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Addendum to Biodiversity Development Assessment Report (BDAR), 15-21 Cottonwood Crescent, Macquarie Park SSD-94006708 (previously 88 Waterloo Road)

1. Introduction

RPS AAP Consulting Pty Ltd (RPS) previously prepared a flora and fauna assessment (FFA) (July 2024) and a Biodiversity Development Assessment Report (BDAR) (January 2026) for a proposed mixed use development at 15-21 Cottonwood Crescent, Macquarie Park (the subject site). The subject site borders Waterloo Road and as such the site was previously identified in the FFA as 88 Waterloo Road, Macquarie Park.

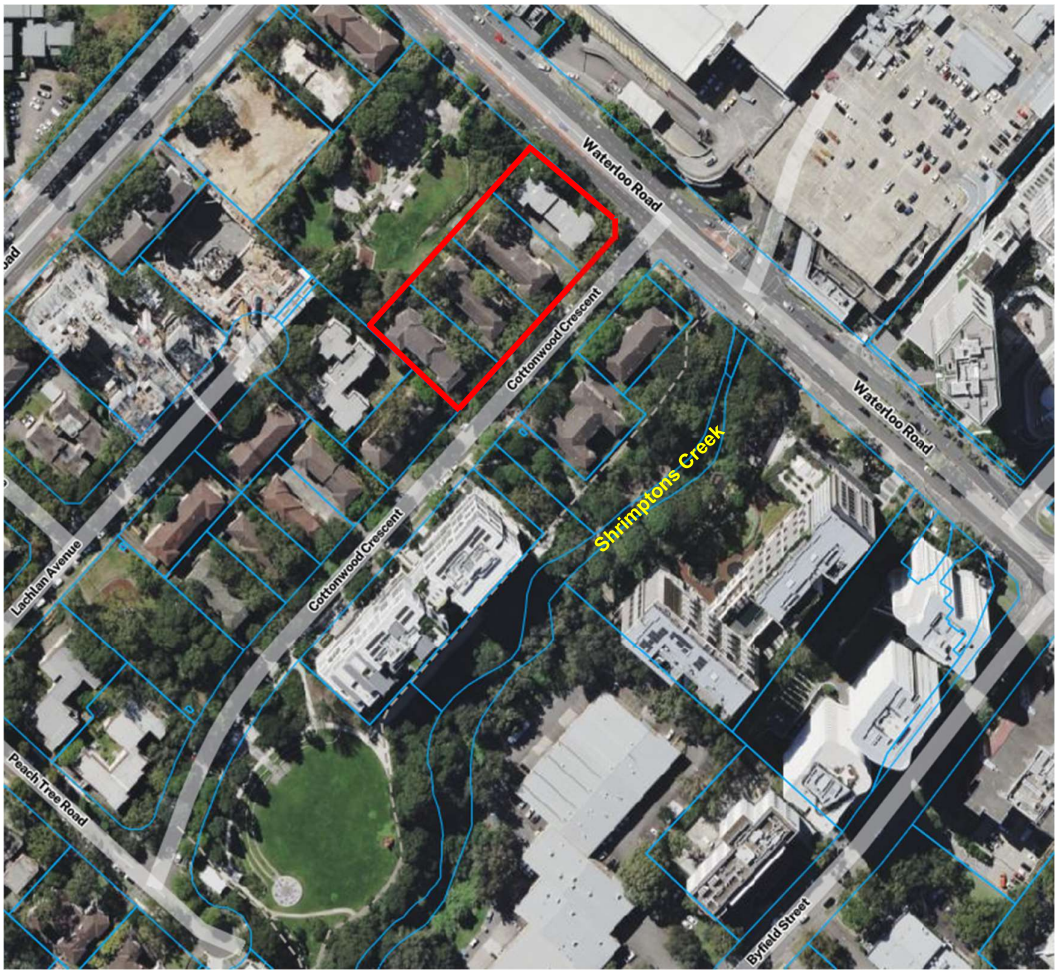
The BDAR identified that the proposal would result in a vegetation disturbance of approximately 0.15 ha, comprising of exotic and native planted vegetation. No specialist breeding habitat (i.e., hollow-bearing trees) will be impacted by the proposal. No TECs occur within, or in close proximity to the subject site, and no threatened flora species are considered present or are not considered likely to occur. The BDAR concluded that the development is unlikely to significantly impact upon any threatened species or their habitats listed under the BC Act and EPBC Act. Mitigation measures will be introduced to further avoid and/or minimise impacts associated with the proposal, including:

