



DOC20/490839-20, SF19/354 (SSD 9697)

Department of Planning, Industry and Environment

Via Major Projects Portal

Attention: Mr Jack Turner

11 February 2021

**Bayswater Power Station Upgrade (SSD 9697)
EPA Advice on Response to Submissions Report**

Dear Sir/Madam,

I refer to your email to the Environment Protection Authority received on 22 December 2020 inviting the EPA to review and comment on the Response to Submissions Report (RtS) provided in support of the Bayswater Power Station proposed water management upgrade project (SSD 9697).

The EPA understands the proponent, AGL Macquarie Pty Limited, proposes to carry out a range of upgrades to Bayswater Power Station (Premises) aimed at improving the environmental performance of ash, salt and water management infrastructure and associated rehabilitation outcomes.

The EPA has reviewed the RtS and notes it has not satisfied the EPA's submission on this project. The EPA provides a summary of its advice below and detailed advice and recommendations in Tab A (surface water) and Tab B (ground water).

Summary of surface water pollution issues

The surface water pollution issues raised previously by the EPA are largely unaddressed by the RtS. The *Environmental Impact Statement* (EIS) and RtS do not provide the information required to address the relevant SEARs and licensing considerations consistent with Section 45 of the *Protection of Environment Operations Act 1997*.

The current water pollution impacts and risks to receiving waterways are not adequately characterised. The EIS and RtS provide only limited surface water monitoring results from largely historical data. The RtS presents results of a single recent sampling event that only provides a snapshot of water quality at the time of sampling. An appropriate characterisation of current surface water quality, under a range of operational and weather conditions, is required to understand the existing impacts and potential risks.

The EIS and RtS provide limited information about the mitigation measures considered and proposed to be implemented, indicating that the specific water pollution controls will be developed at the detailed design phase. Further details of mitigation measures are required to ensure

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appropriate management of potential water pollution risks. A range of mitigation measures should be considered, and justification provided regarding which measures will be adopted with reference to managing potential risks to waterways.

The EIS and RtS do not appropriately characterise the quality, quantity, frequency and volume of the proposed discharges or assess the potential impacts of discharges (including ash dam seepage) on the environment. The information provided indicates that water pollution impacts associated with ash dam seepage are likely to increase under the proposal.

The EPA requested a water pollution impact assessment, consistent with national and state framework for assessing and managing water quality, including a discharge characterisation and details of practical measures proposed to address residual impacts. The RtS does not adequately address this, characterising surface water quality based on limited data that is unlikely to represent the range of operational and weather conditions, and inconsistently and incorrectly applying guideline values.

In summary it remains unclear:

- what the current condition of the receiving waterways is in the context of the existing development
- how water would be managed and what pollution controls would be implemented under the proposal
- what the residual impacts of the proposed development would be on the receiving waterways after mitigation measures are implemented.

Summary of ground water pollution issues

The EIS and RtS clarify some of the additional information sought from the proponent. The project enhancements to seepage management and full conceptualisation of BWAD seepage indicates further enhancements as described by the project will bring benefits to impacts on groundwater. However, they are not supported by the evidence presented.

Further commitments or detailed design are required to make certain seepage management and outcomes are improved.

Prior to the project being determined, the proponent must demonstrate how improvements to the seepage collection system would provide improved environmental outcomes for groundwaters and connected surface waters.

As part of the detailed design for the salt cake landfill facility, a detailed groundwater monitoring and management system will be required including a trigger action response plan for the detection of potential leakage.

If you have any questions about this matter, please contact Hamish Rutherford on (02) 4908 6824 or email RegOps.MetroRegulation@epa.nsw.gov.au.

Yours sincerely



STEVEN JAMES
Unit Head Regulatory Operations Metro North
Environment Protection Authority

Tab A

Detailed review of surface water pollution issues of *Appendix B of the Response to Submissions*

The applicant's responses to the EPA's submission comments are discussed below (numbered as per the EPA's submission).

