

# Cadia Continued Operations Project

Application Number: 02623

Commencement Date:  
04/10/2024

Status: Locked

## 1. About the project

### 1.1 Project details

#### 1.1.1 Project title \*

Cadia Continued Operations Project

#### 1.1.2 Project industry type \*

Mining

#### 1.1.3 Project industry sub-type

Other

#### 1.1.4 Estimated start date \*

01/11/2026

#### 1.1.4 Estimated end date \*

31/12/2050

### 1.2 Proposed Action details

#### 1.2.1 Provide an overview of the proposed action, including all proposed activities. \*

Cadia Holdings Proprietary Ltd (CHPL) (the Proponent proposing to take the Action) operates the Cadia Mine (Cadia), which is a large copper, gold and molybdenum mine located in the Central West of New South Wales (NSW) with 25 years of operational history (refer to Att1, Figure 1). Cadia is located approximately 25 km south of Orange, in the Central Tablelands region of NSW (refer to Att1, Figure 2).

The Cadia Continued Operations Project (CCOP) proposes to extend mining operations beyond the current operational approval of 2031. This extension would provide for the development of a 25-year mine plan from the date of approval (nominally to 2050) and involve the continuation of mining in the Ridgeway Underground Mine (Ridgeway) and Cadia East Underground Mine (Cadia East).

The CCOP would use existing and additional infrastructure and ancillary services to support the continuation of underground mining. This mining would involve the continued use of panel caves to recover ore from the existing Cadia East mine (with a modified mine plan that includes existing approved areas and additional panel caves), and sub-level and block caving methods to extract ore from Ridgeway (with an extension to extraction to recover ore from greater depths).

To accommodate the processing of this additional ore recovery, a lateral and vertical extension to the existing approved Southern Tailings Storage Facility (STSF), known as Southern Tailings Storage Facility Extension (STSFX), will also be required (**refer to Att1, Figure 3**).

Consistent with the current operations, it is intended that the CCOP would process up to 35 million tonnes (Mt) of ore per annum and provide ongoing employment for a workforce of approximately 2100 full-time equivalent (FTE) personnel and up to 700 additional personnel during occasional shutdown maintenance periods. With up to 85% of this workforce living in the local Orange region and most goods and services used on site being sourced domestically, this extension in mine life would further extend Cadia's considerable economic and social contributions to the region and provide ongoing benefits to NSW and Australia.

### **What is included in the Proposed Action?**

Aspects of the CCOP which form part of the Proposed Action are set out below. Further details of the CCOP and Proposed Action are set out in **Attachment 2 (Att2)**.

The Proposed Action consists of:

- The Referral Area where development will be undertaken will occupy approximately 7,650 hectares (ha), including the area occupied by the existing/approved mining operations and additional areas to be occupied by proposed new activities and infrastructure. The Referral Area includes a mixture of actions within areas that have been previously disturbed, areas already approved for disturbance and areas that require new disturbance (**refer to Att1, Figure 2**).
- Within the Referral Area, the Proposed Action would involve a new disturbance footprint ('Additional Disturbance Area') of approximately 1,389 ha that is any areas which are outside of any existing and approved disturbance areas associated with the current mining operations (**refer to Att1, Figure 2**).
- A lateral and vertical extension to the existing approved STSF (known as the STSFX), to provide additional storage capacity for the tailings to be generated by the continued processing of the identified reserves to be recovered from Cadia East and Ridgeway.
- Continuation of underground mining within the approved Cadia East underground mine, plus an extension to the existing underground mining areas and a refinement of the predicted subsidence zone due to the increased mining footprint.
- Continuation of underground mining within the approved Ridgeway underground mine, plus an extension to the existing underground mining areas to recover deeper ore reserves known as Lift 2.
- Realignment of sections of two local roads (Panuara Road and Cadia Road) and other infrastructure to account for the CCOP features listed above.
- Changes to site infrastructure and facilities to support ongoing mining operations, as well as ongoing use of existing infrastructure and processing facilities at Cadia.

Key features of the Proposed Action are shown on **Figure 3 of Attachment 1 (Att1)**.

Subject to the timing of the required approvals, it is anticipated that CCOP early works would commence around late 2026 with the initial construction phase of CCOP anticipated to last approximately 24 months.

