**Consent no. DA19/0875**

**Schedule C**

**Part A - Biodiversity Management Plan Condition**

The Biodiversity Management Plan (BMP) is to be prepared to ensure best practices according to Legislative requirements, policy, guidelines, and evidence-based practices are implemented through all stages of this development including ongoing operations for the preservation and protection of the sites biodiversity, by implementing appropriate mitigation measures.

Development and implementation of each aspect of the Biodiversity Management Plan is the responsibility of the project manager.

The final stamped BDAR is to be reviewed in association with preparation of the Biodiversity Management Plan and associated ecological reports. However, the scope of the requirements as indicated here set out a minimum guide to the mitigation measures that are necessary for this development.

Modifications to the development and stamped approved plans that are likely to result in biodiversity impacts that were not previously assessed (including but not limited to unexpected finds), trigger the requirement to notify Council and may result in onward biodiversity assessment to manage these unexpected impacts.

Record keeping and reporting to Council on biodiversity matters is required. Inspections by Councils Biodiversity Officer or their proxy may be conducted.

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| **Chemical management** |
| For the prevention, of inadvertent impacts associated with all stages of the development (including operations) on native vegetation, habitat, waterways, protected native fauna.This section of the BMP must prescribe the requirements for the purchase, management and application of chemicals across all areas of the site, and through all stages of the development. To include but not be limited to, herbicides, fertilisers, pesticides, rodenticides, and any other poisonous substances. This plan must consider Legislation, policy and guidelines as well as current literature on evidence-based practice. For example: "Can a golf course support biodiversity and ecosystem services? The landscape context matter" and "The Role of Golf Courses in Biodiversity Conservation and Ecosystem Management.Water quality testing is to be included within the actions and may form part of the waterway/body management plan and referenced here.Chemicals and their applications must be suitable for use in proximity to habitat for Green and Golden Bell Frogs and Platypus. |

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| **Dam dewatering plan** |
| The final plan is to be reviewed and approved by an appropriately qualified (with tertiary qualifications) and experienced (a minimum of 5 years with projects of this scale or similar) expert on Green and Golden Bell Frogs. All recommendations for the rescue and temporary housing of rescued individuals for release on site (and the timing for release on site), are to be integrated into the plan. Further, these recommendations are to be implemented for any works associated with impacts on waterways/waterbodies, during any stage of the development, where the expert considers there may be likely impacts on individuals of this species. See also, Green and Golden Bell Frog species management plan.The dam dewatering plan must include, but not be limited to:* the quality and quantity of water to be released (testing for temperature, turbidity, dissolved oxygen, biochemical oxygen demand, pH, salinity, nutrients, Escherichia coli, faecal coliforms, copper, arsenic, cadmium, lead, mercury, zinc and additional parameters recommended by environmental consultants; the number of samples should be representative of the size and volume of the dam
* the use for the water and methods for its storage or disposal
* risk assessment with controls and treatment for the management of threatened and protected native fauna (in conjunction with threatened species management plan for Green and Golden Bell Frogs)
* fauna management
* management of weed and feral species
* management of native flora
* detailed process to dewater the dam, with a timeline
* erosion and sediment control
* record keeping and reporting requirements.
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| **Erosion and sedimentation plan (update)** |
| Review and endorse the erosion and sedimentation plan, providing advice to ensure erosion and sedimentation controls are suitable for the protection of biodiversity features of the site and do not allow on- or off- site sedimentation of waterways/bodies that are not approved for works. |