9) Current water quality impacts

The current water quality and water pollution impacts from the existing development remain unclear

The SEARs require, "A description of the existing environment likely to be affected by the development ...". The EPA commented that the EIS did not appropriately characterise current water quality impacts.

The EIS provided limited surface water monitoring results, largely from historical data that did not include information for key waterways potentially impacted by the existing development. The EPA noted that a report which describes the existing surface water quality at the premises and receiving waterways is required and stated that this should:

- be based on sampling results representative of the current water quality under a range of operational and weather conditions
- include raw results and summary statistics for all pollutants potentially present at non-trivial levels, with the analytical suite based on a risk assessment of potential pollution sources
- include sampling sites at the coal handling plant sediment basin, ash dam, Lake Liddell and Plashett Reservoir and any discharges from these storages
- include appropriate sampling sites to detect potential impacts from the existing development on the receiving waterway, including:
 - Pikes Creek between and downstream of the seepage collection dams
 - Bayswater Creek upstream and downstream of the confluence with Pikes Creek
 - Tinkers and Saltwater creeks.
- compare pollutant levels to the appropriate guideline values for slightly to moderately disturbed ecosystems as recommended by the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (see 'Ecosystem protection level and guideline values' section below)
- identify potential sources of any pollutants detected at non-trivial levels including considering controlled discharges, managed overflows and groundwater mediated discharges such as seepage from the ash dam.

The *Response to Submissions* (RtS) presents:

- additional historical water quality data
- additional sampling results from a single recent sampling event (12 October 2020).

The additional data from the single recent sampling event provides a snapshot of water quality at the time of sampling but does not characterise the current water quality under a range of operational and weather conditions.

Ash dam

10) Seepage mitigation

The information provided indicates that water pollution impacts associated with ash dam seepage are likely to increase under the proposal

The EPA commented that the potential impacts of the ash dam seepage from the current development are not well understood, noting that the EIS did not adequately characterise seepage water quality or consider how this could be impacting on surface water quality currently and under the proposal.

The SEARs require, “a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts...” The EPA requested details of options considered and proposed to minimise seepage losses to the environment, including, but not limited to:

- source controls to avoid and minimise seepage, such as clean runoff diversions, groundwater interception bores and lining areas of high seepage
- measures to improve interception and return of seepage water including improvements to seepage collection drainage, collection pond sizing and lining, return pump capacity and pumping duration options.

The EPA also recommended that:

- water balance modelling be used to demonstrate the effectiveness of the proposed mitigation measures implemented
- the seepage rates adopted in the water balance model (Table 6.3 of Appendix E) be reviewed and justification provided for the predicted decrease in seepage rates with increasing ash dam volume.

The RtS does not revise the water balance presented in the EIS and states, “The table [Table 4.4 of Appendix B of the RtS] shows that the proposed improvement works will improve seepage collection at the ponds, with only a minor increase to seepage to Bayswater Creek.” However, Table 4.4 does not support this statement, reporting that instead ‘seepage to collection ponds’ would decrease under the proposal.

11) Managed overflows

It remains unclear what measures to avoid, minimise or mitigate overflows from the augmented ash dam would be implemented under the proposal

The SEARs require, “a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts...”

The EPA requested further consideration of practical and reasonable measures to avoid or minimise managed overflows from the ash dam and mitigate the potential impacts of these overflows, noting that measures considered could include:

- removing ash water from the ash dam for treatment and reuse
- increasing evaporation from the dam through, for example, mechanical barrel fans.

The ash dam water balance results presented in the RtS are unchanged from the EIS, predicting that the proposed development will result in:

- no overflows under the dry and average scenarios, with no change from the existing development
- overflows increasing from 50kL/day to ~2ML/day under the wet scenario
- substantial reductions in evaporation under all climate scenarios.

The RtS refers to shortlisted mitigation options which include ‘increase evaporation through mechanical evaporation to reduce volume/ frequency of overflows’ and ‘increase rate of evaporation via increased dust suppression of haul roads’ however it is unclear whether these options have been incorporated into the design.

