

21 February 2022

Our ref: 21SYD\_19423

Ethos Urban  
173 Sussex Street  
Sydney NSW 2000

Attention: Jacob Dwyer

Dear Jacob,

**Response to Submissions – Wee Waa High School BDAR**

Please find attached advice to assist the proponent (Schools Infrastructure NSW) in providing a Response to Submissions on the Wee Waa School project. Responses were prepared by the author of the BDAR - Phoebe Smith (BAM Accredited BAAS21011).

Several responses required minor updates to the BDAR, which is also provided here as version 4 and dated 27 January 2021.

If you have any question, please do not hesitate to contact me on 0405 910 839.

Regards,



David Bonjer  
Principal Planning Consultant / Sydney Office Manager

| Item | Issue   | Advice                        |
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| 41   | Clarify whether the total area of vegetation zone 'PCT 40 Moderate' is 0.81 hectares or 0.94 hectares and update the Biodiversity Development Assessment Report (BDAR) as necessary.  | Response in comment 49 below. |
| 42   | Ensure the correct plot data is entered into the Biodiversity Assessment Method Calculator (BAM-C).   | Response in comment 50 below. |
| 43   | Provide adequate justification for the exclusion of the bush stone-curlew and shrub sida from consideration across the entirety of the development site (in accordance with the Biodiversity Assessment Method (BAM) subsection 5.2.3 (step 3) and the guidance provided in the BAM Operational Manual – Stage 1. Otherwise, the BAM requires the assessor to survey for these species, provide an expert report or assume presence.  | Response in comment 51 below  |
| 44   | In the case of the shrub sida, the assessor could consider whether they are able to make an adequate case that the targeted flora survey undertaken on the site in September 2021 would have been suitable to detect this species despite it not being included as a target species. This would require at a minimum: A) Demonstration that all native flora species encountered on survey transects were recorded, or B ) Verification that the ecologist conducting the survey would have noted, and been able to identify this species, despite it not being considered a target species at that time.   | Response in comment 51 below  |
| 45   | Justify the attribute values used to calculate the future vegetation integrity score for management zone 2b, including:<br>A) details of the management regime proposed. At a minimum this should include:<br>i.frequency and timing of slashing ii) clarification of the method to be employed to reduce existing canopy cover to 15% (tree removal or tree lopping) iii) area of clearing associated with proposed infrastructure within the zone iv) intentions regarding fallen timber within the management zone iv) proposed weed control targets.<br>B) Evidence-based assessment of likely response of the flora species present (and threatened flora species assumed present) to the proposed management regime | Response in comment 52 below. |

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| 46   | Reference the results of the Flood Impact Assessment and Storm Water Management Plan in addressing prescribed impacts in accordance with BAM subsection 8.3.4.  | Response in comment 53 below.  |
| 47   | Address apparent inconsistencies between the <i>Biodiversity Conservation Act 2016</i> and <i>Environment Protection and Biodiversity Conservation Act 1999</i> conclusions regarding habitat suitability for the winged peppercress.   | Response in comment 54 below.  |
| 48   | Revise the mitigation measures presented in Table 23 of the BDAR to address the specific points raised by BCS under Issue 6.  | Response in comment 55 below.  |
| 49   | The area of the vegetation zones in the BDAR and BAM-C conflicts with the shapefiles provided. Clarify whether the total area of vegetation zone 'PCT 40 Moderate' is 0.81 hectares or 0.94 hectares and update the Biodiversity Development Assessment Report (BDAR) as necessary. The total area of impact assessed in the BDAR and BAM-C is 1.46 hectares. Table 5 of the BDAR reports the following vegetation zone areas: 'PCT 40 No Canopy' - 0.94 hectares and PCT 40 Moderate' - 0.52 hectares. The area figures appear to have been reversed for these zones, in comparison to other tables in the BDAR and the BAM-C data entries. In Table 21 (BDAR page 36) the 0.94 hectare 'PCT 40 Moderate' is broken down into two management zones for calculating the future vegetation integrity score: 2a 'PCT 40 Moderate' (to be cleared) - 0.81 hectares and 2b 'PCT 40 Moderate' (to be managed) - 0.13 hectares. The data entered into the BAM-C is consistent with Table 21. However, the shapefile provided by EcoLogical Australia ('PCTs_for_Offsetmap.shp') indicates that the entire vegetation zone 'PCT 40 Moderate' is 0.81 hectares, not 0.94 hectares. The shapefiles depict the 0.13 hectare management zone '2b PCT 40 Moderate to be managed' as being within the 0.81 hectare area, rather than additional to it. Recommendation: Clarify whether the total area of vegetation zone 'PCT 40 Moderate' is 0.81 hectares or 0.94 hectares and update the BDAR as necessary. | The total area of PCT 40 Moderate is 0.94ha. This has been updated within the BDAR. The shapefiles have been updated to show '2b PCT 40 Moderate to be managed' as being within the 0.94ha, and additional to 2a PCT 40 Moderate to be cleared'. |

