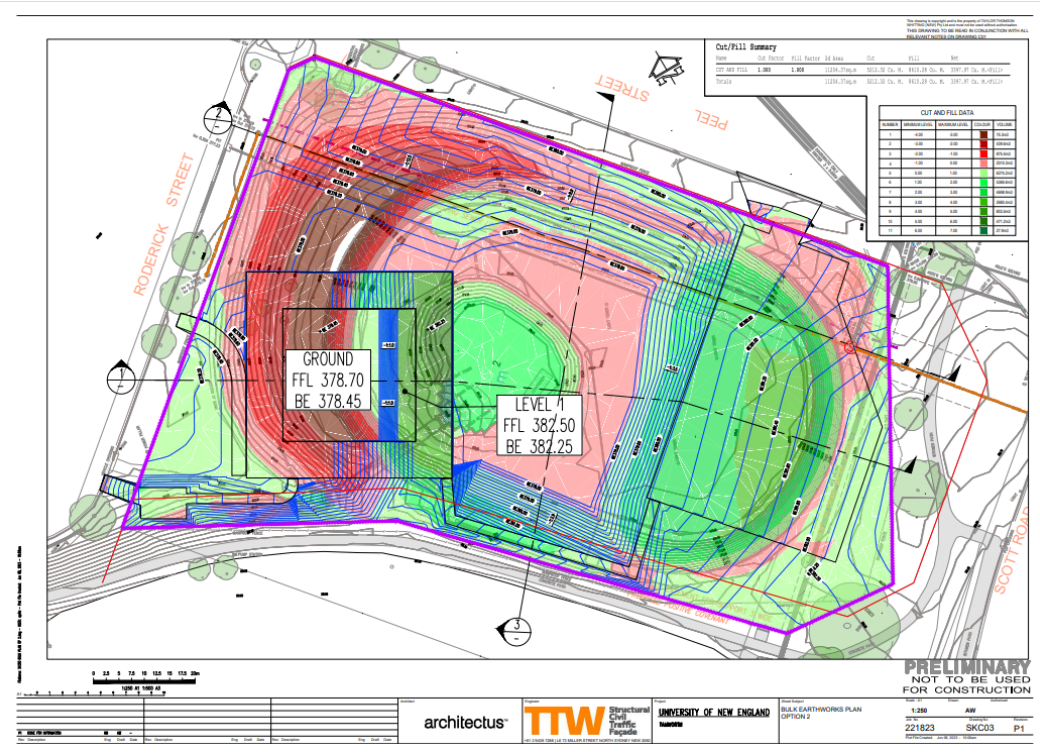
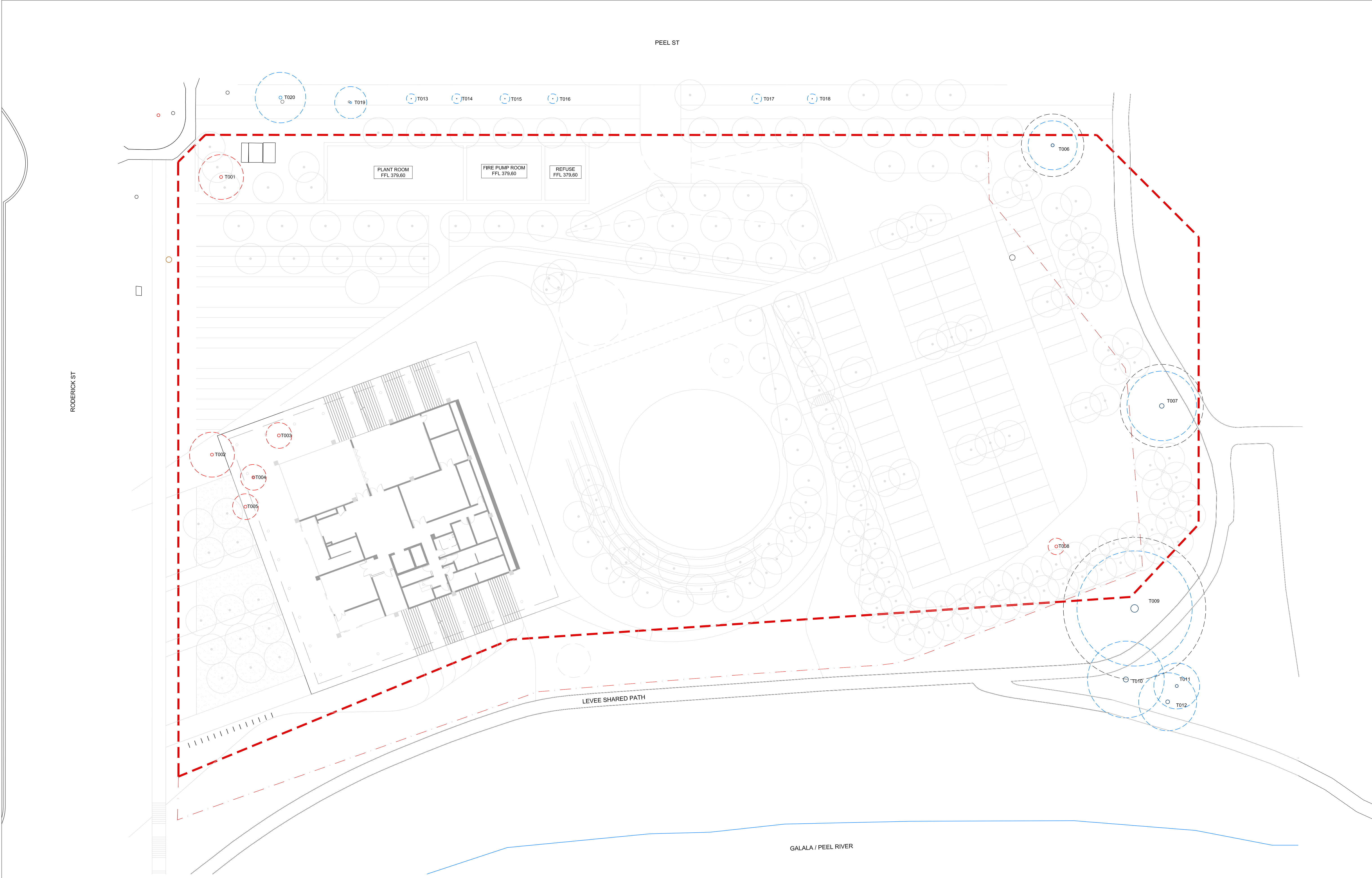
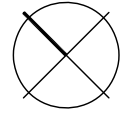


Figure 17 Option 2 Cut and Fill plans.






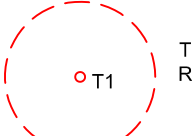
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LEGEND


TREE TO BE RETAINED




SRZ TPZ



T1 TREE TO BE REMOVED
REFER TO DEMOLITION PLAN



NEW TREE



T1 TREE NUMBER

ISSUE	DATE	DESCRIPTION	REV	DATE	DESCRIPTION
01	29.07.2023	DA DRAFT ISSUE	-	-	-

LANDSCAPE ARCHITECT

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PROJECT	UNE TAMWORTH		PROJECT NO.	2302	ISSUE DATE	11.08.2023
CLIENT	UNIVERSITY OF NEW ENGLAND		DRAWN	TYR	CHECKED	TYR
DRAWING TITLE			TREE MANAGEMENT PLAN		SCALE AT A1	
			DRAWING NO.		ISSUE	
			TW-L103		01	