12) Controlled discharges

It remains unclear whether controlled discharges are proposed to manage freeboard within the ash dam

The SEARs require, “a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts...”

The EPA requested clarification regarding whether controlled discharges from the ash dam are proposed. The EPA noted that, if controlled discharges are proposed, a water pollution impact assessment would be required to understand the potential impact of these discharges and to develop appropriate management measures to avoid, minimise and mitigate any non-trivial risks.

The RtS does not provide details of how freeboard would be managed within the augmented ash dam and whether this would require controlled discharges.

13) Water pollution impact assessment

The potential water pollution impacts of the proposed development remain unclear

The SEARs require:

- “a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts
- an assessment of the likely impacts of the development (including flooding) on the quantity and quality of the region’s surface and groundwater resources, related infrastructure, adjacent licensed water users and basic landholder rights, and measures proposed to monitor, reduce and mitigate these impacts”.

The EPA commented that the EIS did not adequately characterise the quality, quantity, frequency and volume of the proposed discharges or assess the potential impacts of those discharges on the environment.

The EPA requested an assessment of the potential impact of discharges on the environmental values of the receiving waterways, including any seepage, controlled discharges and managed overflows from the coal handling plant sediment basin and ash dam. The EPA specified that this assessment should be consistent with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG, 2018; the national Water Quality Guidelines), and should include:

- a characterisation of the quality of the proposed discharges in terms of the concentrations and loads of all pollutants present at non-trivial levels, under typical and worst-case conditions – this should be based on monitoring data from the existing development
- an assessment of the impact of discharges on the environmental values of the receiving waterways with reference to the relevant guideline values for slightly to moderately disturbed ecosystems
- details of practical measures proposed to address residual impacts.

The EPA also recommended that:

- the relevant guideline values for slightly to moderately disturbed ecosystems be adopted when describing the existing condition of waterways and assessing the potential impact of the proposal. consistent with the national Water Quality Guidelines, 95th percentile or maximum toxicant concentrations be compared to the relevant guideline values
- maximum toxicant concentrations be compared to available acute toxicity data for relevant organisms (e.g. as detailed in toxicant technical briefs provided in the guidelines).

The RtS does not provide additional details regarding the quantity, frequency or volume of proposed discharges or a water pollution impact assessment consistent with the national Water Quality Guidelines and NSW Government Policy. As already noted, the surface water quality characterisation is based on limited data and is unlikely to represent the range of operational and weather conditions.

Consistent with NSW Government policy, the level of protection applied to most waterways is the one suggested for 'slightly to moderately disturbed ecosystems'.

The RtS is inconsistent in its application of the ANZG (2018) ecosystem protection levels, adopting the 'slightly to moderately disturbed' guideline values (typically 95% species protection level) in some sections whilst adopt the 'highly disturbed' guideline values (80% species protection level) in others. The RtS does not compare maximum toxicant concentrations to available acute toxicity data.

The RtS concludes that 'no waterways within the Project footprint area have been classified as sensitive receiving environments therefore the risk of negatively impacting the surrounding environment is low'. This conclusion is unfounded as waterways can be impacted by pollution regardless of whether they are considered sensitive, and water pollution impacts could potentially extend beyond the 'project footprint'.

14) Water balance modelling

The likely effectiveness of the discharge mitigation measures remains unclear

The SEARs require:

- "a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts
- an assessment of the likely impacts of the development (including flooding) on the quantity and quality of the region's surface and groundwater resources, related infrastructure, adjacent licensed water users and basic landholder rights, and measures proposed to monitor, reduce and mitigate these impacts".

The EPA recommended that the applicant carry out daily time-step modelling of observed rainfall over a longer period representing the range of conditions to predict the likely frequency of spills from the ash dam over the life of the proposal. The EPA also recommended sensitivity testing to determine the effect of the proposed mitigation measures on discharge frequencies and volumes.

