# Appendix A
# Request for Information – 24 April 2023

Australian Government
Department of Climate Change, Energy, the Environment and Water

EPBC ref: 2023/09461

Nirvana Searle
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Brisbane City Qld, 4000

**Further information required for preliminary documentation for Borumba Pumped Hydro Energy Storage (PHES) Project – Exploratory Works, Lake Borumba, Queensland**

Dear Nirvana Searle

I am writing to you about your proposal for the proposed action to clear vegetation and undertake technical investigations including exploratory tunnel drilling, test pits and other supporting infrastructure for a proposed future hydro energy storage facility.

On 30 March 2023, a delegate of the Minister for the Environment and Water decided that the proposed action is a controlled action and that it will be assessed by preliminary documentation. Further information is required to assess the relevant impacts of the proposed action.

I now request, under s95A(2) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), further information as outlined in the attached.

Details on the assessment process for the project and the responsibilities of the proponent are set out in the EPBC Act — Environment Assessment process fact sheet. Further information on the referral and assessment process can be found on the department's website.

If you have any questions about the referral process or this decision, please contact the project manager, Jeremy de Kleuver, by email to Jeremy.de.Kleuver@dcceew.gov.au and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

Jena Harrap
Acting Director, Queensland South Assessments
Queensland and Sea Dumping Branch
Environmental Approvals Division

21 April 2023

**ATTACHMENT A**
**REQUEST FOR ADDITIONAL INFORMATION REQUIRED FOR ASSESSMENT BY PRELIMINARY DOCUMENTATION**

**Borumba Pumped Hydro Energy Storage (PHES) Project – Exploratory Works, Lake Borumba, Queensland (EPBC 2023/09461)**

Preliminary documentation for the proposal will include:

(a) the original referral.

(b) the additional information you provide on the impacts of the proposed action and the strategies you propose to avoid, mitigate and/or offset those impacts (as described below).

(c) any other information specified in this request.

Where relevant information was provided at the referral stage, incorporate, or refer to this information as necessary in the preliminary documentation.

Additionally, the preliminary documentation must address other matters relevant to this project that was not included in the referral such as:

(a) impacts to protected matters that were not identified at the time the controlled action decision was made.

(b) new actions and/or other actions not included in the referral information that are likely to impact matters of national environmental significance (e.g. impacts to dispersal habitat for fauna species).

(c) amendments to the proposed action that would result in a change in the nature, timing or location of any impacts.

The department's ability to assess a proposed action is dependent on the completeness and adequacy of the information provided in the preliminary documentation and as such, the department cannot indicate the length of time for the assessment of the preliminary documentation. In this regard, please reconsider any requirement to engage in contractual obligations or scheduling with third parties. The department notes that any contractual and timeframe commitments engaged by proponents are at their own risk.

The preliminary documentation must address the matters set out below.

## 1. General content, format and style

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| The preliminary documentation must: | |
| 1.1. | Include a reference table indicating where to find the information fulfilling this request. |
| 1.2. | Contain sufficient information to allow the Minister (or delegate) to make an informed decision on whether or not to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision.<br><br>Contain sufficient information to enable interested stakeholders to understand the environmental consequences of the proposed development on matters of national environmental significance (MNES). |
| 1.3. | Ensure all work and conclusions:<br><br>(a) are presented clearly, unambiguously, succinctly and objectively.<br><br>(b) are evidence based, and the evidence is provided within the PD.<br><br>(c) are supported by peer reviewed literature, with references provided, or expert opinion.<br><br>(d) use scientifically robust methodologies appropriate to the purpose, and describe and appropriately reference the methodology/ies chosen.<br><br>(e) detail why the methodology/ies was selected and state any limitations in the chosen approach.<br><br>(f) are, where appropriate, supported by maps, plans, diagrams, baseline surveys or other descriptive detail. For example, baseline surveys showing the extent of threats such as weed and feral animals present at the impact and/or offset site.<br><br>(g) demonstrate consideration of relevant documents* including Approved Listing Advice(s), Conservation Advice(s), Recovery Plan(s), Threat Abatement Plan(s) or comparable policy guidelines, and approved survey methods.<br><br>(h) be written so that any conclusions reached can be independently assessed. To this end, all sources must be appropriately referenced using the Harvard standard. The reference list must include the address of any internet pages used as data sources.<br><br>**relevant documents include, but are not limited to, the resources found in the Species Profile and Threats Database (SPRAT database) and EPBC Act publications and resources.* |
| 1.4. | Must avoid passive language and use active, clear commitments (e.g. 'must' and 'will'). |
| 1.5. | Be able to read as a stand-alone document and must include summaries of all relevant information further explained in appendices. Detailed technical information, studies or investigations necessary to support the main text should be attached as appendices to the main document. |
| Note | *Please note the department may require further information, in addition to the information required below, should new information come to light during the assessment stage (e.g. an additional species has been identified onsite).* |