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| **Fauna Management** |
| Aim | To ensure the persistence of protected native fauna, including but not limited to threatened species on siteTo ensure protected native fauna that is temporarily relocated, are managed appropriately and reintroduced on siteTo ensure the humane and ethical management of pest and feral species. |
| Clearing | Integrate fauna management requirements into each stage of the clearing requirements for the development. |
| Dam dewatering | If appropriately qualified, review and endorse the dam dewatering plan, and supervise the dam dewatering process.(See also dam dewatering and project ecologist-aquatic). |
| Demolition and removal of stockpiles | Prepare a protocol or instructions for the removal of structures and stockpiles for the prevention of harm to protected native fauna, to include pre-works surveys and rescue actions.To be integrated into the CEMP. |
| Green and Golden Bell Frogs | Prior to preparation of the management plan for Green and Golden Bell Frogs, contact must be made with Councils’ Senior Biodiversity Officer.  |
| Exclusion fencing | In consultation with the Project Manager, provide advice on the requirements for exclusion fencing to prevent harm to protected fauna, that may access the construction zone/s. |
| Injured wildlife, during works and ongoing operations | Protocol to be developed, with the end-point for all individuals to be released on site, unless otherwise advised by a specialist wildlife veterinarian. |
| Lighting plan | The projects fauna ecologist is to provide input to development of the lighting plan for each stage of the development, including during construction and operations. The plan must consider Dark Sky Principles and the National Light Pollution Guidelines for Wildlife. The BMP is to specify actions to implement lighting controls during the construction and operational phases of the development in consideration of Draft National Light Pollution Guidelines for Wildlife. |
| Mulch | Develop a protocol / provide advice to the projects’ flora ecologist and supervising arborist to ensure all vegetation is cleared of native fauna, prior to mulching.This must include but not be limited to:* rescue requirements being completed

rigorous shaking of plant material to remove a significant number of native insects-many of which are critical to pollination and foraging requirements, prior to material being mulched. |
| Nest boxes | Nest boxes are only to be considered for temporary, emergency care of displaced individuals. Nest boxes are not to be installed as an ongoing action for wildlife management on this site. Priority is given to the retention and installation of hollows, according to best practices.The BMP is to consider the installation of artificial habitat features for fauna in adjacent retained vegetation and habitat or human made structures to replace habitat resources lost and encourage animals to move from the impacted site for example, nest boxes.  |
| Pest and feral animals | A procedure for the management of pest and feral animals (that takes into account the requirements of chemical management plan) is required for all stages of the development, including operations in perpetuity.The plan must provide for the humane and ethical treatment of pest and feral animals. |
| Pets | Pets (including but not limited to dogs and cats) are not to be permitted within core habitat areas identified on the VMP. |
| Platypus | Prior to preparation of the management plan for Platypus, contact must be made with Councils’ Senior Biodiversity Officer.  |
| Rescue and reintroductions | A rescue and reintroduction plan/protocol is required and must include, but not be limited to: * required equipment
* personnel
* notification of a qualified wildlife veterinary or wildlife hospital, prior to works commencing
* coordination with licenced wildlife carers (and specialists with experience with identified threatened species, including Green and Golden Bell Frogs)
* temporary relocation of displaced individuals, in approved care facilities
* reintroduction of displaced individuals, to be released on site \*\*No individuals are to be relocated or translocated on a permanent basis unless directed by a recognised wildlife veterinarian (written advice must be obtained, for record keeping requirements)

record keeping and notification of Council and other regulatory agencies-as required. |
| Scheduling of works | Provide advice to the Project Manager for the scheduling of works, to avoid the breeding/nursing periods for identified (or unexpected finds of) threatened species.Clearing of habitat trees, that have been approved for removal must not be conducted during breeding or nursing periods. |
| Species management plans | A management plan or a brief with recommendations are to be prepared for each of the threatened species candidate species identified on site and platypus, and any unexpected finds (threatened species).Where the site only provides for foraging opportunities, a brief with recommendations for the author of the VMP can be provided.Where the site provides important habitat features including but not limited to foraging opportunities, a species management plan is required to reduce, moderate, minimise risks to these species to ensure their long-term persistence on site. Each plan is to include rescue protocols with stop works orders and monitoring and reporting requirements.Each plan must include rescue protocols (with stop works orders) to inform pre-clearance / clearance / during works (including exclusion efforts where required) / dam dewatering activities. |
| Unexpected finds | Develop a protocol for unexpected finds to include a stop works order.For integration into the CEMP. |

