Our Ref: BMN02 – Preliminary Biodiversity Review

DATE: 16 December 2024

Erin Tomic
Bazem Pty Ltd
19 Willoughby Road
Crows Nest NSW 2065

Attention: Brad Pym

Dear Erin

Re: Preliminary biodiversity review of the Proposed DA – DA2023/0129 – 4 FOREST RD, WARRIEWOOD

Travers bushfire & ecology (TBE) has been engaged by BMN Properties Pty Ltd to undertake a preliminary biodiversity review of the proposed subdivision located at Lot B DP370222, 4 Forest Road, Warriewood.

Expert Witness Code of Conduct in Schedule 7 of the Uniform Civil Procedure Rules

I confirm that I am familiar with the requirements of the Practice Note for Class 1 Development Appeals, Division 2 of Part 31 of the Uniform Civil Procedure Rules, and the Expert Witness Code of Conduct in Schedule 7 of the Uniform Civil Procedure Rules and agree to be bound by them.

Instructions

I have been instructed to provide a preliminary review of the ecological documentation as provided to date and to specifically advise on any reporting that may be required as the proposed residential subdivision and matters that may need to be further investigated.

I note that this is not an exhaustive paragraph by paragraph review of the documentation as I expect that the documentation provided to date will need to be reassessed and provided in the form of an appropriate Biodiversity Assessment report.

The key heads of consideration are addressed below as relevant to this Development Application.

Proposed development

The proposed development involves demolishing the existing structures (including the house on proposed Lot 11) and subdividing the subject-land into thirteen residential allotments. Forest Road will be extended to provide an access point and through road from the southeastern corner, as well as a second access point from the northwestern corner of the subject-land. Additionally, an easement in the northeastern corner will be designated for the

storage of an OSD/WSUD (on-site detention) tank. A rock cut wall of varying height up to 2.04m will be constructed along the southwestern perimeter of Road MC01.

The entire site is to be managed as an APZ.

Site Details

The following landscape features and site considerations are relevant to this review.

Table 1– Landscape features and zoning

Is the site mapped as bush fire prone?	Yes.
Proposed development type	Residential subdivision.
Is the site mapped as biodiversity values	Yes – In part
Is the site impacting on or in close proximity to a watercourse	Narrabeen Creek to the north – it is not directly or indirectly impacted and is greater than 40 from the likely top of bank. Fern Creek is also located at distance to the southern aspect
Zoning	R3 – Medium Density Residential.
Are asset protection zones required?	Yes
Estimated area of clearing of native vegetation?	The area of clearing of native vegetation is approximately (4851m^2 including APZ) as reported by Kingfisher 2024. This exceeds the vegetation clearance threshold value and should be properly determined by field survey and accurate mapping by a streamlined BDAR.

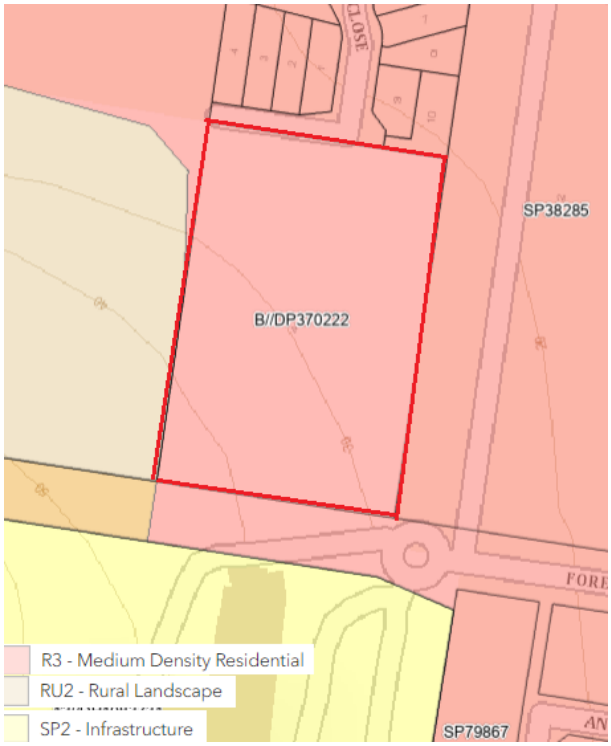

Figure 1 – Zoning
(Source: NSW Planning Portal, dated: 03/07/2024. Red= subject-land

Figure 2 – Local Watercourses
(Source: Six Maps)

Does the proposal require a Biodiversity Development Assessment report?

