# ATTACHMENT 1

Secretary's Environmental
Assessment Requirements

Mr Gary Brassington
Manager Approvals
Illawarra Metallurgical Coal
ILLAWARRA COAL HOLDINGS PTY LTD

23/12/2021

Dear Mr Brassington

**Dendrobium Mine Extension Project (SSI-33143123)**
**Planning Secretary's Environmental Assessment Requirements**

Please find attached a copy of the Planning Secretary's environmental assessment requirements (SEARs) for the Dendrobium Mine Extension Project (SSI-33143123) development application (DA) and environmental impact statement (EIS).

The SEARs have been prepared in consultation with relevant public authorities, based on the information you have provided. A copy of the advice from the public authorities is attached for your information.

Where relevant, the Planning Secretary may modify the SEARs to ensure the environmental assessment of the project covers all relevant matters and is consistent with contemporary assessment practice.

**Your SEARs will expire two years from the date of issue** (or the date they were last modified) unless the Planning Secretary has granted an extension. If you would like to seek an extension, you should contact the Department at least three months prior to the expiry date.

If your EIS is not submitted within two years (or by the agreed extension date), you will need to make a new application for SEARs to progress your project.

## Preparing your EIS

Your EIS must be prepared having regard to the Department's new *State Significant Infrastructure Guidelines* – including the *Preparing an Environmental Impact Statement Guideline.* All relevant guides for *State Significant Projects* that are referenced in the SEARs are available at www.planning.nsw.gov.au/Policy-and-Legislation/Planning-reforms/Rapid-Assessment-Framework .

Please note, if you submit your EIS after 31 December 2022, a Registered Environmental Assessment Practitioner (REAP) will need to declare that your EIS meets certain standards in relation to compliance, completeness, accuracy and legibility.

## Submitting your EIS

Once you submit your EIS, we will check it for completeness to confirm it addresses the requirements in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. We will also notify you of the application fee for your project.

Please note that your DA is not taken to be lodged until the DA fee has been paid.

To minimise delays, please contact the Department at least two weeks before you submit your EIS to confirm fee and payment arrangements. This will give us sufficient time to ensure your application fee can be determined quickly.

**Information needed to determine the application fee**

Your EIS may need to be accompanied by a Quantity Surveyor's Report supporting the estimated cost of works for your project. You must ensure that the information in the report is consistent with the information provided in your application form.

**Public exhibition requirements**

When you contact us regarding the applicable DA fee, we will also advise whether hard and/or electronic copies of the DA and EIS will be required for public exhibition.

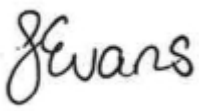
**Matters of National Environmental Significance**

Any development likely to have a significant impact on matters of National Environmental Significance will require approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to approvals required under NSW legislation.

It is your responsibility to contact the Commonwealth Department of Agriculture, Water and the Environment to determine if you need approval under the EPBC Act (http://www.environment.gov.au or 6274 1111).

If you have any questions, please contact Gabrielle Allan on 02 9585 6078 or gabrielle.allan@dpie.nsw.gov.au.

Yours sincerely,



Jessie Evans
Director
Resource Assessments

**as delegate for the Planning Secretary**

Attached:

1. SEARs
2. Agency Advice

# Planning Secretary's Environmental Assessment Requirements

## Section 5.16 of the *Environmental Planning and Assessment Act 1979*

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| **Application Number** | SSI-33143123 |
| **Project Name** | Dendrobium Mine Extension Project, which includes:<br>· extending the Dendrobium Coal Mine into a new underground mining area (Area 5);<br>· continued use of existing mine infrastructure, with minor upgrades and extensions, until 2041;<br>· extraction of run-of-mine (ROM) coal from the new mining area (Area 5) by longwall mining methods, at a rate of up to 5.2 million tonnes per annum (Mtpa), until 2035;<br>· use of existing infrastructure to deliver coal to the surface, process ROM coal and deliver product coal to Port Kembla;<br>· transportation of up to 1.1 Mtpa of coal wash by road to the West Cliff Colliery Stage 3 and/or Stage 4 Coal Wash Emplacement or to external customers for engineering purposes; and<br>· development of ancillary mine infrastructure including mine ventilation and gas management and abatement infrastructure, water management infrastructure and other minor infrastructure, plant, equipment and activities. |
| **Location** | Cordeaux Road, Kembla Heights, approximately 8 kilometres from Wollongong |
| **Applicant** | Illawarra Coal Holdings Pty Ltd |
| **Date of Issue** | 23/12/2021 |
| **General Requirements** | The Environmental Impact Statement (EIS) must meet the minimum form and content requirements as prescribed by Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) and must have regard to the *State Significant Infrastructure Guidelines*.<br><br>In particular, the EIS must include:<br>· a stand-alone executive summary;<br>· a full description of the development, including:<br>- historical mining operations at the mine and in the surrounding region;<br>- details of the resource to be extracted and justification for the proposed mine design, having regard to the advice of Regional NSW – Mining, Exploration and Geosciences (see Attachment 2);<br>- the mine layout and likely staging or sequencing of the development, including construction, exploration, operation and rehabilitation;<br>- coal production rates (ROM and product) and a life of mine production schedule;<br>- forecast production tonnages split into market segment, including export/domestic and thermal/metallurgical coal markets;<br>- coal processing and transportation arrangements;<br>- surface infrastructure and facilities;<br>- workforce requirements during all phases of the development (on a full-time |

equivalent basis);

- a waste management strategy;
- a water management strategy;
- a rehabilitation strategy;
- the likely interactions between the development and any other historical, existing, approved or proposed mining or infrastructure projects in the vicinity of the site;

· strategic context for the development in regard to supply of coal for steelmaking or other purposes;

· the statutory context for the development including any approvals that must be obtained before the development may commence;

· consideration of alternatives;

· an assessment of the likely impacts of the development on the environment focusing on the specific issues identified below, including:

- a description of the existing environment likely to be affected by the development, using sufficient baseline data;
- an assessment of the likely impacts of all stages of the development, including appropriate worst-case scenarios, consideration of any cumulative impacts, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice and with consideration to advice provided by agencies in Attachment 2;
- a description of the measures that would be implemented to avoid, mitigate and/or offset the likely impacts of the development, and an assessment of:
    - o whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented;
    - o the likely effectiveness of these measures, including performance measures where relevant;
    - o whether contingency plans would be necessary to manage any residual risks; and
    - o a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved;

· a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS;

· an evaluation of the project as a whole having regard to:

- relevant matters for consideration under the *Environmental Planning and Assessment Act 1979*, including the principles of Ecologically Sustainable development and the objects of the Act;
- the suitability of the site with respect to potential land use conflicts with

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| | existing and future surrounding land uses;<br>- the strategic need and justification for the project, including the relative importance of its role in supplying coal to BlueScope Steel, including in the context of medium to long term changes in steel production moving to "green steel" operations;<br>- feasible alternatives to the development (and its key components), including the consequences of not carrying out the development; and<br>- the biophysical, economic and social costs and benefits of the development;<br>· a signed statement from the author of the EIS, certifying that the information contained within the document is neither false nor misleading.<br><br>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the infrastructure.<br><br>Where relevant, the assessment of key issues below, and any other significant issues identified in the risk assessment, must include:<br>· adequate baseline data<br>· consideration of the potential cumulative impacts due to other developments in the vicinity (completed, underway or proposed); and<br>· measures to avoid, minimise and if necessary, offset predicted impacts, including detailed contingency plans for managing any significant risks to the environment.<br><br>The EIS must also be accompanied by:<br>· a report from a qualified quantity surveyor providing a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate applicable GST component of the CIV and include certification that the information provided is accurate at the date of preparation; and<br>· an estimate of jobs that will be created during the construction and operational phases of the proposed infrastructure. |
| **Key issues** | The EIS must address the following specific matters:<br><br>**1. Justification and Alternatives** – including:<br>- detailed consideration of how the issues raised by the Independent Planning Commission of NSW in its determination of the previous Dendrobium Mine Extension Project (SSD-8194), have been taken into account by the development, including consideration of the extent to which the development addresses the issues raised;<br>- detailed consideration of how the residual issues raised by key agencies, including WaterNSW, Biodiversity and Conservation Sciences Directorate (BCD) within the Department, the Independent Advisory Panel for Underground Mining (IAPUM) and the Independent Expert Scientific Committee (IESC) regarding the previous Dendrobium Mine Extension Project, have been taken into account by the development;<br>- a comprehensive assessment of alternatives, including alternative mine design (including panel dimensions and layout), mining methods (including minimal subsidence options such as bord and pillar/ partial extraction) and |

coal supply (including supply from other coal operations in the Southern coalfields);

- The consideration of alternatives must be supported by an assessment comparing the social, economic and environmental impacts of each feasible alternative, a risk evaluation of options and justification for why each alternative has not been adopted; and
- a strategic justification for the development, demonstrating:
  - the need for the development;
  - how the development has been designed to avoid or minimise, to the greatest extent practicable, impacts on:
    - § significant water resources,
    - § threatened species and biodiversity, and
    - § greenhouse gas emissions.
  - how the development is consistent with the principles of Ecologically Sustainable Development and the objects of the *Environmental Planning and Assessment Act 1979.*

**2. Subsidence** – including:

- a review of the local and regional geological setting, including identification and characterisation of geological structures and lineaments within the proposed mining area;
- a detailed geotechnical assessment supporting the mine design and mining method, having regard to the advice of Regional NSW – Mining, Exploration and Geoscience (see Attachment 2);
- a detailed review of the status of historical mine workings in the vicinity of the proposed development;
- an assessment of the likely conventional and non-conventional subsidence effects and subsidence impacts of the development;
- a scientifically robust assessment of predicted height of fracturing above longwall panels and the vertical distance separating the fracture zone from the surface cracking zone, including consideration and assessment of alternative mine design options to maximise the vertical distance separating the height of connective fracturing with the surface cracking zone and minimise surface water losses;
- assessment of the potential consequences of subsidence-related effects and impacts on the natural and built environment, paying particular attention to those features that are considered to have significant ecological, economic, social, cultural or environmental value, taking into consideration connective fracturing above the longwall panels and recorded regional and historical subsidence;
- proposed remediation of predicted residual subsidence impacts
- details of the proposed subsidence monitoring network capable of detecting vertical, horizontal and far-field subsidence movements; and
- an independent peer review of the subsidence and height of fracturing assessment/s prepared for the development.

**3. Water** – including:

- an assessment of the likely impacts of the development on the quantity and quality of surface and groundwater resources, having regard to the NSW Aquifer Interference Policy and the advice of DPIE Water, WaterNSW and the Environment Protection Authority (EPA) (see Attachment 2). The assessment is to be supported by groundwater modelling and uncertainty analysis generally consistent with the Australian Groundwater Modelling Guidelines;
- an assessment of the likely impacts of the development on aquifers, watercourses, swamps, riparian land, groundwater dependent ecosystems, water supply infrastructure and systems including Cordeaux Dam and Avon Dam, basic landholder rights and other water users. The significance of water-related features must be considered individually for the purpose of impact assessment;
- an assessment of all water take for the life of the project and post-closure, including water taken directly and indirectly and itemised to quantify the contributions from each water source;
- an assessment on whether the development can be operated to achieve a neutral or beneficial effect on water quality in the Sydney Drinking Water Catchment, consistent with the provisions of *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2021*;
- an assessment of post-mining groundwater recovery and the potential long-term impacts on water quality and quantity of post-closure groundwater discharges, including the proposed method for managing post-closure groundwater discharges. If sealing of mine entries is proposed as a management strategy, the EIS must present:
    - o evidence to support the feasibility and likely success of this strategy in mitigating ongoing water losses; and
    - o detailed assessment of the long-term effects, impacts and consequences of mine sealing on neighbouring mines, the environment, water quantity and quality in the catchment and public safety;
- a detailed site water balance, including a description of site water demands, water disposal methods (including the location, volume and frequency of any water discharges and management of discharge water quality), water supply and transfer infrastructure and water storage structures, including:
    - o an assessment of the reliability of water supply, including consideration of climate change; and
    - o demonstration that water can be obtained from an appropriately authorised supply in accordance with the operating rules of any relevant Water Sharing Plans (WSP) or any alternative mechanisms agreed following consultation with the relevant NSW government agencies/ statutory authorities;
- identification of an adequate and secure water supply for the life of the project and any licensing requirements or other approvals under the *Water Act 1912* and/or *Water Management Act 2000*, including a description of the measures proposed to ensure the development can operate in accordance with the requirements of any relevant water sharing plan or water source embargo, or any alternative mechanisms agreed following consultation with

the relevant NSW government agencies/ statutory authorities;

- a detailed description of the proposed water management system (including sewerage), beneficial water re-use program, water monitoring program and other measures to mitigate surface water and groundwater impacts;
- an assessment of the potential flooding impacts of the development;
- a description of proposed surface and groundwater monitoring activities and methodologies;
- An assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts;
- a description of the reasonable and feasible mitigation and management measures proposed to prevent pollution of waters and to avoid or mitigate impacts to the quality or quantity of surface and groundwater resources, including assessment of the predicted effectiveness and cost of the mitigation measures; and
- an independent peer review of the groundwater model and the assessment of groundwater impacts prepared for the development.

4. **Biodiversity** – including:
   - an assessment of the likely biodiversity impacts of the development in accordance with the Biodiversity Assessment Method (BAM) and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must have regard to the advice of the BCD (see Attachment 2) and include a strategy to offset any residual impacts of the development, including how required offsets would be achieved;
   - the BDAR must demonstrate how impacts to biodiversity values have been avoided and detail measures to mitigate and manage impacts from the development in accordance with the BAM;
   - the BDAR must include consideration of the increased risk of bushfire impacts on individual swamps that are predicted to be impacted by the development, and at the landscape scale;
   - where remediation of impacted swamps and streams is proposed, the BDAR must include evidence to support the likely effectiveness of proposed remediation measures; and
   - an assessment of the likely impacts of the development on aquatic ecology, including aquatic biodiversity and key fish habitats.
5. **Heritage** – including:
   - an assessment of the likely impacts of the development on Aboriginal cultural heritage values having regard to the advice of Heritage NSW (see Attachment 2), including consultation with Aboriginal stakeholders in accordance with *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH, 2010);
   - an assessment of the likely impacts of the development on the historic heritage significance of the site and adjacent areas, including a Statement of Heritage Impact (SOHI) prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual.

6. **Noise** – including:
   - an assessment of the likely construction, operational and traffic noise impacts of the development, in accordance with the *Interim Construction Noise Guideline*, *NSW Noise Policy for Industry* (EPA) and *NSW Road Noise Policy*, and having regard to the *Voluntary Land Acquisition and Mitigation Policy.*

7. **Air** – including:
   - an assessment of the likely air quality impacts of the development in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW*.

8. **Greenhouse Gas** – including:
   - an assessment of the likely greenhouse gas emissions of the development;
   - analysis of how the development's greenhouse gas emissions would affect State and national greenhouse gas emission reduction targets;
   - a review of available best practice greenhouse gas emissions reduction measures available to the development;
   - details of proposed greenhouse gas emissions avoidance, mitigation and/or offset measures; and
   - an independent peer review of the greenhouse gas emission estimates and emission reduction measures, particularly targeting fugitive emissions from the development.

9. **Land** – including:
   - an assessment of the compatibility of the development with other land uses in the vicinity of the development consistent with the requirements of Clause 12 of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

10. **Transport** – including:
   - an assessment of the likely transport impacts of the development on the capacity, condition, safety and efficiency of the surrounding transport network, and any required upgrades or operational measures to minimise transport impacts;
   - details of how the development would interact with the Maldon to Dombarton rail corridor and an assessment of the risks to rail assets and the future operational capacity of the corridor from mining operations, undertaken in consultation with the asset owners.