### **What is not included in the Proposed Action**

The CCOP includes interactions with and an extension to the life of the existing operations. Aspects of those interactions that do not form part of the Proposed Action are detailed below.

The Proposed Action specifically excludes components that form part of the existing and approved operations at Cadia (including any approved land disturbance activities within the Referral Area) including but not limited to the following activities/operations:

- Cadia East Project as defined by the NSW Project Approval PA 06\_0295.
  - Associated approved Modifications 1 to 14 from Cadia East Project - PA 06\_0295
- Cadia East Project - PA 06\_0295 Modification 15 - currently under assessment in NSW approvals process.
- Cadia East Project - referred under the EPBC Act (2006-3196) and declared a controlled action in 2007, with a variation submitted in 2008 and approval received 2010.

This referral does not relate to any works which are currently authorised by existing approvals, nor any modifications to these approvals including the current Cadia Modification (MOD15) application. Should any modifications of the existing approvals trigger a requirement to refer an action for consideration under the EPBC Act, a separate referral process would be pursued for these matters.

Likewise, the referral does not include geotechnical investigations, test pitting, soil sampling, monitoring and exploration activities that may be required within the Referral Area prior to the approval of the CCOP to inform the design of existing and approved operations at Cadia, the CCOP and/or associated project elements, and are permitted by existing or separate authorisation or approval pathways.

### **1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?**

Yes

### **1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?**

No

### **1.2.4 Related referral(s)**

| EPBC Number | Project Title  |
|-------------|--|
| 2006/3196   | Cadia East Project - extension of copper/gold mine within Mining Lease (ML) 1405 |

### **1.2.5 Provide information about the staged development (or relevant larger project).**

The Proposed Action constitutes the activities that are not already approved under existing State and/or Commonwealth approvals and also form part of the Cadia Continued Operations Project (CCOP). As described in Section 1.2.1, the CCOP includes interactions with and an extension to the life of the existing operations.

The Proposed Action specifically excludes all existing and approved mining operations including the Cadia East Project as defined by the NSW Project Approval PA 06\_0295 and the associated current Modification 15 application under assessment in the NSW approvals process. Should any future modifications of the existing approvals trigger a requirement to refer an action for consideration under the EPBC Act, a separate referral will cover these works.

### **1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? \***

The Proposed Action will require primary approvals under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). EPBC Approval 2006/3196 was granted on 18 February 2010 for the Cadia East Project and Cadia's operation continues to be carried out under this Approval.

Assessments have determined that the Cadia Continued Operations Project (CCOP) is likely to have a significant impact on Matters of National Environmental Significance (MNES) related to nationally threatened species and communities. The Proposed Action is therefore likely to be deemed a controlled action, requiring approval from the Minister for the Environment and Water.

The approved operations at Cadia are subject to NSW Project Approval PA 06\_0295 (as modified), granted in January 2010 under the previous Part 3A of the EP&A Act. PA 06\_0295 consolidated and replaced the previous development consents issued to Cadia. Cadia is currently progressing with a modification to PA 06\_0295 (Modification 15) which was lodged in November 2023 and proposes changes to two existing tailings storage facility embankment footprints, allows for the recommencement of mining in the Ridgeway underground mine, and includes a minor realignment to Panuara Road and various minor changes or infrastructure additions to support ongoing mining activities. A new contemporary development consent will be sought for the CCOP under Part 4 of the EP&A Act, replacing the current NSW Project Approval.

Being development for the purpose of mining with a capital investment of more than \$30 million, the CCOP is declared to be a State Significant Development (SSD) in NSW under the provisions of *State Environmental Planning Policy (Planning Systems) 2021*.

A development application and accompanying Environmental Impact Statement (EIS) will be lodged with the NSW Department of Planning, Housing and Infrastructure (DPHI) as part of the NSW assessment process. A range of other NSW environmental legislation will also apply and will be considered in the assessment and approvals process including the *Biodiversity Conservation Act 2016*, the *Mining Act 1992*, the *Protection of the Environment Operations Act 1997*, the *Roads Act 1993* and the *Dams Safety Act 2015*.

It is proposed that if the Proposed Action is deemed a controlled action, the CCOP would be subject to the Assessment Bilateral Agreement between the NSW and Commonwealth governments under the EPBC Act.