## 2. Description of the action

| If not previously provided in the referral documentation, the preliminary documentation must include: | |
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| 2.1 | (a) description of the intended land uses proposed as part of the completed development, including any proposed open space and/or conservation areas and associated ongoing activities, and details of the intended party that would be responsible for future management activities.<br><br>(b) a description of all components of the proposed action (pre-construction, construction, operational and decommissioning), including the anticipated start and completion dates, duration and maximum life. This should include a detailed outline of the expected timing of any staged clearing over the construction period. This description should include at a minimum:<br><br>i. all infrastructure to be constructed and construction methods.<br><br>ii. all new and existing roads, as well as details on which roads are sealed and unsealed, and anticipated traffic volume.<br><br>iii. water infrastructure, all new and existing groundwater bores, stormwater infrastructure and drainage systems and transmission line trenching.<br><br>iv. design and location of diversions or interception of overland flow and other water-related infrastructure.<br><br>v. all temporary and permanent fencing used, including a description of each fencing type and location. Include schematic diagrams of fence types and maps of where fences are proposed to be located.<br><br>vi. ancillary or supporting infrastructure including maintenance buildings, drill pads, construction camps and associated works or safety works including new construction and upgrades.<br><br>vii. realignment or replacement of services, structures, access etc. required as a result of the action.<br><br>viii. quarries and other resource extraction sites including locations, size, method of extraction of materials and transport of materials.<br><br>ix. other such actions, including, but not limited to, use of explosives, changes to hydrological flow and groundwater, concrete batching plant, material storage, construction facilities, fine particle and dust control management.<br><br>x. actions related to waste management and management of spills/contaminants/pollutants, treatment of contaminated land and method of treatment, disposal of waste and contaminated material, standards and minimum thresholds required for removal/disposal.<br><br>(c) the location, boundaries, and size (in hectares) of the disturbance footprint, and of adjoining areas and vegetation, which may be indirectly impacted by the proposal, including from material stockpiles, vehicle access and associated activities. Ensure that total areas of all project components are consistent throughout the report to the nearest decimal point.<br><br>(d) a clear description of any material changes (e.g. total footprint, areas to be cleared) or planning changes (e.g. construction timeframes) between the referral and draft preliminary documentation submissions. |

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| | (e) For all proposed tunnelling infrastructure, describe, map and illustrate:<br>i. tunnel locations, depth, size and geology impacted (including long term stability of the geology of the project area)<br>ii. location in relation to groundwater<br>iii. construction methodology<br>iv. associated surface infrastructure. |
| 2.2 | A decommission plan for the scenario that the Borumba Pumped Hydro Energy Scheme Project does not proceed. This should inform the rehabilitation of areas impacted by the exploratory works to ensure there are minimal long term impacts on MNES. As well it should detail proposed treatment measures for spoils removed during the exploratory tunnel drilling works. |
| 2.3 | Details of any local or State Government planning scheme, or plan or policy under any local or State Government planning system that applies to the proposed action, or that the proponent reasonably believes are likely to apply, to the proposed action. Details should include:<br>(a) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and<br>(b) obtained approvals or additional approvals that are required. |
| 2.4 | Relationship to other referrals or later stages of development. |

**3. Description of the environment and Matters of National Environmental Significance**

Listed threatened species and ecological communities

From the information provided to date, the department considers that the matters that may or are likely to be significantly impacted by the proposed action include, but are not limited to:

- Austral Toadflax (*Thesium australe*) - vulnerable
- Greater Glider (southern and central) (*Petauroides volans*) - endangered
- Grey-headed Flying-fox (*Pteropus poliocephalus*) – vulnerable
- Koala (*Phascolarctos cinereus* (combined populations of Qld, NSW, and the ACT)) – endangered
- Long-nosed Potoroo (northern) (*Potorous tridactylus tridactylus*) - vulnerable
- Regent Honeyeater (*Anthochaera phrygia*) – critically endangered
- Scrub Turpentine (*Rhodamnia rubescens*) – critically endangered
- South-eastern Glossy Black-Cockatoo (*Calyptorhynchus lathami lathami*) - vulnerable
- Spotted-tail Quoll (*Dasyurus maculatus maculatus* (SE mainland population)) - endangered
- Lowland Rainforest of Subtropical Australia TEC – critically endangered
- Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions TEC - endangered

Note that this may not be a complete list and it is your responsibility, as the proponent, to ensure that any species or ecological communities listed under the EPBC Act at the time of the controlled action decision, which will or are likely to be significantly impacted by the proposed action, are assessed for the Minister's consideration.

It is also the responsibility of the proponent to maintain awareness of any changes to species distributions. Please ensure that a recent Protected Matters Search Tool report is generated and used during the assessment before finalising the draft preliminary documentation.

Determining habitat extent

Habitat assessments must be informed by desktop and field surveys in accordance relevant departmental documents (e.g., approved Conservation Advices, Recovery Plans, draft referral guidelines and Listing Advices, and SPRAT Database), including published research and other relevant sources.

