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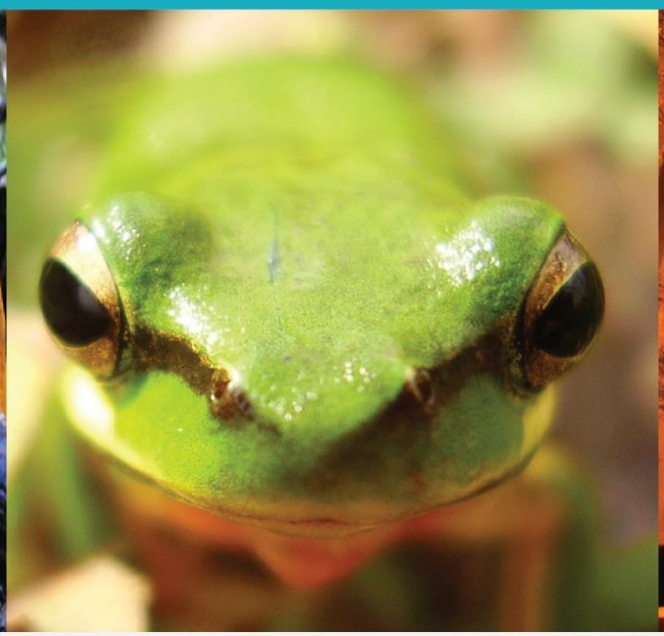


Preliminary Ecological Assessment – North Rocks Village Green

361-365 North Rocks Road

NORTH ROCKS

23 March 2021
(REF: 18EG05F)

Executive summary

Travers bushfire & ecology has undertaken an ecological inspection of 361-365 North Rocks Road, North Rocks, (as shown in Figure 1) to provide advice on the potential, likely or known constraints for any future development of the subject site. The proposal is seeking a rezoning of the subject site to facilitate implementation of the conceptual master plan. The Planning Proposal lodgement will utilise this existing preliminary assessment along with the masterplan provided in Figures 2.1 and 2.2. Section 2 of the report provides further details.

Figure 1 – Study area

No part of the study area is affected by threatened ecological communities however there is only remnant vegetation near the northern boundary of the site. Given the highly disturbed nature of the site and extent of existing development footprints over the vast majority of the subject site, the likelihood for threatened flora to exist is considered very low, as is the case for any planted threatened specimens. It is noted that approximately 95% of the study area is cleared of native vegetation. Diurnal and nocturnal fauna survey will be required as part of a future development application on site. The habitats on site are not particularly unique that hold a high ecological constraint at the time of inspections.

Any future development application will need a Biodiversity Development Assessment Report that addresses the *Biodiversity Conservation Act*, 2016 (*BC Act*). With respect to whether the development will trigger the Biodiversity Offset Scheme, this is based on three (3) factors:

- does the site impact biodiversity values land as mapped by DPIE?
- does the impact exceed clearing thresholds?
- will the proposal cause a 'significant impact' in light of the test of significance?

At the time this report was commissioned, the site is not mapped as containing biodiversity values. Based on the current proposal, there will be impacts that exceed the 0.25 ha or greater threshold upon native vegetation, even though they may be largely in the form of asset protection zones. Impacts of 0.25 ha or greater upon native vegetation may trigger the

Biodiversity Offset Scheme (BOS). Should greater buffers be provided to native vegetation, then the BOS may be avoided.

There are no wetlands or riparian zones within the study area that require assessment and / or protection or setbacks.

Given the nature of the site, there is not likely to be any ‘red-flag’ issues with regard to the *EPBC Act.*

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1 Site description

Table 1 provides a summary of the planning, cadastral, topographical, and disturbance details of the study area.

Table 1 – Site features

Location	361-365 North Rocks Road, North Rocks
Local government area	Parramatta
Size	12.676 ha
Grid reference	317442E 626151N
Elevation	88–100 m AHD
Topography	The site has a gentle slope to the north with an average slope of around 4 degrees.
Geology and soils	Geology; Wianamatta Group – Ashfield Shale; Hawkesbury Sandstone Soils; Gymea, Hawkesbury and Glenorie Soil Landscapes.
Catchment and drainage	The site falls north into Blue Gum Creek which then flows into Darling Mills Creek which flows in a westerly then southerly direction discharging into the Parramatta River.
Vegetation	Remnant vegetation occurs in the north of the study area. This is dominated by *E. pilularis* and *C. gummifera.*
Existing land use and zoning	Institute for deaf and blind children, currently zoned R2 - Low Density Residential.
Clearing	c. 95% of the study area has been cleared of native vegetation.