11. **Hazards and Bushfire** – including:
   - an assessment of the likely risks to public safety, paying particular attention to potential subsidence risks, bushfire risks, and the handling and use of any dangerous goods;
   - an assessment of bushfire risk, including consideration of the impacts of climate change and predicted subsidence-related hydrological changes within the local landscape; and
   - consideration of *State Environmental Planning Policy 33 – Hazardous and*

*Offensive Development* with clear justification to support any conclusion that SEPP 33 does not apply.

**12. Visual** – including:

- An assessment of the likely visual impacts of the development from key public and private vantage points, and methods to minimise the lighting impacts of the development.

**13. Waste** – including:

- identification, quantification and classification of the waste streams likely to be generated (including tailings and course rejects) during construction and operation, and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste; and
- details of proposed methods of storage and management of chemicals, including consideration of any infrastructure required to prevent spills and leaks.

**14. Rehabilitation and Final Landform** – including:

- a Rehabilitation Strategy addressing:
  - final land-use options and preferred final land use;
  - final landform including the conceptual final landform design;
  - how the rehabilitation of the project will relate to the rehabilitation strategies of neighbouring mines;
  - management of potential post-mining groundwater discharges; and
  - inclusion of rehabilitation objectives and completion criteria to achieve the nominated post-mining land use for each mining domain.

  The Rehabilitation Strategy is to have regard to the advice of the Resources Regulator (see Attachment 2); and
- identification and discussion of opportunities to improve rehabilitation and environmental outcomes for existing disturbed areas within the project site, and barriers or limitations to effective rehabilitation.

**15. Social**

- Provide a Social Impact Assessment prepared in accordance with the *Social Impact Assessment Guideline*.

**16. Economic** – including:

- the likely economic impacts of the development, paying particular attention to:
  - the significance of the resource;
  - the costs and benefits of the development identifying if it would result in a net benefit to NSW, including consideration of fluctuations in commodity markets and exchange rates, and costs of residual Scope 1 and 2 greenhouse gas emissions appropriately apportioned to NSW; and
  - the demand for the provision of local infrastructure and services;
  - the upstream/ downstream inter-relationship of the development for coal

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| | supply in the Illawarra region including BlueScope, the Port Kembla coal-loader, and other coal operations in the Southern coalfields; and<br>- the need for a voluntary planning agreement; in relation to infrastructure, services, and community benefits and to address residual social impacts. |
| **Plans and Documents** | The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.<br>In addition, the EIS must include high quality files of maps and figures of the subject site and proposal. |
| **Engagement** | During the preparation of the EIS and subsequent assessment process, you must consult with the Dendrobium Community Consultative Committee (CCC) in accordance with the *Community Consultative Committee Guidelines: State Significant Projects*.<br>You must also consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups including the Aboriginal community and affected landowners.<br>The EIS must detail the engagement undertaken and demonstrate how it was consistent with the *Undertaking Engagement Guide: Guidance for State Significant Projects*. The EIS must detail how issues raised and feedback provided have been considered and responded to in the project. |
| **Expiry Date** | If you do not lodge an EIS for the infrastructure within 2 years of the issue date of these SEARs, your SEARs will expire. If an extension to these SEARs will be required, please consult with the Planning Secretary 3 months prior to the expiry date |
| **References** | The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, Attachment 1 contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal. |

**ATTACHMENT 1**

# Environmental Planning Instruments, Policies, Guidelines & Plans

Please also refer to the Department's Policies and Guidelines including strategic plans and guidelines at: https://www.planningportal.nsw.gov.au/major-projects/assessment/policies-and-guidelines

| **General** | |
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| | State Significant Infrastructure Guidelines (DPIE, 2021) |
| | Cumulative Impact Assessment for State Significant Projects (DPIE, 2021) |
| | Undertaking Engagement for State Significant Projects (DPIE, 2021) |

| **Water** | |
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| Water Sharing Plans | Relevant water sharing plans |
| General | NSW Water Strategy (DPIE August 2021) |
| Groundwater | NSW State Groundwater Policy Framework Document (NOW) |
| | NSW State Groundwater Quality Protection Policy (NOW) |
| | NSW State Groundwater Quantity Management Policy (NOW) |
| | NSW Aquifer Interference Policy 2012 (NOW) |
| | Australian Groundwater Modelling Guidelines (National Water Commission 2012) |
| | National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC) |
| | Guidelines for the Assessment & Management of Groundwater Contamination (EPA) |
| Surface Water | Draft Greater Sydney Water Strategy (DPIE 2021) |
| | NSW State Rivers and Estuary Policy (NOW) |
| | NSW Government Water Quality and River Flow Objectives (EPA) |
| | Using the ANZECC Guideline and Water Quality Objectives in NSW (EPA) |
| | *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZG 2018) |
| | National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC) |
| | National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC) |
| | Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (EPA) |
| | Managing Urban Stormwater: Soils & Construction (Landcom) Volume 1 and Volume 2 (A: Installation of services; C: Unsealed roads; D: Main Roads; E: Mines and Quarries) (DECC) |
| | Managing Urban Stormwater: Treatment Techniques (EPA) |
| | Managing Urban Stormwater: Source Control (EPA) |
| | Technical Guidelines: Bunding & Spill Management (EPA) |
| | Environmental Guidelines: Use of Effluent by Irrigation (EPA) |
| | A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH) |
| | NSW Guidelines for Controlled Activities (NOW) |
| Flooding | Floodplain Development Manual (OEH) |

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| | Floodplain Risk Management Guideline (OEH) |
| **Biodiversity** | |
| | Biodiversity Assessment Method (DPIE 2020) |
| | Guidance to assist a decisionmaker to determine a serious and irreversible impact (DPIE 2019) |
| | Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (Fisheries NSW) |
| | Guidelines for developments adjoining Department of Environment, Climate Change and<br>Water (DECCW, 2010) |
| | NSW State Groundwater Dependent Ecosystem Policy (NOW) |
| | Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW) |
| **Heritage** | |
| | The Burra Charter (The Australia ICOMOS charter for places of cultural significance) |
| | Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010) |
| | Code of Practice for Archaeological Investigations of Objects in NSW (DECCW 2010) |
| | Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) |
| | NSW Heritage Manual (OEH) |
| | Statements of Heritage Impact (OEH) |
| **Noise and Blasting** | |
| | NSW Noise Policy for Industry (EPA) |
| | Interim Construction Noise Guideline (EPA) |
| | NSW Road Noise Policy (EPA) |
| | Assessing Vibration: a Technical Guideline (EPA) |
| | Voluntary Land Acquisition and Mitigation Policy (DP&E) |
| | Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990) |
| **Air** | |
| | Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (EPA) |
| | Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA) |
| | Coal Mine Particulate Matter Control Best Practice – Site Specific Determination Guideline (EPA) |
| | Voluntary Land Acquisition and Mitigation Policy (DP&E) |
| | National Greenhouse Accounts Factors (Commonwealth) |
| | NSW Climate Change Policy Framework |
| | Net Zero Plan Stage 1: 2020-2030 (DPIE) |
| **Transport** | |
| | Guide to Traffic Generating Development (RTA) |
| | Road Design Guide (RMS) & relevant Austroads Standards |
| **Social** | |
| | Social Impact Assessment Guidelines for State Significant Projects (2021) |
| **Economic** | |

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| | Guidelines for the economic assessment of mining and coal seam gas proposals (2015) |
| **Public Safety** | |
| | Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 |
| | Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis |
| | Planning for Bush Fire Protection (2019) |
| **Resource** | |
| | Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (JORC) |
| **Waste** | |
| | Waste Classification Guidelines (EPA) |
| **Rehabilitation** | |
| | Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Australian Government 2016) |
| | Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Australian Government 2016) |
| | Strategic Framework for Mine Closure (ANZMEC-MCA 2000) |
| | Guidelines on Tailings Dams – Planning, Design, Construction, Operation And Closure – Revision 1 (ANCOLD, July 2019) |
| | Integrated Mine Closure: Good Practice Guide (ICMM 2019) |
| **Environmental Planning Instruments** *(for consideration)* | |
| | *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* |
| | *State Environmental Planning Policy (State and Regional Development) 2011* |
| | *State Environmental Planning Policy (Infrastructure) 2007* |
| | *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011* |
| | *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* |
| | *State and Environmental Planning Policy 55- Remediation of Land* |
| | *Wollongong Local Environmental Plan 2009* |
| | *Wingecarribee Local Environmental Plan 2010* |
| | *Wollondilly Local Environmental Plan 2011* |

**ATTACHMENT 2**

# Agency Advice on SEARs

PO Box 398, Parramatta NSW 2124
Level 14, 169 Macquarie Street
Parramatta NSW 2150
www.waternsw.com.au
ABN 21 147 934 787

17 December 2021

Contact: Ravi Sundaram
Telephone: 0428 226 152
Our ref: *D2021/130215*

Gabrielle Allan, Team Leader
Energy, Resources, and Industry Division
Department of Planning, Industry and Environment
Email: gabrielle.allan@dpie.nsw.gov.au

Dear Gabrielle

**Input into Secretary's Environmental Assessment requirements (SEARs) for Dendrobium Mine Area 5 Extension Project**

WaterNSW appreciates the opportunity to input into the Secretary's Environmental Assessment requirements (SEARs) for the above Project declared State Significant Infrastructure (SSI) under Section 5.12 of Part 5 of the Environmental Planning and Assessment Act 1979.

The proposed mining area is wholly located within the Declared Catchment area (the Sydney Drinking Water Catchment) and land jointly managed by WaterNSW and National Parks and Wildlife Services (NPWS) as Schedule 1 Special Area (Metropolitan Special Area). WaterNSW recommends that the EIS consider the 'Special Area' designation of the land under the *Water NSW Act* and the provisions of the Special Areas Strategic Plan of Management (SASPOM) be considered when preparing the EIS.

WaterNSW has an important statutory role "*to protect and enhance the quality and quantity of water in declared catchment areas*". It also has a set of 'Mining Principles' which underpin WaterNSW's decision-making in relation to managing mining impacts in the declared Sydney catchment area and on catchment infrastructure. WaterNSW notes that Illawarra Coal Holdings (ICH) have stated in the Scoping Report provided to consider the Mining Principles in preparing the EIS.

WaterNSW has reviewed the Scoping Report and other information including documents from the previous Dendrobium Area 5 & 6 Project which was refused by the Independent Planning Commission (IPC) in February 2021.

WaterNSW considers that the redesigned Area 5 Project mine design presented in the Scoping Report is an important first step in the assessment process towards preparing a detailed EIS.

WaterNSW supports the approach indicated by IMC in the Scoping Report to consider the requirements of the Environmental Planning Instruments (EPIs) that would have applied to the project had it not otherwise been declared as SSI. WaterNSW recommends that the EIS consider the provisions of the Sydney Drinking Water (SDWC) SEPP.

WaterNSW requires that IMC will need to obtain a new, or extend the current, access consent from WaterNSW to access the Metropolitan Special Area. This is separate to any approval that is required for the SSI under the *EP&A Act*.

Please also refer to the following attachments when reading this letter:

**Attachment A** provides a summary of key matters considered by WaterNSW including relevant legislation and assessment issues for input into the SEARs.

**Attachment B** presents WaterNSW's recommendations for inclusion in the SEARs for Dendrobium Mining Areas 5 Extension Project.

Please feel free to contact Ravi Sundaram if you would like to discuss any of theabove matters further.

Yours sincerely

**Daryl Gilchrist**
**Manager, Catchment Protection (Acting)**

**Attachment A**

**Key Matters Considered for input into the SEARs**

**Legislation**

Planning Provisions

As SSI, the project will be assessed under Part 5 of the EP&A Act. The Scoping Report also acknowledges that Environmental Planning Instrument (EPIs) do not apply to SSI, beyond enabling the project to be declared as SSI (section 5.22 EP&A Act). EPIs include State Environmental Planning Policies (SEPPs) and Council's Local Environmental Plans (LEPs). This means that the project can bypass the requirements of the Sydney Drinking Water Catchment SEPP. The Scoping Report states that in the EIS, IMC would consider the requirements of the EPIs that would have applied to the project had it not otherwise been declared as SSI by the Minister for Planning. The SDWC SEPP is then listed in the Scoping Report as one of the 'Planning Provisions' that would be considered by IMC in the preparation of the EIS.

The SDWC SEPP is recognized in Appendix E but only in relation to the neutral or beneficial effect (NorBE) test requirement and the concurrence role (which does not apply to Part 5 activities or Part 4 SSD (had the project been so declared – see s 4.13(2A) EP&A Act).

WaterNSW supports the approach indicated by IMC in the Scoping Report to consider the requirements of the EPIs that would have applied to the project had it not otherwise been declared as SSI. WaterNSW recommends the EIS to consider the provisions of the SDWC SEPP including:

- The aims of the SEPP (clause 3)
- The incorporation of Water NSW's current recommended practices and standards or, otherwise demonstrate how the practices and performance standards proposed to be adopted will achieve outcomes not less than those achieved by Water NSW's current recommended practices and standards (clause 9).
- The requirement for the Proposal to have a have a neutral or beneficial effect on water quality (clause 10*)*

*Water NSW Act 2014*

The Scoping report notes that the existing and Project underground mining areas are located within the 'Metropolitan Special Area' which is a declared Special Area under the Water NSW Act. While the Scoping Report identifies that Special Areas are jointly managed by WaterNSW and the National Parks and Wildlife Service (NPWS), it does not currently refer to Special Areas Strategic Plan of Management.

WaterNSW recommends that the EIS consider the 'Special Area' designation of the land under the Water NSW Act and the provisions of the SASPOM be considered when preparing the EIS.

The Scoping report notes that the IMC has consent from WaterNSW to enter the Metropolitan Special Areas and carry out activities permitted by statutory approvals. It notes that IMC would seek to extend this consent for the Project to undertake approved activities within the Special Area. WaterNSW notes that the approval for access consent to the Special Area stands separate to the Part 5 Planning approval required for SSI.

WaterNSW requires that IMC will need to obtain a new, or extend the current, access consent from WaterNSW to access the Metropolitan Special Area. This is separate to any approval that is required for the SSI under the *EP&A Act*.

Other Legislation

- Neither section 4 nor Appendix E references the required content of the EIS per section 5.16(2) of the EP&A Act and Part 3 of Schedule 2 of the *Environmental Planning Assessment Regulation 2000*. It is important for the EIS to address the matters required by these provisions, as the Regulation directs the form and content of EISs, including for SSI. This is fundamental to the EIS.
- References to *the Fisheries Management Act 1994* (FM Act) being limited to aquatic reserves and critical habitat. The threatened species provisions of the FM Act may be relevant.

It is recommended that DPIE through SEARs make ICH aware of the following:
- The oversight of the requirements of section 5.16(2) of the *EP&A Act* and Part 3 of Schedule 2 of the *Environmental Planning Assessment Regulation 2000*, which are not referenced in the Scoping Report.
- References to the *Fisheries Management Act 1994* being limited to aquatic reserves and critical habitat. The threatened species provisions of the FM Act may be relevant.

**Key Assessment Issues**

The Independent Expert Panel on Mining in the Catchments (IEPMC) in 2019 made several recommendations for consideration by mining companies in the Special Areas after a detailed analysis of mining in the Special Areas with specific focus on Dendrobium and Metropolitan mines.

There is already considerable information available regarding the Project from the previous Dendrobium Area 5 & 6 Project which was refused by the IPC in February 2021. The IPC Refusal of the application was largely based on the above issues not being adequately addressed in considering the potential impacts of the mine development on the Metropolitan Special Area. Matters raised by the IPC in its Statement of Reasons must be addressed comprehensively in the EIS for the Area 5 Extension Project.