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| 50   | There are some inconsistencies between plot data sheets and BAM-C entries - Plot data sheets have been provided in electronic format. Data for six BAM plots is supplied, with only two of those plots located within the development site. Plots entered into the BAM-C are called 'Plot 1' and Plot 2'. The data entered does not completely match that shown within the plot data sheets and shapefiles for Plots 1 and 2. It appears that the locations of Plot 1 and Plot 2 may have been accidentally switched when entering the data into the BAM-C, and some data may also have been incorrectly entered. Plot 1 (vegetation zone 'PCT 40 Moderate') Plot 2 (vegetation zone PCT 40 Open Canopy') Recommendation : Ensure the correct plot data is entered into the BAM-C. | ELA confirm correct plot data has been entered into BAM-C. Six plots were undertaken based on original footprint, however as the project progressed, only two of these plots were needed for the final development site. Plot 1 is correct in electronic data sheets supplied to DPIE, however Plot 2 is called 'Plot 6' in electronic plot data sheets as this was the last plot taken within the site throughout the progression of the project. Additionally, Plot 1 was allocated management zone 2 and Plot 2 was allocated management zone 1. This may have confused the reader. The plots are consistent within the BDAR. |

51 Exclusion of the bush stone-curlew and shrub sida from consideration as species credit species requires further justification

Conclusions regarding which candidate species credit species require further assessment are presented in Table 11 of the BDAR (from page 23). When assessing which candidate species credit species may be excluded from further consideration, BAM subsection 5.2.3 (Step 3) stipulates that the BDAR must include: a description of microhabitats required by the species, supported by evidence such as published literature. details of the field assessment conducted to determine if habitat constraints or known microhabitat(s) are absent, or if present, whether it is degraded to the point that the species is unlikely to use the subject area. Describing a vegetation zone as degraded or low/poor condition is not adequate justification to remove a candidate species credit species from the generated list. Evidence must support all conclusions. Species credit species excluded based on habitat constraints (as listed in the TBDC) being absent or degraded Justification for excluding the bush stone-curlew (*Burhinus grallarius*) from further assessment is currently inadequate. Fallen/standing dead timber, including logs, is identified in the TBDC as a habitat constraint for the bush stone-curlew. The BDAR indicates that fallen timber was recorded on the site, but states that the amount of fallen timber present is not adequate for this species. BCS advises that this species may persist in such town spaces with minimal fallen timber. Additional justification based on site specific factors and threats present, supported by published literature, would be required to exclude this species under BAM subsection 5.2.3. Species credit species excluded based on known microhabitats being absent or degraded When excluding three fauna and two flora species credit species based on microhabitats being absent, or degraded to the point where the species is unlikely to use the site, the BDAR: does not include a sufficient description of microhabitats required by the subject species, supported by published literature. In most cases, partial information from the DPIE website only is quoted as justification for exclusion of these species. This approach is inadequate; does not clearly relate the results of field assessment to conclusions on the presence (and level of degradation) or absence of the microhabitats required by these species. The five candidate species credit species excluded based on the above factors have been discussed with the relevant BCS Ecosystems and Threatened Species staff. BCS agrees with the exclusion of four of those species, albeit for alternative reasons to those presented in the BDAR in most cases. However, justification for excluding shrub sida (*Sida rohlenae*) from further assessment remains inadequate. The BDAR excluded shrub sida from further consideration because 'This species grows on flood- out areas, creek banks and at the base of rocky hills, which are not a habitat feature of the subject land'. The BDAR indicates that the site has cracking clay soils. The BDAR does not recognise that shrub sida has been recorded on grey clay. Based on the information presented in the BDAR, together with aerial images of the site, BCS considers the south eastern portion of the development site within the zone 'PCT 40 Moderate' to be potential habitat for this species.