2 Masterplan

Figure 2 shows the landscape masterplan for the site.

There is still a full-sized oval, as well as several other pocket parks, community gardens etc. throughout the site.

This plan takes into consideration some of the previous landscaping undertaken on site that includes existing mature trees, many of which are large deciduous trees.

Proposal name	North Rocks Village Green
Proposal description	This Preliminary Ecological Assessment has been prepared to support a Planning Proposal to City of Parramatta Council for land at 361-365 North Rocks Road, North Rocks (the site). The planning proposal seeks to create North Rocks Village, a Housing Diversity Precinct (HDP) as expressed in Council's Local Strategic Planning Statement (LSPS). It will deliver a genuine mix of housing opportunities within a garden village setting that complements existing neighbourhood character and has the potential to revitalise North Rocks Local Centre. Key elements will comprise: • Executive/family housing including small lot housing, townhouses, terraces, large private garden and terrace style apartments, low-rise apartments as well as seniors living and affordable housing; • Publicly accessible open spaces including a full-sized oval able to accommodate multi-purpose fields and operate as a village green for the community; • The creation of a village square with direct pedestrian connection to

	North Rocks Shopping Centre; • Embellishment of adjoining Council reserve to improve existing infrastructure; • Community gardens, walking trails, green and blue connections and public access throughout the site; • Multiple community spaces to provide for the development of cultural, community and arts programs, including co-working areas, multi-purpose facilities and Hear the Children (RIDBC) Early Intervention service; • Regular transport connections to major bus interchange at M2; and • Shared way through the site providing connections to existing pedestrian and cycle links.
Yield	Approximately 935 dwellings comprising low rise apartments, townhouses, terraces, detached houses in addition to 145 independent living units and small aged care facility.
LEP	Parramatta (formerly The Hills) Local Environmental Plan 2012

Figure 2 - Landscape Master Plan

3 Field inspection

A field inspection was undertaken by Botanist Dr George Plunkett on 23 August, 2018 over the time frame of approximately 1.5 hrs. This was restricted to the small area of remnant native vegetation within the north of the site, primarily to confirm the plant community type (PCT) of the remnant. One (1) flora quadrat of 20 m x 20 m was undertaken within the existing native vegetation of the lot to assist in the identification of PCT present. Native

vegetation boundaries were drawn to the approximate extent of any drip line. Opportunistic threatened flora searches were undertaken during stratified surveys.

An additional field inspection was undertaken by Managing Director Michael Sheather-Reid on 2 May 2019. This involved a pre-commencement inspection to provide advice on the potential ecological significance of the trees present subject to completion of detailed ecological and arboricultural assessment.

Figure 5 notes the observed vegetation types and location of any threatened species.

No fauna survey has been undertaken, however, a desktop threatened fauna species habitat assessment has been undertaken in review of the habitat attributes recorded during the field botanical visit.

4 Biodiversity offsets

The Biodiversity Offset Scheme (BOS) includes two (2) elements to the threshold test – a Sensitive Biodiversity Values Land Map trigger and an area trigger. If clearing exceeds either trigger, the Biodiversity Offset Scheme applies to the proposed clearing.

A significance of assessment test is undertaken for a development proposal, in accordance with part 7.3 of the *BC Act*. If the test identifies any significant impact, then a species impact statement, avoiding and minimising the impact, and biodiversity offsetting may still be required. The significance assessment test is not required if the BOS is triggered or entered into.

4.1 Biodiversity values land mapping trigger

Biodiversity Values Land has not been mapped within the site – an offset is not required under this trigger. Figure 3 shows the site (red) in relation to those areas (coloured purple) as having biodiversity values. Biodiversity values are not mapped within the site, so this element will not trigger the BOS.