In order to determine the reporting required an assessment against the threshold criteria is required to identify not only the level of reporting required but also the type of assessment.

For a Part IV Development Application, a Biodiversity Development Assessment Report (BDAR) is required when a proposed development exceeds one of the following thresholds:

- **Clearing native vegetation**: The amount of native vegetation being cleared exceeds the area threshold. The threshold depends on the minimum or actual lot size.
- **Development on the Biodiversity Values Land Map**: Development occurs on land included in the Biodiversity Values Land Map.
- **Significant effect on threatened species**: The development is likely to significantly affect threatened species or ecological communities. This is determined by:
    i. The test in section 7.3 of the BC Act
    ii. Whether the development is in a declared area of "outstanding biodiversity value"

If a development exceeds any of these thresholds, the proponent must:

- Engage an accredited assessor to prepare a BDAR
- Provide the BDAR to the approval authority as part of the development application
- Place the BDAR on public exhibition
- Identify the credit class and number proposed to be offset relative to each development stage in the BDAR
- Ensure the credit obligation for each stage correlates with the biodiversity impact of each stage
- Identify indicative timing for the commencement of each stage in the BDAR

In order to answer the assessment documentation required please see below the following sequence of mapping.

<u>Identification of the development footprint</u>

The proposal includes a footprint of disturbance and is the totality of impacted area associated with all the proposed and associated works to support that development.

This is presented in figure 3.

Figure 3 – Development footprint

Overlay of development footprint on to near map imagery

Native vegetation is present in site approximately aligned to the biodiversity values mapping

Figure 4 – This aerial shows approximate footprint impact an area with native vegetation of some kind.

Overlay of development footprint on to the Biodiversity Values mapping

This shows the development footprint impacting within areas mapped as biodiversity Values. This triggers the requirement for the preparation of a BDAR. Please note that there is no question is to whether a BDAR is required or not and should have been prepared for DA submission. The type of BDAR is the next consideration.

Figure 5 - Biodiversity Values Mapping – overlay with footprint

Estimated area of impact on existing native vegetation

A desktop assessment of potential impacted native vegetation is 2,384 m2 which is potentially less than the 0.25ha trigger but does not change the BDAR requirement. This is an approximate impact area and is close to the biodiversity clearance threshold of 0.25ha for this lot and subject to onsite assessment, it is likely that further native vegetation is within the site.

I also note the observations by Kingfisher in their 2024 report that identifies further native vegetation impacts within the site based on low condition vegetation that would likely cause the development to exceed the threshold of 0.25ha..

Figure 5 – Area of native canopy likely impacted (excluding derived native grassland)

King Fisher 2024 reports that the native vegetation clearance is approximately **4851m²** including the proposed APZ. The actual area of native vegetation that will be impacted, would need to be appropriately assessed by way of a Biodiversity Development Assessment Report. I note that a verified vegetation map was not provided by Kingfisher 2024 to enable a proper understanding of the impacted area of native vegetation contributing to the total estimated impacts area. This would need to be mapped and assessed appropriately in the BDAR.

Does a streamlined BDAR apply to this DA?

I refer to Table 12 of the Biodiversity Assessment Method (BAM2020) – Appendix C for the Small Area Module Assessment.

Table 12 Area clearing limits for application of the small area development module

Minimum lot size associated with the property *	Maximum area clearing limit for application of the small area development module
Less than 1 ha	≤1 ha
Less than 40 ha but not less than 1 ha	≤2 ha
Less than 1000 ha but not less than 40 ha	≤3 ha
1000 ha or more	≤5 ha

*shown in the lot size maps made under the relevant local environmental plan (LEP), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP

The following BMAT report was generated for the site.