Part 2.4 of the NSW *State Environmental Planning Policy (Resources and Energy) 2021* requires new State significant mining proposals to consider impacts on biophysical strategic agricultural land (BSAL) and its associated water resources via a Gateway assessment. As components of the CCOP would be constructed on BSAL in an area where a new mining lease is proposed, a Gateway Certificate is required for the CCOP. An application for a Gateway Certificate was submitted to NSW DPHI in July 2024 for referral to the NSW Mining and Petroleum Gateway Panel.

### **1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. \***

Various stakeholders have been engaged for the Proposed Action, with stakeholder identification and consultation guided by a stakeholder engagement plan developed for the Cadia Continued Operations Project (CCOP). A summary of the consultation completed to date is provided below.

## **Community Engagement**

Community engagement for the CCOP has been undertaken since the announcement of the project in November 2021, with the most recent round of engagement in September 2024. Engagement mechanisms have included:

- Project briefings – targeted meetings and briefings with key local, state and Commonwealth government agencies.
- Key stakeholder meetings – meetings and project briefings with key stakeholder groups, such as Aboriginal stakeholders, the Cadia District Protection Group (CDPG), the Cadia Community Sustainability Network (CCSN), the Millthorpe Village Committee and the Environmentally Concerned Citizens of Orange (ECCO).
- Cadia District Residents Meetings – Newmont hosts regular meetings with Cadia residents as a part of general operations to provide updates on key operational activities. A number of CCOP targeted residents meetings were held between 2022 and 2024 with a number of other residents' meetings also including the CCOP as a topic. The intent of the sessions was to workshop ideas regarding the CCOP concepts and receive feedback from community members.
- Individual and Personal Meetings – individual telephone interviews with neighbouring landholders and community groups were undertaken by Umwelt as part of the Social Impact Assessment (SIA) process, using structured interview guides. Participants were invited to be involved in interviews through proactive calls and recruitment by existing participants. Individual personal meetings with neighbouring landholders have also been undertaken by Cadia throughout the process, providing information on visual amenity and general CCOP updates. This engagement will continue throughout the process.
- Project Website – development of a project specific website (<https://caportal.com.au/umwelt/cadia>) that includes a project overview, a description of the EIS process and opportunities to be involved, an interactive map to allow for visitors to make comments on the project and its specific components and project materials such as videos, newsletters, frequently asked questions (FAQs) etc. The website also provides a link to a visitor feedback survey along with a monitored email address for queries.
- Project Information Sheets – distribution of project information sheets (six in total to date) via email and post to provide relevant information and updates of the assessment progress. Information sheets were mailed to all landholders within a 4 km buffer of the CCOP Project Area and also emailed to Cadia District residents. Information sheets are located on the CCOP website: (<https://caportal.com.au/umwelt/cadia>)
- Cadia Community Consultative Committee (CCC) Meetings – the Cadia CCC includes seven community representatives, representatives from Orange, Blayney and Cabonne local Councils and an Independent Chair. Meetings are held quarterly with meeting minutes published on Cadia's website. All CCC representatives were provided with the opportunity to attend a one-on-one meeting with Cadia to discuss the CCOP.
- Community Drop-in Sessions – informal public 'drop-in' sessions were held to provide CCOP information and opportunities for the public to pose questions. Participants were invited to attend the sessions via the Project website, media advertisements and emails distributed to Cadia's residents. The CCSN also encouraged people to attend a session via the Blayney Chronicle and Facebook posts. Sessions were held in: Millthorpe (17 November 2021), Canowindra (18 November 2021) and Orange (24 November 2021). The sessions included a poster board display of current Project information.
- Employee briefings – inclusion of the CCOP in pre-shift panel start presentations and updates relating to the CCOP at Staff Communication Days.
- Cadia Open Day – a well-attended community open day was held on 22 October 2023 at the Orange Showground. A dedicated CCOP stall featured an animation about the proposed tailings storage facility wall technology, a virtual fly-through of the site, a map of the proposed Project, fact sheet and FAQ hand-outs.
- Community Pop-ups – 15 informal pop-up engagement events were held in November 2023 across 5 days by Cadia representatives, and a further 14 pop-ups were held in February 2024 to provide information, answer any of the community's questions and receive community feedback. Pop-ups

occurred in Orange, Milthorpe, Canowindra, Blayney, Molong and Carcoar with newsletters distributed at each event.

