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Subject: Jindabyne Education Campus Biodiversity Development Assessment Report

The Biodiversity Conservation Division (BCD) received the request to review the Biodiversity Development Assessment Report (BDAR) for the proposed Jindabyne Education Campus through the Major Projects Portal on 28 January as a part of the Public Exhibition phase of this State Significant Development (SSD). Note that we were only provided access to the Biodiversity Assessment Method Calculator (BAMC) case for this Major Project two days prior to the due date of our submission. It is a requirement of the BAM that all data and shape files be sent with the BDAR.

We understand that the Applicant considers this project to be a part of the Snowy Special Activation Precinct (Snowy SAP), however it needs to be assessed as an individual project and assessed in accordance with the Biodiversity Assessment Method 2020 (BAM 2020).

The BDAR describes the following direct impacts –

- **Threatened Ecological Communities (TEC)**
 - 8.29 hectares (ha) of impact to the Critically Endangered Ecological Community (CEEC) *Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands* or Snow Gum Woodland (herein SGW), which is above the threshold Vegetation Integrity (VI) score triggering an offset (VI ≥ 15).
 - This is considered a Serious and Irreversible Impact (SAII).
- **Threatened flora impacts**
 - 1.02 ha impact to *Calotis glandulosa* (Mauve Burr-daisy) which is considered a serious and irreversible impact – 46 credits
 - 1.02 ha impact to *Leucochrysum albicans* (Hoary Sunray) – not listed under NSW legislation, EPBC only
 - 1.02 ha impact to *Prasophyllum petilum* (Tarengo Leek Orchid) - 31 credits
 - 1.02 ha impact to *Swainsona sericea* (Silky Swainsona-pea) – 31 credits
 - 7.23 ha of impact to *Thesium australe* (Austral Toadflax) – 80 credits
- **Threatened fauna impacts**
 - 0.79 ha of impact to *Hieraaetus morphnoides* (Little Eagle) 8 credits
 - 4.98 ha of impact to *Petroica rodinogaster* (Pink Robin) - 99 credits
 - 4.98 ha of impact to *Callocephalon fimbriatum* (Gang-gang Cockatoo) - 99 credits
 - 2.06 ha of impact to *Ninox connivens* (Barking Owl) – 38 credits
 - 2.06 ha of impact to *Ninox strenua* (Powerful Owl) – 38 credits

We note this BDAR has generated 470 species credits from no targeted survey. The consultant has assumed presence for all species without undertaking any species-specific survey in the subject land in accordance with the BAM 2020. Without undertaking targeted survey it is difficult to demonstrate avoid – which is a key objective of the *Biodiversity Conservation Act 2016* (BC Act). The assumption of presence also significantly increases the offsetting required for the project, which is not appropriate outcome for the NSW Government as some of these species have very limited scope for establishing land-based offsets.

The Assessor found that the impacts to Snow Gum Woodland and Mauve Burr-daisy could be considered serious and irreversible. This requires the decision-maker to take the likely SAIL into consideration and determine if there are any additional and appropriate measures that will minimise the impact if consent is granted. No avoidance of either entity has been undertaken and no measures for minimisation have been proposed by the Assessor. The revised BDAR should provide a development footprint which avoids the SAIL – entities.

In addition to the SAIL matter, there are several other issues with how the Accredited Assessor has applied BAM 2020 which are outlined below in order of their significance. Further detail is provided in **Attachment 1 –**

- **Issue 1:** Presence has been assumed for many species credit species without adequate justification.
 - **Consequence:** Assuming presence is meant to be used in limited circumstances because it distorts the avoidance hierarchy, which is central to the application of BAM 2020 and the BC Act. Furthermore, recent case law has found that the Applicant must exhaust options to avoid and minimise impacts *before* offsetting them.
 - **Solution:** Survey for candidate species and avoid habitat where it is detected.
- **Issue 2:** BAM plots have been undertaken in winter.
 - **Consequence:** Undertaking BAM plots in the non-growing season risks under-representing the condition of the vegetation. Many species are not visible during the winter period, or are difficult to identify. This will result in a lower species diversity and maybe a misrepresentation of the vegetation condition. Surveying in winter also increases the likelihood of not identifying rare and threatened species which only flower in spring and summer.
 - **Solution:** Undertake BAM plots in spring or summer.
- **Issue 3:** The BDAR proposes refining the species polygons during the adaptive management phase by undertaking targeted survey for candidate species that have been assumed to be present.
 - **Consequence:** This is would represent post-approval impact assessment, which is inconsistent with s 7.14(4) of the BC Act. Adaptive management plans must not be used as a pseudo-impact assessment tool.
 - **Solution:** See issue 1.