Figure 3 – Biodiversity value land in the local area
(Source: DPIE – Biodiversity Values Map – March 2021)

4.2 Area clearing threshold

The area threshold varies depending on the minimum lot size (shown in the Lot Size Maps made under the relevant Local Environmental Plan (LEP)), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP).

Table 2 identifies that the site has a minimum lot size of 0.07 ha, and the clearing threshold for which the BOS applies is 0.25 ha. *TBE* concludes that clearing that exceeds 0.25 ha will require a biodiversity offset to be obtained.

Based on the masterplan, greater than 0.25 ha of native vegetation will be cleared and offsetting will be required under the BOS. Whilst there may not be direct impacts for the placement of structures in native vegetation, it is likely that the native vegetation will need to be maintained within an asset protection zone. As this still has an impact upon native vegetation through selective canopy removal, thinning of mid-storey and maintenance of the ground layer, it is expected to cover an area greater than the threshold.

Table 2 – BOS entry threshold report

Date of Calculation	04/09/2019 10:48 AM	**BDAR Required***
Total Digitised Area	9.9 ha	
Minimum Lot Size Method	LEP	
Minimum Lot Size	0.07 ha	
Area Clearing Threshold	0.25 ha	
Area clearing trigger Area of native vegetation cleared	Unknown #	Unknown #
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	no	no
Date of the 90 day Expiry	N/A	

5 Vegetation

Native vegetation occurs as part of a small remnant close to the northern boundary of the study area and occupies approximately 0.57 ha. An additional small amount of native vegetation may be contained throughout the property where native plantings have been used around the existing buildings, however this has not been fully verified.

This vegetation has been mapped by *The Native Vegetation of the Sydney Metropolitan Area – Version 3.0* (OEH 2016) as Smooth-barked Apple - Red Bloodwood - Blackbutt tall open forest on shale sandstone transition soils in eastern Sydney (PCT 1845), which is largely equivalent to Coastal Shale Sandstone Forest. Our quadrat results support this classification.

DPIE make the following statement regarding PCT 1845 on the BioNet Vegetation Classification tool:

> "*20170316: There are currently no TECs associated with this PCT. It has relationships to both Duffy's Forest Ecological Community and the more westerly Shale Sandstone Transition Forest, but has been specifically excluded through the determination for the latter and fails with regard to characteristic species of the former."*

There is no mention of STIF in relation to PCT 1845. Comparing our quadrat data with the final determinations for STIF, Duffy's Forest and Shale Sandstone Transition Forest,

suggests that the vegetation within the study area is not commensurate with any of these TECs.

Therefore, it is considered that the vegetation within the study site is not commensurate with any endangered ecological community (EEC) listed under the *Biodiversity Conservation Act 2016* (*BC Act*) or *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*).

The remaining vegetation in the study area occurs as planted trees, garden beds and managed lawn. Planted trees include *Corymbia citriodora* (Lemon-scented Gum), *Corymbia maculata* (Spotted Gum), *Schinus* sp. (Pepper Tree), *Grevillea robusta* (Silky Oak), *Jacaranda mimosifolia* (Jacaranda) and *Melaleuca* spp.

Historically, prior to the RIDBC being built, the site was utilised for agricultural purposes as shown on Figure 4.

Figure 4 – Historical aerial photo from 1943 showing the majority of the site being used for agriculture. Boundary is approximate only

5.1 Description of remnant vegetation

Canopy – *Eucalyptus pilularis, Corymbia gummifera, E. eugenioides, E. punctata, E. resinifera, Syncarpia glomulifera* and *Angophora costata* are the dominant species of the canopy. Canopy projected foliage cover is estimated at 15% with a height of 15–22 m.

Mid-storey – The mid-storey is sparse and contributes less than 2% PFC. Species present include *Polyscias sambucifolia, Cassytha glabella, Bossiaea obcordata, Kennedia rubicunda, Acacia falcata, Pittosporum undulatum, Kunzea ambigua, Acacia decurrens* and *Breynia oblongifolia*. Exotic species such as *Senna pendula, Sida rhombifolia, Cinnamomum camphora* and *Solanum mauritianum* are also present.