The RtS indicates that the water balance modelling undertaken for the EIS was applied at a daily interval despite results being presented as monthly averages but does not provide further details of the modelling or sensitivity testing.

15) Coal handling plant water management system

It remains unclear what specific changes would be implemented to mitigate potential water pollution impacts from the coal handling plant

The SEARs require, "a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts".

The EPA requested:

- a report that describes the measures proposed to minimise pollution from and mitigate impacts of discharges from the coal handling plant, noting that the water balance modelling should be revised to reflect the proposed measures

- an assessment of the potential residual water quality impacts of discharges after these measures are implemented, noting that substantial volumes of water discharge daily from the coal handling plant sediment basin.

The water balance remains unchanged.

The assessment appears inconsistent with the proposed water management system. The RtS indicates that proposed changes to the coal handling plant water management system would result in reduced discharges to Tinkers Creek. However, the RtS states, 'for the purposes of this assessment it is assumed that the volume and frequency of water discharged to Tinkers Creek would not change'.

The RtS provides an overview of the proposed water pollution mitigation measures, committing to reuse water within the coal plant water system 'where possible', or operational purposes which 'could include water treatment'. However, the RtS defers details of the proposed water management system changes, including in relation to enlargement and reconfiguration of the coal handling plant sediment basin to detailed design.

16) Stockpiles

Clarification is required regarding the proposed minimum buffer distance between stockpiles and drainage lines/waterways

The SEARs require, "a description of the proposed water management system, water monitoring program and all other proposed measures to mitigate surface water and groundwater impacts". The EPA recommended that:

- the applicant consider options to avoid locating stockpiles on the floodplain
- if stockpiles are proposed to be located on the floodplain, the applicant provide
 - details of measures that will be implemented to mitigate potential risks to waterways
 - an assessment of potential residual water pollution impacts, as part of the water pollution impact assessment.

The RtS indicates that stockpiles would be 'located away from drainage lines, waterways or areas susceptible to wind erosion or flooding'. It is recommended that the applicant specifies the proposed minimum buffer distance between stockpiles and drainage lines/waterways.

17) Erosion and sediment controls

It remains unclear whether appropriate erosion and sediment controls, and water pollution mitigation measures, would be implemented

The SEARs require, "a description of the erosion and sediment control measures that would be implemented to mitigate any impacts in accordance with *Managing Urban Stormwater: Soils & Construction* (Landcom 2004) ..." The EPA requested:

- details of proposed erosion and sediment controls including the design storm capacity of any proposed sediment basins
- consideration of measures to avoid stormwater discharges (e.g. stormwater reuse) and minimise potential associated pollution (e.g. discharging stormwater to vegetated areas away from waterways)
- if stormwater discharges to waters cannot be avoided, an assessment of the potential impact of proposed stormwater discharges on receiving waterways.

The RtS does not provide details of erosion and sediment controls (such as the design storm capacity of sediment basins), indicating that this information would be included in a *Stormwater, Erosion and Sediment Control Plan* if the development is approved.

The RtS indicates that erosion and sediment controls would be consistent with *Managing Urban Stormwater: Soils and Construction – Volume 1* (Landcom, 2004). It should be noted that the standard erosion and sediment controls set out by Landcom (2004) are designed to manage 'clean' sediment from short-term urban subdivisions and are unlikely to be adequate where runoff contains other pollutants, such as dissolved contaminants.

The RtS states that options to avoid and minimise stormwater discharges (e.g. increased reuse) would be investigated at detailed design.

Tab B

Detailed review of ground water pollution issues of the *Response to Submissions*

The applicant's responses to the EPA's submission comments are discussed below.