2. Is the clearing of native vegetation area threshold exceeded?

Biodiversity Values Map and Threshold Report		
Date of Report Generation		11/12/2024 12:00 PM
1. Biodiversity Values (BV) Map - Results Summary (Biodiversity Conservation Regulation Section 7.3)		
1.1	**Does the development Footprint intersect with BV mapping?**	yes
1.2	**Was ALL BV Mapping within the development footprinted added in the last 90 days?** (dark purple mapping only, no light purple mapping present)	no
1.3	**Date of expiry of dark purple 90 day mapping**	N/A
1.4	**Is the Biodiversity Values Map threshold exceeded?**	yes
2. Area Clearing Threshold - Results Summary (Biodiversity Conservation Regulation Section 7.2)		
2.1	**Size of the development or clearing footprint**	7,285.1 sqm
2.2	**Native Vegetation Area Clearing Estimate (NVACE)** (within development/clearing footprint)	4,449.3 sqm
2.3	**Method for determining Minimum Lot Size**	Lot size
2.4	**Minimum Lot Size** (10,000sqm = 1ha)	9,705 sqm
2.5	**Area Clearing Threshold** (10,000sqm = 1ha)	2,500 sqm
2.6	**Does the estimate exceed the Area Clearing Threshold?** (NVACE results are an estimate and can be reviewed using the Guidance)	yes
REPORT RESULT: Is the Biodiversity Offset Scheme (BOS) Threshold exceeded for the proposed development footprint area? (Your local council will determine if a BDAR is required)		**yes**

Page 1 of 4

The minimum lot size apply to this site is 9705m2 which is less than 1 ha.

The expected impact on native vegetation is less than the maximum area clearing threshold of 1 ha.

I conclude that A BDAR (streamlined small area module) is required to be prepared. I note that only SAII entities are required to be offset under the BAM 2020 but consideration to any TEC or threatened species that have been recorded within or nearby the site is given to any appropriate avoidance or mitigation measures and inclusion in the BAM C Biodiversity Offset Calculation if likely to be impacted.

Adequacy of the submitted ecological assessment

I refer to the following ecological documents provided:

- Ecology Assessment for 4 Forest Rd, Warriewood NSW 2102 *By Ecological Consultants Australia Pty Ltd TA Kingfisher Urban Ecology and Wetlands* March updated October 2022 and July 2024.
- Addendum 4 - Forest Road Flora and Fauna Date: 26th August 2024

A detailed review of both documents has not been completed for this exercise as it is clear that they will not be sufficient for the assessment of the Development Application. However relevant information is extracted below to inform this review.

The initial ecological assessment was undertaken for the original proposed development application and was updated by way of an addendum to address likely impacts caused by relocation of the proposed road to the north as shown below.