WaterNSW made a detailed submission to the IPC in December 2020 on the previous Dendrobium Mine Area 5 and 6 Extension Project. WaterNSW highlighted four key areas of residual concerns as follows:

1. Water quantity: There has been insufficient consideration of an alternative mine design that would prevent the height of free drainage from extending to the surface. Such an alternative mine design would likely result in a reduction in the surface water losses of the project.
2. Water quality: Uncertainty remains about whether the project would meet the NorBE test for water quality, particularly in relation to post-closure groundwater recovery.
3. Stream Impacts: The project would cause significant environmental impacts in various significant watercourses, including nine major streams (third order or above).
4. Ecological integrity: The proposed mine design and predicted fracturing would fundamentally change the hydrological and ecological functions of 25 endangered Coastal Upland Swamps. Within these four areas of concern,

WaterNSW also identified 8 specific residual questions in that detailed submission that need to be carefully assessed in determination of the project:
1. Are the predicted catchment water losses accurate and reliable?

2. Are the likely catchment water losses acceptable?
3. Can catchment water losses be avoided or minimised?
4. Is there a viable mine plan with reduced catchment impacts?
5. What are the catchment water losses post-mining?
6. What are post-mining impacts on water quality?
7. What streams should be considered 'significant'?
8. What is the worst-case scenario for swamps?

The above matters are recommended for inclusion in the SEARs for the Project.

**Specific Issues**

WaterNSW considers that the redesigned Area 5 mine layout presented in the Scoping Report prepared by ICH is an important first step in addressing some of the key assessment issues discussed above. Some additional specific considerations are as follows:

Seam to Surface Connectivity

A review of the Scoping Report and height of fracturing predictions made in the previous Area 5 & 6 Extension Project indicates there is still a lack of clarity with regards to the vertical distance separating the zone of free drainage (i.e. the fracture zone upwards from the seam towards the surface) from the surface cracking zone, and the geological formations intersected. WaterNSW considers that further refinements to the mine design are possible and need to be considered. This will minimize the need for rehabilitation and consideration of water offsets. WaterNSW will only support the consideration of watercourse and swamp rehabilitation and water offsets for the Area 5 Extension Project as a Contingency Measure.

Significant watercourses and stream features

WaterNSW considers all third order and above streams, all tributary streams flowing directly into reservoirs irrespective of their order, and streams and tributaries with upland swamps as significant. Significance of water features like rockbars/pools and waterfalls need to be assessed on an individual basis in all watercourses.

Surface water losses and water offsets

Any lost surface water due to the proposed mining means a loss to WaterNSW for use as a drinking water supply and distribution. The IEPMC has highlighted that the mine design adopted for mining in Dendrobium Mine Areas 1,2 and 3 has resulted in surface water losses that are very significant compared to other mines in the Special Areas like Metropolitan Mine and Russell Vale Colliery. There is also no licensing arrangement in place for the surface water take at Dendrobium Mine.

The draft Greater Sydney Water Strategy is currently out for consultation wherein it identifies:
"Our sustainable supply level is up to 540 gigalitres (GL) per year (a bit less than the volume of water in Sydney Harbour) and modelling suggests this may be about 40 to 70 GL/year less than we need under a moderate growth scenario. Increasing climate variability means that, without action, we could face a shortage of drinking water with more and longer periods of severe drought".

WaterNSW will only support the consideration of water offsets for the Area 5 Extension Project as a Contingency Measure. WaterNSW does not support IMC's proposal to offset

surface water take for the revised Dendrobium Area 5 Extension Project as suggested in the Scoping Report. IMC need to consider mine design options to avoid/minimize surface water losses and options for treating and returning underground mine water back into the Sydney drinking water catchment.

Ventilation shaft 5A

WaterNSW provided detailed comments to IMC and DPIE (D2021/117376) on a range of matters with regards to the construction of the new Ventilation shaft 5A proposed as part of the revised Area 5 Extension Project. Comments were provided in relation to:

- Water Supply to proposed Ventilation Shaft Site 5A
- Construction Crew Parking & Access
- Endeavour Energy Powerline Augmentation
- Wet weather access
- Reuse of mulch within the catchment
- Water management during construction of Ventilation shaft 5a and any upgrades to access roads.

Groundwater

There is a knowledge gap and inadequate studies done with regards to groundwater recharge rates. This and has been noted in several groundwater assessment reports. The investigation of groundwater recharge rates over subsided areas is necessary in both past and future Dendrobium mining areas.

As recommended by the IEPMC future swamp monitoring and modelling programs should be designed to provide a hydrological balance for representative swamps, sufficient to identify any mining-induced changes in soil moisture and in baseflow down the exit stream; and to provide vertical leakage rates as inputs to groundwater models, in order to quantify how much of the leakage is diverted back into the catchment or elsewhere.

Mine closure

As recommended by the IEMPC the SEARs need to include detailed consideration of the potential long term water quality and quantity implications for rehabilitation and mine closure planning.

**Attachment B**

**WaterNSW's Requirements for SEARs for Dendrobium Mining Areas 5 Extension Project**

***General***

1. *The full description of the development and existing environment should also include those aspects which have the potential to impact on the quality and quantity of surface and ground waters at and adjacent to the site. This includes:*
   - *the location of Avon and Cordeaux Dams and associated infrastructure in relation to the proposed longwalls in Areas 5*
   - *the location, mapping and geomorphology of Donalds Castle Creek, Avon and Cordeaux Rivers and their tributaries, rockbars, water pools, waterfalls, cliffs, swamps overlying and adjacent to the proposed mining areas*
   - *the location, mapping and nature of any geological structures including faults, dykes, silts, and other intrusions*
   - *the hydrogeological fluxes between surface and ground waters*
   - *the location and description of all water monitoring locations/points (surface and ground waters).*
2. *The detailed assessment of the mining proposal on water resources associated with subsidence should also consider the design, construction, operational, decommissioning phases, and cumulative impacts and include:*
   - *impacts on Avon and Cordeaux Dams and associated infrastructure including dam wall*
   - *impacts on water quantity and quality of overlying and adjacent water resources including Avon and Cordeaux Reservoirs, Rivers, and their tributaries, rockbars, water pools, waterfalls, cliffs, swamps, and groundwater systems within risk management zone using scientifically sound and rigorous numerically modelling and sufficient, appropriate, and representative baseline data.*
   - *impacts of the proposed mining on receiving water quantity and quality, both surface and groundwater systems and associated impacts on interaction and baseflows of surface waters*
   - *details of proposed measures to be adopted to offset impacts and effectiveness of the measures including environmental performances measures*
   - *details of proposed monitoring of groundwater levels, surface water flows, groundwater, and surface water quality, along with information as to how the proposed monitoring will be used to monitor and, if necessary, mitigate impacts on surface water and groundwater resources. Monitoring programs shall be designed in consultation with WaterNSW*
   - *details of the contingency plans to manage risks*
3. *Present a detailed assessment of matters and recommendations made by the IEPMC in 2019.*
4. *Address the four key areas of residual concerns and eight residual questions raised by WaterNSW in its submission to the IPC in December 2020 on the previous Dendrobium Mine Area 5 and 6 Extension Project.*
5. *Address the issues/concerns raised by the IPC in its Statement of Reasons in February 2021 in refusing the previous Dendrobium Mine Area 5 and 6 Extension Project.*

***Seam to Surface Fracturing***

6. *A scientifically robust assessment of surface to seam fracturing based on IEPMC findings. Consideration and presentation of alternative mine design options to refine*

*the mine design to maximize the vertical distance separating the HoCF with the Surface Cracking Zone (SCZ) and minimize surface water losses.*

7. *Assess subsidence impacts for alternative mine design options based on alternative mine layouts and evaluate how changes in longwall geometry (width and extraction height) and consequent constrained zone (vertical distance separating the HoCF with the SCZ) would affect the extent of surface fracturing and the intensity of predicted catchment impacts.*

***Surface Water Losses and Water Offsets***

8. *The projected loss of drinking water because of mining must consider the Greater Sydney Water Strategy identification of a shortfall/deficit of 40 to 70 GL/year. A rigorous analysis must be presented as to how this additional water lost, because of this mining, will be 'made up' or replaced into the future.*
9. *Consider water offsets only as a contingency measure.*
10. *Detail options for treating and returning underground mine water back into the Sydney drinking water catchment.*
11. *Detail licensing arrangements for all unplanned/ unavoidable surface water take.*

***Ventilation Shaft 5A***

12. *Detailed assessment of impacts due to the construction and operation of Ventilation shaft 5A and site access road upgrades within the Metropolitan Special Area*
13. *Develop and present in the EIS detailed construction and operational management plan for the proposed new 5A Ventilation shaft site and access roads to the site in consultation with and to the satisfaction of WaterNSW including all matters considered in WaterNSW response to IMC regarding this matter (D2021/117376).*
14. *The EIS should provide plans/protocols/procedures for the following:*
    - *Upgrades to access roads*
    - *Soil and Water Management Plans for shaft site and access roads – including triggers, actions, responses*
    - *Procedures for managing spills*
    - *Details of the practices proposed to ensure materials transported to and from the site do not spill or otherwise cause soil or water pollution*
    - *Rehabilitation Plan*
    - *Vegetation clearing protocols*

***Groundwater***

15. *Investigation of groundwater recharge rates over subsided areas in both past and future Dendrobium mining areas.*
16. *Establish and detail a reporting regime for outcomes of groundwater modelling that provide insights into simulated processes and allows to quantify surface water impacts of Dendrobium mine and cumulative impacts of all mining in the Sydney drinking water catchment.*

OUT21/17836

Gabrielle Allan
Planning and Assessment Group
NSW Department of Planning, Industry and Environment

gabrielle.allan@planning.nsw.gov.au

Dear Ms Allan

**Dendrobium Mine Extension Project (SSI-33143123)**
**Comment on the Secretary's Environmental Assessment Requirements (SEARs)**

I refer to your email of 7 December 2021 to the Department of Planning, Industry and Environment (DPIE) Water and the Natural Resources Access Regulator (NRAR) about the above matter.

The following recommendations are provided by DPIE Water and NRAR.

The SEARS should include:

- Details of all water take for the life of the project and post closure. This is to include water taken directly and indirectly and itemised to quantify the contributions from each relevant water source where water entitlements are required to account for the water take. If the water is to be taken from an alternative source confirmation should be provided by the supplier that the appropriate volumes can be obtained.
- Details of Water Access Licences (WALs) held to account for any take of water where required, or demonstration that WALs can be obtained prior to take of water occurring. This should include an assessment of the current market depth where water entitlement is required to be purchased. Any exemptions or exclusions to requiring approvals or licenses under the *Water Management Act 2000* should be detailed by the proponent. With regard to surface water take, the proponent will need to consider the licensing regime committed to by the Minister for Planning and Public Spaces in April 2020 to properly account for any water take.
- A detailed and consolidated site water balance.
- Assessment of impacts on surface and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, and groundwater dependent ecosystems, and measures proposed to reduce and mitigate these impacts. This includes but is not limited to:
    - Assessment of impacts to Sydney's water supply
    - avoidance and mitigation measures to manage impacts to any surface water body identified as part of the water source (a watercourse that meets the nine part test of Taylor and Stokes1 and/or wetland that may support threatened species) that may be significantly impacted by the activity, the applicant must document:
        - a description, and an assessment of the expected or predicted effectiveness of the mitigation measures,
        - the cost of the mitigation measures;

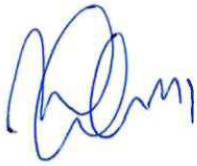
- an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action including any provisions for independent environmental auditing

- Full technical details and data of all surface and groundwater modelling and an independent peer review of the groundwater model having regard to DPIE Water guidelines. The groundwater modelling advice should take into account concerns raised in DPIE Water RTS advice (OUT20/8971)
- Proposed surface and groundwater monitoring activities and methodologies including details and timing of specific studies which demonstrate accuracy and resolution of the above methods.
- Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts
- Consideration of relevant legislation, policies and guidelines, including the NSW Aquifer Interference Policy (2012), the Guidelines for Controlled Activities on Waterfront Land (2018) and the relevant Water Sharing Plans (available at https://water.dpie.nsw.gov.au/home).

Any further referrals to DPIE Water and NRAR can be sent by email to water.assessments@dpie.nsw.gov.au. or to the following coordinating officer within DPIE Water:

Alistair Drew, Project Officer, E: Alistair.drew@dpie.nsw.gov.au.

Yours sincerely



Mitchell Isaacs
Chief Knowledge Officer
**Department of Planning, Industry and Environment: Water**
21 December 2021

DOC21/1088329-2

Ms Gabrielle Allan
Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTA NSW 2124

Email: gabrielle.allan@dpie.nsw.gov.au

Dear Ms Allan

**Request for SEARs – Dendrobium Mine Extension Project – State Significant Infrastructure (SSD 33143123)**

The EPA refers to the Department of Planning, Industry and Environment's request for input to the Secretary's Environmental Assessment Requirements (SEARs) for an Environmental Impact Statement (EIS) for the Dendrobium Mine Extension Project.

Dendrobium Coal holds Environment Protection Licence number 3241 for the Dendrobium Mine.

The EPA has reviewed the *Scoping Report for the Dendrobium Mine Extension Project* dated December 20201 and provides the following comments for your consideration.

In the report, table 4 – 'Key Potential Environmental Issues, Proposed Assessment and Preliminary Strategies' identifies the main potential impacts from the proposal in relation to air, noise and waste disposal (coal wash). It also references current EPA Guidelines that should be followed in the assessment of air and noise emissions from the project.

However, the following assessment requirements are not listed in table 4 and should be considered in preparation of the EIS. They relate to site water management at the Mount Kembla pit top and the Kemira Valley coal stockpile.

- A description of site surface water infrastructure and water management systems. This includes infrastructure for the capture of stormwater & mine water, transport, treatment and release structures.
- A description of the characteristics and quantities of water discharged through the licence discharge points.
- An assessment of possible changes to the character and volume of water produced underground (for surface disposal) over the life of the project.
- A general assessment of the site stormwater management system against EPA guidelines: 'Managing Urban Stormwater: Soils and Construction (vol 1)' and 'Mines and Quarries (vol 2E)'. The EIS must specifically assess whether the site sedimentation basins have the

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capacity capture the minimum average recurrence interval (ARI) design storm event of 90 or 95% as outlined in the guidelines.

- An assessment of the impact of the licenced discharges in accordance with the ANZG 2018 and ANZECC & ARMCANZ 2000, Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

The EIS should also provide advice whether the proposal will trigger the need for the modification of the licence.

If you have questions regarding the above, please phone Andrew Couldridge on (02) 4224 4100.

Yours sincerely

20/12/2021

**GREG NEWMAN**
Unit Head Regulation

Our ref: DOC21/1119591
Senders ref: PAE-33143172

Gabrielle Allan
Energy, Resources and Industry Division
Department of Planning, Industry and Environment
E-mail: Gabrielle.allan@planning.nsw.gov.au

Dear Ms Allan

**Subject:** Major Projects – New Request for Advice – Dendrobium Mine Extension Project (SSI-33143123)

Thank you for your email of 8 December 2021 requesting input on the abovementioned major project.

Attachment A lists the suggested environmental assessment requirements (EARs) that will need to be addressed for the project. Attachment B lists the guidance material that will assist the preparation of the environmental assessment.

The EARs in Attachment A require the development to be assessed in accordance with the Biodiversity Assessment Method (BAM) 2020. We highlight the following points, in particular, with regards to the abovementioned project:

- The biodiversity assessment report (BDAR) must provide a detailed assessment of how all impacts (including direct, indirect, prescribed and uncertain impacts) are to be avoided in accordance with the BAM 2020. We draw the proponent's attention to several recent Land and Environment Court decisions which emphasise the importance of ensuring avoidance is adequately demonstrated in the BDAR.

    - https://www.caselaw.nsw.gov.au/decision/17cde1089492c806d6d2b34d
    - https://www.caselaw.nsw.gov.au/decision/179ab71adb5f4873ea223bb5
    - https://www.caselaw.nsw.gov.au/decision/179c61f4f6dc498b0e14b86f

    In addition to the BAM 2020, the proponent should refer to the BAM Operational Manuals for guidance: https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/accredited-assessors/assessor-resources

- The BDAR must demonstrate how various options were considered for mine design, size, location and extraction method. This should be considered in the context of avoidance of impacts on biodiversity.