The preliminary documentation must provide a description of the environment affected by and surrounding the proposed action area, over both the short and long term.

| If not previously provided in the referral documentation, specific matters this section must address include: | |
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| 3.1 | A description of any potential Matters of National Environmental Significance (MNES) (including but not limited to those listed in this request for information) that occur in the project area and adjacent areas. |
| 3.2 | A description and map of the current land use/s, land topography, surface and ground water bodies, permanent and ephemeral waterways and vegetation communities (habitat types as they relate to potentially impacted listed threatened species) on the proposed action site and adjoining areas. |
| 3.3 | For listed threatened species and ecological communities that have the potential, or are likely, to be present at and in the vicinity of the project site, including but not limited to those listed in this request for further information, this section must provide a likelihood of occurrence assessment based on the following:<br>(a) Information on the abundance, distribution, ecology and habitat preference of the species or communities.<br>(b) Quantification of the extent of habitat (including maps identifying known or potential habitat).<br>(c) Assessment of the quality and importance of known or potential habitat for the species or communities within the proposed action site and surrounding areas.<br>(d) Information detailing known populations or records within at least five kilometres of the development footprint and (if known) the size of these populations.<br>(e) Information on relevant water dependant threatened species downstream of the development footprint.<br>(f) Information on the survey methodology used, including a map/s of survey points or transects, how the survey points or transects were selected, when surveys were conducted (e.g. dates, time of day, season, etc.) and search effort (e.g. 20 hours over eight days). |

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| | (g) An assessment of the adequacy of any surveys undertaken with reference to any relevant scientific literature and/or statutory documents. In particular, the extent to which these surveys were appropriate for the species and undertaken in accordance with relevant survey guidelines.<br><br>(h) Results of any surveys undertaken.<br><br>*Note: Survey data should be as recent as possible and collected in the last five years. If adequate surveys of the project site to confirm the presence/absence of the above listed threatened species and ecological communities are not undertaken, the department considers that, for the purposes of assessment under the EPBC Act, it may be appropriate to assume that those listed species and ecological communities are present at the proposed site.* |
| 3.4 | <u>Lowland Rainforest of Subtropical Australia threatened ecological community</u><br><br>Please discuss how the extent and composition of the Lowland Rainforest of Subtropical Australia threatened ecological community (TEC) within the study area is consistent with the relevant statutory documents, specifically, how the community conforms with the key diagnostic characteristics noted in the *Commonwealth Listing Advice on Lowland Rainforest of Subtropical Australia 2011.*<br><br>The department also notes that per the *Commonwealth Listing Advice on Lowland Rainforest of Subtropical Australia 2011:*<br><br>"a minimum buffer zone that extends 50 metres (m) beyond the trunks of the outermost trees in the patch is defined to assist in the preservation of the patch. Fifty metres is the maximum likely height of a tree in the ecological community. The 50 m buffer zone will encompass an area large enough to protect the root zone of edge trees."<br><br>In this regard, please ensure that the 50 m buffer has been applied to the quantum of impact for this TEC and the total disturbance footprint (ha). |
| 3.5 | <u>Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions threatened ecological community</u><br><br>Please provide the total extent (in hectares) of the Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions TEC within the study area and disturbance footprint.<br><br>In line with the *Approved Conservation Advice for the Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions 2022,* please describe how relevant buffer zones will be applied for the protection of a patch from potential impacts.<br><br>*Note: Regional Ecosystem 12.3.7 may be analogous with this TEC, which intersects with the development footprint. Please ensure all relevant Regional Ecosystems are considered in the assessment.* |

***<u>Note:</u>*** *the department's classification of vegetation may differ from the Queensland Government's Regional Ecosystem definitions. Some statutory documents (such as conservation advice and recovery plans) do not distinguish between regrowth and remnant vegetation. Please ensure all habitat definitions accords with relevant Commonwealth statutory documentation.*

**4. Impact assessment**

Based on the information provided in the referral, additional information provided in support of the referral, information provided in the SPRAT database, and online observation records, the department considers the proposed action will likely have:

(a) Direct impacts from clearance of habitat for multiple species. This includes habitat containing breeding, foraging, dispersal and shelter values.

(b) Reduction of connectivity between home ranges, clearance of hollow bearing trees, fragmentation of habitat, reduction of total patch size and introduction of edge effects.

(c) Clearance of key winter and spring foraging vegetation used for foraging by the Grey-headed Flying-fox.

(d) Clearance of trees associated with preferred fungi for the diet of the Long-Nosed Potoroo.

(e) Clearance of the Lowland Rainforest of Subtropical Australia threatened ecological community.

(f) Potential clearance and indirect impacts to the Subtropical eucalypt floodplain forest and woodland of the New South Wales North Coast and South East Queensland bioregions TEC.

(g) Possible reduction of occurrence for multiple threatened flora species.

(h) Direct mortality and disturbance to species life cycle processes.

(i) Direct and indirect impacts to multiple listed threatened species and ecological communities such as but not limited to noise, dust, vibration, and light.

(j) Impacts to water quality due to spoil runoff, sedimentation, contamination from explosives and other causes which could effect threatened species and communities.

(k) Alterations to riparian vegetation.

(f) Impacts resulting from tunnelling.

The preliminary documentation must include an assessment of potential impacts that may occur as a result of all elements and project phases of the proposed action on the MNES addressed at Section 3.