- Vegetation clearing and construction protocols
- Landscaping recommendations
- Control of weeds and pathogens
- Erosion and sedimentation controls.

2. Additional Request for Information

Additional information has been requested regarding Shrimptons Creek corridor, specifically relating to indirect impacts of overshadowing, noise, and erosion and sediment control. The BDAR identified a low risk of indirect impacts on the Shrimptons Creek corridor. Further information is provided in this addendum.

Figure 1: Locality Map



2.1 Overshadowing

Overshadowing may be a potential impact of the proposed development on Shrimptons Creek. The subject site is approximately 75-80m from the Shrimptons Creek corridor. It is noted however that there are intervening high rise buildings between the subject site and Shrimptons Creek (being 14 and 16 Cottonwood Crescent. Some overshadowing is also likely on the corridor from the high rise buildings at 82 Waterloo Road (south of Shrimptons Creek).

The urban design report (AJC 2026) identifies that there will be some overshadowing of Shrimptons Creek corridor from the proposed development over the short term (around 12 noon). Notwithstanding the cumulative impact analysis of other developments in the vicinity identifies that the proposal is not the major impact on overshadowing during the day. The proposed development will only overshadow Shrimptons Creek during a short period in the middle of the day. In addition, the analysis identifies no impact from the proposal on Elouera Reserve.

Table 1: Overshadowing Analysis

Proposed Development Analysis

	WILGA	SHRIMPTONS	COMBINED
9AM	0	0	0
10AM	12	0	5
11AM	66	0	27
12 NOON	13	24	19
1PM	0	5	3
2PM	0	0	0
3PM	0	0	0

Cumulative Analysis

	WILGA	SHRIMPTONS	COMBINED
9AM	48	45	46
10AM	33	42	38
11AM	66	47	54
12 NOON	22	60	45
1PM	18	25	22
2PM	23	11	16
3PM	28	8	16

The urban design report indicates that the proposed built form is composed of two slender, stepped tower forms intended to reduce overshadowing impacts. From an ecological perspective, any shadowing of the Shrimpton's Creek riparian corridor is likely to be limited in extent and primarily affect canopy vegetation, with existing vegetation expected to be only minimally impacted. It is of note that the affected vegetation is also not associated with a TEC.

The potential long-term effects on canopy growth, seedling establishment and ecological function is acknowledged. In theory overshadowing may reduce the effectiveness of revegetation efforts, that established canopy trees may marginally slow in growth rate and/or reduce foliage cover, and that seedlings may struggle to establish in low light conditions. However, these impacts are unlikely to significantly affect existing vegetation given the highly modified urban context and the fact that the corridor retains substantial open sections and connectivity with adjacent areas.

To mitigate any potential impacts additional mitigation measures (in addition to those in the BDAR) include:

- careful timing for any revegetation works in the corridor if this is proposed (e.g. late spring)
- incorporation of locally indigenous vegetation communities in landscaping and restoration.

2.1.1 Street Lighting

If street lighting is to be constructed it is recommended that street lighting faces downwards if consistent with street lighting regulations (e.g. Figure 2)

Figure 2: Street Lighting Example

Figure 3: Internal Public Domain Lighting Example

2.1.2 Internal Lighting

Any internal lighting will need to be consistent with regulations and consider any CPTED requirements. However, it is recommended where applicable that low level LED lighting is utilized on footpaths and common areas in the development (e.g. Figure 3).