- The BDAR must provide detailed analysis on cumulative impacts to threatened entities in accordance with BAM impact assessment and Cumulative Impact Assessment Guidelines for State Significant Projects: https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/GD1259-RAF-Assessing-Cumulative-Impacts-Guide-final.pdf

- The BDAR must provide detailed discussion on measures to mitigate and manage impacts from the development in accordance with BAM 2020, including, but not limited to, a monitoring framework for assessing uncertain impacts, as well as details on remediation and rehabilitation of impacted areas.

- The BDAR should outline an offset strategy which details how required offsets will be achieved, taking into consideration the probability that assessment bilateral agreement requirements for offsetting will need to be met. Refer to: https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/assessment-bilateral-agreement It is noted that land previously suggested by the proponent for offsetting at Maddens Plains Strategic Biodiversity site is not available.

If you have any questions regarding this advice, please do not hesitate to contact Chris Page, Senior Team Leader, Planning (Illawarra), via chris.page@environment.nsw.gov.au or 4224 4180.

Yours sincerely

17/12/2021

Michael Saxon

**Director South East**

**Biodiversity and Conservation Division**

Attachment A: EES Recommended Environmental Assessment Requirements (EARs) for Dendrobium Mine Extension Project

Attachment B: Guidance Material

**Attachment A – EES Recommended Environmental Assessment Requirements (EARs) for the proposed Dendrobium Mine Extension Project (SSI-33143123)**

## 1. Biodiversity

1. Biodiversity impacts related to the proposed project are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the *Biodiversity Conservation Act 2016* (s6.12), *Biodiversity Conservation Regulation 2017* (s6.8) and Biodiversity Assessment Method.

2. The BDAR must document the application of the avoid, minimise and offset hierarchy including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method.

3. The BDAR must include details of the measures proposed to address the offset obligation as follows:

   - The total number and classes of biodiversity credits required to be retired for the project;
   - The number and classes of like-for-like biodiversity credits proposed to be retired;
   - The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;
   - Any proposal to fund a biodiversity conservation action;
   - Any proposal to conduct ecological rehabilitation (if a mining project); and
   - Any proposal to make a payment to the Biodiversity Conservation Fund.

   If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits.

4. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the *Biodiversity Conservation Act 2016*.

**The EIS must also address the following site-specific requirements:**

Upland swamps

5. Regarding impacts to Coastal Upland Swamps, the BDAR should include data and a discussion on results from previous upland swamp impact predictions, actual outcomes and monitoring in adjacent areas assessed under earlier assessments or approvals. This should also provide detail on how

predictions and impacts aligned and the implications for the current proposal. Evidence must be included.

6. The BDAR must apply the *Addendum to NSW Biodiversity Offsets Policy for Major Projects- Upland swamps impacted by longwall mining subsidence* to address uncertain impacts and offsetting in accordance with the BAM 2020. https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/addendum-biodiversity-offsets-policy-major-projects-upland-swamps-160766.pdf
7. The additional loss of swamp aquifer water, surface water and baseflow due to longwall mining from the Dendrobium mining proposal needs to be properly quantified and assessed for its impacts on threatened/endangered species that rely on this surface water (for habitat/breeding).
8. The projected loss of water as a result of mining must be considered in light of the *draft Greater Sydney Water Strategy* - https://www.industry.nsw.gov.au/water/plans-programs/metro-water-plans/gsws/read-the-draft
9. A scientifically robust assessment of surface to seam fracturing based on IEPMC findings is required.

Proximity to Conservation Area

10. In the case of a development/ project that adjoins, is in the immediate vicinity of a park or upstream, the assessment of impacts must address the matters to be considered outlined in the *Guidelines for developments adjoining land and water managed by DECCW* (DECCW 2010) and include:
    a. The nature of the impacts, including direct and indirect impacts.
    b. The extent of the direct and indirect impacts.
    c. The duration of the direct and indirect impacts.
    d. The objectives of the reservation of the land.
11. The EIS must include discussion of measures proposed to prevent, control, abate, minimise and manage the direct and indirect impacts including an evaluation of the effectiveness and reliability of the proposed measures.

## 2. Water and Soils

1. The Environmental Impact Statement (EIS) must map the following features as relevant to water and soils including:
    a. Rivers, streams, estuaries (as described in s4.2 of the Biodiversity Assessment Method).
    b. Wetlands (as described in s4.2 of the Biodiversity Assessment Method. Coastal wetlands include all areas mapped as 'Coastal Wetlands' under the *NSW Coastal Management State Environmental Planning Policy 2018*.
    c. Groundwater.

d. Groundwater dependent ecosystems.
e. Proposed intake and discharge locations.

2. The EIS must describe background conditions for any water resource likely to be affected by the project, including:
   a. Existing surface and groundwater.
   b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
   c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
   d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.
   e. Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions.
3. The EIS must assess the impacts of the project on water quality, including:
   a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the project protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
   b. Identification of proposed monitoring of water quality.
   c. How the development meets the objectives of the *Coastal Management Act 2016* and management objectives of relevant Coastal Management Areas defined under this Act.
   d. Consistency with any relevant certified Coastal Management Program (or Coastal Zone Management Plan)
4. The EIS must assess the impact of the project on hydrology, including:
   a. Water balance including quantity, quality and source.
   b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
   c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
   d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches).
   e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.

f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
g. Identification of proposed monitoring of hydrological attributes.

**The EIS must also address the following site-specific requirements:**

1. The description of existing water quality/hydrology in the EIS must be based on suitable data (meaning data collection may be required) and must include:
   a. Water chemistry.
   b. A description of receiving water processes, circulation and mixing characteristics and hydrodynamic regimes.
   c. Lake or estuary flushing characteristics.
   d. Sensitive ecosystems or species conservation values.
   e. Specific human uses and values (e.g. fishing, proximity to recreation areas).
   f. A description of any impacts from existing industry or activities on water quality.
   g. A description of the condition of the local catchment e.g. erosion, soils, vegetation cover.
   h. An outline of baseline groundwater information, including, for example, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment.
   i. Historic river flow data.
2. The assessment of the project on water quality and hydrology in the EIS must include:
   a. Water circulation, current patterns, water chemistry and other appropriate characteristics such as clarity, temperature, nutrient and toxicants, and potential for erosion.
   b. Changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, and groundwater).
   c. Disturbance of acid sulphate soils and potential acid sulfate soils.
   d. Stream bank stability and impacts on macro invertebrates.
   e. Water quality and hydrology modelling and/or monitoring, where necessary.
3. The proposed monitoring of water quality must be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Water Pollutant in NSW 2004. The EIS must include a water quality and aquatic ecosystem monitoring program that includes:
   a. Adequate data for evaluating maintenance, or progress towards achieving, the relevant Water Quality Objectives.
   b. measurement of pollutants identified or expected to be present.

## 3. Flooding

1. The EIS must map the following features as relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:
    a. Flood prone land
    b. Flood planning area, the area below the flood planning level.
    c. Hydraulic categorisation (floodways and flood storage areas).
2. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.
3. The EIS must model the effect of the proposed project (including fill) on the flood behaviour under the following scenarios:
    a. Current flood behaviour for a range of design events as identified in 3 above. This includes the 1 in 200 or 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.
4. Modelling in the EIS must consider and document:
    a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
    b. Impacts of the development on flood behaviour resulting in detrimental changes in potential flood affection of other developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
    c. Relevant provisions of the NSW Floodplain Development Manual 2005.
5. The EIS must assess the proposed project on merits as relevant, including:
    a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
    b. Consistency with Council floodplain risk management plans.
    c. Compatibility with the flood hazard of the land.
    d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
    e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
    f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
    g. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and Council.
    h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.

i. Emergency management, evacuation and access, and contingency measures for the development considering the full range or flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.

j. Any impacts the development may have on the social and economic costs to the community as consequence of flooding.

**Attachment B – Guidance Material**

| Title | Web address |
|---|---|
| **Relevant Legislation** | |
| *Biodiversity Conservation Act 2016* | https://www.legislation.nsw.gov.au/#/view/act/2016/63/full |
| *Coastal Management Act 2016* | https://www.legislation.nsw.gov.au/#/view/act/2016/20/full |
| *State Environmental Planning Policy (Coastal Management) 2018* | https://www.legislation.nsw.gov.au/#/view/EPI/2018/106/full |
| *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* | http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/ |
| *Environmental Planning and Assessment Act 1979* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N |
| *Fisheries Management Act 1994* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N |
| *Marine Parks Act 1997* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N |
| *National Parks and Wildlife Act 1974* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N |
| *Protection of the Environment Operations Act 1997* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N |
| *Water Management Act 2000* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N |
| *Wilderness Act 1987* | http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N |
| **Biodiversity** | |
| Biodiversity Assessment Method (OEH, 2017) | http://www.environment.nsw.gov.au/resources/bcact/biodiversity-assessment-method-170206.pdf |
| Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017) | http://www.environment.nsw.gov.au/resources/bcact/guidance-decision-makers-determine-serious-irreversible-impact-170204.pdf |
| Fisheries NSW policies and guidelines | http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation |
| List of national parks | http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx |
| Revocation, recategorisation and road adjustment policy (OEH, 2012) | http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm |
| Guidelines for developments adjoining land and water managed by the | http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm |

| Title | Web address |
|---|---|
| Department of Environment, Climate Change and Water (DECCW, 2010) | |
| **Water and Soils** | |
| **Acid sulphate soils** | |
| Acid Sulfate Soils Planning Maps via Data.NSW | http://data.nsw.gov.au/data/ |
| Acid Sulfate Soils Manual (Stone et al. 1998) | http://www.environment.nsw.gov.au/resources/epa/Acid-Sulfate-Manual-1998.pdf |
| Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004) | http://www.environment.nsw.gov.au/resources/soils/acid-sulfate-soils-laboratory-methods-guidelines.pdf<br>This replaces Chapter 4 of the Acid Sulfate Soils Manual above. |
| **Flooding and Coastal Hazards** | |
| Coastal management | https://www.environment.nsw.gov.au/topics/water/coasts/coastal-management |
| Floodplain development manual | http://www.environment.nsw.gov.au/floodplains/manual.htm |
| Coastal Management Manual | https://www.environment.nsw.gov.au/topics/water/coasts/coastal-management/manual |
| NSW Climate Impact Profile | http://climatechange.environment.nsw.gov.au/ |
| Climate Change Impacts and Risk Management | Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation |
| **Water** | |
| Water Quality Objectives | http://www.environment.nsw.gov.au/ieo/index.htm |
| ANZECC (2000) Guidelines for Fresh and Marine Water Quality | www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1 |
| Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones | http://deccnet/water/resources/AWQGuidance7.pdf |
| Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004) | http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf |
| Water | https://www.environment.nsw.gov.au/topics/water |
| Stormwater management | https://www.environment.nsw.gov.au/stormwater/index.htm |

| Title | Web address |
| --- | --- |
| Waterway health assessment | https://www.environment.nsw.gov.au/water/waterway-health-assessment.htm |
| Using NSW Water Quality Objectives | https://www.environment.nsw.gov.au/water/planningusingwqos.htm |
| Risk based framework for considering waterway health. | https://www.environment.nsw.gov.au/research-and-publications/publications-search/risk-based-framework-for-considering-waterway-health-outcomes-in-strategic-land-use-planning |

Our reference: DOC21/1085938
Date: 10 December 2021

## HERITAGE NSW – Aboriginal Cultural Heritage - SEARs

**Project Name: Major Projects - New Request for Advice - Dendrobium Mine Extension Project - SSI 33143123 (Wollongong City,Wingecarribee Shire,Wollondilly Shire)**

1. The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The identification of cultural heritage values must be conducted in accordance with the Code of Practice for Archaeological Investigation in NSW (DECCW 2010), and be guided by the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales (OEH 2011).
2. Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW 2010). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR.
3. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to Heritage NSW.
4. The assessment of Aboriginal cultural heritage values must include a surface survey undertaken by a qualified archaeologist. The result of the surface survey is to inform the need for targeted test excavation to better assess the integrity, extent, distribution, nature and overall significance of the archaeological record. The results of surface surveys and test excavations are to be documented in the ACHAR.
5. The ACHAR must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the project to formulate appropriate measures to manage unforeseen impacts.
6. The ACHAR must outline procedures to be followed in the event Aboriginal burials or skeletal material is uncovered during construction to formulate appropriate measures to manage the impacts to this material.

**NOTE: The process described in the *Due Diligence Code of Practice for the protection of Aboriginal objects in NSW* (DECCW 2010) is not sufficient to assess the impacts on Aboriginal cultural heritage of Major Projects.**

Level 6, 10 Valentine Ave Parramatta NSW 2150 ■ Locked Bag 5020 Parramatta NSW 2124
P: 02 9873 8500 ■ E: heritagemailbox@environment.nsw.gov.au

Heritage NSW

Our ref: HMS ID 682

Gabrielle Allan
Planner
Department of Planning, Industry and Environment
GPO BOX 404, PARRAMATTA NSW 2124

By email: gabrielle.allan@dpie.nsw.gov.au

Dear Ms Allan

**Request for Secretary's Environmental Assessment Requirements (SEARS) for Dendrobium Mine Extension (SSI-33143123)**

Thank you for your referral dated 7 December 2021 inviting SEARS input from the Heritage Council of NSW on the above State Significant Infrastructure (SSI) proposal.

In 2019-2020, the Heritage Council of NSW commented on the previous proposal *'Dendrobium Coal Mine Extension Project'* (SSD-8194) at EIS stage (DOC19/617332) and RTS stage (DOC20/132959). A meeting between South32 and Heritage NSW took place in May 2020, with response letter sent in July 2020 (DOC20/347033) responding to additional information provided by South32.

The scoping report for the subject SSI clarifies that the previous proposal was refused by the Independent Planning Commission in February 2021. The subject SEARs request is for the redesigned project, which includes the deletion of Area 6 from the proposed underground mining area and reduction in size of Area 5. Figure 3 of the Scoping Report illustrates the amendments made in relation to the previous proposal.

The proposed SSI site is in the vicinity of State Heritage Register item Avon Dam (SHR 01358). The former Nebo Colliery, situated near the current Dendrobium Pit Top, is listed in the local LEP as an archaeological site.

It is recommended that the following SEARS are included:

Heritage and archaeology

a) A Statement of Heritage Impact (SOHI) prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual. The SOHI is to address the impacts of the proposal on the heritage significance of the site and adjacent areas and is to identify the following:
   - all heritage items (state and local) within the vicinity of the site including built heritage, landscapes and archaeology, detailed mapping of these items ***[including mapping showing the project area in relation to the heritage items]***, and assessment of why the items and site(s) are of heritage significance;
   - compliance with the relevant Conservation Management Plan;

- the impacts of the proposal on heritage item(s) including visual impacts, required BCA and DDA works, new fixtures, fittings and finishes, any modified services, ***potential subsidence and vibration impacts***;
- the attempts to avoid and/or mitigate the impact on the heritage significance or cultural heritage values of the site and the surrounding heritage items; and
- justification for any changes to the heritage fabric or landscape elements including any options analysis.

b) If the SOHI identifies impact on potential historical and/or maritime archaeology, an historical and/or maritime archaeological assessment should be prepared by a suitably qualified archaeologist in accordance with the guidelines *Archaeological Assessment* (1996) and *Assessing Significance for Historical Archaeological Sites and Relics* (2009). This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the proposal on this potential archaeological resource. Where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. If harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations or salvage programme.

As the site contains a local heritage item, and other local items are in the vicinity, advice should be sought from the relevant local council.

If you have any questions regarding the above advice, please contact Veerle Norbury, Senior Heritage Assessment Officer, at Heritage NSW on 9873 8616 or Veerle.Norbury@environment.nsw.gov.au.

