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ADDENDUM TO THE FLORA AND FAUNA REPORT IN SUPPORT OF THE DEVELOPMENT APPLICATION FOR 3 QUARRY ROAD, DURAL

Dear David,

This letter has been prepared to summarise the ecological outcomes of proceedings in the Land and Environment Court (Zhiva Living Dural Pty Ltd v Hornsby Shire Council Proceedings Number 292092 of 2018).

To date, the following ecological assessments and associated documents have been prepared by Cumberland Ecology or in coordination with Cumberland Ecology:

- Quarry Rd Dural, Flora and Fauna Assessment for Thelem Consulting Pty Ltd, June 2018, Final;
- 3 Quarry Rd and 4 Vineys Road, Dural, Flora and Fauna Assessment for Zhiva Living, March 2019, Final; and
- Case Number 2018/00292092, Zhiva Living Dural Pty Ltd Applicant v Hornsby Shire Council Respondent Joint Expert Report – Ecological Issues Dated 11 April 2019.

Following the hearing, Cumberland Ecology understands that the appeal was dismissed by the commissioner. The ecological conclusions made during the biodiversity assessment and following court proceedings have not changed.

In its current form, the Project has sought to avoid and minimise impacts to the biodiversity values of the subject land with consideration of project location and design. The development envelope is positioned over an area within the subject land containing the lowest biodiversity values, consisting predominantly of the existing dwelling, cleared areas, exotic grassland, exotic trees, garden beds and scattered native trees. The majority of the native vegetation with the highest ecological value was proposed to be retained, actively managed and conserved in the long term under a Vegetation Management Plan (VMP). This includes patches of vegetation in the north-west and eastern extents of the

subject land. In doing so, the Project has considered the biodiversity values of the vegetation within the subject land and has demonstrated reasonable steps to avoid and minimise impacts to biodiversity.

Despite this, the Project would have resulted in residual impacts to biodiversity including the clearance of a small area (~0.08 ha) of scattered native trees associated with the Sydney Turpentine Ironbark Forest (STIF), listed as Critically Endangered under the NSW *Biodiversity Conservation Act 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Further to this, an Asset Protection Zone (APZ) was proposed to be established throughout a ~0.07 ha area of Blackbutt Gully Forest which is recognised by Hornsby Shire Council to be a locally significant vegetation community (See **Figure 1**). However, within the APZ, little to no native tree removal was anticipated due to the degraded state of the vegetation in question. The scattered and isolated STIF trees proposed to be removed occur in a highly degraded state, largely lacking native understorey elements of the community. The retention of these trees would not have been feasible due to their location and resulting impact upon design features of the development.

A suite of mitigation measures were proposed to minimise the direct and indirect impacts of the Project, such as construction mitigation measures, tree protection measures, weed management, pre-clearance surveys, the establishment of two offset areas (See **Figure 2**) and the management of the retained vegetation and APZ under a Vegetation Management Plan. The Joint Expert Report process resulted in the ecological experts being largely in agreement in regard to terrestrial ecological matters. Both experts were agreement in terms of the nature of impacts to the native vegetation of the subject land and the future management of the APZ and retained areas of vegetation. The ecological experts had minor differences in opinion regarding the future management of the watercourse within the subject land, which occurs over a previously cleared portion of the subject land and is diverted through a pipe for a majority of its extent.

At this time, it is understood that an undetermined SCC is with the Department of Planning and Environment (DPE) and following a meeting, Planning Ingenuity have been requested by DPE to submit an amended SCC for consideration. This letter provides an updated summary of the ecological constraints following the FFA for the development of an Aged Care Facility at 3 Quarry Road, Dural ('the project') and is provided in Appendix A. It is understood that the information within this letter will support the amended SCC for consideration by DPE.

Please do not hesitate to contact me on (02) 9868 1933 should you have any questions regarding this matter.