Ground layer – The understorey exists primarily as managed lawn dominated by native and exotic grasses. Native species present include *Themeda triandra, Aristida ramosa, Entolasia*

stricta, Dichelachne micrantha, Microlaena stipoides, Echinopogon ovatus, Pimelea linearis, Hardenbergia violacea, Lomandra obliqua, Lepidosperma laterale, Glycine clandestina, Dianella caerulea, Dichondra repens and *Phyllanthus hirtellus,* and provide a PFC of up to 50% in places, but generally less than 5%. Overall, exotic species are dominant in the ground layer and include species such as *Stenotaphrum secundatum, Pennisetum clandestinum, Setaria parviflora, Taraxacum officinale, Eragrostis curvula, Ehrharta erecta*, *Bidens pilosa*, *Solanum nigrum*, *Hypochaeris radicata*, *Plantago lanceolata*, *Cirsium vulgare*, *Rumex* sp., *Tradescantia fluminensis* and *Ageratina adenophora.*

Photo 1 – Smooth-barked Apple - Red Bloodwood - Blackbutt tall open forest (PCT 1845) in the north-east of the study area looking north.

Photo 2 – Smooth-barked Apple - Red Bloodwood - Blackbutt tall open forest (PCT 1845) within Quadrat 1 looking north.

Photo 3 – Smooth-barked Apple - Red Bloodwood - Blackbutt tall open forest (PCT 1845) in the north-west of the study area looking south.