2.1.3 Concluding Remarks

The proposal's overshadowing effects are expected to be localised and manageable, rather than resulting in a significant loss of ecological function across the corridor. Some recommendations are identified above to manage overshadowing, noting that the site is in an urbanised area with high rise buildings between the subject site and Shrimptons Creek corridor and the proposal meets the LEP height limits.

2.2 Noise

The subject site is in an existing urban area surrounded by high rise development and other urban uses (e.g. commercial, retail, tertiary education). The noise levels in the area will be reflective of an existing urban area and given the non-linear nature of noise emissions it is highly unlikely the proposed development will significantly impact existing noise levels. Some ways the proposal can help mitigate any noise impacts include:

- Low speed traffic movement through the site (e.g. traffic calming measures, speed limit signs) which can be incorporated during the detailed design process
- Standard construction measures for reducing noise on construction sites (e.g. turning vehicles off when not in use).

2.3 Erosion and Sediment Control

Some comments have been made in regard to the ecological impacts of erosion and sediment control on Shrimptons Creek corridor. Industry standard management measures (e.g. Landcom Blue Book) will be sufficient to manage erosion and sediment control (as was identified in the BDAR).

3. Other Considerations and Cumulative Impacts

The subject site is a highly urbanized bounded by Waterloo Road, Cottonwood Crescent, Elouera Reserve, and residential land. The assessment also notes that the surrounding landscape is largely modified, with the main remaining habitat links in the locality comprising small, discontinuous patches and the Shrimpton's Creek riparian corridor, rather than an intact regional habitat network. The landscape between the site and the broader area is substantially fragmented, with limited continuous vegetation and strong urban barriers to movement. On that basis, the proposed development is not expected to cause a meaningful additional contribution to regional habitat loss or fragmentation, because the subject site itself contains only limited habitat values and does not represent a significant remnant linkage in the precinct.

In relation to potential threatened fauna species specifically identified by Council:

- Grey-headed Flying-fox –the proposal would involve removal of only about 0.15 ha of potential foraging habitat, with no breeding camp, no roosting camp, and no breeding habitat on the site. The impact is therefore assessed as minor and unlikely to influence the size or functioning of an important population.
- Little Lorikeet – this species potential use of the site and adjacent corridor as foraging habitat is unlikely. The site does not contain core habitat or a known breeding resource of regional importance. Any habitat loss would be small in extent and within a heavily modified urban setting.
- Microbat species, including Large Bent-winged Bat and other microchiropterans – the assessment records no caves, tunnels or mine shafts, with only limited potential roosting opportunities in buildings and bark. The proposal therefore does not remove key roost habitat or a significant movement corridor.

3.1 Cumulative Impact Assessment and Regional Context

The Proposal's incremental impact must be considered in the context of the existing landscape, where habitat has already been substantially reduced and fragmented by prior urbanisation and development. While Macquarie Park has experienced broad habitat loss over time, the subject site is not a major contributor to that regional process. Its ecological role is limited mainly to:

- Small-scale foraging opportunities
- Possible transient use by mobile species
- Indirect interface effects on adjacent vegetation.

The site's location between Elouera Reserve and Shrimpton's Creek Riparian Corridor acknowledges the need to manage edge effects, runoff, sedimentation and construction disturbance carefully. The flora and fauna assessment prepared for the development has considered both direct and indirect impacts. However, these impacts can be appropriately managed through standard mitigation measures the proposal is unlikely to materially compromise regional connectivity given the already fragmented nature of the surrounding environment.

3.1.1 Concluding Remarks

This assessment in conjunction with the BDAR supports the conclusion that the proposal would result in localised, minor ecological impacts only, with no significant cumulative effect on threatened fauna populations, regional habitat connectivity, or landscape-scale fragmentation in the Macquarie Park precinct. The proposal does not remove an important habitat linkage, does not impact a breeding or roosting site of conservation significance, and would not materially alter the already urbanised and fragmented regional biodiversity context.