Recommendations from EIS review	Addressed in RtS	EPA advice
Bayswater Ash Dam (BWAD)		
<p>The proponent provide further information on the existing impact of the BWAD seepage on receiving groundwaters.</p>	<p>Sections 0, 4, 4.6</p>	<p>Partially addressed, however more information is required.</p> <p>Further discussion on the conceptual fate of seepage from the ash dam is provided in the RtS. However, a full characterisation of seepage and the receiving environments is not provided for the required understanding of existing impacts and potential risks from the proposal. The existing environment is described but not quantified or qualified.</p>
<p>The proponent submit additional detailed information on proposed upgrades to the BWAD seepage collection system, demonstrating an increase to the protection of receiving groundwaters.</p>	<p>Sections 4.2, 4.6, 9, 10</p>	<p>Partially addressed, however more information is required.</p> <p>Further conceptual details on seepage fate provided, and how reported seepage rates are estimated in the EIS. However, no further details on seepage collection enhancements other than the potential enlargement of dams was presented in the RtS. No commitments to lining of seepage collection infrastructure pending final design.</p> <p>Numerical modelling presented to date does not provide justification for improved environmental outcomes. The increase in hydraulic loading leading to increased seepage has not been discussed. A conceptual design and options should be modelled to ensure outcomes are being improved. For example, no further discussion on extent of drains, potential interception bores</p>

		Without a revised water balance, pending revised seepage collection design, little certainty exists for the augmentation to result in improved environmental outcomes or sensitivity testing.
The proponent provide further information on the technical specifications of the BWAD augmentation, including the use of a liner, to prevent increased seepage to local and regional groundwaters.	Sections 5, 11	<p>Partially addressed, however more information is required on seepage collection enhancements and designs.</p> <p>In terms of practicality, a liner would not reduce seepage from the BWAD because the material emplaced is saturated and would constitute an ongoing source of seepage water, despite the liner reducing the contribution of any subsequent waste emplacement. Hence, no detailed planning of lining the BWAD has been undertaken.</p> <p>The Bayswater Ash Dam Pollution Reduction Program (PRP) (AECOM 2016b) recommends that the BWAD Main Embankment Seepage Ponds be upgraded and/or have new seepage cut-off / collection ponds constructed (AECOM 2016b). The existing ponds and any additional ponds that are constructed will be lined if it is considered necessary at the time of design</p>
The proponent provide information on the post-closure and rehabilitation of the BWAD including any ongoing seepage management.	Section 6	<p>Satisfactorily addressed.</p> <p>Additionally, the capping of the BWAD will define the end of water input into the BWAD cycle, and ultimately lead to a decline in seepage from the structure. That is, peak seepage rates should coincide with the closure and rehabilitation of the BWAD.</p>
The proponent provide further information on the underground ash disposal and discharge of excess ash process water to mining voids and impact to groundwaters.	Section 7	<p>Satisfactorily addressed.</p> <p>It should be stated for clarity that AGLM does not currently, nor does AGL intend to, dispose of ash to any underground voids.</p>
Salt cake landfill		
The proponent provide further information on the	Section 8	Satisfactorily addressed.

site design, technical specifications and liner compatibility of the proposed salt cake landfill.		
The proponent investigate the feasibility of additional liner properties to meet the AIP quality minimum impact criteria.	Section 8	Satisfactorily addressed.
The proponent prepare and submit detailed Groundwater Monitoring Plan for the proposed Salt Cake Landfill.	Section 8	Satisfactorily addressed. Included as a condition of approval.



Our ref: DOC20/1055712-7

Your ref: SSD 9697

Mr Jack Turner

Senior Environmental Assessment Officer
Resource Assessments
Planning and Assessment Group
Department of Planning, Industry and Environment
Jack.Turner@environment.nsw.gov.au

Dear Mr Turner

Bayswater Power Station Upgrade (SSD 9697) – Review of Response to Submissions Report

I refer to your e-mail dated 22 December 2020 in which the Planning and Assessment Division from the Department of Planning, Industry and Assessment (the Department) requested advice from Biodiversity Conservation Division (BCD) about the 'Response to Submissions Report' for the Bayswater Power Station Upgrade Project (SSD 9697). BCD provided advice on the Environmental Impact Statement for this project in a letter dated 30 July 2020.

