

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 the above matters further.

Yours sincerely

A handwritten signature in blue ink that reads "Daryl Gilchrist".

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 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:
 - o Upgrades to access roads
 - o Soil and Water Management Plans for shaft site and access roads – including triggers, actions, responses
 - o Procedures for managing spills
 - o Details of the practices proposed to ensure materials transported to and from the site do not spill or otherwise cause soil or water pollution
 - o Rehabilitation Plan
 - o 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

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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:

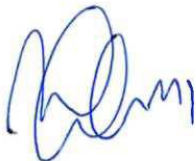
- Details of all water take for the life of the project and post closure. This is to include water taken directly and indirectly and itemised to quantify the contributions from each relevant water source where water entitlements are required to account for the water take. If the water is to be taken 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 2020 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

A handwritten signature in black ink, appearing to read 'Michael Saxon'.

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

Title	Web address
Department of Environment, Climate Change and Water (DECCW, 2010)	
<u>Water and Soils</u>	
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 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

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.

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



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

A handwritten signature in black ink, appearing to be 'Timothy Mahoney'.

Timothy Mahoney
Development Case Officer
Community and Place | 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).



**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

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

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

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 Senior Advisor Industry Advisory & Mining Concierge Industry Development (02) 4063 6534	Approved in CM9	14 December 2021
Approving Officer: Scott Anson Manager Industry Advisory & Mining Concierge Industry Development (02) 4063 6972	Approved in CM9	17 December 2021

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,

A handwritten signature in black ink, appearing to read 'G Burns'.

Garvin Burns
Executive Director
Resources Regulator

17 December 2021

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 from 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

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
<p>A: General Requirements</p>	<ul style="list-style-type: none"> ▪ site address and contact details ▪ property description (e.g. Lot and DP numbers) ▪ a clear description of the proposal including details of construction methods and materials ▪ map(s) of the development area and adjacent areas - this should include nearby waterways, adjacent infrastructure (such as jetties) and land use ▪ 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 <i>Caulerpa taxifolia</i>) ▪ location of any oyster leases or other aquaculture facilities and recreational and commercial fishing areas within the subject waterway ▪ a description of the potential direct and indirect impacts on aquaculture, commercial and recreational fishing from the development ▪ 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) ▪ approximate depth contours within 20 metres of the proposal ▪ a clear description of aquatic environments including: <ul style="list-style-type: none"> - 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 - 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 - description of aquatic habitat TYPE on site (see Table 1 in the P&GLs) - description of the waterway CLASS (see Table 2 in the P&GLs) ▪ details of the nature, timing, magnitude and duration of the proposed disturbance to the aquatic environment ▪ 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 ▪ details of any mitigation measures to limit environmental impacts ▪ details of the general regional context, any protected areas, other developments in the area, and/or cumulative impacts ▪ a copy of the land owner's consent where relevant ▪ notification of any other matters relevant to the proposal and of interest to NSW DPI
<p>Dredging and reclamation activities</p>	<ul style="list-style-type: none"> • purpose of works • type(s) and distribution of marine vegetation in the vicinity of the proposed works • method of dredging to be used • timing and duration of works • dimension of area of works including levels and volume of material to be extracted or placed as fill • nature of sediment to be dredged, including Acid Sulphate Soil, contaminated soils etc • method of marking area subject to works • environmental safeguards to be used during and after works • measures for minimising harm to fish habitat under the proposal • spoil type and source location for reclamation activities • method of disposal of dredge material • location and duration of spoil stockpiling, if planned
<p>Activities that damage marine vegetation</p>	<ul style="list-style-type: none"> • type of marine vegetation to be harmed • map and density distribution of marine vegetation • reasons for harming marine vegetation • methods of harming marine vegetation • construction details • duration of works/activities • measures for minimising harm to marine vegetation under the proposal and details of compensatory habitat development to replace lost vegetation. • method and location of transplanting activities or disposal of marine vegetation.
<p>Activities that block fish passage</p>	<ul style="list-style-type: none"> • type of activity eg works in a stream that change flow or morphological characteristics • length of time fish passage is to be restricted • timing of proposed restriction • remediation works