- **Issue 4:** Species credit species have been excluded as candidate species for survey without adequate justification.
 - **Consequence:** All species which are not surveyed will not be detected and assessed, therefore justification for removal must be robust and in accordance with the BAM.
 - **Solution:** Survey for all species credit species
- **Issue 5:** Predicted ecosystem credit species have been excluded without adequate justification.
 - **Consequence:** This has the potential to artificially suppress the ecosystem credit output, especially when species have a high biodiversity risk weighting.
 - **Solution:** Only exclude ecosystem credit species where BAM 2020 allows.

The next revision of the BDAR must provide digital GIS files for all maps and spatial data and access to the BAMC at the time of submission (Appendix K of BAM 2020; s 4.1 BAM 2020 Operational Manual Stage 1). Without timely access to this essential information, we are unable to undertake a proper review of the impact assessment. Additionally, the revised BDAR must meet the currency requirements in s 6.15(1) of the BC Act (**Attachment 2**).

BCD would like to undertake a site visit in March 2022 to further refine the issues list above and exclude any where they are no longer appropriate.

Yours sincerely,



21/2/2022

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Enclosure: Attachment 1 – Further detail on issues with BDAR. Attachment 2 - BDAR currency requirements

Attachment 1 – Further detail on issues with BDAR

Issue 1: Presence has been assumed for many species credit species without adequate justification.

This BDAR has generated 470 species credits from no targeted survey in the subject land. This is considered a major issue because it makes it difficult to demonstrate avoid – which is a key objective of the BC Act.

The following flora species credit species have been assumed to be present in the subject land –

- *Calotis glandulosa* (Mauve Burr-daisy)
- *Lecucochrysum albicans* (Hoary Sunray)
- *Prasophyllum petilum* (Tarengo Leek Orchid)
- *Swainsona sericea* (Silky Swainsona-pea)
- *Thesium australe* (Austral Toadflax)

The following fauna species credit species have been assumed present in the subject land –

- *Hieraaetus morphnoides* (Little Eagle)
- *Petroica rodinogaster* (Pink Robin)
- *Callocephalon fimbriatum* (Gang-gang Cockatoo)
- *Ninox connivens* (Barking Owl)
- *Ninox strenua* (Powerful Owl)

The BAM allows for Accredited Assessors to assume a candidate species is present on the subject land or seek and expert report *in lieu* of targeted survey (s 5.2.4.2a of BAM 2020). However, assuming presence and seeking an expert report are considered appropriate only in a limited range of circumstances (s 4.4.4.2 of the BAM 2020 Stage 1 Operational Manual), including –

- the target species is cryptic and therefore difficult to identify
- the optimal survey time for the species has been missed.

Furthermore, three recent judgements by the NSW Land and Environment Court (LEC) have concluded that it is difficult to justify development proposals that fail to exhaust reasonable avoidance measures prior to offsetting ([Planners North v Ballina Shire Council \[2021\] NSWLEC 120](#); [Tomasic v Port Stephens Council \[2021\] NSWLEC 56](#); [IRM Property Group \(No. 2\) Pty Ltd v Blacktown City Council \[2021\] NSWLEC 1306](#)). The LEC found that the BC Act establishes an avoidance hierarchy by which development impacts are firstly addressed by avoiding them, then secondly addressed by minimising them, and finally the residual impacts are offset as a last resort ([IRM Property Group \(No. 2\) Pty Ltd v Blacktown City Council \[2021\] NSWLEC 1306](#)).

Assuming presence is particularly inappropriate for –

- *Prasophyllum petilum* (Tarengo Leek Orchid)
 - This species has a very limited scope for offsetting due to small number of known populations on nature reserves, let alone on private land.
 - This will create obvious problems when it comes to preparing the Biodiversity Offset Package, the preference for which would be to discharge the credit obligation through land-based offsets rather than payment into the Biodiversity Conservation Fund (BCF).
- *Calotis glandulosa* (Mauve Burr-daisy)
 - This is a Serious and Irreversible Impact (SAIL) species and therefore has additional assessment requirements, detailed in s 9.1.2 of BAM 2020.
 - These assessment criteria are difficult to adequately address in the BDAR when survey has not occurred. For example, in the absence of survey, it is very difficult to provide data on the number of individuals on the site (s 9.1.2.4a of BAM 2020).

We recommend undertaking targeted survey for species credit species and avoiding habitat where it is detected.

Issue 2: BAM plots have been undertaken in winter.