Biodiversity and Conservation Division's (BCD) recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. If you require any further information regarding this matter, please contact Robert Gibson, Regional Biodiversity Conservation Officer, on 4927 3154 or via email at rog.hcc@environment.nsw.gov.au

Yours sincerely

A handwritten signature in black ink, appearing to be 'S. Cox'.

29 January 2021

STEVEN COX
Senior Team Leader Planning
Hunter Central Coast Branch
Biodiversity and Conservation Division

Enclosure: Attachments A and B

BCD's recommendations

Bayswater Power Station Upgrade (SSD 9697) – Review of Response to Submissions Report

1. BCD recommends that the proponent demonstrates that the surveys undertaken for *Thesium australe* (Austral Toadflax) outside of the recommended months were justified, or *Thesium australe* is assumed to be present on the development footprint, or an expert report is prepared for the species.
2. BCD recommends that the area where Paddock Trees have been assessed is instead threatened as a Vegetation zone of native vegetation, for which an offset obligation is calculated. Post-consent, this offset requirement may be varied by the provision of data from the accredited assessor that demonstrates that the native vegetation within vegetation zones described as Non-native Vegetation - Exotic Grasslands is non-native and permissible for use under the Paddock Tree Calculator.

BCD's detailed comments

Bayswater Power Station Upgrade (SSD 9697) – Review of Response to Submissions Report

Biodiversity

1. Surveys for *Thesium australe* were outside of the recommended survey months

Table 5.2 (on page 20) of the Response to Submissions (RTS) report provides a summary of the assessment of the likely occurrence of *Cynanchum elegans* (White-flowered Wax Plant), *Rhodamnia rubescens* (Scrub Turpentine), and *Thesium australe* in the development area. Biodiversity and Conservation Division (BCD) is now satisfied that the development footprint is unlikely suitable habitat for *Cynanchum elegans* and *Rhodamnia rubescens*. However, all of the flora surveys conducted for the RTS report were conducted outside the survey period for detecting *Thesium australe*. As described in the Threatened Biodiversity Data Collection, the recommended survey months are from November to February; and the additional flora surveys were done in July, September and October. Therefore, the presence of *Thesium australe* on the site cannot be discounted. BCD requires that the proponent either identifies the reference site used to determine that surveys outside of the recommended survey months were appropriate, or assumes presence of *Thesium australe* or prepares an expert report for the species.

Recommendation 1

BCD recommends that the proponent demonstrates that the surveys undertaken for *Thesium australe* (Austral Toadflax) outside of the recommended months were justified, or *Thesium australe* is assumed to be present on the development footprint, or an expert report is prepared for the species.

2. The accredited assessor needs to demonstrate that vegetation meets the definition of non-native groundcover to use the paddock tree calculator

Table 5.2 (pages 21 & 22) and Section 3.2.1.10 of the RTS Report provides a summary of the exotic groundcover species in the areas of non-native vegetation where the paddock tree calculator has been applied. However, the proponent has not demonstrated that the native vegetation meets the definition of native vegetation that comprises the groundcover, which is:

- I. less than 50% of the cover of indigenous species of vegetation, and
- II. not less than 10% of the area is covered with vegetation (whether dead or alive), and
- III. the assessment is made at the time of year when the proportion of the amount of indigenous vegetation in the area to the amount of non-indigenous vegetation in the area is likely to be at its maximum.

Given it appears that no plots or transects were conducted in the vegetation zones identified as Non-native Vegetation - Exotic Grasslands, the vegetation present may not meet the definition outlined above for non-native groundcover. Additional Biodiversity Assessment Method (BAM) plots or appropriate justification is required from the accredited assessor to demonstrate that these communities are non-native and permissible for use under the Paddock Tree Calculator. In the absence of such data vegetation with the paddock trees must be treated as a zone of native vegetation and included in the BAM, with the credits to be offset.