Consideration of impacts must not be confined to the immediate area of the proposed action but must also consider the potential of the proposed action to impact on adjacent areas that are likely to contain populations and/or habitat for MNES.

| If not previously provided in the referral documentation, the preliminary documentation must: | |
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| 4.1 | Assess the direct and indirect loss and/or disturbance of protected matters and their habitat as a result of the proposed action. This must include:<br>(a) the area (in hectares) and quality of the habitat to be impacted;<br>(b) a quantification of the total individuals/populations to be impacted where practicable; and<br>(c) the impacts of habitat fragmentation in the project area and surrounding areas, including consideration of species' movement patterns.<br>*Note: The definition of habitat to a species must be drawn upon the relevant statutory documentation available via the departments SPRAT database.* |
| 4.2 | Include current maps and coordinates/shapefiles of the proposed impact area and areas of habitat for MNES proposed to be retained. Maps must clearly identify development footprints, buffer zones, and any conservation areas where impacts will be avoided, and |

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| | areas of adjacent habitat that would be subject to indirect impacts, including areas that are to be retained within and adjacent to the site. |
| 4.3 | Confirm the area of habitat that will be directly and indirectly impacted by the proposed action, including but not limited to areas where:<br>(a) Connectivity to surrounding habitat will be retained, removed or functionally lost.<br>(b) Adjacent habitat will be subject to intensification of ongoing impacts (for example, through increased human and vehicle presence and the introduction of noise and vibration).<br>(c) Habitat for relevant water dependant threatened species which exist downstream of the development footprint.<br>(d) Habitat will be impacted due to changes in surface water, groundwater and leachate within the site and the area surrounding the site.<br>(e) Specifically, provide information on impacts to drainage, water quality and hydrology on Yabba Creek, the Mary River and onto the Great Sandy Strait Ramsar Wetland.<br>*Note: The department does not consider that the site is hydrologically isolated from the nearby waterways mentioned above.* |
| 4.4 | Details of any policy guidelines, relevant studies, surveys, or consultations with species experts/field specialists relevant to potential impacts. |
| 4.5 | Provide an assessment of the direct and indirect impacts that may occur during construction and post-construction phases, including:<br>(a) The nature and extent of impacts (including direct, indirect* and facilitated impacts**), including timing and whether the impact is temporary or permanent. Consideration must be given to species habitat such as hollow bearing trees, nest trees, refuge habitat, breeding habitat, presence of preferred foraging trees and fungi, sheltering or other microhabitat features relevant to the species within and surrounding the development footprint (if applicable).<br>(b) A local and regional scale analysis of likely impacts, with reference to the project's potential contribution to cumulative impacts in the context of development patterns in the locality and region.<br>(c) An assessment of the likely duration of impacts to MNES as a result of the proposed action.<br>(d) Discussion of the risk of potential impacts as a result of the proposed action, including but not limited to the following:<br>i. Edge effects – including the potential for the introduction of weed species and pathogens in the referral area and adjacent environment.<br>ii. Vehicle movement – potential increase of vehicles to strike fauna in the pre-construction, construction, and operation phase of the project.<br>iii. Increased presence of threats such as dogs and weeds – pre-construction, construction and operation phases have the potential to increase pest/threat presence in the referral area and adjacent environment. |

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| | iv. Spread of diseases such as Myrtle Rust (*Austropuccinia psidii)* to Scrub Turpentine.<br><br>v. Earthworks – potential to generate dust emissions from the removal of vegetation and movement of soil in the pre-construction and construction phase of the project.<br><br>vi. Impacts from the project at the local scale and regional context including changes to water flow regime and water quality (including runoff from spoil such as sedimentation and acid sulphate soils as well as other potential contaminants from explosives).<br><br>vii. Alterations to hydrology, surface water, groundwater and groundwater dependant flora and fauna.<br><br>viii. Effects on riparian vegetation and alterations to bank and channel morphology.<br><br>ix. How tunnelling, drilling and blasting activities will impact the long term stability of the geology of the project area including:<br><br>• interactions with groundwater<br><br>• subsurface impacts on root systems of overlying vegetation<br><br>• direct clearing for associated surface infrastructure.<br><br>x. Disturbance from increased noise, vibration, blasting, artificial light, sediment generation, dust and other relevant stressors during construction and operation of phases of the exploratory works.<br><br>xi. Barriers to dispersal of fauna and flora, impacting on home ranges, breeding and genetic diversity.<br><br>(e) Identification of present impacts to MNES as well as the extent of current impacts. This includes baseline surveys for extent of weeds and pests.<br><br>(f) Identification of where relevant impacts are unknown or unpredictable.<br><br>**Note: Please review the following policy statement, providing guidance on what impacts constitute a 'indirect consequences(s)', under paragraph 527E(1)(b) of the EPBC Act.*<br><br>***Note: Facilitated impacts may include (but are not limited to) the risk of injury or mortality to MNES from vehicle strikes as a result of increased construction activities.* |

**5. Avoidance, mitigation and management measures**

| To clarify the proposed measures to avoid and mitigate impacts, the preliminary documentation must: | |
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| 5.1 | Provide a consolidated assessment of all proposed measures to avoid and mitigate impacts, including those provided in the referral and any additional to those described in the referral. This should include:<br><br>(a) An outline of:<br><br>i. all reasonable efforts that have been made to avoid impacts to MNES, shown via alternative project designs; and |