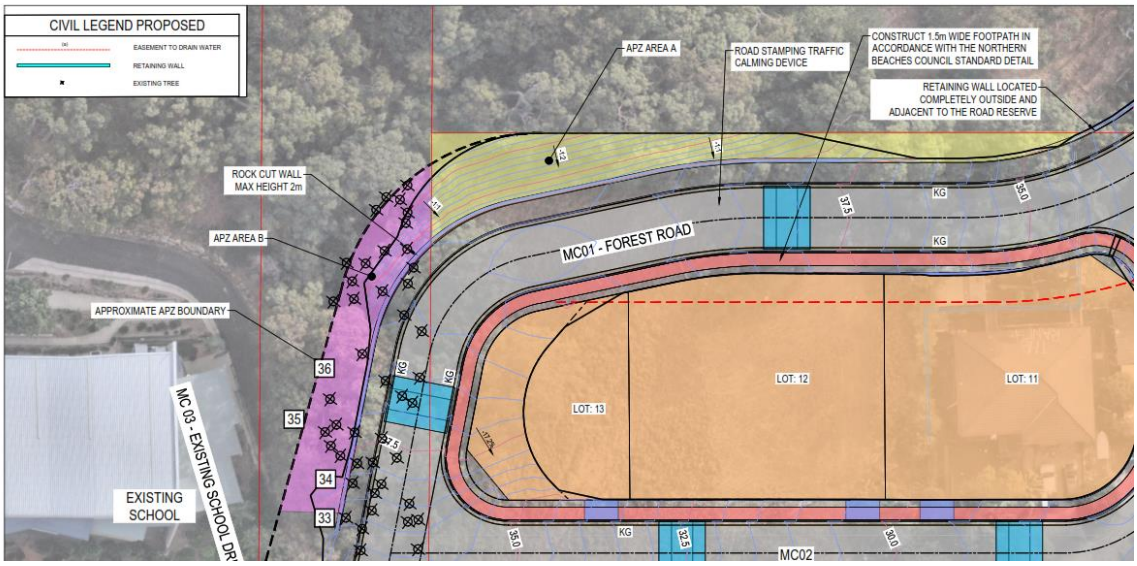

Figure 1.2 proposed works – close up of new alignment for the road. The remainder of the road is as per the July 2024 Flora Fauna Report. Some of the trees (meeting TPO definition) being retained, including "significant" trees 33, 34, 35,36.

Assessment of impacts

The relevant outcomes of the Ecological assessment (Kingfisher 2024) assessment were as follows:

1. Main ecological impacts are from the proposed road (extension of Forest Road along a road reserve and continuing along the western boundary of the site. It is within the site boundary before exiting to link with neighbor properties in the northwest corner. This road is in keeping with Council's masterplan.
2. The vegetation communities named by Kingfisher within the site included:
    - PCT 1250 - Sydney Peppermint - Smooth-barked Apple - Red Bloodwood shrubby open forest on slopes of moist sandstone gullies, eastern Sydney Basin Bioregion (No TEC associated with this PCT).
    - PCT 1776 - Smooth-barked Apple – Red Bloodwood open forest on enriched sandstone slopes around Sydney and the Central Coast (No TEC associated with this PCT).
    - and PCT 1841 - Smooth-barked Apple - Turpentine - Blackbutt tall open forest on enriched sandstone slopes and gullies of the Sydney region (No TEC associated with this PCT).
3. BOS threshold is exceeded based on
    a. The cover of Themeda Grass (native) that exceeds over 15% of the groundlayer.
    b. The removal of vegetation off-site contributing to the native vegetation impacts
    c. The total area of native vegetation removal including APZ is (4851m^2).

d. The Biodiversity Values (BV) map has been updated and a portion of the BV mapped area (~300m2) of native vegetation is proposed for removal (within the location of the proposed western boundary road). This BV mapped area is within the site boundary.

4. No threatened flora or fauna species were recorded on- site during surveys.
5. No threatened ecological communities were recorded onsite.

I note that the PCT references and names have been modified. For example, PCT1250 is now PCT 3595. However I note this has little material difference but is relevant when undertaken a BAM calculator assessment and streamlined BDAR as the correct references need to be used.

Avoidance and mitigation measures

King fisher reported that "*a number of design changes have resulted in a reduction in impacts on native vegetation. The main change being western boundary road has been brought east and totally within the site. This resulted in retaining 4 priority trees. Only two are still impacted and these are unavoidable due to the road having to join that on the neighboring site.*"

King fisher 2024 then provides further detail on the impacts as assessed by the appointed arborist. The design has been amended since 2022 by way of the removal of lot 14 and the proposed childcare center that was removed to facilitate the tree and native vegetation retention.

Kingfisher 2024 made recommendations have been provided to reduce the likelihood of impact and mitigate impacts if the proposal is approved.

Methods of survey

A critique of the survey employed has not been undertaken as this would need to be appropriately surveyed and reported in the streamlined BDAR. Any relevant survey undertaken by Kingfisher since 2022 would be valid and able to be used in the Streamlined BDAR in accordance with the BAM 2020.

I note that '*On-ground survey took place on by Senior Ecologist Geraldene Dalby-Ball March/April 2022, October 2022, Feb 2024 and June 2024*. The methods of survey employed included:-

- Bionet searches for previous records of threatened species occurring within the local area using a 10km radius around the site.
- Flora and fauna observations were recorded on-site using binoculars and recorded appropriately.
- Searches were made for threatened flora and fauna and other local records. Targets surveys and habitat assessment included Large Forest Owls, Microbats, Flying Foxes and Frogs. Detailed full searches were made of the site, including proposed roads and APZ. A distance of over 100m from the site was examined for possibly caves/crevices that could be used by microbats.