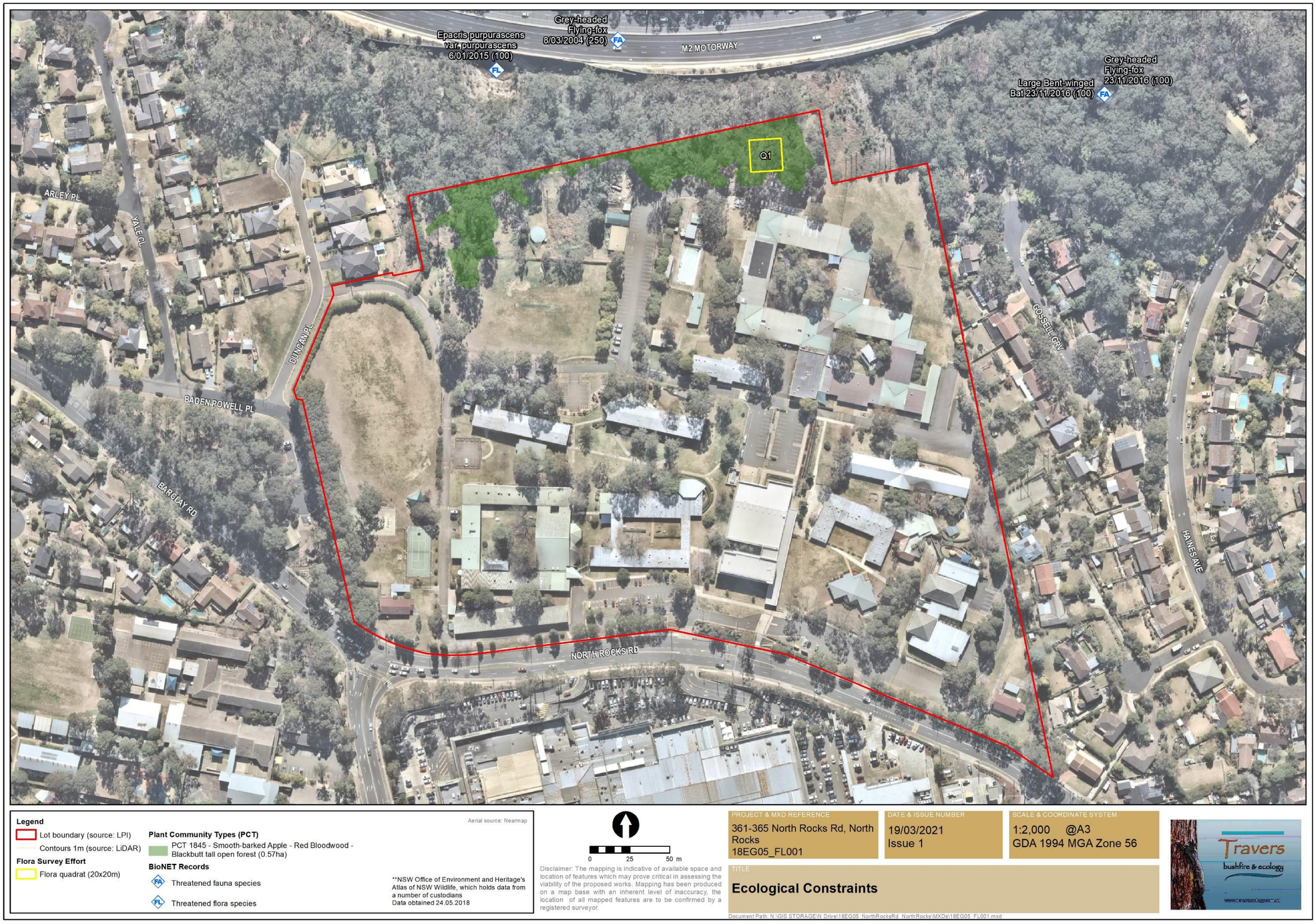

Figure 5 – Flora survey results and ecological constraints

5.2 Trees

Remnant native trees are associated with the Smooth-barked Apple - Red Bloodwood - Blackbutt tall open forest in the far north of the property only. The existing mature trees within the remainder of the site are all planted specimens of either exotic or non-local species. Detailed habitat tree survey has not been undertaken but based on recent site inspection it is expected that there are few hollow-bearing trees within the site, and most are likely to be restricted to the remnant vegetation in the north. Some trees may provide foraging resources for fauna, as noted in Section 7 Fauna, but they are generally of no outstanding ecological significance and do not constitute a constraint.

A pre-commencement inspection was undertaken onsite to provide advice on the potential ecological significance of the trees present subject to completion of detailed ecological and arboricultural assessment. Trees have been selected for retention based on their visual significance and general tree condition. However, as we have not completed a formal detailed arboricultural assessment, we cannot provide any further definitive statement on the significance of individual trees from an arboricultural standpoint. This would occur at the DA stages.

6 Threatened flora

The NSW BioNet database and Commonwealth Protected Matters Search were accessed to provide an indication of the threatened flora present within a 10 km radius of the study area. Tables 3 and 4 lists all recorded species and whether they have potential habitat.

Table 3 – Threatened flora potential habitat

Scientific name	*BC Act* status	*EPBC Act* status	No. records within 10 km	Potential habitat
Acacia bynoeana	E1	V	18	x
Acacia clunies-rossiae	V		1	x
Acacia gordonii	E1	E	3	x
Acacia pubescens	V	V	32	x
Allocasuarina glareicola	E1	E	0	x
Asterolasia elegans	E1	E	0	x
Caladenia tessellata	E1	V	1	x
Callistemon linearifolius	V		15	Unlikely
Cryptostylis hunteriana	V	V	0	x
Cynanchum elegans	E1	E	0	x
Darwinia biflora	V	V	526	Unlikely
Darwinia peduncularis	V		25	x
Dillwynia tenuifolia	V		2	x
Epacris purpurascens var. *purpurascens*	V		290	Low
Eucalyptus camfieldii	V	V	37	x
Eucalyptus nicholii	V	V	8	x (unless planted)
Eucalyptus scoparia	E1	V	1	x (unless planted)
Eucalyptus sp. Cattai	E4A	CE	16	x
Galium australe	E1		7	x
Genoplesium baueri	E1	E	23	Unlikely
Genoplesium plumosum	E4A	E	2	x