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| | ii. any remaining impacts to be mitigated to reduce the impacts on MNES.<br><br>(b) The viability and effectiveness of alternative strategies, plans and measures to avoid and mitigate impacts, and why the chosen avoidance and mitigation measures were more appropriate, including but not limited to:<br><br>i. avoidance of the removal of mature habitat trees on site.<br><br>ii. avoidance of areas potentially containing the Lowland Rainforest of Subtropical Australia TEC.<br><br>iii. avoidance of key features relevant to impacted threatened species such as hollow-bearing trees, denning structures, preferred foraging trees and fungi etc.<br><br>iv. vegetation retained to maintain connectivity for species.<br><br>v. effective use of buffers between disturbance areas and MNES to minimise edge effects.<br><br>(c) All proposed measures and outcomes of the avoidance and mitigation measures must be clearly listed, and follow the specific, measurable, achievable, relevant and timely (SMART) principle.<br><br>(d) Provide an assessment of the predicted effectiveness of each proposed avoidance or mitigation measure, noting that the effectiveness of a particular measure is a reflection of confidence in the nominated outcome. The assessment of effectiveness should be evidence based and include examples of demonstrated success of a particular measure to achieve the desired avoidance/mitigation outcome.<br><br>(e) A description (including maps and imagery) of the location, boundaries and size of buffer areas or proposed exclusion zones, and details on how these areas will be enhanced, protected, and maintained. Also include a description of any fences or barriers which may be installed around areas where impacts will be avoided.<br><br>(f) A risk assessment to determine appropriate buffer distances from areas containing environmental values and sensitive areas. This risk assessment should demonstrate that the environment will be protected and the amenity of the sensitive areas will not be adversely affected, based on the design or operational control measures proposed.<br><br>(g) Details on the management of spoil, actions for detecting contaminants, specifically acid sulphate soils, and proposed measures to appropriately dispose of contaminants.<br><br>(h) Discussion of avoidance and mitigation measures associated with the spoil disposal area located adjacent to Yabba Creek. Avoidance measures includes alternative sites which where not selected. Discussion on mitigation measures should include soil testing and buffers to be implemented.<br><br>(i) Management plans outlining measures for changes to water quality as a result of increases in turbidity, sediment loads, nutrients, contaminants and other runoffs entering the waterway as a result of the action.<br><br>(j) Details of any ongoing mitigation and management measures during the construction phase of the exploratory works, including but not limited to: |

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| | i. Details about pre-clearance and clearance procedures to ensure that species are detected and managed to minimise mortality, stress, injury, or introduction of disease.<br>ii. Information on any buffer zones between the construction footprint and remaining habitat in the referral area and adjacent to the site.<br>iii. Measures to address the risk of impacted threatened species entering the development area and becoming trapped/isolated without resources for shelter whilst in the development area and safe movement opportunities to get out of the development area, sufficient information on the location and design of these measures and the guidelines that have informed these measures.<br>iv. Management of direct and indirect impacts for the impacted threated species and threatened ecological communities, due to increased likelihood of human presence.<br>v. Information on fauna safe road design and placement, including installation of wildlife crossing warning signs, wildlife threshold marking on road (include maps and imagery).<br>vi. Details of how speed reduction is to be achieved (e.g., traffic calming devices) and plans showing the locations of each of these features and the manner in which they will be implemented).<br>vii. Other mitigation measures proposed for the protection of species movement and remaining habitat on the referral site and adjacent to the site.<br>(k) Identify avoidance and mitigation measures for threatened flora species such translocation, propagation and disease control. This should include proposed management measures for multiple stages of the action (pre-clearance, clearance, operational, decommission).<br>(l) As a part of these threatened flora management measures, actions should the measure not be successful (e.g., offset proposal for translocation failure).<br>(m) A risk analysis of impacts to water quality. This includes:<br>i. Risks associated with the action that could lead to water quality contamination or degradation. This includes but is not limited to runoff from spoil, contaminants from explosives used during the tunnelling process, increased erosion and sedimentation, introduced acid sulphate soils, changes to water flow, salinity, oxygenation and algal blooms.<br>ii. An assessment of the likelihood of water quality impacts.<br>iii. Proposed avoidance and mitigation measures to reduce the likelihood of impacts to water quality.<br>iv. How any residual risks will be addressed upon finalisation of the action and will be managed ongoing into the Borumba Pumped Hydro Energy Scheme Project. |
| 5.2 | Include a detailed management plan on mitigation, revegetation and spoil treatment to rehabilitate the impacted area such that there are minimal residual impacts should the Borumba PHES Main Works not proceed. |