This credit obligation may be changed, post-consent, with the provision of data to show that the vegetation meets the definition required where the Paddock Tree Calculator can be used.

Recommendation 2

BCD recommends that the area where Paddock Trees have been assessed is instead threatened as a Vegetation zone of native vegetation, for which an offset obligation is calculated. Post-consent, this offset requirement may be varied by the provision of data from the accredited assessor that demonstrates that the native vegetation within vegetation zones described as Non-native Vegetation - Exotic Grasslands is non-native and permissible for use under the Paddock Tree Calculator.

3. Recommendations 1, 2, 3, 4, 5, 7, 8, 9, 11, 12 and 13 have been satisfactorily addressed

BCD is satisfied that the following biodiversity recommendations of BCD's letter dated 30 July 2020 have been addressed:

- Recommendation 1 – the proponent identified the lead / principal BAM accredited assessor (and their accreditation number) in section 1.5.2 in the Biodiversity Development Assessment Report (BDAR) and in the BAM calculator (including output reports); staff contributions to the BDAR were identified in Appendix 10 of the BDAR, and detailed summaries of prior experience are provided for all staff involved in the preparation of the BDAR were presented in Appendix 11 of the BDAR.
- Recommendation 2 – the proponent submitted the BAM calculations to the Biodiversity Accredited Assessor System on the 21st January 2021.
- Recommendation 3 – copies of the plot field data was provided in Appendix 13 of the BDAR, and these enabled BCD to check the match of on-ground vegetation to a Plant Community Type, and also to check its conservation status.
- Recommendation 4 – in Table 5-3 (page 23) of the Response to Submissions Report, the proponent states that the updated BDAR was finalised within 14 days of submission of the Response to Submissions Report.
- Recommendation 5 - Section 3.2.1 (pages 35, 36 and 38) of the BDAR in the RTS report includes justification for why three variants of Plant Community Type 1691 (Vegetation Zones 3, 4, 5 and 6) do not meet the definition of the NSW listed *Central Hunter Grey Box – Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions* EEC.
- Recommendation 7 - Table 5.2 (pages 20 & 21) of the RTS report provides a summary of the assessment of the likely occurrence of the Red Goshawk in the development area. Targeted survey effort for threatened birds for the project is summarised in Table 11 of the BDAR, with surveys in July, August, September, October, November and December 2019, and January 2020. Based on these details. BCD is satisfied that the Red Goshawk has been satisfactorily considered for this project.
- Recommendation 8 - Appendix 8 of the BDAR has a letter from Dr Stephen Bell, dated 26 October 2020, that updates the Expert Report presented in the EIS. The Expert Report in the EIS, dated May 2020, suggested that *Diuris tricolor* and *Prasophyllum petilum* (syn. *Prasophyllum* species 'Wybong' under the EPBC Act) may be present, in low numbers, within 166 hectares of the development site. Those areas were surveyed between the 15th and 18th of September and neither of those species were found, when

they were flowering in other parts of the Hunter Valley. BCD is satisfied that these orchids have been appropriately considered for this project.

- Recommendation 9 - Table 2 in Appendix 2 includes reference to the *Prasophyllum petilium* record from the Thomas Mitchell Drive. BCD is satisfied that this detail of the distribution of records of *Prasophyllum petilium* is now included in the BDAR.
- Recommendation 11 - Table 18 in the BDAR in the RTS report provides the credit obligation for each stage of the proposed development, for both ecosystem credits and species credits, and the likely date for each stage. BCD is satisfied that this requirement has been met.
- Recommendation 12 - Section 6.2.3 of the BDAR presents a summary of three proposed options to meet the offset obligations for this project (payment into the Biodiversity Conservation Fund, purchase of credits on the open market; and the establishment a Biodiversity Stewardship Site Agreement). BCD is satisfied with the proposed options being considered to meet the offset obligations for this project.
- Recommendation 13 - The BAM calculators and BDAR have been updated to accommodate comments in BCD's review of the EIS.