Scientific name	*BC Act* status	*EPBC Act* status	No. records within 10 km	Potential habitat
Grammitis stenophylla	E1		5	x
Grevillea caleyi	E4A	CE	1	x
Haloragodendron lucasii	E1	E	4	x
Hibbertia spanantha	CE	CE	0	x
Hibbertia superans	E1		104	Unlikely
Kunzea rupestris	V	V	1	x
Lasiopetalum joyceae	V	V	10	x
Leptospermum deanei	V	V	18	x
Leucopogon fletcheri subsp. *fletcheri*	E1		25	x
Melaleuca biconvexa	V	V	2	x
Melaleuca deanei	V	V	64	x
Pelargonium sp. Striatellum	E1	E	0	x
Persoonia hirsuta	E1	E	25	x
Persoonia mollis subsp. *maxima*	E1	E	37	x
Persoonia nutans	E1	E	2	x
Pimelea curviflora var. *curviflora*	V	V	54	Unlikely
Pimelea spicata	E1	E	9	x
Pomaderris brunnea	E1	V	1	x
Prostanthera marifolia	E4A	CE	2	x
Pterostylis gibbosa	E1	E	0	
Pterostylis nigricans	V		1	x
Pterostylis saxicola	E1	E	3	x
Syzygium paniculatum	E1	V	22	x (unless planted)
Tetratheca glandulosa	V		171	Unlikely
Thesium australe	V	V	0	x
Triplarina imbricata	E1	E	4	x
Wilsonia backhousei	V		98	x
Zannichellia palustris	E1		5	x

No threatened flora species were observed within the study site during the limited field survey undertaken. There is potential habitat within the study site for several threatened flora species as listed in Table 3.

There are many records of *Epacris purpurascens* var. *purpurascens* within 1 km of the study area, including one (1) record within 50 m of the northern boundary of the lot. There are records of *Hibbertia superans* and *Tetratheca glandulosa* within 2 km of the study area. The native vegetation within the study site is highly disturbed and provides low to unlikely potential habitat for these species.

Additional targeted surveys for threatened flora will be required in the future depending on the proposed development. Note that several of the species are cryptic and will require adequate survey at various times of the year;

- *Tetratheca glandulosa* (Jun–Nov)
- *Darwinia biflora* (Sep–Feb)

If the BOS is entered into, this may have additional species for consideration, and if there is potential habitat for any threatened species, each has to be suitably justified as not occurring

if suitable survey is not undertaken, otherwise species may have to be assumed as being present.

7 Threatened fauna

The NSW BioNet database and Commonwealth Protected Matters Search were accessed to provide an indication of the threatened fauna present (or with considered habitat) within a 10 km radius of the study area. Table 5 lists all these species and their considered potential for habitat to occur within the study area. This potential has taken a precautionary approach based on the absence of fauna survey.

Table 4 – Threatened fauna potential habitat

Common name	*BC Act* status	*EPBC Act* status	No. records within 10 km	Potential habitat
Giant Burrowing Frog	V	V	3	x
Red-crowned Toadlet	V		75	unlikely
Green and Golden Bell Frog	E1	V	12978	x
Littlejohn's Tree Frog	V	V	0	x
Southern Bell Frog	E1	V	0	x
Stuttering Frog	E1	V	0	x
Rosenberg's Goanna	V		2	x
Freckled Duck	V		1	x
Superb Fruit-Dove	V		5	unlikely
Australasian Bittern	E1	E	9	x
Black Bittern	V		8	x
Spotted Harrier	V		3	x
White-bellied Sea-Eagle	V	C	255	x
Little Eagle	V		15	unlikely
Square-tailed Kite	V		12	unlikely
Eastern Osprey	V		3	x
Grey Falcon	E1		1	x
Black Falcon	V		2	x
Painted Honeyeater	V	V	0	unlikely
Australian Painted Snipe	E1	E	3	x
Eastern Bristlebird	E1	E	0	x
Black-tailed Godwit	V	-	14	x
Eastern Curlew	-	CE	30	x
Gang-gang Cockatoo	V		65	unlikely
Glossy Black-Cockatoo	V		32	unlikely
Little Lorikeet	V		21	potential
Swift Parrot	E1	CE	20	unlikely
Superb Parrot	V	V	2	unlikely
Barking Owl	V		10	unlikely
Powerful Owl	V		460	potential
Eastern Grass Owl	V		2	x
Masked Owl	V		9	potential
Sooty Owl	V		2	x