<p>B. Aquatic habitat assessment</p>	<p>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:</p> <ul style="list-style-type: none"> ▪ 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?) ▪ 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) ▪ 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?) ▪ description of local wave and current regimes (in tidal areas) ▪ description of the water quality (e.g. discolouration, sedimentation, turbidity, pH, dissolved oxygen, nutrients) ▪ types of surrounding land use (e.g. agricultural, urban, aquaculture) ▪ condition of riparian vegetation (i.e. present or absent. Are the species native or exotic? Is the density of vegetation thick or sparse?) ▪ 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?) ▪ 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?) ▪ 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?) ▪ substrate type (e.g. rock, sand, gravel, silt) ▪ presence of refuge areas (e.g. adjacent wetlands, upstream pools) ▪ presence of spawning areas (e.g. gravel beds, snags, reed beds, saltmarshes) ▪ presence of natural or artificial barriers to fish passage upstream and downstream (e.g. waterfalls, cascades, weirs, dams, floodgates, road crossings) ▪ types of migratory fish or other aquatic species likely to inhabit the areas (based on known distribution range within the scientific literature) ▪ timing of construction in relation to any fish migration seasons ▪ timing of construction in relation to flow conditions relative to expected wet seasons <p>presence of any listed threatened or protected aquatic species or 'critical habitat' under the FM Act and EPBC Act</p>
<p>C. Aquatic fauna assessment</p>	<p>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.</p> <p>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 fauna under the FM Act. The Department of Planning and Infrastructure has developed a document entitled <i>Aquatic Ecology in Environmental Impact Assessment</i> (Lincoln-Smith 2003) which may also assist in the survey design.</p> <p>Note that a detailed survey may be required:</p> <ol style="list-style-type: none"> 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 b) where the project crosses through, over or within a 'critical habitat' and a Species Impact Statement is required.
<p>D. Assessment of likely impacts</p>	<ul style="list-style-type: none"> • indicate the location, nature and extent of habitat removal or modification (both direct and indirect) which may result from the proposed action; • 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). <p>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.</p>
<p>E. Ameliorative measures</p>	<p>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.</p>

Attachment 2 – Guidelines for assessment

Title	Location
<i>Policy and Guidelines for Fish Habitat Conservation and Management (2013)</i>	https://www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation
<i>Fish Passage Requirements for Waterway Crossings and Policy (2003) and Guidelines for Fish Friendly Waterway Crossings (2003)</i>	https://www.dpi.nsw.gov.au/fishing/habitat/threats/barriers
<i>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.</i>	https://www.dpi.nsw.gov.au/fishing/threatened-species/what-current/key-threatening-processes/degradation-of-native-riparian-vegetation
<i>NSW Biodiversity Offsets Policy for Major Projects</i>	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/nsw-biodiversity-offsets-policy-major-projects-140672.pdf
<i>NSW Biodiversity Offsets Policy for Major Projects – Fact sheet: Aquatic Biodiversity</i>	https://www.environment.nsw.gov.au/resources/biodiversity/14817aqoffs.pdf



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



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 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
<p>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).</p>	<p>Response to findings and recommendations of the IPC Report.</p> <p>Potential impacts to surface waters in a catchment context.</p>	<p>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.</p> <p>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.</p> <p>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/.</p> <p>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.</p>
<p>Security of water supply as a resource for current and projected growth</p>	<p>Potential impacts to groundwater sources</p> <p>Precise calculation of water losses associated with the Modified Application</p>	<p>Demonstrated consistency of the Groundwater and Subsidence Speciality Reports with the <i>Information Guidelines Explanatory Note: Characterisation and modelling of geological fault zones</i> available at https://iesc.environment.gov.au/consultation/iesc-en-characterisation-and-modelling-of-geological-fault-zones.</p> <p>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).</p> <p>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.</p> <p>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).</p>

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
		<p>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):</p> <ul style="list-style-type: none"> • 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). • 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.
		<p>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.</p>
Potential impacts to terrestrial and aquatic biodiversity values	Offsetting of potable water supply losses from the Catchment	<p>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.</p>
Potential impacts to terrestrial and aquatic biodiversity values	Potential impacts to aquatic biodiversity	<p>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.</p>
	Potential impacts to upland swamps	<p>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).</p>
Adequacy of the assessment to potential impacts to terrestrial and aquatic biodiversity values	Potential impacts to terrestrial biodiversity	<p>Demonstrated consistency with all applicable provisions of the <i>Biodiversity Conservation Act 2016</i> and <i>Biodiversity Assessment Methodology 2020</i>. Consideration of Serious and Irreversible Impact of the Project in accordance with the <i>Guidance to Assist a Decision Maker to Determine a Serious and Irreversible Impact</i>. These Guidelines are noted to state in regard to State Significant Infrastructure "the approval authority must take those</p>

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
		<p><i>impacts into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if approval is to be granted".</i></p> <p>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).</p>
Adequacy of consultation with stakeholders	Consultation	<p>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.</p> <p>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.</p> <p>It is strongly recommended that indigenous stakeholders are consulted with during the preparation of the Cultural Heritage components of the EIS.</p>

Gabrielle Allan
Via Planning Portal

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 subsidedevelopment@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@crowland.nsw.gov.au

Yours sincerely

A handwritten signature in black ink, appearing to read 'NDibben'.

Nicole Dibben
A/Group Leader – South East (Nowra)
E nicole.dibben@crowland.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.

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,

A handwritten signature in black ink, appearing to read 'John Hawes', written over a faint, light-colored rectangular stamp or watermark.

Superintendent John Hawes
Manager
Operational Liaison and Special Hazards Unit

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