ACS Environmental Pty Ltd

Review of Flora and Fauna Investigation

for site of proposed new

Biological Sciences Building

at

Macquarie University, Ryde

Report prepared for Creative Planning Solutions
on behalf of Ryde City Council

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ACS ENVIRONMENTAL P/L

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Consultants experience

The Directors and Principal Ecologists of 'ACS Environmental P/L' have collectively worked in the area of flora and fauna impact assessment services for a period of greater than 20 years. They also have over 30 years of experience in scientific research (ecological, genetic) and teaching in biological science.

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1 Introduction

In late December 2016 ACS Environmental P/L were commissioned by Creative Planning Solutions on behalf of Ryde City Council to review the adequacy and findings of an ecological assessment undertaken for a proposed new building at Macquarie University, NSW. The subject flora and fauna investigation was compiled by Lesryk Environmental Pty Ltd.

The aim of this consultancy is to provide Council with an independent assessment of the environmental aspects of the proposal by reviewing the environmental study document submitted by the proponent.

As part of this review ACS Environmental (ACS) inspected the site at Macquarie University, between 10.00 am and 12.00 noon on Tuesday 10th January 2017.

Documents provided to assist review

1. Flora and fauna Investigation. Proposed Biological Science building, Macquarie University, NSW Prepared by Lesryk Environmental Pty Ltd (November 2016).

2 Ecological Impact Assessment undertaken by Lesryk Environmental

The ecological assessment undertaken and reported by Lesryk Environmental is considered to be generally thorough addressing aspects of the ecological values of the study area (Figure 1). It describes the environmental setting and legislative requirements and details desktop studies including literature reviews and field guides.

Figure 1 - Aerial photograph of north-western corner of Macquarie University with study area of Lesryk (2016) outlined in red (image from SIX maps).

Method statements and assessments included in the report are considered generally good, with standard protocols having been followed and addressed in the survey and assessment procedure.

The documentation of the flora and fauna elements recorded on site as well as the tabulation of potential threatened species of flora and fauna pertaining to the site is of a high standard and most of the conclusions of the ecological assessment are considered satisfactory.

The subject report refers to two past vegetation mapping studies, firstly in DEC (2002) that describes the study area as "Sydney Turpentine-Ironbark Margin Forest", which may be likely since the location of the study area occurs at the boundary of the Ashfield Shale Series of the Wianamatta Group of Shales with the lower Hawkesbury Sandstone strata. Secondly in OEH (2013) the vegetation is described as "Coastal Enriched Sandstone Dry Forest".

The subject report also refers to a more recent study in 2015 as follows:

" *Context and LesryK Environmental Pty Ltd (2015) prepared a vegetation management plan for the University's bushland remnants, this including ground truthing and mapping of the intact native vegetation present ..".*

In this current report Lesryk (2016) states*: " The subject site was not within any area mapped as native vegetation as field surveys indicated that the trees present within the area proposed to be affected by the new biological science building and research facility were planted and that the native groundcover species had been removed."*

However, whilst stating that vegetation at the site is characterised by non-locally occurring eucalypts that were planted three to four decades ago, the Lesryk report deems that the individual of Turpentine on the site is part of the critically endangered ecological community, Turpentine-Ironbark Forest and should be assessed in relation to Section 5A of the EPA Act*,* as amended by the TSC Act.

ACS is not in agreement with this assumption for the following reasons.

- Turpentine is also a positively diagnostic species for a number of other ecological communities, endangered and non endangered, and no convincing evidence is provided in the report that the site ever supported STIF; and
- The subject individual of Turpentine (Figure 2) is considered by ACS to be immature to semi-mature in age having a height of about 9 metres and a DBH of about 750mm. It is therefore considered too young to be a remnant of any original community that occurred in the area.
- The individual of Turpentine was likely planted in a landscape plan for the patch of woodland that occurs as part of a series of non-contiguous patches of landscaped woodland in the subject area and vicinity. ACS consider that the single Turpentine tree is part of a landscape planting program that has occurred since the area ceased to be utilised for agriculture. Figures 3 and 4 depict the current site in 2017 and the comparative site in 1943 with the location of the individual of Turpentine highlighted.

Figure 2 - Immature Turpentine tree at development site, north-western corner of Macquarie University.

Figure 3 - North-western corner of Macquarie University showing area proposed for development and immature Turpentine tree highlighted.

Figure 4 - Same location as in Figure 3, photograph taken in 1943, indicating the location of the current individual of Turpentine in 2017, the area in 1943 being wholly utilised for agriculture.

3 Concluding comments

ACS Environmental has reviewed the Ecological Assessment report by Lesryk Environmental for the development of Macquarie University site.

In conclusion:

1. The ecological assessment undertaken and reported by Lesryk Environmental is considered to be of a high standard and addresses the aspects of the ecological values of the study area.
2. Method statements included in the report are considered appropriate to the survey, with standard protocols having been followed and addressed in the survey and assessment procedure.
3. However ACS does not consider it likely that the single individual tree of Turpentine is a remnant of a former Sydney Turpentine-Ironbark Forest. Earlier mapping of the study area by DEC (2002) and OEH (2013) are both anomalous as determined from ground truthing (Context and LesryK Environmental Pty Ltd 2015) (ACS Environmental 2017), the vegetation clearly being the result of landscaping by the University. As well, aerial images of the site in 1943 show the area to be well developed for agriculture with no indication of any remnant individual trees of Turpentine at the location.

   As such the 7-part assessment undertaken by Lesryk Environmental is considered to have been unnecessarily precautious.
4. The documentation of the threatened elements of flora and fauna recorded on site as well as the tabulation of potential threatened species of flora and fauna pertaining to the site is of a high standard and the conclusions of the ecological assessment are considered satisfactory.

5. In summation ACS agrees with Lesryk that there will be no effective loss of STIF EEC as a result of the proposed development. However should Council accept the recommendation by Lesryk that replacement saplings of Turpentine be planted as part of a landscape plan, it is recommended that seed be collected from trees within Macquarie University and propagated to ensure such trees maintain a local provenance.

4 References and Literature reviewed

DEC (2002) *Final Edition of 'Native Vegetation of the Cumberland Plain'*. Conservation Programs and Planning Division, Central Directorate.

Lesryk Environmental Pty Ltd (2016). Flora and fauna Investigation. Proposed Biological Science building, Macquarie University, NSW.

NSW Scientific Committee. Final Determinations (1996 – 2017) Determinations relating to listings of threatened species, populations, ecological communities and key threatening processes in the Schedules of the *Threatened Species Conservation Act 1995.*

OEH (2013) 'The Native Vegetation of the Sydney Metropolitan Catchment Management Authority Area'.

OEH Atlas of NSW Wildlife (2017). NPWS Geographic Information Systems Division, Hurstville NSW, 2220.