Yours Sincerely

David Robertson
Director
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APPENDIX A :
Outcomes of recent Ecological Assessments

1.1. Ecological Assessments Summary

Cumberland Ecology was commissioned by Thelem Consulting Pty Ltd, to undertake a Flora and Fauna Assessment (FFA) in June 2018 which was updated following adjustments to the Project in March 2019 for Zhiva Living. The project in the resulting form did not trigger the BOS and therefore a general FFA was provided. The purpose of the FFA was to document the findings of ecological investigations completed across the subject site and to assess the impacts of the project on the biodiversity values present.

Following the preparation of the FFA, a Joint Expert Report was prepared by expert witnesses, David Robertson of Cumberland Ecology and Mark Hood of Hornsby Shire Council, for the NSW Land and Environment Court proceedings 2018/00292092. The Joint Expert Report was prepared with consideration of the Statement of Facts and Contentions (SoFC) for the Land and Environment Court Case Number 2018/00292092 and considers the ecological impacts of the project as outlined in the updated FFA prepared by Cumberland Ecology in March 2019.

1.1.1. Vegetation

Vegetation within the subject site includes remnant bushland, isolated native trees, planted vegetation and cleared areas. The subject site has a history of clearing relating to past use as a hobby farm which has resulted in the degradation and clearing of the vast majority of native vegetation.

The native vegetation within the subject land is comprised of a highly degraded, scattered tree form of Sydney Turpentine Ironbark Forest (STIF), listed as Critically Endangered under the NSW *Biodiversity Conservation Act 2016* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The remnant bushland within the eastern corner of the subject land is comprised of Blackbutt Gully Forest which is recognised by Hornsby Shire Council to be a locally significant vegetation community. See **Table 1** for a breakdown of the vegetation within the subject land.

Table 1 Areas of vegetation within the subject land

Vegetation Community	PCT	BC Act Status	EPBC Act Status	Subject land (ha)
Sydney Turpentine-Ironbark Forest	1281	EEC	-*	0.11
Blackbutt Gully Forest	1841	-	-	0.18
Urban Native/Exotic	-	-	-	0.40
Exotic Vegetation	-	-	-	0.10
Exotic Dominated Grassland	-	-	-	2.28
Total				**3.07**

1.1.2. Fauna Habitat

As a result of historical clearing of native vegetation, fauna habitat has been largely removed and degraded within the subject land. The majority of the subject land is comprised of exotic grassland which has limited

value for native fauna species. The treed areas and the small drainage line within the subject site provide some limited habitat for native fauna species; however, these habitats are highly modified. Habitat features recorded within the subject site include Log piles and woody debris, Hollow-bearing trees and stags, Nectar-producing trees, Riparian environments. Generally, only highly mobile, aerial fauna species would be expected to utilise the scattered tree habitat to be completely cleared by the Project.

1.1.3. Proposed Biodiversity Impacts

The FFA described two areas of impact to be managed separately; the development footprint and an Asset Protection Zone (APZ). The development footprint comprised of the direct impacts to land within the subject site associated with the construction of the aged care facility, landscaped areas and ancillary works. Total vegetation removal was described for the development footprint. The APZ was a requirement of the bushfire assessment for the project prepared by Travers Bushfire and Ecology (2019) that included an area on the western edge of the subject site. Areas within the APZ needed to comply with management as an Inner Protection Zone that requires partial removal of the vegetation.

The primary impact associated with the project is the removal of vegetation as shown in **Table 2**. The primary plant community impacted by the project is Exotic Grassland (~2.22 ha). A small area of scattered trees associated with STIF will be completely cleared by the project (~0.08 ha) whilst another small area of native vegetation will be partially cleared with the establishment of the requisite APZ (~0.07 ha). In addition to the clearance of vegetation communities, the project involves the removal of a hollow-bearing tree and the potential removal of a large dead tree within the development footprint and APZ respectively.