Given the requirement to complete a streamlined BDAR in accordance with the BAM 2020, Floristic vegetation assessment using BAM plots and target survey for relevant SAII entities will be undertaken for the streamlined BDAR which is now in optimal conditions. The adequacy of any previous survey undertaken by Kingfisher for compliance purposes will be assessed in the streamlined BDAR.

Survey results on Kingfisher 2024

The following survey results were reported:

1. No threatened flora or fauna species were recorded on- site during surveys.
2. Test of significance has been conducted for microbats, Grey Headed flying Fox and Large Forest Owls. – while these resulted in a 'not significant' impact recommendations have been made to assists the long-term sustainability of species.

   TBE notes that as a streamline BDAR is required a Test of Significance is not required to be undertaken.
3. Trees on site are a mix of *Eucalyptus*, *Corymbia, Angophora, Syncarpia* and *Allocasuarina* species. The same, and more species are present in the area of the proposed road. The arborist report has full details of species locations. Trees were inspected for hollows and other key habitats. Hollows are present in trees being retained. An additional habitat survey will occur immediately prior to any work. Tree hollows will be mapped in the BDAR if required.
4. No significant habitat features will be impacted by the proposed development on the site. The roadwork proposed would remove one tree with habitat hollows. The land to the west is part of the escarpment (Ingleside Chase) and contains many habitat areas and trees (outside the development areas).
5. Indirect Impacts: The associated impacts (people, vehicles, light, cats/dogs) have been considered in indirect and direct impacts. Increased cross-over between residents and native wildlife and plants and their habitats is likely. Actions needed to minimise potential negative impacts on native plants and animals and their habitats are required. Some of these are included in the mitigation section.

Mitigation Measures

Kingfisher identified the following mitigation measures.

Before works:

- Construction Environmental Management Plan (CEMP) for approval by Council Pre-CC.
- Vegetation Mgt Plan for approval by Council Pre-CC
- These plans are to maximise retention of native vegetation, hollows, habitat including via fencing, signage, info in toolbox talks, sequencing of works and all requirements in the Arborist report.
- Also to note retention of trees 17 and 18 unless removal required by Council.

- VMP to cover removal of weeds to eliminate from site and prevent spread of seed/pieces and focus on long-term works of vegetation and APZ management (includes during and post works).
- Effective site preparation and management to minimise sediment runoff and ensure none reached the local waterways.
- Tree and bushland Protection (signs and fencing).
- Kangaroo Grass - seed collection.

TBE notes that the current arborist plans show these trees 17 and 18 as being removed and we are advised these trees will need to be removed due to grading.

Kingfisher 2024 also recommended that '*the Landscape plan for the public areas has species that are locally native and from WWV plant list including Blueberry Ash, Christmas Bush, Backhousia myrtifolia – see Landscape plan 2024 for full detail. Areas for private in-lot planting are also shown.'*

The above mitigation measures are typical of such a development application and would be appropriately considered in the streamlined BDAR and represented in the prepared vegetation management plan.

The addendum supplied examined the proposed changes in the site layout and the road. In addition, the addendum examined the matters noted in cl7.6 of the Pittwater LEP as follows:

> Please note that matters noted in cl7.6 of the Pittwater LEP relating to this addendum and generally have been addressed in 24 and s6.1 of the main report (S4 Impacts - re cl 7.6(3)(a)(i) to (iv). S6.1 Mitigation - re cl 7.6(3)(a)(v)).
>
> *(a) whether the development is likely to have—*
>
> *(i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and*
>
> Loss of 4 x TPO sized trees and many Casuarinas (under 15cm DBH each and most <10cmish)..
>
> *(ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and*
>
> Casuarina's are Glossy Black Cockatoo food trees. While some will be retained, there will be loss of smaller – mid-story She Oaks. Most have diameters <10cm. Additional food trees, Forest She Oaks, will need to be planted for Glossy Black Cockatoos. Forty (40) will be planted within the site and be in accordance with the APZ requirements, with most plating to the East.
>
> *(iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and*
>
> As provided previously – this additional mapping and data regarding trees and the road way realignment doesn't alter the previous response.
>
> *(iv) any adverse impact on the habitat elements providing connectivity on the land, and*

Not so much impacting connectivity however it does reduce Glossy Black Cockatoo feed tree area in (~50m2).