Common name	*BC Act* status	*EPBC Act* status	No. records within 10 km	Potential habitat
Brown Treecreeper (eastern subspecies)	V		1	x
Regent Honeyeater	E4A	CE	9	unlikely
White-fronted Chat	V		238	x
Black-chinned Honeyeater (eastern subspecies)	V		1	x
Varied Sittella	V		9	unlikely
Dusky Woodswallow	V		39	x
Scarlet Robin	V		6	unlikely
Flame Robin	V		3	unlikely
Pink Robin	V		1	unlikely
Diamond Firetail	V		1	x
Spotted-tailed Quoll	V	E	10	unlikely
Koala	V	V	7	unlikely
Southern Brown Bandicoot	E1	E	0	unlikely
Eastern Pygmy-possum	V		20	potential
Yellow-bellied Glider	V		3	x
Greater Glider	-	V	3	x
Brush-tailed Rock Wallaby	E1	V	0	x
Grey-headed Flying-fox	V	V	251	potential
Yellow-bellied Sheathtail-bat	V		29	potential
Eastern Freetail-bat	V		51	potential
Large-eared Pied Bat	V	V	2	unlikely
Eastern False Pipistrelle	V		27	potential
Little Bentwing-bat	V		21	potential
Eastern Bentwing-bat	V		193	likely
Southern Myotis	V		46	unlikely
Greater Broad-nosed Bat	V		31	potential
Eastern Chestnut Mouse	V		2	x
New Holland Mouse	-	V	0	unlikely
Cumberland Plain Land Snail	E1		24	x
Dural Woodland Snail	E1	E	34	x

Fauna survey was limited to an assessment of habitat attributes undertaken during the flora survey. No detailed fauna surveys were undertaken. Particular note was taken to search for the following potential threatened fauna species habitat:

- Observations for presence of potential *Allocasuarina* trees for foraging by Glossy Black-Cockatoo.
- Hollow-bearing trees present.
- Caves and overhangs present for microbat roosting.
- Terrestrial shelters, burrows and/or hollows.
- Presence of drainages for frog species habitat.

The following habitat was present:

- Nectar producing tree and shrub species such as Eucalypts.

- Winter-flowering *Eucalyptus tereticornis, Corymbia maculata* and *Corymbia citriodora.*
- Seed producing trees notably *Acacia* spp.
- Loose soil suitable for foraging.

No hollow-bearing trees were identified during the botanical survey.

Detailed fauna survey will be needed as part of a development application. The likelihood of impacts upon threatened fauna species will depend on the proposed development and how it impacts fauna habitat.

If the BOS is entered into, the BAM calculator may have other additional species for consideration, and survey during breeding periods may have to be accommodated if it exists on site.

8 Threatened ecological communities

Native vegetation within the study area is not part of any recognised threatened ecological community (see discussion in Section 5 Vegetation).

9 Endangered populations

There are six (6) endangered populations known within 10 km of the subject site. These are:

- *Marsdenia viridiflora* R. Br. subsp. *viridiflora* in the Bankstown, Blacktown, Camden, Campbelltown, Fairfield, Holroyd, Liverpool and Penrith local government areas.

- Tadgell's Bluebell (*Wahlenbergia multicaulis*) in the local government areas of Auburn, Bankstown, Baulkham Hills, Canterbury, Hornsby, Parramatta and Strathfield

- *Pomaderris prunifolia* in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas

- Gang-gang Cockatoo population in the Hornsby and Ku-ring-gai Local Government Areas

- White-fronted Chat population in the Sydney Metropolitan Catchment Management Area

- Long-nosed Bandicoot population in inner western Sydney

The study area is located within the Parramatta Local Government Area (LGA). Therefore, the *Marsdenia viridiflora* and Gang-gang Cockatoo endangered populations do not occur within the subject site from a spatial or LGA perspective.

No individuals of the above mentioned six (6) species were observed during the flora survey.

Pomaderris prunifolia is a small shrub 1–3 m in height. The only nearby specimens are located in Rydalmere. Most specimens occur near creek banks. It is considered that the subject site is unlikely to host the species.

The Tadgells Bluebell (*Wahlenbergia multicaulis*) endangered population does occur within the Parramatta LGA. However, the closest and only record of this species within 10 km is located 8 km to the south-east of the subject site. Therefore, it is considered that the presence of this species within the subject site is very unlikely.

The closest record of the White-fronted Chat to the subject site is 7 km to the south-east. This species is not capable of flying across 7 km of urbanised landscape and requires saltmarsh or estuarine habitat. Therefore, the presence of this population within the subject site is not likely due to a lack of suitable habitat.

