

Mr Brendan Smith  
Senior Environment Officer - Biodiversity  
Northern Beaches Council  
PO Box 1336  
DEE WHY NSW 2099

By email: [brendan.smith@northernbeaches.nsw.gov.au](mailto:brendan.smith@northernbeaches.nsw.gov.au)

1<sup>st</sup> November 2017

**RE: Ecological review of DA2017/0385**

Dear Brendan,

This brief review is provided in order for Northern Beaches Council to progress their response to DA2017/0385 for a Hospital at Lot 2 DP 1145029, 4A Larool Road Terrey Hills.

As per your instruction, I have reviewed your internal responses together with the following documents as lodged by the proponent:

1. Flora and Fauna Assessment (FFA), prepared by Narla Environmental, dated August 2017;
2. Biodiversity Management Plan (BMP), prepared by Narla Environmental, dated August 2017; and
3. Peer review of the above documents, prepared by Aquila Ecological Surveys, dated October 2017.

Overall, the survey work undertaken by Narla seems to be comprehensive and of a high standard; my main criticism is of the assessment.

**Coastal Upland Swamp Endangered Ecological Community (CUS EEC)**

- I do not agree that Asset Protection Zone works can be implemented in this EEC without causing it significant damage. Its structure relies on dense low growth in waterlogged soils. Just walking into such environments plugs the soil, breaks the dense cover and tramples the vegetation.
- Such impacts are unacceptable to the EEC itself as well as to the potential habitat it may provide for other threatened species.

- 
- Excavation for the hospital is likely to interfere with groundwater (which is conceded in the reports), but this is not quantified or modelled. Groundwater is a critical component of the habitat for this EEC and its loss has the potential to destroy it.
  - I am not convinced by the commitment to “try” to deliver water to the EEC and “take all precautions to control” the perturbations. One should be relying on a more solid guarantee with detailed plans and controls in place.
  - There is no clear path for restoration of the CUS if all of the precautions prove to be ineffective.
  - It is unclear how the fuel management is to be implemented, nor am I satisfied that the potential impacts are clearly understood or assessed. For example, removal of clumps of vegetation to break up its connectivity is damaging to the structure of the community and allows for weed growth; slashing would prevent the completion of the life cycles of the plants.
  - The Assessment of Significance is inadequate in that it does not define the EEC’s “local occurrence”. The mapped extent of the EEC in the Warringah locality or in NSW is not necessarily the local occurrence.
  - Their understanding of the distribution of this community seems to be flawed, as its separation from other occurrences cannot be used in a pejorative value judgement. This EEC is by its nature isolated from other patches as it only occurs where there is the unlikely confluence of the determining factors of a perched water table, topographic positions, soil type etc.
  - The accumulation of impacts include disturbance for weed control, direct loss of EEC for the OSD apparatus, potential loss of groundwater and other hydrological changes, edge effects, trampling for fuel management, prevention of completing life cycles, resultant alterations to floristic composition, and overshadowing.
  - In light of the long list of potential impacts, I believe that it a significant adverse impact is likely to occur. However, even in the absence of that determination, the degree of uncertainty expressed in the report regarding the impacts (see page 54, section 3.6.1) alone should trigger the precautionary principle. A Species Impact Statement should be prepared to further explore this matter.

### **Duffys Forest EEC**

- The degree of alteration to this EEC is not sufficiently acknowledged; the damaging impacts of APZ fuel management are not sufficiently acknowledged.
- The quantum of clearing and disturbance for this development is not accurately represented. While the easement for the adjacent German School contains the APZ required for the school extension, it does not mandate the implementation of APZ works in anything other than the 60 metres-wide APZ measured from the school building. The additional areas relied up on for the hospital development are not being implemented for the School and should be considered as part of this DA.
- The Assessment of Significance is inadequate in that it does not define the EEC’s “local occurrence”. The mapped extent of the EEC in the Warringah locality or in NSW is not necessarily the local occurrence.
- Ecological burning is suggested as important for the invigoration of components of

---

this EEC, yet there are no details provided as to its objectives or how this might be achieved. Most important is the pattern in time and space, but this has not been addressed.

### **Grevillea caleyi**

- One of the protective mechanisms for the 10 plants on site are to provide a 10-metre-wide buffer zone. There is no explanation as to why the buffer should be 10 metres.
- Nevertheless, the buffer zone cannot be implemented as the APZ mooted for the north-eastern boundary is within 2 metres of the northern-most group of plants.
- Ecological burning is proposed for this species, but there is no detail provided regarding the necessity to reduce the impacts of post-fire seed predation, as discussed in the Recovery Plan for this species.