Yours sincerely

*Rajeev Maini*

**Rajeev Maini**
Senior Team Leader
South Assessments
Heritage NSW
Department of Premier & Cabinet
**As Delegate of the Heritage Council of NSW**
14 December 2021

**Attachment 1**

Our ref: STH08/01068/06
Contact: Timothy Mahoney 9549 9966
Your ref: SSI-33143123

23 December 2021

Gabrielle Allan
Department of Planning, Industry and Environment
BY EMAIL: gabrielle.allan@dpie.nsw.gov.au.

**REQUEST FOR SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARS) – DENROBIUM MINE EXTENSION PROJECT– CORDEAUX ROAD, MOUNT KEMBLA (SSI- 33143123)**

Dear Gabrielle

Transport for NSW refers to the notification it received on 7 December 2021 regarding the above request for input into the Dendrobium Mine Extension Project SEAR's.

TfNSW has completed a review of the information provided (report from South 32 dated December 2021) while focussing on the impact to both the state road network and TfNSW managed rail corridors.

TfNSW notes:

- The key state classified road is the Picton Road.
- Input has been requested by the Secretary under Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*; and
- The development will generate additional traffic and involve ancillary works that may impact upon TfNSW assets. These impacts need to be considered and adequately mitigated.

Having regard for the above, TfNSW requests the matters outlined in **Attachment 1** be included in any SEAR's issued and subsequently addressed by the applicant in the Environmental Impact Statement (EIS) prepared for the development.

If you have any questions, please contact Timothy Mahoney on 9549 9966. Please ensure that any further email correspondence is sent to development.southern@transport.nsw.gov.au.

Yours faithfully

Timothy Mahoney
Development Case Officer
Community and Place I South Region

## 1. Interaction with the Maldon to Dombarton rail link

The proposed mine extension area (Area 5) is located within the Maldon – Dombarton rail corridor. Whilst this corridor is not currently operational it has been identified as a future strategic rail link to support the rail freight network between Port Kembla, the Illawarra more broadly and Western Sydney.

The strategic need for the project has been highlighted in several strategies and plans across government including:

- NSW State Infrastructure Strategy (see section 10.5.2 and Action 47 which highlights a 10–20-year delivery timeframe);
- NSW Freight and Ports Plan 2018-2023 (p.63); and
- Illawarra-Shoalhaven Regional Transport Plan (Initiative 47)

Securing future operational capacity along the Maldon – Dombarton rail corridor will underpin the strategic function of the corridor as part of the wider rail freight network.

Noting the above the EIS shall:

a) Detail how the proposed development will interact with the Maldon to Dombarton rail corridor. In particular, the project should consider the risk to the future operational capacity of the corridor from mining operations, including encroachment or potential subsidence risk that could undermine rail infrastructure.
b) Undertake an assessment of the risk to rail assets (both current and future) which will include consultation with the asset owners (Australian Rail Track Corporation – ARTC and Transport Asset Holding Entity – TAHE).

## 2. Anticipated freight movements

A Traffic Impact Study (TIS) is required to provide further information regarding the likely transport impacts of the development on the capacity, condition, safety and efficiency of the surrounding transport network. As a guide Table 2.1 of the RTA's Guide to Traffic Generating Developments outlines the key issues that should be considered in preparing a TIS. In addition, regard should be had for the Austroads publications, particularly the *Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments* and *Part 3: Traffic Studies and Analysis Methods*.

The TIS should include, but not be limited to:

a) Details of the anticipated volume of heavy vehicles (including OSOM movements and associated access arrangements) required to support the operational freight needs of the proposal including details on any additional freight movements over what is allowed by the existing approval.
b) Identification of suitable infrastructure required to ameliorate any traffic and safety impacts associated with the development. Concept plans need to be provided for any works proposed within a classified road reserve (e.g. Picton Road) that clearly show legal property boundaries and the design complies with required standards (e.g. Austroads Guide to road design).

DOC21/1086932

# MINING, EXPLORATION & GEOSCIENCE ADVICE RESPONSE

Gabrielle Allan
Energy, Industry & Compliance Division
Planning & Assessment Group
Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTA NSW 2150

Gabrielle.Allan@planning.nsw.gov.au

Dear Gabrielle

**Project: Dendrobium Mine Extension Project – Amended Project**
**Stage: Secretary's Environmental Assessment Requirements**
**Development Application: SSI-33143123**

I refer to your correspondence dated 7 December 2021 inviting the Department of Regional NSW – Mining, Exploration & Geoscience (MEG) to provide comments on the Dendrobium Mine Extension Project – Amended Project (the Project) submitted by South32 (the Proponent).

MEG has reviewed the information supplied in relation to the abovementioned Project and requires that the Project's Environmental Impact Statement (EIS) refers to and includes all requirements set out in the MEG Secretary's Environmental Assessment Requirements provided in Attachment 1 (DOC 21/1086933).

For further advice concerning this matter, please contact Scott Anson, Manager Industry Advisory and Mining Concierge on 02 4063 6972 or mining.concierge@regional.nsw.gov.au.

Yours sincerely

Scott Anson
**Manager Industry Advisory & Mining Concierge**
**Industry Development**
**Department of Regional NSW – Mining, Exploration & Geoscience**
17 December 2021

for
Anthony Keon
**Executive Director Strategy, Performance & Industry Development**
**Department of Regional NSW – Mining, Exploration & Geoscience**

Regional NSW

DOC21/1086933

# Mining, Exploration & Geoscience
## Secretary's Environmental Assessment Requirements

| | |
|---|---|
| **Project** | Dendrobium Mine Extension Project |
| **Issue date of SEARs:** | 17 December 2021 |
| **Type of Approval:** | Mining operation - underground |
| **Proponent:** | South32 |
| **DA Number:** | SSI-33143123 |
| **LGA:** | Wingecarribee Shire, Wollondilly Shire, Wollongong City |
| **Mineral:** | Coal |

***In preparing the environmental assessment requirements with respect to an application for State Significant Infrastructure (SSI), the Planning Secretary must consult relevant public authorities and have regard to the need for the requirements to assess any key issues raised by those public authorities.***

This development may require an approval under *the Mining Act 1992* to be issued by the Department of Regional NSW – Mining, Exploration & Geoscience (MEG). The proponent must apply to MEG for the relevant approval (mining lease) during the development assessment process, or once consent has been granted, and before the commencement of any mining or ancillary activity.

A development application under the *Environmental Planning and Assessment Act 1979* must be approved before a mining lease can be granted. A mining lease will only be granted for activities specified in the development consent.

## Environmental Impact Statement (EIS) requirements for mining

### 1. Project description

A comprehensive description of all aspects of the Project (including mineral extraction and mining purposes), including:

(a) Location map showing the project area, mining titles, nearest town/s, major roads etc.

(b) Status of all titles (including mining and exploration), and development consents in place and/or timeline to obtain necessary approvals.

(c) Any relationships between the resource and existing mines or other infrastructure.

(d) Nature of operation (e.g. underground, open cut) and ore mineral/s to be extracted.

(e) Proposed life of mine and summary of production schedule.

### 2. Geology

(a) A summary of the regional and local geology, including information of the stratigraphic unit or units within which the resource is located.

(b) Document the physical dimensions of the coal resource. Plans and cross-sections showing the location of drill holes and the area proposed for extraction. Relevant supporting documentation such as drill logs should be included or appended.

### 3. Resource and reserve statement

The Proponent is to supply a copy of the most recent resource and/or reserve statement:

(a) Include a full and updated resource/reserve statement outlining the tonnage of coal present in the subject area, that has been prepared in accordance with the current version of the Joint Ore Reserve Committee Code (JORC code) to a minimum of Indicated Resource level of confidence. It is preferred that at least some of the resource estimate is to a higher confidence level (measured/proved/probable).

(b) The statement must include resource and reserve estimates for each coal seam proposed to be mined. The statement must include the coal quality parameters for each seam including product specifications and yields.

MEG understands that it may not be feasible to convert the majority of an Inferred Resource to Indicated (or higher) level of confidence. However, the Proponent needs to demonstrate that there are sufficient resources to support the majority of the initial life of mine production schedule. Any contribution from Inferred Resource(s) to the schedule needs to be justified.

### 4. Resource recovery and mine design

The Proponent is to supply a full assessment of resource recovery including:

(a) Explain how the proposed mine plan and extraction method maximises resource recovery.

(b) A summary of resources that will be sterilised or excluded, with justification.

(c) List seams excluded from reserves (noting why each seam was excluded from reserve estimates).

(d) Compare seams included/excluded in reserve estimates to those in nearby operations. If an underground operation, justify the selected working section.

(e) List all economic, environmental, other constraints to the resource/reserve impacting the Project.

### 5. Geotechnical assessment

The Proponent is to supply a full geotechnical assessment supporting the mine design and method selected including, but not limited to, the following:

(a) Structural trends, roof and floor conditions, seam conditions, stress magnitude and orientation, jointing and cleating, pillar dimensions, ground support requirements, consideration of longwall cavability, multiple seam mining implications, in-situ horizontal stress on mine layout, subsidence considerations.

(b) Explanation of current understanding of the paleochannel(s) and their expected impact on operations and planning. Describe risk reduction measures to be implemented.

(c) Explanation of design and risk reduction measures to protect the rail corridor.

## 6. Subsidence

To justify proposed underground mining projects, the Proponent must demonstrate the feasibility of:

(a) The proposed mining operation (e.g. mining methods, layout and sequences).

(b) The proposed strategies to manage subsidence risks to surface or sub-surface features that are considered to have significant economic, social, cultural or environmental value.

The justification must be supported by information provided by the Proponent, including, but not limited to:

(a) Identification and general characteristics of surface and subsurface features that may be affected by subsidence caused by the proposed mining.

(b) General and relevant site conditions including; depths of cover, geological, hydrogeological, hydrological, geotechnical, topographic and climatic conditions.

## 7. Life of mine schedule

The Proponent must supply a life of mine production schedule for each year of operation of the mine and for the life of the Project. The production schedule is to include:

(a) year by year production schedule detailing, mineable reserves extracted, ROM tonnages produced, product tonnes produced, including seam by seam details.

(b) in terms of text, plans or charts, show the proposed extent and sequence of the development

(c) life-of-mine schedule should include estimates of non-acid forming (NAF) and potentially acid-forming (PAF) material in waste/tailings. Projections of handling and placement should be provided, including maps and diagrams. Tonnages of limestone, lime and any other material required for acid neutralisation should be included

(d) for modifications and extensions, a comparison of the life-of-mine production schedule of the approved operation against the proposed project.

## 8. Project economics and target market

The Proponent is to supply an assessment of project economics including:

(a) Coal price forecasts by coal type used by the Proponent. MEG requires these forecasts to analyse the Proponent's calculations of royalty value and export value.

(b) Product tonnages split into market segment, for example, export/domestic and thermal/metallurgical coal. These estimates are necessary to arrive at total revenue value and royalty calculations. Include justification for market segment based on quality parameters.

(c) CAPEX & OPEX necessary for the Project – broken down into the various sub-categories and equipment type.

(d) Estimates of employment generation broken down into direct, indirect, ongoing, construction and contract workers.

(e) Total royalty generated to the state over the life of the Project.

(f) Relationship and interaction with other mines. How the Project impacts on the existing mine and surrounding mines.

(g) Details on derivation/analysis of Run-of-Mine (ROM) production rate; to answer why this the optimum rate.

MEG understands that an estimate of product (tonnes) split into individual market segments is difficult to estimate at a point in time and is dependent on market conditions as the life of the Project progresses, however MEG requires the Proponent to provide its best estimate of their market mix at the initial stages of the Project.

***The above information should be summarised in the EIS, with full documentation appended. If deemed commercial-in-confidence, the resource summary included in the EIS must commit to providing MEG with full resource documentation separately via MEG's Industry Advisory and Mining Concierge Unit.***

## Additional matters for attention

### Resource and Economic Assessment

The Resource and Economic Assessment (REA) is designed to review the resource/reserve estimates stated in the submitted EIS and supporting material. The REA also examines whether the project will deliver significant social and economic benefits to NSW from the efficient development of the resource, by optimising resource recovery and mine design and minimising waste. It also aims to ensure an appropriate return to the state from developing the resource. This process commences two months prior to lodgement of the EIS and the proponent must contact the Industry Advisory and Mining Concierge Unit to arrange.

### Biodiversity offsets

MEG requests that the Proponent consider potential resource sterilisation in relation to any proposed biodiversity offsets areas. Biodiversity offsets have the potential to preclude access for future resource discovery and extraction and could also potentially permanently sterilise access to mineral resources.

The EIS must clearly illustrate the location (including offsite locations) of any biodiversity offsets being considered for the project and their spatial relationship to known and potential mineral and construction material resources and existing mining & exploration titles.

MEG requests consultation with both the Geological Survey of NSW – Land Use Assessment team and holders of existing mining and exploration authorities affected by planned biodiversity offsets. Evidence of consultation should be included in the EIS.

### Mining Titles

As coal is a prescribed mineral under the *Mining Act 1992*, the Proponent is required to hold an appropriate mining title(s) from MEG in order to mine the mineral.

The EIS for a project should clearly identify existing mineral titles, mineral title applications and the final proposed mining lease area(s) for the project site and areas surrounding the proposed project area and address the environmental impacts and management measures for the mining and mining purpose activities as licensed under the *Mining Act 1992*.

A development application under the *Environmental Planning and Assessment Act 1979* must be approved before a mining lease can be granted. A mining lease will only be granted for activities specified in the development consent.

**Application of section 380AA of the *Mining Act 1992* – restrictions on planning applications for coal mining and titles required to undertake mining**

As coal is a prescribed mineral under the Act, the Proponent is required to hold appropriate mining titles from MEG to undertake mining.

In addition, section 380AA requires that an application for development consent (or modification to consent) to mine for coal cannot be made or determined unless the applicant is also the holder of a title under the Act or has the written consent of the holder of a title, where the parties are different.

Section 380AA(1) states:

> *An application for development consent, or for the modification of a development consent, to mine for coal cannot be made or determined unless (at the time it is made or determined) the applicant is the holder of an authority that is in force in respect of coal and the land where mining for coal is proposed to be carried out, or the applicant has the written consent of the holder of such an authority to make the application.*

Based on current title information MEG advises that the Proponent holds the appropriate titles as required for mining operations as relating to the project and satisfies the requirements of section 380AA.

| Position | Approval | Date |
|---|---|---|
| Endorsing Officer: Adam W. Banister<br>Senior Advisor Industry Advisory & Mining Concierge<br>Industry Development<br>(02) 4063 6534 | Approved in CM9 | 14 December 2021 |
| Approving Officer: Scott Anson<br>Manager Industry Advisory & Mining Concierge<br>Industry Development<br>(02) 4063 6972 | Approved in CM9 | 17 December 2021 |

NSW GOVERNMENT | Regional NSW

DOC SF21/158172
MAAG0012953

Ms Gabrielle Allan
Department of Planning, Industry and Environment

Via: Major Project Portal / Email

Dear Ms Allan,

**Re. Dendrobium Mine Extension Project**

I refer to your request of 7 December 2021 for advice regarding the Dendrobium Mine Extension Project. The Resources Regulator has reviewed the request, and based on the preliminary information provided in the Scoping Report, there are several surface features that may be adversely affected by subsidence due to the proposed longwalls in the Application Area (i.e. the revised Area 5). For these types of features, there are well-established risk controls and procedures that can be implemented to manage the risks to their safety and/or serviceability.

During the development of subsidence due to the extraction of the proposed subject longwalls, the mine operator has obligations, under both WHS and Planning legislation, to implement effective risk controls/procedures that ensure the safety and/or serviceability of the above-mentioned surface features affected by subsidence. We do not believe there are any significant WHS matters in relation to subsidence which need to be specifically addressed by the SEARs at this stage.