3.2 Trees and Retention

The tree canopy on the subject site is understood to be predominantly planted native and ornamental vegetation associated with previous landscaping and screening, rather than remnant native vegetation or a recognised plant community type. Historical imagery shows the site was almost completely cleared of native vegetation by 1955, and that the current vegetation has been established in a formalised garden/landscaping context among hardstand areas. On that basis, the proposed tree removal is occurring within a highly modified urban setting, where tree retention must be balanced against the approved building envelope, access, servicing, safety, and the need to deliver the proposal.

That said, there is environmental and amenity value of retained canopy. The flora and fauna assessment includes mitigation measures that specifically seek to retain trees where practicable, protect them during construction, and supplement lost canopy through retained native vegetation, tree protection fencing, and locally indigenous replacement plantings. The report states that tree protection fencing is to be installed around all trees proposed for retention within and surrounding the subject site, and that future landscaping should incorporate species representative of the local vegetation communities.

With respect to the DCP setbacks, the proposal was assessed against Ryde Development Control Plan 2014 Section 5.8 and was considered compliant with the relevant controls. The site is constrained by its urban context and by the relationship of the proposal to adjoining land uses, including Elouera Reserve and the broader Shrimpton's Creek corridor interface. In that context, a 5 m setback from Elouera Reserve may be beneficial from an arboricultural and urban forest perspective, as it could improve opportunities for canopy retention and larger landscaped verge planting. However, whether that setback is achievable depends on the final architectural, access and servicing design and the applicable DCP controls as they relate to the approved form of development.

From an ecological perspective, the key outcomes are:

- The existing trees are largely planted urban vegetation, not high-value remnant habitat
- The proposal still has a meaningful canopy retention objective through retention of selected trees and protection of retained vegetation
- Additional setback, if feasible, would likely provide a net benefit for canopy retention, edge planting and interface buffering with Elouera Reserve
- The loss of trees in this case is not expected to result in a significant biodiversity impact in the regional context, provided the mitigation measures in the flora and fauna assessment are implemented.

4. Mitigation and Management Measures

Based on the findings of the BDAR and this Addendum, Table 2 provides a list of updated mitigation and management measures which will be implemented as identified in the Table.

Table 2: Mitigation and Management Measures

Impact	Mitigation measure	Timing and frequency	Responsibility
Inadvertent impacts on adjacent habitats	Access for future construction is to take place utilising existing cleared/exotic areas of the Subject Land. Temporary fencing should be erected around retained vegetation and suitable habitats. Exclusion zones should be set up at the limit of clearing in accordance with specifications provided in the project Construction Environmental Management Plan (CEMP). Sediment and erosion control is discussed further below.	Prior to and during construction	The Proponent and contractors
Removal of threatened species habitat and habitat features	A suitably qualified Project Ecologist should be engaged prior to clearing works to undertake a pre-clearing inspection of the Subject Land. The pre-clearing inspection will include: • Targeted surveys for any new threatened species (with focus on threatened flora not previously surveyed) • Microbat inspections of all human-made structures proposed for demolition • Demarcation of fauna habitat • Demarcation of Priority Weeds listed under the *Biosecurity Act 2015*.	Prior to commencement	The Proponent, contractors, Project Ecologist
Human-made structures	Clearing of native vegetation and habitat to be kept to a minimum, with retention of the native canopy species within the Subject Land to be made a priority. If/when clearing does occur, a two-stage clearing protocol should be utilised under the supervision of a suitably qualified Project Ecologist. Stage 1 is intended to disturb the clearing area in order to encourage any resident fauna to leave prior to habitat removal. Stage 1 should be undertaken 24 hours prior to Stage 2 and involves: • Removal of non-fauna habitat • Demarcation of any fauna habitat • Mechanical 'knocking' of habitat trees (tree hollows/nests/intense foraging, i.e., with excavator). The Project Ecologist should be engaged to supervise Stage 2 of the vegetation clearing which involves: • Mechanical 'knocking' of habitat trees • Soft felling/clearing of any fauna habitat identified • Project Ecologist inspection of fauna habitat utilising flashlight and/or endoscopic camera • Relocating any displaced fauna to suitable habitat or transporting injured fauna to WIRES or veterinary care.	Prior to and during construction	The Proponent, contractors, Project Ecologist
	A procedure for unexpected threatened species finds is to be documented in the CEMP prior to commencement. This plan is to be followed if triggered through pre-clearance surveys.	Prior to and during construction	The Proponent and contractors
	Australian Standard 4970 (2009) Protection of Trees on Development Sites (AS-4970) outlines that a Tree Protection Zone (TPZ) is the principal means of protecting trees on construction sites. It is an area isolated from construction disturbance so that the tree remains viable. Ideally, works should be avoided within the TPZ. A Minor Encroachment is less than 10% of the TPZ and is outside the Structural Root Zone (SRZ). A Minor Encroachment is considered acceptable by AS-4970 when it is compensated for elsewhere and contiguous within the TPZ. A Major Encroachment is greater than 10% of the TPZ or inside the SRZ. Major Encroachments generally require root investigations	Prior to and during construction	The Proponent and contractors