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| **Flora management** |
| Clearing | Contribute to (or develop) a clearing protocol, providing advice on:* pre-clearance surveys (see relevant section)
* requirements for the projects’ ecologist flora/fauna to be in attendance and supervise/direct actions that relate to habitat (including patches of native vegetation, habitat trees and threatened species, or fauna management
* requirements for the clearing/removal of approved habitat trees, habitat features, patches of native vegetation in such a way that the habitat features are preserved and the risk of injury or mortality to fauna is prevented, such as top-down lopping, with lopped sections gently lowered to the ground, or by lowering whole trees to the ground with the "grab" attached of a machine
* staging of works in accordance with best practice methods
* preventing inadvertent damage and reduce soil disturbance
* removal by chainsaw rather than heavy machinery
* integration of fauna management requirements (such as rescues and inspection of hollows)
* tree protection and management requirements, as referenced in associated documentation including the Tree Removal and Retention Plan, the BDAR, Dam Dewatering Plan, Vegetation Management Plan
* salvage of habitat features (such as hollows, logs)
* to ensure weed and exotic species are mulched separately to materials from native vegetation, and disposed of at a licenced waste facility
* to ensure management of residual materials from native vegetation are mulched and retained for use within managed areas of native vegetation
* ensure mulching considers fauna management requirements
* stop works orders for unexpected finds.
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| Disease and pathogens | Either as an element addressed within the Weed management plan or a separate protocol for the Construction Environmental Management Plan (CEMP), addressing requirements for:* inductions
* vehicle and machinery hygiene
* access restrictions
* soil
* mulch and fill restrictions
* identification and testing to ensure materials are free from disease and pathogens.
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| *Diuris pedunculata* | Pending BDAR addendum (see condition)Species Management Plan. |
| Dust suppression | Provide advice on protocols to ensure the protection of native vegetation. |
| Edge effects | Refer to the VMP and ongoing management of the site. |
| Mowing | Protocol to be effective for all stages of the development including ongoing operations to ensure mowing is not conducted within areas with managed native vegetation (but in accordance with Asset Protection Zone (APZ) requirements). |
| Mulch | Protocol for the purchase and importation of mulch for the site (refer to disease and pathogen controls). |
| Mulching | See clearing. |

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| Pre-clearance surveys | Protocol to guide pre-clearance surveys, for each stage of the developmentThis is to include but not be limited to:* identify locations of, clearly identify and ensure protection measures are appropriate for patches of threatened ecological communities that are to be retained
* identify locations of, clearly identify and ensure protection measures are appropriate for habitat trees that are to be retained
* identify locations of, and clearly identify habitat trees for removal, from which materials will be salvaged
* identify locations of patches of native vegetation that are to be retained and ensure protection measures are appropriate
* consult with the projects’ fauna ecologist to integrate fauna management requirements
* survey to record and action unexpected finds protocol
* conduct seed collection, cutting, translocation activities (subject to approvals and lisencing requirements)
* consult with the projects' supervising bush regenerator for the transfer and management of salvaged materials, including but not limited to hollows, logs, mulch
* confirm all requirements for protection zones are in place for trees, areas of threatened plant communities, habitat areas that are not approved for removal
* maintain records and provide a report to Council within one (1) month of clearing works, for each stage, being completed.
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| Salvage of habitat features | For inclusion within the Pre-clearance survey protocolHabitat features including but not limited to hollows, logs, leaf litter, bush rocks, dead wood and soil, are to be salvaged. |
| Seed collection, cuttings and translocations | Seed collection, cuttings and translocations are to be conducted by experienced, licensed staff. All material removed from areas approved for works is to be transferred into areas identified within the Vegetation Management Plan (VMP). |
| Soil | Protocol for the salvage and stockpile of suitable soils being removed from areas approved for works and for the important of soil for use within landscaping and VMP areas. |
| Stockpiles and machinery | Protocol to ensure stockpiles, vehicles and machinery do not enter tree protection zones, threatened species zones, waterways/bodies, VMP areas.To be integrated within the Construction Environmental Management Plan (CEMP). |
| Threatened ecological community patches, protection zones | Patches of threatened ecological communities that were not offset within the Biodiversity Development Assessment Report (BDAR), are to be surveyed and fenced with appropriate wildlife friendly fencing to be installed and maintained in perpetuity. During works, signage must be installed to identify the area as a threatened species protection zone, no entry.This requirement may be undertaken in reference to the VMP.The BMP is to specify actions to implement rubbish and pollutant controls for the protection of the Jerry’s Creek system, relative to operational activities, in perpetuity.The BMP is to specify actions that will be implemented to manage the risks associated with rubbish management, predatory species, pests and weed management throughout the construction and operational phases. |
| Translocations | See seed collection, cuttings and translocations. |
| Tree removal and retention plan | Final, approved plan to be referenced and linked as an appendix to this document. |