(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.

As per previously with a key action being seed collection from any trees/she-oaks felled and then growing and replanting these in close proximity. Could include on the School site (with permission).

As identified in this review the impacts of the altered road design and scheme is to be properly assessed by way of a streamlined BDAR.

I note that the impacts as described including loss of trees and other related native vegetation and habitat are not significant. Kingfisher 2024 identified the loss of foraging habitat for Glossy Black Cockatoo and identified the planting of 40 replacement in the post development landscape and other measures typically covered under a Vegetation Management Plan. This seems a reasonable proposition of the site.

Matters that I believe require further consideration

The streamlined BDAR should be undertaken in an integrated manner assessing and incorporating the works within the site. The totality of the impacts would need to be properly determined by way of on ground vegetation assessment and mapping suitable for inclusion int the Streamlined BDAR and entry of data into the BAM Calculator.

Whilst the impacts are not considered significant under a significance assessment test, the triggering of a BDAR automatically determines that the impacts “are significant” based on impacts on lands mapped as high biodiversity value. This then causes the assessment and determination of biodiversity credits required to offset the loss of residual impacts not otherwise avoided or minimised. The current provided significant assessment test is not required within a BDAR as a result.

I note the avoidance and mitigation of impacts on biodiversity values is important and properly determined in the BDAR. The BDAR is to incorporate mitigation measures that address threatened processes and impacts such as Noise impacts, light impacts, weeds, surface runoff, loss of foraging habitat, loss of splits or other features that may house local fauna, mitigation of vehicle strikes.

The compliance of the survey completed to date against the BAM 2020 is to be assessed. This will also be undertaken within the BDAR to be submitted. Additional survey is will be undertaken in Early January 2025.

Of importance is a proper assessment of impacts on trees as assessed by an AQF5 qualified arborist in accordance with AS4970-2009. There is a high degree of interaction between the relevant disciplines and in particular the arboriculture and bush fire protection assessments

I also recommend a Vegetation Management Plan is prepared as identified by Kingfisher 2024 that integrates and identifies the viable vegetation management actions and biodiversity mitigation works to be undertaken onsite. The proposed works need to be practical and realistic and properly coordinated with the proposed works and in particular the landscaping works.

Both documents will need to be integrated with any current amendments by relevant disciplines.

Conclusion

The current reporting by Kingfisher 2024 and the addendum will not satisfy the legislative requirements under the BC Act and a Biodiversity Development Assessment Report will be provided January 2024.

Impacts on SAII entities have not been determined by Kingfisher 2024 or the subsequent Addendum and would normally be assessed within a BDAR. This is of importance and must be completed if SAII entities are present or assumed to be present in the BDAR. Microbats are generally a matter to be assessed subject to the survey results and may be a recognised SAII entity.

An integrated vegetation management plan that has biodiversity mitigation measures integrated as per the mitigation measures of the BDAR is to be prepared and submitted to support the proposed works. It's my understanding that both reports are to be prepared and submitted in January 2025.

I note that November to January is the best time to complete survey for the most likely SAII entities. I advise that this survey may locate threatened species of importance, and we should be cautious to rely on the current reported threatened species survey was conducted by Kingfisher to date but recognise the information and contributions of this reporting which are likely to be valid in terms of the survey compliance based on the timing of completion.

Should you have any queries regarding this matter please do not hesitate to contact the undersigned on (02) 4340 5331 or at info@traversecology.com.au.

Yours faithfully

Michael Sheather-Reid – Managing Director
Travers bushfire & ecology

www.traversecology.com.au

Attachment - CV for Michael Sheather-Reid