Impact	Mitigation measure	Timing and frequency	Responsibility
	undertaken by non-destructive methods or the use of tree sensitive construction methods. Tree protection fencing is to be installed around all trees proposed for retention within and surrounding the Subject Land.		
	Any woody debris (fallen trees and logs) within the Subject Land is to be relocated to areas of retained native vegetation within the greater Site Boundary.	Prior to and during construction	The Proponent and contractors
Removal of non-native vegetation	The removal of non-native and native vegetation may reduce some foraging habitat for threatened species potentially utilising the Subject Land. Although it is highly unlikely to affect the persistence of these threatened species in the region, future landscaping should incorporate native plantings suitable for forging. These species, and all landscaping within the Subject Land should be representative of the locally indigenous ecological communities: • PCT 3592: Sydney Coastal Enriched Sandstone Forest • PCT 3176: Sydney Enriched Sandstone Moist Forest	Construction	The Proponent and contractors
Weeds and Pathogens	Hygiene protocols should be implemented to prevent the spread of weeds or pathogens between infected and uninfected areas of the Subject Land and greater Site Boundary. Priority Weeds, as well as all other weeds within the Subject Land should be bagged, removed from site and disposed of at a registered waste facility.	Construction and operation	The Proponent and contractors
Erosion and sediment impacts	A site-specific Erosion and Sediment Control Plan is recommended detailing the measures and controls to be applied to minimise erosion and sediment control risks. These may include: runoff, diversion and drainage points; sediment basins and sumps; scour protection; stabilising disturbed areas as soon as possible, fencing and swales; and staged implementation arrangements. The Plan will also include arrangements for managing wet weather events, and working with high surface water levels, including monitoring of potential high-risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.	Construction	The Proponent and contractors
Storage and stockpiling of materials	Any temporary structures required for construction, such as temporary facilities and laydown areas, must be located in areas away from native vegetation within cleared/exotic land. All fuels, chemicals and other hazardous materials must be stored in accordance with relevant Australian Standards and/or safety data sheets. Importing of soils from outside the site should be avoided where possible due to the potential of pathogen and weed introduction. Only weed-free material is to be reused during site rehabilitation. Appropriate hygiene measures such as vehicle and equipment cleaning protocols must be implemented to ensure that operations within the Subject Land do not contribute to the encouragement or spread of feral pest, disease or weed species.	Construction	The Proponent and contractors
Overshadowing	Careful timing for any revegetation works in the corridor if this is proposed (e.g. late spring) Incorporation of locally indigenous vegetation communities in landscaping and restoration. Street lighting is to be constructed it is recommended that street lighting faces downwards if consistent with street lighting regulations. it is recommended where applicable that low level LED lighting is utilized on footpaths and common areas in the development.	Detailed Design and Construction	The Proponent and contractors
Noise	General industry standard mitigation measures for noise management are to be included in the CEMP. Low speed traffic movement through the site (e.g. traffic calming measures, speed limit signs) which can be incorporated during the detailed design process.		