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| **Noise, light and dust spill** |
| Provide recommendations for controls, to be integrated within the CEMP, for the protection of native vegetation and fauna.Provide recommendations for the preparation of the lighting plan for all stages of the development, including ongoing operations.  |

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| **Specialists to assist with the Biodiversity Management Plan** |
| Project ecologist, aquatic | A specialised ecologist with direct experience with the rescue and management of aquatic flora and fauna-including direct experience with Green and Golden Bell Frogs, will be required where the flora/fauna ecologist does not have direct experience with these species. The aquatic ecologist must:* review and endorse the dam dewatering plan
* (or their experienced proxy) direct and supervise the approved dam dewatering / waterway impact activities associated with the development application.
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| Project ecologist fauna | Project ecologist faunaThe projects' fauna ecologist is:* to be suitably qualified (tertiary qualifications in a targeted field of study) with a minimum of five (5) years' experience with projects of this scale (or larger)
* is responsible for the development of all relevant components of the Biodiversity Management Plan
* will either have or engage contractors/volunteers with all required licences and permits with respect to the management of protected native fauna
* is responsible for overseeing all activities with the potential to impact threatened and protected native fauna, providing advice to the projects’ flora ecologist for pre-clearance surveys and clearance works to integrate fauna management requirements, unexpected finds protocol and its implementation, record keeping and reporting requirements
* is to have current insurance coverage, for all activities associated with their engagement.
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| Project ecologist-flora | The projects' flora ecologist:* is to be suitably qualified (tertiary qualifications in a targeted field of study) with a minimum of five (5) years' experience with projects of this scale (or larger) and with direct experience with the identified plant community types identified on this site
* is responsible for the development of all related components of the Biodiversity Management Plan (with the exception of the VMP, unless so engaged with the possession of the required qualifications and experience)
* will either have or will engage a contractor with all required licences and permits with respect to the handling and management of protected native flora (including but not limited to collection of native seed or cuttings, translocations)
* is responsible for overseeing all native vegetation removal activities on the golf course and the cemetery area including but not limited to pre-clearance surveys, guiding and directing clearance activities (particularly in relation to habitat trees, threatened species, unexpected finds, salvage and management of habitat features), integration of fauna management requirements, record keeping and reporting requirements, except for actions prescribed to species experts or the supervising bushland regenerator
* is to have current insurance coverage for all activities associated with their engagement.

The management of the removal of native vegetation associated with the club house up to and including the impacted area associated with the Asset Protection Zone (except where there is an overlap with the golf course) will be under the guidance and direction of the projects’ AQF5 arborist. |
| Supervising bush regenerator | Please refer to Councils’ draft guide for preparing a Vegetation Management Plan |
| Vegetation Management Plan, author | If not the project ecologist flora, please refer to Penrith City Council’s draft guide for preparing a Vegetation Management Plan |

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| **Staff training and inductions** |
| Biodiversity management requirements are to be included in all staff inductions, for all stages of the development.To be integrated within the CEMP and work instructions |