Recommendation:

- Provide adequate justification for the exclusion of the bush stone-curlew and shrub sida from

BDAR updated. Bush Stone-curlew and Shrub sida have been included as a Candidate species in Table 11. BDAR has been updated to more accurately describe survey effort for these species (see Tables 12 and 14 and Figure 5). Nocturnal surveys were undertaken for the original footprint (owl surveys), however these were not required once new footprint was delivered. Spotlighting was conducted over both nights (30/09/21 and 1/10/21) and no individuals of Bush-stone Curlew were recorded (sighted or heard). All threatened flora produced by the BAM-C was surveyed for during the targeted flora surveys. Neither Bush Stone-curlew or Shrub sida were recorded. See Table 11 of the BDAR and Table 12 targeted surveys.

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|      | <p>consideration across the entirety of the development site (in accordance with BAM subsection 5.2.3 (step 3) and the guidance provided in the BAM Operational Manual – Stage 1). Otherwise, the BAM requires the assessor to survey for these species, provide an expert report or assume presence.</p> <p>- In the case of the shrub sida, the assessor could consider whether they are able to make an adequate case that the targeted flora survey undertaken on the site in September 2021 would have been suitable to detect this species despite it not being included as a target species. This would require at a minimum:</p> <p>A) Demonstration that all native flora species encountered on survey transects were recorded, or B ) Verification that the ecologist conducting the survey would have noted, and been able to identify this species, despite it not being considered a target species at that time.</p> |        |

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The BDAR should set out the rationale for the future vegetation integrity score calculated for the 'managed' portion of the zone 'PCT 40 Moderate'

A 0.13ha portion of vegetation zone 'PCT 40 Moderate' (Management zone 2b) at the high school entrance is proposed to be managed part of ongoing school ground maintenance. Various general statements regarding the nature of this management are made in Tables 16, 17 and 20 of the BDAR, including references to slashing 'periodically', clearing for 'essential infrastructure' related to drainage, reduction of canopy cover from 22 to 15% and removal of high threat weeds. Table 22 also notes potential indirect impacts to the 2B management zone including:

A increased edge effects and additional threats to threatened flora species assumed present.

B Collection of timber from 'within retained vegetation' during both construction and operational phases.

The landscape plan appears to indicate that an entrance path will bisect this management zone, which does not align with the footprint presented in the BDAR. In circumstances where partial clearing of vegetation is proposed and remaining vegetation will be maintained, the assessor may determine that the future value of the relevant vegetation integrity (VI) attributes are greater than zero. Assessors are expected to provide a clear outline of the ongoing management to be undertaken to maintain the expected future VI score where only partial impact to native vegetation is proposed. Partial clearing scores must be justified and reflect any likely degradation from changed land use patterns and/or future management proposed. The BDAR does not provide adequate justification for the partial impact values entered into the BAM-C (and presented in Table 20) for the 2B management zone. The actual management regime to be applied to the site is not presented, nor related to specific flora species and PCT 40. The impacts of ongoing management on vegetation are likely to vary with the frequency and timing of slashing and the level of weed control proposed. Further justification and evidence is required to support the assessors assumptions.