Table 2 Vegetation formerly proposed to be impacted and retained within the subject land

Plant Community	PCT	BC Act Status	EPBC Act Status	Removed within subject site (ha)	Managed as APZ within subject site (ha)	Total area impacted or modified (ha)	Retained (ha)
Sydney Turpentine-Ironbark Forest	1281	EEC	*	0.08	0.00	0.08	0.03
Blackbutt Gully Forest	1841	-	-	0.00	0.07	0.07	0.10
Urban Native/Exotic	-	-	-	0.40	0.00	0.40	0.00
Exotic Vegetation	-	-	-	0.05	0.06	0.10	0.00
Exotic Dominated Grassland	-	-	-	2.21	0.07	2.28	0.00

1.1.3.1. Proposed Avoidance, Mitigation and Offset Measures

During Joint Expert Reporting, the ecology experts agreed that the Project has considered the biodiversity values of the vegetation within the subject land and has demonstrated reasonable steps to avoid and minimise

impacts to biodiversity. The experts agreed that a suite of offset and mitigation measures would be appropriate to development of the subject land.

The offset liability of the Project was proposed to be met with the establishment of two *in situ* offset areas in accordance with Hornsby Shire Council's Green Offsets Code following Joint Expert Reporting as shown in **Figure 2**. These offset areas were proposed to be incorporated into the landscape plan and would be subject to replanting and removal of exotic weeds under a VMP. Generally, Hornsby Shire Council prefer the establishment of *in situ* offset areas as opposed to securing biodiversity credits off site. Subsequently, the offset calculations presented within Cumberland Ecology's revised FFA are redundant if future development was to proceed in a similar form. Additionally, mitigation plantings were proposed including the establishment of up to 30 *Syncarpia glomulifera* (Sydney Turpentine) providing a greater area of native canopy in the longer term. As such, it was stated by the ecological experts that the project is consistent with the biodiversity conservation principles of 'avoid, minimise and mitigate' and will not have significant impacts on the Sydney Turpentine Ironbark Forest within the subject land.

1.1.4. Hydrology

The FFA outlined the hydrological features within the subject site that would likely be impact by the project. The ecological experts had minor differences in opinion regarding the future management of the watercourse within the subject land, which occurs over a previously cleared portion of the subject land and is diverted through a pipe for a majority of its extent.

Works along these hydrological features were proposed as they were to be integrated into a revised future site stormwater management scheme. Proposed works involve the construction of a vegetated swale along the previous course of the drainage depression with incorporation of the existing constructed stormwater drain.

1.1.4.1. Riparian Corridors

The ecological experts agree that the lower end of the water course on the subject land occurs in bushland, which will be managed for conservation purposes. The experts agree that that this section of the watercourse will be managed in accordance with HDCP with a buffer applied.

The experts disagree regarding the treatment of the upper reaches of the potential watercourse on the subject land and whether or not a 10 metre buffer should be applied. David Robertson believes that the upper reaches lack riparian vegetation and other habitat and the watercourse flows intermittently after the dam within the adjacent property floods. Mark Hood believes that the upper reaches are part of a watercourse that should be protected and managed in accordance with HDCP and the Office of Water Guidelines.

1.1.5. Conclusions

The ecological investigations undertaken during the production of the FFA and during Joint Expert Reporting have indicated that the anticipated impacts to STIF, Blackbutt Gully Forest and threatened species habitat are manageable and would not result in significant impacts for the Project in its previous form. Notwithstanding this, a suite of avoidance, mitigation and compensatory measures were proposed to minimise the impacts on biodiversity values within the subject and and offset the residual impacts upon native vegetation and

threatened species habitat including the establishment of in situ offset areas, management of retained vegetation and the APZ under a VMP, construction hygiene protocols and pre-clearance surveys.

With the implementation of the proposed mitigation measures and establishment of in situ offset sites as described previously, it is considered that the impacts of this project on biodiversity will be minimal and can be appropriately managed. However, if biodiversity impacts of future projects are proposed to increase further than the previously dismissed development application, the Biodiversity Offsets Scheme thresholds are recommended to be reassessed to determine whether the Biodiversity Assessment Method is applicable.