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| 5.3 | Provide management and mitigation measures relating to impacts of groundwater drawdown, groundwater contamination and surface water contamination on water resources. Specifically, the department requests the proponent include mitigation and/or management measures regarding the impacts on:<br>(a) erosion (include how erosion control measures will be implemented to areas of erosion risk and identify where these measures are likely to be implemented);<br>(b) potential Groundwater Dependent Ecosystems; and<br>(c) potential contaminants (such as those extracted as a part of the tunnelling and spoil storage actions). |
| 5.4 | For each measure proposed, indicate the:<br>(a) impact to be avoided and/or mitigated<br>(b) responsible party<br>(c) environmental outcomes to be achieved<br>(d) milestones, performance, and completion criteria<br>(e) an evidence-based likelihood of success and risk assessment<br>(f) proposed monitoring and evaluation program<br>(g) contingency measures<br>(h) whether a management plan is required<br>(i) where designs cannot be specified, the relevant guidelines that inform which designs will be used (for appropriate Koala fencing the Queensland Department of Environment and Science's *Koala-Sensitive Design Guideline 2022*). |
| 5.3 | Any statutory or policy basis for the proposed measures, including reference to the SPRAT Database and relevant approved conservation advice, recovery plan or threat abatement plan, and a discussion on how the proposed measures are not inconsistent with relevant plans. For example, the National Recovery Plan for the Grey-Headed Flying Fox states an objective to:<br>'*to improve the Grey-headed Flying-foxes national population trend by reducing the impact of the threats outlined in this plan on Grey-headed Flying-foxes through habitat identification, protection, restoration and monitoring*'<br>Please provide a discussion on how the proposed action is consistent with relevant species' objectives or alternatively, how the proposed avoidance, mitigation/management and offsetting will compensate for any residual significant impact, thereby ensuring consistency with the objective for relevant EPBC Act species. |

## 6. Proposed offsets

Where residual significant impacts remain to the MNES identified in part 3 after exhaustion of all reasonable avoidance and mitigation measures, a compensatory environmental offset in accordance with the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* (EPBC Offsets Policy)[1] may be required. Offsets must be specific to the species or ecological community being impacted, be like for like, and must improve or maintain the viability of the species. Offsets are not intended to make proposed actions with unacceptable impacts, acceptable.

If an offset is required, the preliminary documentation must include either a draft Offset Management Strategy (OMS) or a draft Offset Area Management Plan (OAMP) as an appendix for assessment and approval. If an offset area has been nominated, then provide an OAMP. If not, provide an OMS and follow table 7 below. For further details regarding offset requirements and the requirements of an OAMP, see Attachment B.

To assist with the selection of suitable offset site/s, the following are attached:

a) How to use the Offsets Assessment Guide

b) The Offsets Assessment Guide

To assist with the development of an offset strategy, the following is attached:

a) Offset strategy template

| **Minimum Requirements for a draft Offset Management Strategy:** | |
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| 6.1 | Discuss how the proponent will provide offsets that meet the requirements of the EPBC Offsets Policy. |
| 6.2 | If potential offset site/s are identified, as far as possible please provide:<br>(a) A description of the proposed offset site(s) including location, size, condition, and relevant ecological/species habitat features, landscape context and cadastre boundaries of the offset site(s) (supported by mapping).<br>(b) Information about how the proposed offset/s area will provide connectivity with other relevant habitats and biodiversity corridors.<br>(c) Information how the proposed offset site/s contribute to relevant State and/or regional plan/s or initiatives for the conservation of the protected matter.<br>(d) Evidence of the presence of, or usage by, relevant MNES on, or adjacent to the proposed offset site(s), and the presence and quality of habitat for MNES on the proposed offset site.<br>(e) An assessment of how the offset and impacts sites are like-for-like, i.e. the environmental values for the MNES at the offset are of the same type or equivalent to that affected by the proposed action.<br>(f) The methodology (described in section 7), with justification and supporting evidence, used to inform the inputs of the Offsets Assessment Guide in relation to the offset site for each relevant MNES, including:<br>i. total area of habitat (in hectares); and<br>ii. habitat quality (as discussed in section 8) |

[1] https://www.dcceew.gov.au/environment/epbc/publications/epbc-act-environmental-offsets-policy

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| | iii. time over which loss is averted (max. 20 years);<br>iv. time until ecological benefit;<br>v. risk of loss (%) without offset;<br>vi. risk of loss (%) with offset; and<br>vii. confidence in result (%).<br>(g) Details and execution timing of the mechanism to legally secure the environmental offset/s (under Queensland legislation or equivalent) to provide enduring protection for the potential offset area/s against development incompatible with conservation.<br>(h) A description of how the offset management strategy directly addresses all the EPBC Environmental Offset policy principles and demonstrate how each principle will be met (including through quantitative means via the Offset Assessment Guide and Habitat Quality Score results). |

**7. Habitat quality assessment**

A methodology that is suitable for each listed threatened species or threatened ecological community (i.e. approved by the department or supported by literature) where there is a residual significant impact must be used to assess habitat quality, noting the same scoring mechanism must be used at both impact and offset sites.

The preliminary documentation must provide justification for the scores applied at the impact and offset site. This should be done by providing adequate survey data and having reference to the statutory documentation and relevant scientific literature. Where there is insufficient evidence to justify a score, per section 391 of the EPBC Act, the minister must have regard to the precautionary principle when making a decision on whether or not to approve the taking of an action.

The department currently prefers the use of the Modified Habitat Quality Assessment (MHQA) tool to provide a habitat quality score for the prescribed matters. Please consult the department if an alternative approach is proposed.