The Resources Regulator also recommends that the following environmental assessment requirements are addressed in the development application:

- The environmental assessment that accompanies the development application must include a description and assessment of any exploration activities that will be undertaken throughout the mine life. This must also address the progressive rehabilitation of areas disturbed by exploration activities.
- The environmental assessment that accompanies the development application must include a separate section entitled 'Rehabilitation Strategy' which addresses the following matters:
    - Final land use(s)
    - Identification and assessment of final (i.e. post-mining) land use options.
    - Identification and justification of the preferred final land use outcome(s), including a discussion of how the final land use(s) are aligned with relevant local and regional strategic land use objectives and surrounding land uses.
    - Identification of how the rehabilitation of the project will relate to the rehabilitation strategies of any neighbouring mines within the region, with a particular emphasis on the coordination of rehabilitation activities along common boundary areas.

- Inclusion of a set of project rehabilitation objectives that clearly define the outcomes required to achieve the final (post-mining) land use for each mining domain. Each mining domain must have a stated final land use and rehabilitation objectives (which describe the desired features and/or characteristics of the final land use domain). Rehabilitation objectives must include, where relevant, target vegetation communities.
- determine (with reference to the groundwater assessment) the likelihood and associated impacts of groundwater accumulating and subsequently discharging (e.g. acid or neutral mine drainage) from the underground workings post cessation of mining; and
- consideration of the likely controls required to either prevent or mitigate against these risks as part of the closure plan for the site.
- Where an ecological land use is proposed, demonstrate how the revegetation strategy (e.g. seed mix, habitat features, corridor width, aspect, etc.) has been developed in consideration of the target vegetation community(s).
- Where the intended land use is agriculture, demonstrate that the landscape, vegetation and soil is capable of supporting this land use. In addition, demonstrate that the proposed location of the rehabilitated agricultural area is not isolated within the landscape and that there is ready access to water and relevant infrastructure (e.g. power, roads etc.) to support agricultural activities.

***Relevant policies and guidelines***

Consideration should be given to the following relevant policies and guidelines:

- Mine Rehabilitation (Leading Practice Sustainable Development Program for the Mining Industry, Australian Government, 2016)
- Mine Closure (Leading Practice Sustainable Development Program for the Mining Industry, Australian Government, 2016)
- Strategic Framework for Mine Closure (ANZMEC-MCA, 2000)
- Guidelines on Tailings Dams – Planning, Design, Construction, Operation And Closure – Revision 1 (ANCOLD, July 2019)
- Integrated Mine Closure: Good Practice Guide (ICMM, 2019)

**Regulatory requirements if approved**

The proponent will be required to comply with rehabilitation requirements under the mining authorisation(s) when undertaking works associated with the proposal.

The Resources Regulator may undertake assessments of the mine operators' proposed mining activities under the Work Health and Safety (Mines and Petroleum Sites) Act 2013 and Regulation as well as other WHS regulatory obligations.

**Background**

The Mining Act Inspectorate within the Resources Regulator undertake risk-based compliance and enforcement activities in relation to obligations under the Mining Act 1992. This includes undertaking assessment and compliance activities in relation to mine rehabilitation activities and determination of security deposits.

The Mine Safety Inspectorate within the Resources Regulator is responsible for ensuring the mine operators' compliance with the Work Health and Safety (WHS) legislation, in particular the effective management of risks associated with the principal hazards as specified in the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014.

**Contact**

Should you require any further information or clarification, please contact the Office of the Executive Director (ED.ResourcesRegulator@planning.nsw.gov.au)

Yours sincerely,

**Garvin Burns**
**Executive Director**
**Resources Regulator**

17 December 2021

NSW GOVERNMENT | Department of Primary Industries

**Our Ref: C21/774** 14 December 2021

**Your Ref: SSI-3314123**

Department of Planning, Industry & Environment
Ms Gabrielle Allan
Planning Officer
c/o: gabrielle.allan@dpie.nsw.gov.au
via Major Projects Portal

Ms Allan,

**Request for consultation - Secretary's Environmental Assessment Requirements (SEAR's) for Dendrobium Mine Extension Project (SSI-2213123)**

Thank you for your referral of 08/12/2021 seeking consultation on the proposal from DPI Fisheries, a division of NSW Department of Primary Industries on the proposed works stated above.

DPI Fisheries is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, DPI Fisheries ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (FM Act) (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*. DPI Fisheries is also responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture, marine parks and aquatic reserves within NSW.

The Department acknowledges the modified plan has significantly reduced potential impacts frpom the proposal.

The Department would expect a full assessment of potential impacts on waterways and aquatic habitats that may be impacted by the proposed mining and any subsidence impacts that may occur.

General information requirements that may also be of assistance in the preparation of an environmental assessment for this proposal are listed below in Attachment 1. Attachment 2 contains links to important DPI Fisheries reference documents.

If you require any further information, please contact me on (02) 4222 8311 or *josi.hollywood@dpi.nsw.gov.au*

Yours sincerely,

*J. Hollywood*

**Josi Hollywood**
Fisheries Manager, Coastal Systems Unit


Mail to: R. Philps,1243 Bruxner Hwy, Wollongbar NSW 2477
Email: ahp.central@dpi.nsw.gov.au
ABN 20770707468

## Attachment 1 – General information requirements for environmental assessment

Fisheries NSW recommends that development proposals comply with the *Policy and Guidelines for Fish Habitat Conservation and Management (2013)* (referred to hereafter as P&GLs) (found at https://www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation)

| Issue | Information requirements for environmental assessment |
|---|---|
| **A: General Requirements** | ▪ site address and contact details<br>▪ property description (e.g. Lot and DP numbers)<br>▪ a clear description of the proposal including details of construction methods and materials<br>▪ map(s) of the development area and adjacent areas - this should include nearby waterways, adjacent infrastructure (such as jetties) and land use<br>▪ clear photographs of the site (at low and high tide in estuaries), including photographs of any riparian and aquatic vegetation present (including pest species such as *Caulerpa taxifolia*)<br>▪ location of any oyster leases or other aquaculture facilities and recreational and commercial fishing areas within the subject waterway<br>▪ a description of the potential direct and indirect impacts on aquaculture, commercial and recreational fishing from the development<br>▪ a clear description of the physical and hydrological features of the development area (which may extend upstream and downstream of the development site in the case of flowing rivers or tidal waterways)<br>▪ approximate depth contours within 20 metres of the proposal<br>▪ a clear description of aquatic environments including:<br>- fish in the locality, including threatened and protected species, populations, ecological communities, pest species or presence of 'critical habitat' under the FM Act or EPBC Act<br>- an aquatic and riparian vegetation survey map of the area which shows the location and/or coverage of saltmarsh, mangrove, seagrass, macroalgae, macrophytes, riparian vegetation and snags<br>- description of aquatic habitat TYPE on site (see Table 1 in the P&GLs)<br>- description of the waterway CLASS (see Table 2 in the P&GLs)<br>▪ details of the nature, timing, magnitude and duration of the proposed disturbance to the aquatic environment<br>▪ assessments of predicted impacts upon any threatened species (fish and marine vegetation) (i.e. completion of a 7 part test and/or species impact statement(s)) and other aquatic flora and fauna<br>▪ details of any mitigation measures to limit environmental impacts<br>▪ details of the general regional context, any protected areas, other developments in the area, and/or cumulative impacts<br>▪ a copy of the land owner's consent where relevant<br>▪ notification of any other matters relevant to the proposal and of interest to NSW DPI |
| ***Dredging and reclamation activities*** | • purpose of works<br>• type(s) and distribution of marine vegetation in the vicinity of the proposed works<br>• method of dredging to be used<br>• timing and duration of works<br>• dimension of area of works including levels and volume of material to be extracted or placed as fill<br>• nature of sediment to be dredged, including Acid Sulphate Soil, contaminated soils etc<br>• method of marking area subject to works<br>• environmental safeguards to be used during and after works<br>• measures for minimising harm to fish habitat under the proposal<br>• spoil type and source location for reclamation activities<br>• method of disposal of dredge material<br>• location and duration of spoil stockpiling, if planned |
| ***Activities that damage marine vegetation*** | • type of marine vegetation to be harmed<br>• map and density distribution of marine vegetation<br>• reasons for harming marine vegetation<br>• methods of harming marine vegetation<br>• construction details<br>• duration of works/activities<br>• measures for minimising harm to marine vegetation under the proposal and details of compensatory habitat development to replace lost vegetation.<br>• method and location of transplanting activities or disposal or marine vegetation. |
| ***Activities that block fish passage*** | • type of activity eg works in a stream that change flow or morphological characteristics<br>• length of time fish passage is to be restricted<br>• timing of proposed restriction<br>• remediation works |


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| | |
|---|---|
| **B. Aquatic habitat assessment** | The aim of the aquatic assessment should be to define the presence of 'key fish habitat' within the study site, adjacent areas (upstream and downstream), and the broader regional area. There may be a range of potential fish habitats that could be impacted by a particular activity. Some points to consider include:<br>▪ geomorphic characteristics of the waterway (i.e. what characteristics of a CLASS 1-4 waterway does it have (see Table 2 in P&GLs)? Is it a gully, intermittent stream or major river? Does it have deep pools or in-stream gravel beds? Is it a wetland? Does the watercourse connect with other watercourses upstream or downstream? What is the slope/gradient?)<br>▪ is it mapped as key fish habitat? (see www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats#KFH for maps of key fish habitat per Local Government Area)<br>▪ flow regime of the watercourse (e.g. is it an intermittent or permanently flowing stream? What is the range of water velocity of the flow? What are the maximum and minimum or percentile flows (in megalitres/day) for the watercourse?)<br>▪ description of local wave and current regimes (in tidal areas)<br>▪ description of the water quality (e.g. discolouration, sedimentation, turbidity, pH, dissolved oxygen, nutrients)<br>▪ types of surrounding land use (e.g. agricultural, urban, aquaculture)<br>▪ condition of riparian vegetation (i.e. present or absent. Are the species native or exotic? Is the density of vegetation thick or sparse?)<br>▪ condition of freshwater aquatic vegetation (i.e. present or absent. Are the species native or exotic? Is the density of vegetation thick or sparse? Is it continuous or sparse in coverage? What is the aerial extent of major vegetation types? Is the vegetation healthy or degraded?)<br>▪ condition of marine vegetation (i.e. information on type, species, shoot density and/or percentage cover. Is the vegetation continuous or sparse in coverage? What is the aerial extent? Is the vegetation healthy or degraded? Is wrack (dead seagrass or macroalgae) present?)<br>▪ presence of wetlands nearby (including freshwater wetlands and saltmarsh) (i.e. are wetlands protected under any legislation (e.g. SEPP 14 coastal wetlands, Ramsar wetlands)? Are the wetlands in a healthy or degraded condition?)<br>▪ substrate type (e.g. rock, sand, gravel, silt)<br>▪ presence of refuge areas (e.g. adjacent wetlands, upstream pools)<br>▪ presence of spwning areas (e.g. gravel beds, snags, reed beds, saltmarshes)<br>▪ presence of natural or artificial barriers to fish passage upstream and downstream (e.g. waterfalls, cascades, weirs, dams, floodgates, road crossings)<br>▪ types of migratory fish or other aquatic species likely to inhabit the areas (based on known distribution range within the scientific literature)<br>▪ timing of construction in relation to any fish migration seasons<br>▪ timing of construction in relation to flow conditions relative to expected wet seasons<br>presence of any listed threatened or protected aquatic species or 'critical habitat' under the FM Act and EPBC Act |
| **C. Aquatic fauna assessment** | For aquatic fauna studies, sites where fish and/or other aquatic fauna are well documented, and no threatened species are recorded, a site inspection and desktop review of the study site and regional area may be the required level of assessment.<br><br>During the completion of the planning phase for a new project, it may be determined that a detailed aquatic survey is required. Detailed surveys are to be undertaken only after direct consultation with NSW DPI as permits are required for sampling aquatic fauns under the FM Act. The Department of Planning and Infrastructure has developed a document entitled *Aquatic Ecology in Environmental Impact Assessment* (Lincoln-Smith 2003) which may also assist in the survey design.<br><br>Note that a detailed survey may be required:<br>a) where the project is on a CLASS 1 or 2 watercourse (see Table 2 in P&GLs) or where it has been identified that there may be a significant impact on a threatened aquatic species; and/or<br>b) where the project crosses through, over or within a 'critical habitat' and a Species Impact Statement is required. |
| **D. Assessment of likely impacts** | • indicate the location, nature and extent of habitat removal or modification (both direct and indirect) which may result from the proposed action;<br>• discuss the potential impact of the modification or removal of habitat (potential direct and indirect sources of impact are stated in the letter with this attachment).<br><br>**Note:** In defining the proposal area, discussion must be provided regarding possible indirect effects of the proposal on species/habitats in the area surrounding the subject site: for example, through altered hydrological regimes, soil erosion or pollution. |
| **E. Ameliorative measures** | The environmental assessment should consider and provide detail on how the proposal has been or may be modified and managed to minimise impacts and conserve aquatic habitat on the subject site and in the study area. |


**DPI Fisheries**
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## Attachment 2 – Guidelines for assessment

| Title | Location |
|---|---|
| *Policy and Guidelines for Fish Habitat Conservation and Management (2013)* | https://www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation) |
| *Fish Passage Requirements for Waterway Crossings* and *Policy (2003) and Guidelines for Fish Friendly Waterway Crossings (2003)* | https://www.dpi.nsw.gov.au/fishing/habitat/threats/barriers |
| *Degradation of native riparian vegetation along NSW watercourses is listed as a key threatening process (KTP) under the Fisheries Management Act DPI-Fisheries recommends that this activity is avoided.* | https://www.dpi.nsw.gov.au/fishing/threatened-species/what-current/key-threatening-processes/degradation-of-native-riparian-vegetation |
| *NSW Biodiversity Offsets Policy for Major Projects* | https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/nsw-biodiversity-offsets-policy-major-projects-140672.pdf |
| *NSW Biodiversity Offsets Policy for Major Projects – Fact sheet: Aquatic Biodiversity* | https://www.environment.nsw.gov.au/resources/biodiversity/14817aqoffs.pdf |


**DPI Fisheries**
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WOLLONGONG CITY COUNCIL
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016

NSW Department of Planning, Industry & Environment
GPO BOX 39
SYDNEY NSW 2001

| APPLICATION | DE-2017/22 |
|---|---|
| Date | 13 December 2021 |

Dear Sir/Madam

| | |
|---|---|
| Development | Dendrobium Mine Extension Project SSI-33143123 Request for SEARs |
| Location | 4 Stones Road, MOUNT KEMBLA NSW 2526 |

Thank you for providing Council with the opportunity to make comment on the Request for SEAR's for the Dendrobium Mine Extension Project. Council recognises the importance of the project to the local Illawarra economy and to local steel production.

Council acknowledges that in response to the refusal of the former SSD-8194 proposal by the Independent Planning Commission in February 2021 Illawarra Coal Holdings Pty Ltd (Illawarra Metallurgical Coal [IMC]) has submitted a revised plan and scoping report in an effort to mitigate environmental impacts.

Council has reviewed the scoping report and considers the Department is well placed via existing understandings of the likely key issues, concerns and assessment requirements and looks forward to the receipt of the Department's request for comments to the Environmental Assessment Report at a future time.

This letter is authorised by

**John Wood**
City Wide Development Manager
Wollongong City Council
Telephone (02) 4227 7111

Wollondilly Shire Council

Frank McKay Building 62-64 Menangle Street, Picton NSW 2571
All Correspondence to PO Box 21, Picton NSW 2571
Telephone: 02 4677 1100 Fax: 02 4677 2339
Email: council@wollondilly.nsw.gov.au Web: www.wollondilly.nsw.gov.au
ABN: 93 723 245 808

*Our Reference: 1148-3#2023*

Ms G Allen
Team Leader
Energy Resources and Industry Division
6 Stewart Avenue
NEWCASTLE WEST NSW 2302

16th December 2021

Dear Ms Allen,

**SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR THE DENDROBIUM EXPANSION PROJECT**

Thank you for the opportunity of providing comment during the development of Secretary's Environmental Assessment Requirements (SEAR'S) for the amended Dendrobium Colliery Expansion Project (Expansion Project). Council understands that the distributed Scoping Report has been prepared to support an application under Section 5.15 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for approval to carry out a Project designated State Significant Infrastructure development.