FIGURES

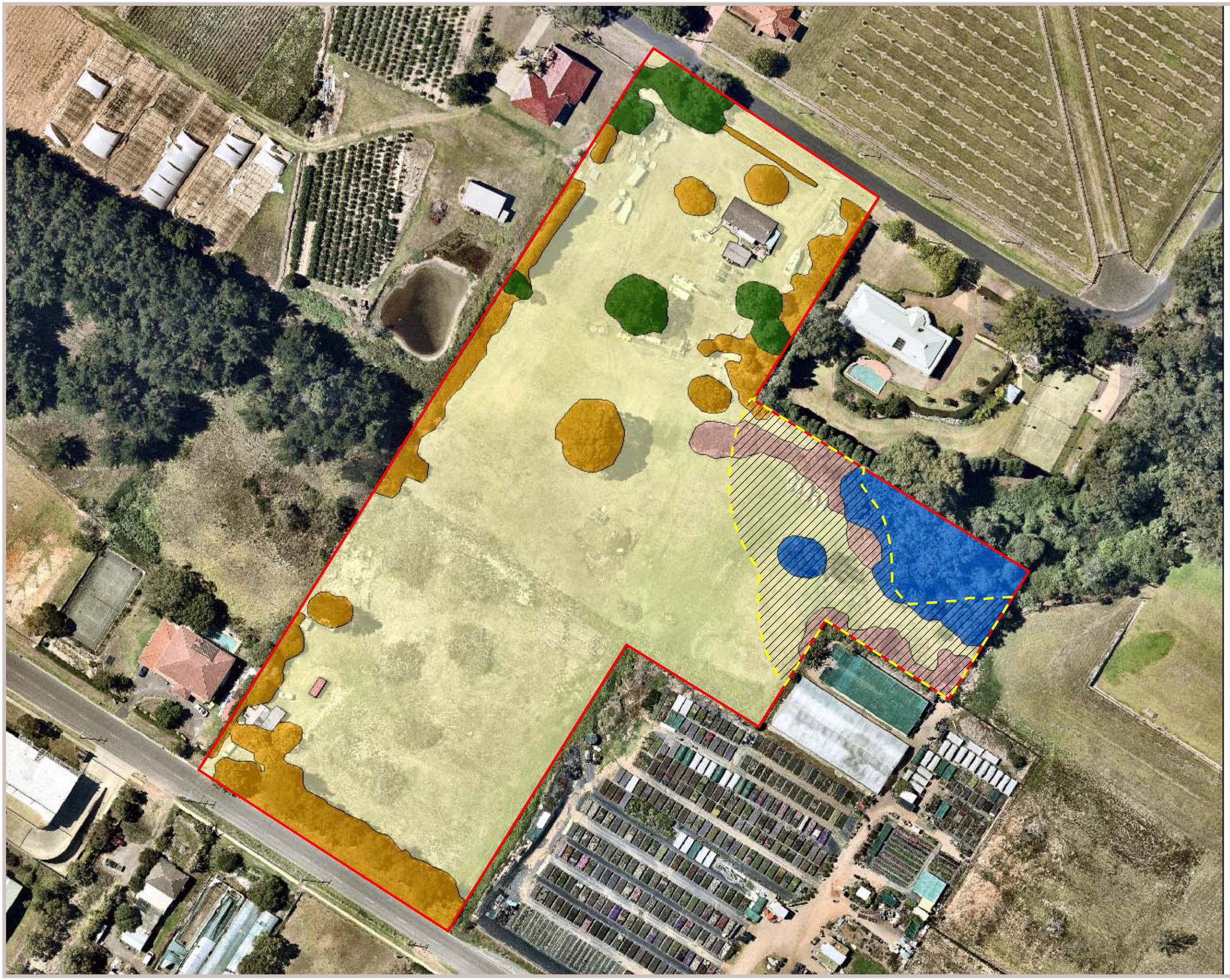

Figure 1. Vegetation Communities and the proposed Asset Protection Zone

Figure 2. Vegetation Communities and proposed offset areas