The MHQA tool derives habitat quality scores using an adaptation of the Queensland Government's 'Guide to determining terrestrial habitat quality version 1.2 (DEHP Guide). The MHQA method was developed with the intention to adapt the Queensland tool to reflect the requirements of the EPBC Act Environmental Offsets Policy for determining habitat quality.

A copy of the DEHP Guide, a MHQA scoring guide and a MHQA scoring spreadsheet template is attached. When calculating offsets, please refer to the department's published guidance: How to use the Offsets Assessment Guide.

If applying the MHQA tool and an offset is required to compensate for a significant residual impact, please note the following:

- If you propose a habitat quality gain of more than 2 points, or an achieved habitat quality score of 9 or 10, it becomes less certain that the conservation outcome can be achieved. The justification of effectiveness of your proposed management measures and associated habitat quality score improvements and (reflected in the confidence in result) must be supported by substantial evidence.
- Higher habitat quality gains will generally be associated with lower 'confidence in result' scores in the Offset Assessments Guide to reflect the difficulty associated with achieving the conservation outcomes. In these cases, it is likely that outcomes-based commitments will be required in the associated management plan for the site, including specifying binding metrics

to be met to demonstrate quality improvement. For further information, please contact the department to discuss the metrics that will be used to demonstrate achievement of quality standards.

If you wish to propose an alternative methodology for habitat quality assessment for any/all of the prescribed matters, the methodology used to provide the quality score for an area of habitat must:

- relate directly to habitat requirements of the species as aligned with the information in the SPRAT database and relevant statutory/departmental documents.
- be substantiated with appropriate field surveys in accordance with the relevant survey guidelines or using a scientifically robust and repeatable methodology.
- be applied per listed threatened species or threatened ecological community likely to experience a significant residual impact as a result of the proposed action.

Where there is any variation or un-substantiation of the habitat assessment approach from the information available in the SPRAT database, it should be discussed with the department prior to the submission of the assessment documentation and must be supported by scientific evidence including published research, independent expert advice and information derived from field surveys.

**8. Economic and social matters**

| If not previously provided in the referral documentation, the preliminary documentation must: | |
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| 8.1 | Provide details on the social and economic costs and/or benefits of undertaking the proposed action, including the basis for any estimations of costs and/or benefits. Where possible, please include the total economic capital investment and economic ongoing value of the project. |
| 8.2 | Identify if economic benefits and employment opportunities are in addition to what would have been expected if the action were not to take place. |
| 8.3 | Provide details of any public stakeholder consultation activities, including the outcomes of those consultations. |
| 8.4 | Provide details of any consultation with Indigenous stakeholders.<br><br>**Indigenous engagement**<br><br>Identify existing or potential native title rights and interests, including any areas and objects that are of particular significance to Indigenous peoples and communities, possibly impacted by the proposed action and the potential for managing those impacts.<br><br>Describe any Indigenous consultation that has been undertaken, or will be undertaken, in relation to the proposed action and their outcomes. This should include:<br><br>(a) details regarding the specific Indigenous groups and Traditional Owners consulted and an indication of the areas, both tangible and intangible, of cultural significance across the project site; and<br><br>(b) a discussion about how impacts to areas and/or objects of Indigenous cultural significance (tangible and intangible) are avoided, mitigated or minimised.<br><br>The department considers that best practice consultation, in accordance with the *Guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act* (2016) includes:<br><br>(a) identifying and acknowledging all relevant affected Indigenous peoples and communities; |

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| | (b) committing to early engagement;<br><br>(c) building trust through early and ongoing communication for the duration of the project, including approvals, implementation and future management;<br><br>(d) setting appropriate timeframes for consultation; and<br><br>(e) demonstrating cultural awareness.<br><br>Describe any state requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action with regards to Indigenous peoples and communities.<br><br>Please note that the department provided you with comments received from the National Indigenous Australian Agency on letter dated 30 March 2023 advising the decision on referral. We request that you consider the comments received from the Agency when addressing the above in the Preliminary Documentation. |

**9. Ecologically sustainable development**

| If not previously provided in the referral, the preliminary documentation must: | |
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| 9.1 | Provide a description of how the proposed action meets the principles of ecologically sustainable development, as defined in section 3A of the EPBC Act, which are as follows:<br><br>(a) decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations<br><br>(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation<br><br>(c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations<br><br>(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making<br><br>(e) improved valuation, pricing and incentive mechanisms should be promoted.<br><br>*Please note: Per section 391 of the EPBC Act, the minister must have regard to the precautionary principle when making a decision on whether or not to approve the taking of an action. The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.* |

**10. Environmental record of the person proposing to take the action**

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| 10.1 | Include details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:<br><br>(a) the person proposing to take the action. |

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| | (b) | if the person is a body corporate—the history of its executive officers in relation to environmental matters. |
| | (c) | if the person is a body corporate that is a subsidiary of another body or company (the parent body)—the history in relation to environmental matters of the parent body and its executive officers. |
| | (d) | for an action for which a person has applied for a permit, the person making the application. |

**11. Ecological data provision**

The preliminary documentation must include an appendix of occurrence records (both sightings and evidence of presence) for all listed threatened and migratory species identified during field surveys for the proposed action. This data may be used by the department to update the relevant species distribution models that underpin the publicly available Protected Matters Search Tool (PMST).