**Recommendation:** Justify the attribute values used to calculate the future vegetation integrity score for management zone 2b, including:

A) details of the management regime proposed. At a minimum this should include:

- i frequency and timing of slashing
- ii clarification of the method to be employed to reduce existing canopy cover to 15% (tree removal or tree lopping)
- iii area of clearing associated with proposed infrastructure within the zone
- iv intentions regarding fallen timber within the management zone
- v proposed weed control targets.

B Evidence-based assessment of likely response of the flora species present (and threatened flora species assumed present) to the proposed management regime.

As far as we are aware, the management regime for this area has not been prepared yet. This will occur as part of the Designing for Country' process. We have provided some additional information in section 7.2 of the BDAR.

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| 53   | <p>The BDAR does not address all potential prescribed impacts - Subsection 8.3.4 of the BAM requires the BDAR to assess the impacts of the proposal on water quality, water bodies and hydrological processes that sustain threatened entities. In response to this prescribed impact the BDAR only states '<i>there are no water bodies in the subject land</i>'. The BDAR does not utilise the relevant site-specific studies accompanying the EIS to specifically address water quality or changes to hydrological processes as potential prescribed impacts.</p> <p><b>Recommendation</b> Reference the results of the Flood Impact Assessment and Storm Water Management Plan in addressing prescribed impacts in accordance with BAM subsection 8.3.4</p>  | <p>The BDAR has been updated to reference the Stormwater Management Plan. No prescribed impacts from changes to hydrology or water quality are anticipated. See BDAR section 5.4 and 6.1.2.</p> |
| 54   | <p>There is some inconsistency in the assessment of the threatened species under the BC Act versus the EPBC Act. 6.1 Address apparent inconsistencies between the BC Act and EPBC Act conclusions regarding habitat suitability for the winged peppercress. <i>In Table 11 (page 25) the BDAR concludes that the habitat on the site is suitable for the winged peppercress (Lepidium monolocoides). In contrast, Table E2 (Appendix F 'EPBC Act Likelihood of Occurrence') concludes that impact assessment under the EPBC Act is not required as 'the species has not been recorded within the locality and the subject site is considered too degraded to present habitat for this species'.</i></p> <p><b>Recommendation:</b> Address apparent inconsistencies between the BC Act and EPBC Act conclusions regarding habitat suitability for the winged peppercress.</p> | <p>This inconsistency has been edited within EPBC likelihood and EPBC AoS (Appendix G of the BDAR v4). See also table E2 of the BDAR.</p>   |



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| 55   | <p>Some revisions to the proposed mitigation measures are recommended.7.1 Revise the mitigation measures presented in Table 23 of the BDAR to address the specific points raised by BCS u below.</p> <ul style="list-style-type: none"> <li>- <i>The marking out of vegetation to be retained to protect it from inadvertent damage during construction works is not included as a mitigation measure. Yet risk of inadvertent clearing and trampling are identified as indirect impacts in Table 22.</i></li> <li>- <i>There are typographical errors in the ‘timing’ and ‘responsibility’ columns for the measure ‘Noise barriers or daily /seasonal timing of construction and operational activities to reduce impacts of noise’.</i></li> <li>- <i>The mitigation measures are not clear on whether seasonal construction limitations related to fauna will be implemented, nor what action might be taken if nesting activity is discovered during construction.</i></li> <li>- <i>For the measure ‘Making provision for the ecological restoration, rehabilitation and/or ongoing maintenance of retained native vegetation habitat on or adjacent to the development site’ the action is ‘the retained vegetation would be managed as part of the broader school grounds maintenance. Weeds should be managed and controlled within the adjacent vegetation to be retained’. The proposed management regime should be outlined (see recommendation 4.1), with a commitment to preparing a management plan for the retained native vegetation.</i></li> </ul> <p><b>Recommendation:</b> Revise the mitigation measures presented in Table 23 of the BDAR to address the specific points raised by BCS under Issue 7</p> | This has been updated within Table 23 of BDAR v4. |