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| **Vegetation Management Plan** |
| The requirements for onward development of the final Vegetation Management Plan (VMP), for submission to Council for review and approval are to include (but are not limited to):* management of the site for the long-term persistence of the threatened species confirmed present, or likely to be present given habitat improvements, this is to include (but is not limited to) plant selection and habitat restoration efforts to ensure the development of functional habitat with structural complexity and diversity with consideration of relevant Recovery Plans, and is to be prepared in consultation with species experts and project ecologist/s
* habitat restoration to the greatest extent possible to include the full extent of riparian zones, wherever feasible
* integrate the full extent of patches of threatened ecological communities, that have not been directly offset (see final and approved BDAR)
* integrate all areas that are transferable from the draft landscape plans
* management and restoration of Jerry's Creek (including the creek bank and creek floor) in consideration of the requirements for platypus habitat restoration, to be prepared and endorsed by the Australian Platypus Conservancy
* include creek bank restoration actions, immediately following any approved works within the riparian zones
* integrate any replacement planting requirements as outlined in the final and approved Tree Removal and Retention Plan
* ensure the removal of all waste and debris from redundant infrastructure, employing sensitive work practices
* consider the requirements of the chemical management plan
* ensure construction waste and operational waste does not impact the areas being managed under the VMP, the supervising bush regenerator is to consult with the project manager and site management should adaptive waste management be required, until the matter is addressed
* integrate the requirements of the weed management plan, endorsed by Hawkesbury River County Council
* integrate the requirements of feral and pest animal controls
* integrate the requirements for Asset Protection Zones
* set clear, achievable performance measures for each stage of the development and each phase of the VMP (if coordinated with the stages of the development), for an initial 5-year term, with monitoring and evaluation to inform a subsequent 5-year plan. If at the end of this period, performance measures have not been achieved, the VMP will require further extension. On completion of the active implementation requirements of the plan, a final VMP is to be prepared for management of the site in perpetuity. Baseline measures may be obtained from the final and approved BDAR, submitted in association with the development application. Where there are inconsistencies that may result from unforeseen impacts or time lapse, baseline measures should be determined in association with the VMP.
* set standards for plant selection, purchase, and inspection
* take into consideration the Penrith City Council guide for preparation of a VMP and ensure the minimum qualifications of staff involved with the preparation and implementation of the plan are addressed.

The Vegetation Management Plan must be submitted for review and approval. All areas identified for management under the VMP are to be clearly identified within overarching site plans, the CEMP and any related documents for the guidance of development activities. |

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| **Waste management plan (update)** |
| The project ecologist/s (flora/fauna) and supervising bush regenerator are to provide advice to update the existing Waste Management Plan/s, for all stages of the development including ongoing operations.The recommendations must ensure there is no harm to protected native fauna, habitat, areas of native vegetation identified within the VMP and waterways/bodies.Recommendations are to address, but not be limited to:* purchase and use of waste receptacles that do not allow access by native wildlife (including birds), pests or feral species
* management of green waste from 1. exotics/weed species and 2. native vegetation (see salvage of materials and mulch)
* routine procedures for the collection of litter

monitoring and review to update the plan, due to inadvertent waste impacts. |

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| **Water quality management**  |
| Protocols for water quality management to protect the water quality on- and off-site during all stages of the development, including ongoing operations are required to be integrated into the CEMP to ensure thresholds for water quality values are sensitive to the requirements for Green and Golden Bell Frogs and Platypus (at a minimum), within respective waterways/bodies.Monitoring and reporting requirements are to be scheduled for each stage of the development. Where there is concern that thresholds have been exceeded, Council must be notified immediately, and remedial action taken. This may include but not be limited to stop works orders. |

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| **Weed management plan** |
| 1. To fulfil obligations under the Biosecurity Act 2015, for the management of priority weeds
2. To prevent impacts associated with all stages of the development associated with the transport of weeds and pathogens on- and off-site

The weed management plan may be a stand-alone document to be referenced within the VMP, OR initially, the requirements can be integrated within the VMP.The weed management plan must be endorsed by the Hawkesbury River County Council.The first phase of the weed management plan must address actions to be implemented across the site (and for each stage of the development), prior to works commencing.Each stage of the development is to have a final component that addresses the ongoing management of weeds within that area, in perpetuity. |