### **Eastern Pygmy-possum**

- The information regarding this species is deficient.
- The size of the population on site has not been defined.
- The local population has not been defined, and the suitable habitat within the local area that might support this population has not been explored or mapped. The fire history of the surrounding habitat should also be investigated.
- The way this species might move through the landscape has not been explored sufficiently to demonstrate to my satisfaction how isolated the population might be.
- The FFA and BMP claims that the possum relies on roadside vegetation to move the landscape. Aquila also states that the possum probably uses the *Melaleuca quinquenervia* in the property across Larool Road. However, none of these habitat components are secure.
- I am unconvinced that the author of the FFA understands the ecology of this species: there is no specific reference made to the latest and growing body of research on Eastern Pygmy-possum, and the home ranges quoted are incorrect.
- *Banksia ericifolia* is critical for this species to fulfil its life cycle. In the breeding season they congregate in areas where it is in flower, and rely on its floral resource as a boost to breeding.
- *Banksia ericifolia* was acknowledged in the FFA as important to the Eastern Pygmy-possum, and many management actions were detailed in the BMP that are intended to promote its continuation on site. However, at the same time it was not acknowledged that a dense copse of *Banksia ericifolia* as preferred by the Eastern Pygmy-possum is untenable in an APZ.
- The FFA relies upon every *Banksia ericifolia* that is to be removed being replaced by 3 planted specimens, which will be as “advanced as possible”:
  - I doubt that there is room for this expansion of *Banksia* numbers, and it is not indicated where they will be planted. It is unlikely that the replacements will be planted in the location from where they will be removed, as this would increase the bushfire hazard.
  - Their removal in the APZ and footprint will result in the loss of a critical winter forage relied upon by females for breeding.

- 
- This impact will be felt for many years, as it takes at least 8 years for *Banksia ericifolia* to reach maturity; typically, the oldest trees produce the most flowers with the best nectar and so even then they may be of little benefit. This probably exceeds the life span of the Eastern Pygmy-possum in nature.

### **Glossy Black-Cockatoo**

- Evidence of this species foraging on site was recorded, yet the potential for habitat loss resulting from the wholesale removal of *Allocasuarina* trees in the APZ was not clearly detailed.
- The planting replacement strategy also suffers from the problem with the *Banksia ericifolia* replacement strategy – where on site can sustain such dense plantings without causing a bushfire hazard?
- An unacknowledged difficulty in planting for Glossy Black-Cockatoo habitat is that it is not evident which trees are female until they are mature and set fruit.

### **DCP**

- Provisions of the DCP are clearly not met, particularly:
  - the proposal does not “protect environmentally sensitive areas”; and
  - the proposal does not “protect and promote the recovery of threatened species, populations and EECs”.
- The wildlife corridor will be significantly compromised.

### **Bushfire mitigation**

- The proposed “delicate, targeted and professional” treatment of the APZ is not feasible and therefore cannot be relied upon in the Assessment of Significance for mitigating impact.
- I do not agree that the APZ works can be implemented in the CUS EEC without significant damage to the community.
- I do not agree that the APZ works can be implemented so that it does not impact on the integrity and biodiversity of Duffys Forest, or similarly on the other vegetation type on site.
- Details regarding the proposed ecological burn are lacking. Is it to be a mosaic? What is the desired fire regime?
- It is not shown where the APZ plots were sampled.
- The text notes that 6 plots were sampled, yet data are shown for 7 plots, with plot 4 inexplicably missing.
- I am unconvinced that the *Banksia ericifolia* is “senescing”. From my estimate of growth nodes on this species on site, the time since fire was probably 12-15 years.

### **Offsets**

- At approximately 1:1, the proposed offset ratio is woefully inadequate arithmetically.
- The areas proposed for offsetting include narrow landscaped garden beds and OSDs. These are not sufficiently natural to be regarded as an adequate offset for natural bushland.
- If this proposal was to be assessed under the current legislative regime, it would

---

require application of the Biodiversity Assessment Method because of the high biodiversity values the land to be affected. Under the BAM, avoiding and minimising impact must be demonstrated (which this does not do) and it is compulsory to offset unavoidable impacts. The ratio of offsetting CUS and Duffys Forest are much greater than 1:1, and could be up to 13:1.

- It is proposed to replace felled hollows at a ratio of 3:1 (using nest boxes, capped hollows), yet there is no discussion of the potential impacts of saturating a site with nest boxes. It cannot be assumed that more is always better.

### **Miscellaneous**

- The footprint of the hospital shown in the FFA is different to that shown in the BMP.
- It is stated that the BMP is to be implemented in perpetuity, but there is no mechanism proposed to protect that land in perpetuity or fund the management actions in perpetuity.
- It is unclear what the impact on the rocky outcrops will be, and these may be important habitat components for a number of threatened species.
- The *Noxious Weeds Act* has been repealed and replaced with the *Biosecurity Act*.

In summary, it is my professional opinion that:

- The cumulative impacts are likely to impose a significant adverse impact on CUS and Eastern Pygmy-possum, and Duffys Forest.
- The degree of uncertainty of the impact on CUS arising from hydrological changes is unacceptable.
- The Assessments of Significance are flawed.
- The offsets proposed are inadequate.
- The impact of the fuel management works in the APZ are underestimated.
- The scale of the fuel management works are underestimated and should include those parts in the adjacent easement outside of the APZ for the School.

In my opinion, Council rightfully refused the application. It should have been accompanied by a Species Impact Statement and the potential impact on CUS should be referred to the Commonwealth Department of Environment and Energy. A much smaller development footprint for this site is preferred that does not require such extensive APZs and hydrological impacts.

I apologise for the brevity of these points and poor expression in parts, but as you understand, we are extremely busy at the moment and I don't have the luxury of time to sharpen the arguments. I hope that they suffice.

Yours sincerely,



**Elizabeth Ashby**  
**Principal Consultant**