All BAM plots were undertaken at the start of winter (2 – 4 June 2021), which under-samples the full understory species richness. The BDAR acknowledges in section 3.2.2 that it is unlikely the full floristic diversity was sampled due to the cold conditions in which the survey took place. It states *‘As these surveys were undertaken in winter, species richness was considerably lower than what could be expected for spring or summer. Grasses and many other groundcover species were hard to identify due to a lack of reproductive material in June 2021. As such, native species richness may be higher than that reported in the June 2021 plots in Appendix B.’*

Survey in June will distort cover and abundance data as well, not just species richness. This is considered a major issue because the composition data significantly affects the Vegetation Integrity (VI) score for each vegetation zone, and therefore, the ecosystem and species credit liability.

The BAM requires that surveys are conducted at the optimum time for detecting species. In the South Eastern Highlands, native perennial forbs are generally most detectable during spring/early summer (ideally October to December), while grass species are typically best differentiated when they are fruiting during summer (December to February).

Of additional concern is that the Plant Community Type (PCT) on site is consistent with *Monaro Tableland Cool Temperate Grassy Woodland in the South Eastern Highlands*, or Snow Gum Woodland (herein SGW), which is Critically Endangered Ecological Community (CEEC) and a Serious and Irreversible Impact (SAIL) entity. Therefore –

- It has additional assessment requirements, detailed in s 9.1.1 of BAM 2020.
- These assessment criteria are difficult to adequately address in the BDAR when survey has not occurred at the appropriate time of year. For example, out of season survey makes it very difficult to accurately assess the condition of the community according to the vegetation integrity score (s 9.1.1. 4biii of BAM 2020).

Unless the Applicant collected benchmark data at the time the of collecting plot data, we recommend re-surveying the species composition component of the BAM plots in Spring or Summer. (ie the data collected in the 20 m x 20 m quadrats outlined in ss 5.3.3.7a and Table 2 of BAM 2020). Structure and function scores are less likely to be impacted by seasonal conditions and do not require resurvey.

Issue 3: The BDAR proposes refining the species polygons during the adaptive management phase by undertaking targeted survey for candidate species that have been assumed to be present.

Section 8.3 of the BDAR proposes *‘an adaptive management strategy to deal with the need to determine whether certain threatened plant and animal species are actually present within the habitat and whether any breeding habitat for certain fauna species is present. The measures proposed in this adaptive management strategy aim to determine the actual presence of a species or breeding habitat so that accurate species polygons can be created.’*

BAM 2020 Guidance is clear that once presence has been assumed *‘species survey cannot subsequently be used to assess presence at some time post development application lodgement or approval.’* (s 4.4.4.2 of the BAM 2020 Stage 1 Operational Manual). This is because the BDAR is the primary instrument for undertaking an ecological impact assessment

Furthermore, the proposal to undertake survey for refining species polygons as a part of adaptive management conflicts with section 7.14(4) of the BC Act, which requires that biodiversity credits are retired *before* any development is carried out. Generally, adaptive management plans are implemented throughout the operational lifecycle of a development, often *after* impacts have occurred.

We recommend undertaking targeted survey for species credit species as a part of the BDAR, and then avoiding habitat where it is detected.

Issue 4: Species credit species have been excluded as candidate species for survey without adequate justification.

Species credit species are threatened species whose occurrence is generally unable to be reliably predicted by vegetation surrogates and/or landscape features (s 5.1.2 BAM 2020). Species credit species can only be excluded as candidates for further assessment for the following reasons –

1. Microhabitats required by a species are absent from the subject land or a vegetation zone within the subject land (5.2.2.2.a & b BAM 2020).

2. Habitat constraints listed in the TBDC, or microhabitats, are degraded to the point that the species is unlikely to use the subject land or vegetation zone (5.2.3.2.a.ii BAM 2020).
3. An expert report states that the species is unlikely to be present (5.2.3.2.b BAM 2020).

The Assessor must provide reasons why the subject land or vegetation zone is unlikely to contain suitable habitat for the candidate species credit species. This should include a detailed description of the microhabitats assessed as being required by the species. Microhabitat requirements must be based on evidence such as published literature. Evidence must be provided that the microhabitat is degraded (5.2.3.2.a.i BAM 2020). It is not adequate to simply state it is degraded as the assessor has done in this BDAR. Evidence includes things such as photographs, maps or reference to the attribute scores for the VI assessment the site etc (section 4.4.3 BAM 2020 Stage 1 Operational Manual).