The closest record for the Long-nosed Bandicoot population in inner western Sydney is a single record located at Concord at a distance of more than 10 km on the other side of Parramatta River. Therefore, the likelihood of this species occurring within the subject site is highly unlikely.

No endangered fauna populations are expected to occur within the subject site due to high levels of previous disturbance and the lack of suitable habitat.

10 Draft Local Environment Plan 2020

TBE have investigated the proposed changes contained in the draft local environment plan (LEP) and found that the new LEP will include maps that identify important vegetation as proposed biodiversity lands in the north-eastern corner of the site. Given the presence of the proposed biodiversity lands on the site and the asset protection zone (APZ) requirements for this development, this vegetation will be managed in accordance with the requirements for APZ compliance. Additional measures may be required as part of the DA submission to show what the impacts are, and what mitigation measures will be imposed.

11 Additional assessments under the *Environmental Protection and Biodiversity Act (EPBC Act)*

The native vegetation within the study area is not part of any recognised threatened ecological community under the *EPBC Act*.

Under the *EPBC Act,* the following PCTs are recognised as commensurate with the CEEC *Turpentine-Ironbark Forest of the Sydney Basin Bioregion*: 792, 1183, 1281, 1284 and 1848. Although PCT 1845 has some similarities with this CEEC, as discussed in Section 5, it is not recognised as being part of any threatened ecological community under the *EPBC Act.*

Detailed survey will need to be undertaken for fauna species as part of a development application. The likelihood of significant impacts upon fauna species will depend on the proposed development and how it impacts fauna habitat. Given the historical use of the site and partly impacted native vegetation, we do not envisage any major issues.

12 Watercourses and wetlands

The site does not contain any watercourses or wetlands.

13 Connectivity and corridors

There is bushland connectivity located along the southern boundary of the M2 Motorway (Figure 6). This connectivity is 2 km long with the subject site located close to the mid-point. Vegetation along the southern side of the M2 Motorway is fragmented by small gaps such as the powerline easement located in the north-eastern parts of the study area. The M2 motorway is approximately 65 m wide at this point with a large screening fence which effectively isolates the southern bushland fringes within the study area and adjoining lands from the larger areas of bushland along Blue Gum Creek to the north. There is a drainage line that passes under the motorway to the north west of the study area that provides some connectivity across the motorway.

As the vegetation within the study area is located on the edge of the vegetation remnant, its removal would not break any local habitat connectivity.

Figure 6 – Local connectivity

14 Conclusions and recommendations

This ecological advice confirms the following ecological attributes:

- The remnant native vegetation is not representative of any threatened ecological community. The likelihood of threatened flora on site is considered very low given prior impacts and land use. General and targeted survey for threatened fauna species, and targeted survey for threatened flora species will be required at the DA stage. This will need to be undertaken at various times of the year as noted in Sections 6 and 7. Note that if the BOS is triggered, it may have some additional species that will require assessment.

- The study area contains 0.57 ha of native vegetation, centred along the site's northern boundary. The BOS area threshold for vegetation impact is 0.25 ha, therefore any clearing of native vegetation equal to or above 0.25 ha will require a biodiversity offset to be obtained. Note, that additional fragments of native vegetation may be added across the site, as planted native species may also be part of a vegetation community.

Under the *BC Act*, any proposal within the site may trigger the BOS depending on the extent of vegetation removal. Based on the draft Master Plan, greater than 0.25 ha of naitve vegetation may be impacted for example via inclusion within an APZ. The impact of the APZ will be in the form of selective canopy removal, mid-storey and ground layer maintenance.

The amount of credits required for offsetting will be less than if the area was fully cleared as some biodiversity values will be retained in a reduced state.

A separate *EPBC Act* assessment including any referral is unlikely, subject to the presence of *EPBC*-listed threatened species and the potential impacts.

If you require any further information please do not hesitate to contact the undersigned, Michael Sheather-Reid (Managing Director) on (02) 4340 5331 or at info@traversecology.com.au.

Yours faithfully

Michael Sheather-Reid
Managing Director – ***Travers bushfire & ecology***