**Schedule C**

**Part B - Tree Protection Plan (Specification) and Drawing Considerations and Requirements**

1. At a minimum Tree protection Plan (Specification) and Drawing shall (but not be limited to):
* Be site specific and cover all stages of construction (e.g. demolition, construction, post construction, landscaping), noting that protection measures for each of these stages may differ.
* Identify key stages where monitoring and certification will be required as outlined in AS 4970–2009, Section 5.
* Provide a requirement that all contractors and workers on site shall be briefed on the tree protection and management procedures in place as part of their site induction. A written record of the induction process is to be kept on site.
* Require the project Arborist to supervise any work within or directly adjacent to the Tree Protection Zone.
* Require that if underground services are to be installed within the designated TPZ of a tree to be retained, they must be installed using directional drilling/thrust boring techniques.
* Designate tree protection areas/zones and vegetation protection zones across the entire site and nominate whether the protective fences are to remain static or whether there is scope/need for them to be altered to facilitate proposed works.
* Consider if tree protection fences need to be altered in design or materials to permit egress of fauna.
* Permit the project Arborist to alter/adjust the Tree Protection Zone or measures providing that reasons for this are clearly documented, justifiable, undertaken under the supervision of the project Arborist and that those changes will not cause detriment or damage to the tree.
* Provide details for the maintenance of the Tree protection/Vegetation Zones and ensure that maintenance requirements are specific to the area being maintained, particularly in regard to the retention of native vegetation and the protection of Threatened species.
* Require the project Arborist to undertake site inspections not less than weekly to ensure that Tree Protection measures are in place.
* Require the project Arborist to a written record (e.g. field notes and photos) to provide evidence of site attendance and compliance with the approved conditions of consent;
* Require the project Arborist to forward a copy of the written record of inspection to the Principal Certifying Authority within 1 week of that inspection occurring.
* Require the project Arborist to identify that whether there is a breach of the Tree Protection Plan. If a breach is identified the project arborist must report this to the Principal Certifying Authority and specify any remedial works and the timeframe in which these works must be completed. If an inspection reveals that there has been a significant breach of the Tree Protection Plan (specifications), inspections from then on must be carried out twice weekly.
1. Currency of Tree/Vegetation Management with consideration to Biodiversity, Conservation, Waterway Management and other associated Management Plans

Plans are required to be provided to be in place for all Phases of site construction regardless in what order the site is developed in. As these Phases may span across many years and given that the environment (trees/vegetation/fauna) is dynamic and may change over time there shall be a requirement for a review of all approved plans to be reviewed, updated and approved by Council a minimum of 1 month prior to approved works commencing.

A minimum of 6 weeks is to be provided for Council to review any amended documents.

OR

If the AIA , TRRP or Tree Protection Plan and Drawing is greater than 5 years old, when construction is due to begin, the plan is to be checked for currency and amended accordingly before construction can commence, however all amendments are to be verified and approved by Penrith Council before approval to commence works can be issued.

Longevity of Tree/Vegetation Management with consideration to Biodiversity, Conservation, Waterway Management and other associated Management Plans

A long term Tree/Vegetation and Biodiversity Management Plan will be required to be developed to ensure appropriate management and assessment of trees and vegetation on this site.

The Plan should provide for (but not be limited to):

* Ensuring regular site audits of trees/vegetation is undertaken;
* A care and maintenance plan is informed, developed and reviewed in response to site audits;
* replanting requirements for succession planting/increase vegetation around trees, particularly trees identified as habitat and along riparian areas

To ensure continued Environmental Management of the site it shall be required that a Master Plan and ongoing Plan of Management for the site is developed to ensure a consistent approach to all environmental disciplines (e.g Trees/Vegetation, Biodiversity, Conservation, Waterway Management).

The Master Plan and ongoing Plan of Management shall be approved by Penrith Council prior to works commencing.