We believe that the following species are suitable candidates for targeted survey and have therefore been inappropriately excluded from further assessment –

- *Calyptorhynchus lathamii* (Glossy Black Cockatoo)
 - Hollows >15 cm in diameter are present
- *Cercartetus nanus* (Eastern Pygmy-possum)
 - The species prefers dense scrub, but it has been detected in habitat with minimal midstory.
 - The species profile states '*they are known to occur in grassy woodlands and the presence of Eucalypts alone is sufficient to support populations in low densities.*'
 - Females can nest in hollows as small as 3 cm, but nesting also occurs in downed timber, rotten stumps, holes in the ground, abandoned bird nests or possum dreys and grass trees or other vegetation.

We recommend engaging with BCD Accountable Officers for the species and reconsidering exclusions.

Issue 5: Predicted ecosystem credit species have been excluded without adequate justification.

Ecosystem credit species are threatened species whose occurrence can generally be predicted by vegetation surrogates and/or landscape features (s 5.1.1 BAM 2020). Therefore, there is an initial presumption that they are present once they are auto-populated by the Biodiversity Assessment Method Calculator (BAMC).

Generally, if the Threatened Biodiversity Data Collection (TBDC) does not list foraging habitat constraints for the species, then the species should not be removed from the list of predicted ecosystem credit species auto-generated by the BAMC (section 5.2.2.1 BAM 2020). Ecosystem credit species can only be deselected in the following circumstances –

1. All foraging habitat constraints are absent in a vegetation zone or the entire subject land (section 5.2.2.2.a & 5.2.2.2.b BAM 2020),
2. The species is a vagrant (section 5.2.2.2.c BAM 2020),
3. Geographic limitations are identified in a Threatened Species Profile Search (s 4.4.1 BAM 2020 Stage 1 Operational Manual).

If predicted ecosystem credit species are excluded based on habitat constraints listed in the TBDC, it must be justified by robust, species-specific reasoning which includes an onsite assessment of the specific foraging habitat constraints (s 4.4.1 BAM 2020 Stage 1 Operational Manual). Evidence needs to be provided in the BDAR to demonstrate that the *all* habitat features are absent from the zone or subject.

Degradation of habitat is not appropriate justification because *'BAM Subsection 5.2.3 (Step 3) must not be applied to ecosystem credit species. A degraded vegetation zone is not adequate justification to remove an ecosystem credit species from the generated list.'* (s 4.4.3 BAM 2020 Stage 1 Operational Manual). Neither is vagrancy an adequate justification for exclusion in this instance because vagrancy pertains to a specific record which is outside of the normal distribution or habitat, including escaped animals and planted specimens (s 4.4.2 BAM 2020 Stage 1 Operational Manual). Vagrancy requires agreement from then species expert. Furthermore, an absence of BioNet records is not adequate justification for removal of predicted ecosystem credit species (section 4.4.2 BAM 2020 Stage 1 Operational Manual).

Therefore, the following ecosystem credit species need to be reselected in the BAMC because they do not have foraging habitat constraints or geographic constraints, including -

- *Suta flagellum* (Little Whip Snake)
- *Varanus rosenbergi* (Rosenberg's Goanna)
- All species which have been deselected in the exotic zone.

Other matters

The BDAR states in section 6.1 *'The current proposal had been designed prior to field surveys for this BDAR. Due to the limited size of the subject land and the scope of the proposal there is limited opportunities for redesign or relocation of the proposal.'*

We consider the final designs of the project should reflect the current constraint of the site in particular the SAI entities that occur on the site. It is important that this development can adequately demonstrate it has avoided the constraints on the site, without a development footprint this is difficult to achieve.

Attachment 2 – BDAR currency requirements

In accordance with section 6.15(1) of the BC Act, ‘a *biodiversity assessment report cannot be submitted in connection with a relevant application unless the accredited person certifies in the report that the report has been prepared on the basis of the requirements of (and information provided under) the biodiversity assessment method as at a specified date and that date is within 14 days of the date the report is so submitted.*

To meet the statutory requirement detailed above, a BDAR must be certified within 14 days of both –

- the relevant submission date of the Environmental Impact Statement (EIS).
- the relevant finalised credit report generated using the Biodiversity Assessment Method Calculator (BAMC).

Submission of relevant BAMC information is detailed within Table 24 of Appendix K of BAM 2020 as forming part of the minimum requirements for a BDAR.

The BDAR for this proposal was certified on 20 December 2021. The EIS was certified on 22 December 2021. The BAM-C case for the project was submitted on 17 February 2022. Therefore, the BDAR and EIS meet the currency requirements but the BAMC does not. The currency requirements are particularly important for the BAMC because their application prevents post-approval revision of the credit liability, which has been proposed in section 8.3 of this BDAR.

We recommend the BAMC credit case and BAMC generated credit report are finalised and re-submitted within 14 days of the revised BDAR and EIS for the Response to Submission phase.