The Expansion Project is located near the eastern boundary of Wollondilly and is of strong interest to Council and the community it represents. Council's previous submissions have recognised the economic benefits and importance of the Dendrobium Project to the operation of the Port Kembla Steelworks. However, the submission also raised issues and concerns in regard to potential impacts to water sources and potable water supply in particular.

The Department of Planning, Industry & Environment (DPIE) is requested to note an initial review of the Scoping Report, within the short timeframe available, has identified that issues previously raised by Council remain valid for the amended Application subject to further detailed review and consultation with stakeholders. **A comprehensive and rigorous environmental assessment with a subsequent comprehensive and transparent review and approval process is therefore necessary and requested.**

The timeframe for provision of comments on the Scoping Report is acknowledged as being imposed on DPIE staff. However, the strong opposition to the timing and timeframe for these comments is requested to be formally recorded and forwarded to appropriate senior DPIE staff. This correspondence is requested to be recorded as a submission in relation to the development of the SEAR's.

**Update to Council position regarding the Dendrobium Project**

Council resolved at its meeting on 16th September 2019 in endorsing the submission on the Environmental Impact Statement (EIS) for the original Expansion Project Application to:

> *Oppose the expansion of the Dendrobium Colliery Extension mining operations and formally object to the proposal until the potential impacts on water sources (e.g. drinking water) and supplies are addressed to the satisfaction of Water NSW.*
>
> *Request that impacts of the Project Application on the volumes and quality of*

*potable water supply of the Wollondilly and Macarthur residents for both current population and projected growth (including Growth Areas) be reviewed.*

Given the recent local government elections Council's position has not been reconsidered. **The DPIE is consequently requested to note that the objection to the Expansion Project in accordance with the above resolution remains pending the outcomes of the consideration of the amended Expansion Project by the new Council.**

The provision of an opportunity for the review of the Application and Scoping Report towards the end of January is consequently requested. In addition, please note that Council may request to consider the proposal and its position in early 2022 based in the modified application following a detailed review of the EIS and consultation with Water NSW (in accordance with resolutions provided above). A minimum of two months is requested to be allowed for with this determination in accordance with Council reporting timeframes. **A formal DPIE written response over this matter is requested as soon as practically possible.**

**Comments on Secretary's Environmental Assessment Requirements**

Table 4 of the Scoping Report *Key Potential Environmental Issues, Proposed Assessment and Preliminary Strategies* lists proposed measures to address identified potential impacts associated with the Expansion Project. A list of assessment requirements for incorporation into the SEAR's based on the following key areas of concern to Council and community, consistent with resolutions of Council and previous submission is presented below and detailed in Table 1 (Attached):

- Impacts to surface waters (in a catchment context) and groundwater sources
- Potential impacts to the volume and quality of potable water supply
- Consultation with stakeholders during the preparation and exhibition of the EIS
- Impacts to terrestrial and biodiversity
- Social impacts of the Project including air quality and water supply issues.

A key requested SEAR detailed in Table 1 is that the Groundwater and Subsidence Speciality Reports be required to contain demonstrated consistency with the *Information Guidelines Explanatory Note: Characterisation and modelling of geological fault zones* available at https://iesc.environment.gov.au/consultation/iesc-en-characterisation-and-modelling-of-geological-fault-zones. A further key requested SEAR detailed in Table 1 is detailed and transparent calculations of likely impacts of the Project to the volumes and quality of potable water supply of the Wollondilly and Macarthur residents for both current population and projected growth (including Growth Areas).

Council requests that the SEAR's contain items in each applicable broad issue that would require demonstrated consistency of the EIS with applicable Independent Planning Commission (IPC) findings. Council would expect to have the opportunity to review and provide feedback on the draft EIS prior to its distribution to stakeholders and placement on public exhibition.

**Response to findings of the IPC Report**

The NSW Productivity Commission is noted to state in its correspondence dated 13th December 2019 to the NSW Minister for Planning and Public Space in response to a review of IPC's, that the "*Independent Planning Commission plays an important role in maintaining the integrity of the planning system*". The DPIE is requested to note that this statement is supports the view expressed in Council's submission to the review of IPC's by this Commission that "*the retention of an Independent Planning Commission is important in terms of transparency and accountability to the local community as well as ensuring an adequate scientific basis for applications and Determinations*".

The Scoping Report is noted to contain a number of amendments in response to findings contained in the IPC Statement of Reasons Report that are not opposed in principle. The

DPIE is requested to note that a number of findings have synergy with issues raised by Council. In addition, findings stated within the IPC's Statement of Reasons Report are noted to contain a number of definitive statements of specific relevance to the above-mentioned resolutions of Council, including:

> *"The Project would cause subsidence, surface-to-seam fracturing and groundwater depressurisation which would result in a range of significant predicted impacts .... which are inconsistent with Water NSW's statutory role to protect and enhance the quality and quantity of water declared catchment areas and its Mining Principles".*

Table 4 within the Scoping Report is noted to contain measures that 'address' the findings of the IPC Statement of Reasons Report. An initial review of these measures has identified residual concerns over their adequacy, particularly in regard to potential adverse impacts to water sources and potable water supply. **It is therefore requested that a peer review of each response statement in this Table is undertaken by the members of the established IPC, given the above views regarding the importance of the IPC's involvement in the NSW planning system.**

**Social Impact Assessment Scoping Report**

A detailed review of the Social Impact Assessment (SIA) Report by Council staff with experience in such reports was not possible in the provided timeframe. **However, Council would expect that the finalised SIA consider and address all applicable aspects of Council's Social Impact Assessment Policy, (adopted in May 2021) and associated Guidelines, both of which can be viewed at** https://www.wollondilly.nsw.gov.au/shire-projects/strategic-planning-and-land-use-policies/health-in-planning/. **In addition, the opportunity for a detailed review and provision of comments on the finalised SIA as part of the exhibition of the EIS is requested.**

**Conclusion**

Council's current position as conveyed in this correspondence is that the economic benefits of the Expansion Project are recognised but residual concerns remain over potential impacts to watercourses and potable water supply. This correspondence has reserved the right for an updated position by the newly elected Council following a detailed review of the EIS and consultation with stakeholders. Discussions with DPIE representatives following receipt of the draft EIS for the modified Expansion Project application to assist in this process would be appreciated.

Please contact Council's Acting Manager Waste & Environmental Services, Bianca Klein, for any enquiries regarding this submission on 4677 1100 or via Bianca.klein@wollondilly.nsw.gov.au.

Yours faithfully

Michael Malone
**Director**
**INFRASTRUCTURE & ENVIRONMENT**

**Table 1: Requests for incorporation into the Secretary's Environmental Assessment Requirements based on previously expressed key areas of concern**

| Key area of concern expressed in previous Council correspondence | Issue for incorporation into the SEAR's | Requests for incorporation into the Secretary's Environmental Assessment Requirements |
|---|---|---|
| Adequacy of assessment of potential impacts to surface waters and groundwater sources in a catchment context and consistency with scientific and stakeholder advice (including Water NSW). | Response to findings and recommendations of the IPC Report. | A scientific based response to all findings and recommendations in the Statement of Reasons Report by the Independent Planning Committee dated 5 February 2021 applicable to the potential impacts of the Project to surface and groundwaters. |
| | Potential impacts to surface waters in a catchment context. | A demonstrated scientific based assessment on potential impacts of the Project on the condition of all watercourses in terms of water quality and ecological health, supported by commensurate baseline data as well as an on-going monitoring program developed in consultation with Water NSW and other applicable stakeholders. **Note: As requested in previous Council submissions, it is requested that this assessment be undertaken at the application stage rather than be deferred to sub-plans post Determination.** |
| | | Demonstrated consistency with Council's Integrated Water Management Strategy and Policy which has an overall objective of "no adverse impacts to watercourses" and can be viewed on Council's website at https://www.wollondilly.nsw.gov.au/environment-biodiversity-and-sustainability/water-management/integrated-water-management/. |
| | | An investigation of the establishment of setbacks of longwalls from watercourses and appropriate distances as a means of reducing impacts to water sources from fracturing induced by mining operations. |
| | Potential impacts to groundwater sources | Demonstrated consistency of the Groundwater and Subsidence Speciality Reports with the *Information Guidelines Explanatory Note: Characterisation and modelling of geological fault zones* available at https://iesc.environment.gov.au/consultation/iesc-en-characterisation-and-modelling-of-geological-fault-zones. |
| | | A detailed and scientific based analysis over the potential for disturbance to shallow aquifers from mine induced fracturing and potential resulting impacts to the ecological health of watercourses (including any re-emerging water). **It is requested that the EIS be required to refer to all available research (including that of Dr Ian Wright from the Western Sydney University).** |
| Security of water supply as a resource for current and projected growth | Precise calculation of water losses associated with the Modified Application | A scientific based response to all findings and recommendations in the Statement of Reasons Report by the IPC Committee dated 5 February 2021 applicable to issues associated with potential impacts to potable water supply as a result of the Project. |
| | | A detailed and transparent calculation of the likely impacts of the Project to the volumes and quality of potable water supply to Wollondilly and Macarthur residents for both current population and projected growth (including the Wilton and Greater Macarthur Growth Areas). |

| Key area of concern expressed in previous Council correspondence | Issue for incorporation into the SEAR's | Requests for incorporation into the Secretary's Environmental Assessment Requirements |
|---|---|---|
| | | A detailed benefit/cost analysis of direct and indirect impacts as a consequence of predicted potable water losses associated with the Project that includes (as a minimum):<br>• A demonstration that the full water loss has been adequately accounted for over the full life cycle of Project (including subsequent to the ceasing of mining operations).<br>• Given the viewed difficulty of benefit/costs analysis in accurately identifying such impacts, a separate consideration of environmental impacts based on applicable parts of the EIS is recommended. |
| | | An analysis of the importance of water collected within the Drinking Catchment Area as a resource for a range of competing utilisations including; consumption, aesthetics, the maintenance of developments consistent with recent NSW Government initiatives including the Greener Neighbourhoods and Net Zero Targets as well as the draft State Environmental Planning Policy (Design and Open Space) currently on public exhibition. |
| | Offsetting of potable water supply losses from the Catchment | An analysis of the adequacy of the approach for the annual payments to the Government for the Project's actual annual surface water take in terms of scientific basis, consistency with legislative framework, specialist advice and ability to offset all water losses associated with the full lifecycle of the Project whilst achieving compliance with Neutral or Beneficial Effect (NorBE) and Council's Integrated Water Management Strategy. |
| Potential impacts to terrestrial and aquatic biodiversity values | Potential impacts to aquatic biodiversity | The development of an appropriate performance measure for the specific purpose of identifying and monitoring impacts to aquatic ecology associated with the Project in consultation with specialists including the Commonwealth Independent Expert Scientific Committee and Western Sydney University. |
| | Potential impacts to upland swamps | A detailed scientific peer reviewed assessment of the ability of any proposed offsetting to comprehensively offset the hydrological and ecological functions of any impacted swamp. **The DPIE is requested to note that Council's submission on the original EIS did not support the utilisation of the Policy Framework for Biodiversity Offsets for Upland Swamps and associated threatened species subject to the adoption of applicable recommendations of the Final Report of the Independent Expert Panel for Mining in the Drinking Catchment (Expert Panel).** |
| Adequacy of the assessment to potential impacts to terrestrial and aquatic biodiversity values | Potential impacts to terrestrial biodiversity | Demonstrated consistency with all applicable provisions of the *Biodiversity Conservation Act 2016* and *Biodiversity Assessment Methodology 2020*. |
| | | Consideration of Serious and Irreversible Impact of the Project in accordance with the *Guidance to Assist a Decision Maker to Determine a Serious and Irreversible Impact*. These Guidelines are noted to state in regard to State Significant Infrastructure *"the approval authority must take those* |

| Key area of concern expressed in previous Council correspondence | Issue for incorporation into the SEAR's | Requests for incorporation into the Secretary's Environmental Assessment Requirements |
|---|---|---|
| | | *impacts into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if approval is to be granted".* |
| | | An analysis and investigation of the role of the site in allowing for the movement of koalas through the site in a landscape context that refers to all applicable research and studies (that includes the draft Comprehensive Koala Plan of Management for the Wollondilly Local Government Area, if exhibited at the time of the analysis). |
| Adequacy of consultation with stakeholders | Consultation | The applicant be required to consult with Council during the preparation of the draft EIS and allow for a two month timeframe for the reporting of the draft EIS to a meeting of the new Council for consideration. |
| | | The preparation and implementation of a detailed community consultation strategy, in addition to the Community Consultation Committee, given the strong level of community concern generated by the previous EIS during its public exhibition. |
| | | It is strongly recommended that indigenous stakeholders are consulted with during the preparation of the Cultural Heritage components of the EIS. |

Subsidence Advisory

117 Bull Street, Newcastle West, NSW, 2302
**T**: (02) 4908 4300 | **24 Hour Emergency Service:** 1800 248 083 (Free Call)

Gabrielle Allan
Via Plannning Potal

Dear Gabrielle,

**Request for Advice on a Scoping Report to support a State Significant Infrastructure Application for the Dendrobium Mine Extension Project (SSI-33143123)**

I refer to your invitation through the planning portal for Subsidence Advisory NSW (Subsidence Advisory) to provide comment on a scoping report to support an extension of Dendrobium Underground Mine.

Subsidence Advisory has reviewed the scoping report. It is understood that the proposal is located outside of a declared Mine Subsidence District and away from any surface infrastructure or built features identified in their previous application.

Given that a detailed EIS that includes a Subsidence Impact Assessment has not yet been developed, at this stage Subsidence Advisory has no comment on the proposal.

If you would like more information, please contact Subsidence Advisory NSW on 4908 4300 or subsidencedevelopment@customerservice.nsw.gov.au

Yours sincerely

**Kieran Black**
**Technical Specialist**

**17 December 2021**

20 December 2021

Record Number: 21/04539#43

Planning Number: SSI-33143123 PAE-33143185

**Dendrobium Mine Extension Project**

The Department of Planning, Industry and Environment – Crown Lands have reviewed the proposal.

As no Crown land, roads or waterways are in the vicinity of the proposal/are affected by the proposal, Crown Lands has no comments at this time.

If the proponent requires further information, or has any questions, please contact Helen Wheeler or Mark Edwards in Crown Lands, on 1300 886 235 or nowra.crownlands@crownland.nsw.gov.au

Yours sincerely

Nicole Dibben
**A/Group Leader – South East (Nowra)**
**E** nicole.dibben@crownland.nsw.gov.au

File Ref. No: FRN21/3643 BFS21/4882 8000018723
TRIM Doc. No: D21/135488
Contact: Leading Firefighter Timothy Wilson

21 December 2021

Gabrielle Allan
NSW Department of Planning, Industry and Environment
Locked Bag 5022
PARRAMATTA NSW 5022

Dear Gabrielle Allan,

**Re: Request for advice on Secretary's Environmental Assessment Requirements (SEARs) for Dendrobium Mine Extension Project (SSI-33143123)**

Fire & Rescue NSW (FRNSW) acknowledge correspondence received on 7 December 2021, requesting input into the preparation of the SEARs for the Dendrobium Mine Extension Project (SSI-33143123).

FRNSW have reviewed the Dendrobium Mine Extension Project Scoping Report and make the following recommendations:

FRNSW will not be providing comment at this time as there is currently insufficient information available regarding the fire safety and emergency response management aspects of the project.

FRNSW note that Illawarra Metallurgical Coal (IMC), being the owner and operator of the Dendrobium Mine are considering a SEPP 33 screening process in preparation of the Environmental Impact Statement (EIS).