The species occurrence records must be provided in accordance with the department's *Guidelines for biological survey and mapped data* (2018) using the species observation data template provided with this request for additional information. Sensitive ecological data must be identified and treated in accordance with the department's *Sensitive Ecological Data – Access and Management Policy V1.0* (2016) or subsequent revision.

**ATTACHMENT B**

**INFORMATION REQUIREMENTS FOR EPBC ACT OFFSET PROPOSALS**

*An EPBC Act offset proposal must be prepared by a suitably qualified person and in accordance with the Department's Environmental Management Plan Guidelines (2014), available at: www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines*

**Details in relation to the draft Offset Management Plan, including:**

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| B1 | A description of the proposed offset site(s) including location, size, condition, and relevant ecological/species values present, proximity to known populations or habitat of MNES triggered by the proposed action and surrounding land uses. |
| B2 | Maps and shapefiles to clearly define the location and boundaries of the offset area/s, accompanied by the offset attributes (e.g. physical address of the offset area/s, coordinates of the boundary points in decimal degrees, the relevant MNES that the environmental offset/s compensates for, and the size of the environmental offset/s in hectares). |
| B3 | Baseline survey information to provide evidence of relevant MNES presence and the extent and quality of the respective habitat(s) at the proposed offset site(s) in accordance with the relevant survey guidelines or using a scientifically robust and repeatable methodology. |
| B4 | Justification for the suitability of the proposed offset area/s via evidence of a known population present on site or adjacent to the site with adequate connectivity to access the site. Adequate connectivity must be in reference to definitions in statutory documents such as known home ranges and required habitat values. |
| B5 | Summarised details of the nature of the conservation gain to be achieved for relevant MNES, including the creation, restoration and revegetation of habitat in the proposed offset area/s. |
| B6 | An assessment with supporting evidence, of how the environmental offset/s meets the requirements of the department's *EPBC Act Environmental Offsets Policy* (2012) (Offsets Policy), available at: www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy |
| B7 | Information about how the proposed offset area/s will provide connectivity with other habitats and biodiversity corridors and/or will contribute to a larger strategic offset for the relevant MNES. This should include information about how the proposed offset/s area contributes to any state and/or regional plan/s for the conservation of the protected matter. |
| B8 | How the offset area/s are like-for-like, i.e. the environmental values of the offset are of the same type or equivalent to that affected by the proposed action. |
| B9 | Current and likely future tenure of the proposed offset site and details of how the offset site will be legally secured for the full duration of the impact. |
| B10 | The methodology, with justification and supporting evidence, used to inform the inputs of the *Offsets assessment guide* in relation to the offset site/s for each relevant MNES, including:<br>(a) total area of habitat (in hectares); and<br>(b) habitat quality (using a consistent methodology as agreed with the department in section 8 of the Preliminary documentation - request for further information). |

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| B11 | The methodology, with justification and supporting evidence, used to inform the inputs of the *Offsets assessment guide* in relation to each potential offset area for each relevant MNES, including:<br>• time over which loss is averted (max. 20 years);<br>• time until ecological benefit;<br>• risk of loss (%) without offset;<br>• risk of loss (%) with offset; and<br>• confidence in result (%). |
| B12 | Specific, measurable, achievable, relevant and timely (SMART) offset completion criteria (i.e. environmental outcomes) to be achieved, and reasoning for these in reference to relevant statutory recovery plans, conservation advices, and threat abatement plans (e.g. within 15 years of commencement of the action, there is an average of X amount of Koala habitat trees per ha).<br>The department notes that if an offset is deemed to provide suitable compensation for the impacts of the proposed action, the offset completion criteria provided may be used to inform outcomes-based conditions of approval. |
| B13 | Interim milestones to demonstrate adequate progress towards achieving the environmental outcomes/completion criteria (e.g. within 10 years of commencement of the action the proponent must increase, by at least 20 per cent, the number of available Koala food trees at the offset site). |
| B14 | Details of the environmental management and threat mitigation activities that will attain and maintain the completion criteria. |
| B15 | Risk analysis and a risk management and mitigation strategy for all risks to the successful implementation of the OAMP and timely achievement of the offset completion criteria, including a rating of all initial and post-mitigation residual risks in accordance with a risk assessment matrix. |
| B16 | A monitoring program to measure the progress towards the interim milestones and environmental outcomes/completion criteria. This program is to be targeted to the objectives of the offsets area management plan. |
| B17 | Proposed timing for the submission of monitoring reports which provide evidence demonstrating whether the interim milestones have been achieved. |
| B18 | Timing for the implementation of tangible, on-ground corrective actions to be implemented if monitoring activities indicate the interim milestones have not been achieved. |
| Note: | *Please contact the department as early as possible prior to lodging an offset proposal if you are likely to propose an offset area/s of less than 3:1 offset to impact site ratio.*<br>*All proposed management actions, monitoring approach and corrective actions must be written using committed language (e.g. 'will' and 'must').*<br>*Where increases in habitat quality of the offset site are being proposed by the proponent to meet the direct offset requirements, the department will require specific details of site condition, site context or stocking rate measures to be implemented commensurate to the expected level of habitat improvement.* |

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