We request that we be given the opportunity to review and provide comment once approvals have been granted and the project has progressed such that there is more relevant detailed information available.

As additional details become available Fire & Rescue NSW requests to be consulted with respect to the proposed fire and life safety systems and their configuration at the project's preliminary and final design phases.

While there is currently no requirement for a fire safety study, FRNSW may request one be undertaken at a later stage should information be provided such it is deemed that the development poses unique challenges to the response to and management of an incident.

**Fire and Rescue NSW** **ABN** 12 593 473 110

Community Safety Directorate
Operational Liaison and Special Hazards Unit
Locked Bag 12,
Greenacre NSW 2190
**T** 02 9742 7434
**F** 02 9742 7483

**www.fire.nsw.gov.au**

For further information please contact the Operational Liaison and Special Hazards Unit, referencing FRNSW file number BFS21/4882. Please ensure that all correspondence in relation to this matter is submitted electronically to firesafety@fire.nsw.gov.au.

Yours sincerely,

Superintendent John Hawes
Manager
Operational Liaison and Special Hazards Unit

Cc: gabrielle.allan@dpie.nsw.gov.au

**ATTACHMENT 3**

# Commonwealth Department of Agriculture, Water and the Environment assessment requirements

**Guidelines for preparing assessment documentation relevant to the *Environment Protection and Biodiversity Conservation Act 1999* for proposals being assessed in accordance with the bilateral assessment agreement between the Australian and NSW governments (*Amending Agreement No.1,* 2020)**

**Dendrobium Mine Extension Project, Mount Kembla, NSW**
**(EPBC 2021/9115) (SSI-33143123)**

## Introduction

1. On 13 January 2022, a delegate of the Minister for the Environment, determined that the Dendrobium Mine Extension Project (the proposed action) is a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The EPBC Act controlling provisions for the proposed action are:
    i. listed threatened species and communities (sections 18 and 18A);
    ii. a water resource, in relation to coal seam gas development and large coal mining development (section 24D & 24E).

2. The delegate confirmed that the proposed action will be assessed under the accredited bilateral agreement with New South Wales (*Amending Agreement No. 1*), and as such, is required to be assessed in the manner specified in Schedule 1 to that Agreement, including, addressing the matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* (EPBC Regulations).

3. The designated proponent must undertake an assessment of all protected matters that may be impacted by the proposed action under the controlling provisions identified in paragraph 1. The Commonwealth Department of Agriculture, Water and the Environment (DAWE) considers that the proposed action is likely to have a significant impact on the protected matters listed in **Appendix A**.

4. The Applicant must consider <u>each</u> of the protected matters under the triggered controlling provisions that may be impacted by the action. Note that this may not be a complete list and it is the responsibility of the proponent to undertake an analysis of the relevant impacts and ensure all protected matters that are likely to be impacted are assessed for the Commonwealth Minister's consideration.

## General Requirements

*<u>Relevant Regulations</u>*

5. The Environmental Impact Statement (EIS) must address the matters outlined in Schedule 4 of the EPBC Regulations and the matters outlined below in relation to the controlling provisions.

*<u>Project Description</u>*

6. The title of the action, background to the action and current status.

7. The precise location and description of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on Matters of National Environmental Significance (MNES).

8. How the action relates to any other actions that have been, or are being taken in the region affected by the action.

9. How the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts on MNES.

*Impacts*

10. The EIS must include an assessment of the relevant impacts of the action on the matters protected by the controlling provisions, including:

    i. a description and detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts, including short term and long term relevant impacts;

    ii. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;

    iii. analysis of the significance of the relevant impacts; and

    iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

*Avoidance, mitigation and offsetting*

11. For each of the relevant matters protected that are likely to be significantly impacted by the action, the EIS must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action including:

    i. a description, and an assessment of the expected or predicted effectiveness of the mitigation measures,

    ii. any statutory policy basis for the mitigation measures;

    iii. the cost of the mitigation measures;

    iv. an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;

    v. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.

12. Where a significant residual adverse impact to a relevant protected matter is considered likely, the EIS must provide information on the proposed offset strategy, including discussion of the conservation benefit associated with the proposed offset strategy.

13. For each of the relevant matters likely to be impacted by the action the EIS must provide reference to, and consideration of, relevant Commonwealth guidelines and policy statements including any:

    i. conservation advice or recovery plan for the species or community,

    ii. relevant threat abatement plan for the species;

    iii. wildlife conservation plan for the species; and

    iv. any strategic assessment.

    **Note:** the relvant guidelines and policy statements for each species and community are available from the Department of Agriculture, Water and the Environment Species Profile and Threats Database. http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

**Key Issues**

14. Key risks associated with the proposed action from the Commonwealth perspective include:

    i. Impacts on species and ecological communities:

    - Potential impacts arising from clearing approx. 20 hectares (ha) of native vegetation for the construction of infrastructure required for the mining operations. This area comprises of foraging and nesting habitat for threatened species, including the Grey-headed Flying-fox (*Pteropus poliocephalus*) and the Koala (*Phascolarctos cinereus*).

    - Potential impacts on threatened species and ecological communities associated with the underground mining component of the project, including subsidence events which may have implications for species and threatened ecological communities within and surrounding the project site, including the Coastal Upland Swamp within the Sydney Basin Bioregion Endangered Ecological Community, the Littlejohn's Tree Frog (*Litoria littlejohni*) and the Giant Burrowing Frog (*Heleioporus australiacus*).

    - The referral does not indicate direct and indirect impacts that may occur to species and ecological communities within the proposed action area and adjacent areas, stating these impacts will be determined as part of the EIS.

    ii. Impacts on water resources:

    - Potential impacts to groundwater and surface water resources within the project area and surrounds, including:
        - impacts related to subsidence events and their associated impact on water resources within the vicinity of the project site
        - changes to surface flow volumes, inflows and flow paths
        - groundwater drawdown and depressurisation of aquifers and shallow and perched groundwater systems within the project area and surrounds
        - changes to water regimes and adverse impacts on water quality of inflows to water supply storages.
    - Potential implications to water resources within the region, noting the action area is within the Metropolitan special area which supplies drinking water to the Macarthur and Illawarra regions.

**Assessment Requirements**

*Biodiversity (threatened species and ecological communities)*

15. The EIS must identify each EPBC Act listed threatened species and ecological community likely to be impacted by the action. For any species and communities that are likely to be impacted, the proponent must provide a description of the nature, quantum and consequences of the impacts. For species and communities potentially located in the proposed action area or in the vicinity that are not likely to be impacted, provide evidence why they are not likely to be impacted.

16. For each of the EPBC Act listed species and ecological communities likely to be significantly impacted by the proposed action, the EIS/Biodiversity Development Assessment Report (BDAR) must provide a separate:

    i. description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with

consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plans;

ii. details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements;

iii. description of the relevant impacts of the action having regard to the full national extent of the species or community's range;

iv. description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the action;

v. identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;

vi. description of any offsets proposed to address residual significant impacts and how these offsets will be established.

vii. details of how the current published NSW Biodiversity Assessment Methodology has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts; and

viii. details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the action in accordance with the NSW Biodiversity Assessment Methodology and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites;

17. Any significant residual impacts not addressed by the NSW Biodiversity Assessment Methodology may need to be addressed in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offset Policy.

    http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy.

    **Note:** For the purposes of approval under the EPBC Act, it is a requirement that offsets directly contribute to the ongoing viability of the specific protected matter impacted by a proposed action and deliver an overall conservation outcome that improves or maintains the viability of the MNES i.e. 'like for like'. Like-for-like includes protection of native vegetation that is the same EEC or habitat being impacted, or funding to provide a direct benefit to the matter being impacted i.e. threat abatement, breeding and propagation programs or other relevant conservation measures.

*A water resource, in relation to coal seam gas development and large coal mining development (section 24D & 24E)*

18. The EIS must include a detailed water assessment. The water assessment must be undertaken in accordance with the IESC Information Guidelines (https://iesc.environment.gov.au/information-guidelines) and provide the information outlined in these guidelines including:

    A description of current regional and proposed impacts to water resources and water-dependent assets.

    i. The water assessment should provide a regional overview of the action area including a description of the geological setting, coal resource, surface water catchments, groundwater systems, water-dependent assets, and current and reasonably foreseeable coal mining development and other water-intensive activities.

    ii. Provide descriptions of existing conditions, values and sensitivity to potential impacts.

    iii. Provide numerical modelling of potential impacts.

iv. Propose mitigation and management measures

Groundwater modelling

v. Include a groundwater model that uses a wide variety of parameters and predictions to identify potential changes to:

- the hydrological regime of the water resource, for example changes to the volume, timing, duration or frequency of ground and surface water flows; or
- the water quality and quantity of the water resource, for example changes in the level of salinity, pollutants, or nutrients; or water temperature that may adversely impact biodiversity, ecological integrity, social amenity or human health.

vi. Include a groundwater model that has been integrated with the subsidence model to provide an improved understanding of impacts on surface water and alluvium.

Analysing potential impacts to groundwater dependant ecosystems (GDEs)

vii. Confirm the distribution of GDEs in the region and the depth to groundwater in areas of potential GDE's.

viii. Conduct a detailed cumulative impact assessment of potential risks to groundwater and surface water ecosystems that may be impacted by the project.

ix. Include an assessment of GDEs.

Surface water modelling

x. The EIS should provide surface water modelling which considers water loss from surface waters due to groundwater drawdown, cracking and ponding. The modelling should show the range and likelihood of possible outcomes, based on sensitivity and uncertainty analysis.

xi. Include a surface water assessment.

Cumulative impact assessment

xii. The EIS should include a cumulative impact assessment and consider all relevant past, present and reasonably foreseeable actions, and programs and policies that are likely to impact water resources. Where impacts from a new project are considered small, these need to be considered with the impacts from existing development and the cumulative impact must be assessed to determine if a threshold of acceptable total impact may be crossed.

Comprehensive and detailed monitoring

xiii. The EIS should derive site-specific water quality guidelines and provide more information on how the proponent plans to monitor impacts. For example, the parameters and frequency of monitoring should be detailed.

**Other approvals and conditions**

19. Information in relation to any other approvals or conditions required must include the information prescribed in Schedule 4 Clause 5 (a) (b) (c) and (d) of the EPBC Regulations.

**Environmental Record of person proposing to take the action**

20. Information in relation to the environmental record of a person proposing to take the action must include details as prescribed in Schedule 4 Clause 6 of the EPBC Regulations.

**Information Sources**

21. For information given in an EIS, the EIS must state the source of the information, how recent the information is, how the reliability of the information was tested; and what uncertainties (if any) are in the information.

**Anticipated Engagement**

22. The Applicant should consult with DAWE again after detailed survey work is undertaken and before the EIS is finalised to ensure that all relevant species have been considered and the above assessment requirements have been met.

## REFERENCES


- Amending Agreement No. 1 (2020) - Item 18.1, Item 18.5, Schedule 1
- *Environment Protection and Biodiversity Conservation Act 1999* - section 51-55, section 101A, section 136, section 527E
- *Environment Protect and Biodiversity Conservation Act 1999* Environmental Offsets Policy (Department of Sustainability, Environment, Water, Population and Communities, 2012)
- *Environment Protection and Biodiversity Conservation Regulations 2000 Schedule 4*
- *Information Guidelines for Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals* (IESC, 2014)
- *Significant impact guidelines 1.1: Matters of National Environmental Significance* (Department of the Environment, 2013)
- *Significant Impact Guidelines 1.3: Coal Seam Gas and Large Coal Mining Developments – impacts on water resources* (Department of the Environment, 2013)

**Appendix A**

## Matters of National Environmental Significance

There are likely to be significant impacts on the following controlling provisions:

- Listed threatened species and communities (sections 18 and 18A)
- A water resource, in relation to coal seam gas development and large coal mining development (section 24D and 24E).

All matters of national environmental significance (MNES) protected under the triggered controlling provisions are potentially relevant, and it is the responsibility of the proponent to ensure any protected matters under these controlling provisions are assessed for the Commonwealth decision-maker's consideration.

The Department of Agriculture, Water and the Environment considers that there is a likely or potential significant impact on the following protected matters:

*Listed threatened species and communities (s18 & s18A)*

- Coastal Upland Swamps in the Sydney Basin Bioregion – endangered ecological community: subsidence events associated with the proposed action may reduce the extent of the ecological community and adversely affect critical habitat.
- Shale Sandstone Transition Forest of the Sydney Basin Bioregion – critically endangered: longwall mining is listed as a threatening process, disrupting natural groundwater regimes and discharge patterns associated with mining.
- Grey-headed Flying-fox *(Pteropus poliocephalus)* – vulnerable: there is a nationally important grey headed-flying fox camp located within 20km of the proposed action site.
- Littlejohn's Tree Frog *(Litoria littlejohni)* – vulnerable: the proposed action may lead to a long-term decrease in the size of the population and reduce the area of occupancy of an important population.
- Koala (*Phascolarctos cinereus*) (Combined Population of QLD, NSW and the ACT) – vulnerable: the proposed action could impact important habitat for the species.
- Greater Glider *(Petauroides volans)* – vulnerable: the proposed action could impact important habitat for the species.
- Giant Burrowing Frog *(Heleioporus australiacus)* – vulnerable: the proposed action and associated subsidence could significantly impact breeding habitat.
- Broad-headed Snake *(Hoplocephalus bungaroides)* – vulnerable: the proposed action could impact availability and quality of habitat leading to species decline.
- Large-eared Pied Bat, Large Pied Bat *(Chalinolobus dwyeri)* – vulnerable: the proposed action could impact current and future habitat for the species, which is considered habitat critical to the survival of the species.
- Swift Parrot *(Lathamus discolor)* – critically endangered: the proposed action could clear foraging habitat for the species.

- Silver Perch *(Bidyanus bidyanus)* – critically endangered: subsidence events associated with the proposed action may impact the Cataract Dam, where an important population of the species exists.

- Rufous Pomaderris, Brown Pomaderris *(Pomaderris brunnea)* – vulnerable: the proposed action may impact the small number of NSW subpopulations that exist, leading to long-term decrease in the species.

- Woronora Beard-heath *(Leucopogon exolasius)* – vulnerable: approx. 46% of the species distribution occurs within 10km of the proposed action area, therefore potential negative impacts from clearing or subsidence could negatively impact habitat important to the species.

- Bargo Geebung *(Persoonia bargoensis)* – vulnerable: the proposed action may cause impacts to the species habitat and lead to a long-term decrease in the population size.

- Small-flower Grevillea *(Grevillea parviflora subsp. parviflora)* – vulnerable: the proposed action may impact an important population of the species leading to a long-term decline.

- Kangaloon Sun Orchid *(Thelymitra kangaloonica)* – critically endangered: the species is likely to occur within the project site and impacts to the species could lead to a population decline.

- Prickly Bush-pea *(Pultenaea aristata)* – vulnerable: part of this species' range lies within 10 km of the proposed action area, and is associated with the Upland Swamp vegetation complex, and altered hydrology could negatively impact this species habitat.

- Deane's Melaleuca *(Melaleuca deanei)* – vulnerable: the species is highly fragmented, and all habitat is considered critical habitat, therefore the project could significantly impact this species.

- Hairy Geebung, Hairy Persoonia *(Persoonia hirsuta)* – endangered: the proposed action could fragment an already scattered species leading to a reduction in the area of occupancy.

- Scrub Turpentine, Brown Malletwood *(Rhodamnia rubescens)* – critically endangered: the species has experienced significant decline, and there is the potential for the proposed action to reduce the area of occupancy of this species.

*A water resource, in relation to coal seam gas development and large coal mining development (s24D and s24E)*

- The proposed action is likely to have significant impacts on groundwater and surface water resources and quality and may result in a change to:
    - the hydrology of a water resource
    - water quality of a water resource.

The above may not be a complete list and it is the responsibility of the proponent to ensure any protected matters under these controlling provisions are assessed for the Commonwealth decision-maker's consideration.