- EIS Technical Forums – held in July and August 2024 to present the methodology, findings and proposed management measures for key technical studies being undertaken for the EIS to nearby landholders. These forums will continue throughout the assessment process. Various feasibility and site selection reports, including copies of the *Tailings Storage Facility Site and Technology Selection Process* (WSP 2023) report and the *Evaluation of siting and technology* report (December 2023) are also located on the CCOP website: (<https://caportal.com.au/umwelt/cadia>).

A meeting was also held in February 2024 to provide a briefing to Iberdrola, the owners of the adjacent Flyers Creek Windfarm on the CCOP and realignment of Cadia Road through Forestry Corporation land.

### **Agency Consultation**

- NSW DPHI – seven meetings (November 2021, May 2022, November 2022, May 2023, August 2023, May 2024, October 2024) held and included discussion of CCOP concept, an overview of the hydrocyclone sand technology, site selection, development of technical report discussion and assessment requirements, inspection of the existing operations and Project Area as well as the potential locations considered as part of the *Tailings Storage Facility Site and Technology Selection Process* (WSP 2023) report.
- NSW Resources Regulator (within the Department of Regional NSW) – three meetings (November 2021, November 2022, May 2023) held to provide a presentation of the CCOP concept, overview of the hydrocyclone sand technology, site selection and development of technical report discussion.
- NSW Environment Protection Authority – meeting held on site in December 2021.
- NSW Mining, Exploration and Geoscience (MEG) (within the Department of Primary Industries and Regional Development) – meeting held in December 2021 to provide a presentation of the CCOP concept.
- NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) Group – three meetings held (November 2021, October 2023 and February 2024) to provide a presentation of the CCOP concept, presentation of groundwater modelling methodology and discussion on access to the Belubula Source Model.
- NSW DCCEEW Biodiversity, Conservation & Science Directorate (BCS) – meeting held in December 2021, to provide a presentation of the CCOP concept, a meeting to discuss assessment methodology and approach, and another meeting in April 2024 to discuss assessment approach and surveys completed and planned, and a site visit was conducted in July 2024.
- NSW DCCEEW Natural Resources Access Regulator (NRAR) – in conjunction with NSW DCCEEW Water Group in November 2021.
- Dam Safety NSW – meeting held in November 2022 to provide an overview of hydrocyclone sand technology.
- NSW Forestry Corporation – meeting held in February 2024 to provide a briefing on CCOP and realignment of Cadia Road through Forestry Corporation land.

### **Consultation with Indigenous Stakeholders**

Cadia has completed the registration process for interested Aboriginal parties to be engaged in the assessment of the CCOP. Engagement with Registered Aboriginal Parties (RAPs) has been ongoing since 2022 including consultation regarding the survey strategy for the Aboriginal heritage survey to be undertaken in the Project Area for the EIS assessment, as well as review of the draft Aboriginal Cultural Heritage Assessment Report (ACHAR).

A cultural values assessment is also being undertaken to further consider any intangible heritage values beyond those captured as part of the Aboriginal Cultural Heritage Assessment process. Engagement with the RAPs will be ongoing throughout the assessment process and will include engagement regarding the cultural values of the Project Area and surrounds.

### **Key Findings**

Potential impacts on livelihoods were the most frequently raised social impact category by nearby landholders, reflecting on both positive and negative impacts of the CCOP, with broader community members also frequently commenting on Cadia's ongoing positive contribution to employment and the economy.

Nearby landholders also raised impacts relating to their surroundings, including impacts to social amenity due to air quality and noise, as well as accessibility related impacts such as site access and use of surface and groundwater resources. Technical assessments for these impacts are being prepared. Further engagement will aim to provide feedback on technical assessment findings and opportunities for community input to the development of appropriate mitigation and/or management measures to address impacts and residual effects, as appropriate.

### **Further Stakeholder Engagement**

Key consultation mechanisms and activities will continue to be undertaken throughout the CCOP assessment phase including:

- Project information and fact sheets.
- EIS Technical Q&A forums.
- Personal interviews, briefings and small group meetings.
- Cadia District Residents' meetings.
- Engagement with Aboriginal stakeholders and knowledge holders.
- Broader community, employee, contractor and supplier surveys.
- Community information sessions.
- Progressive updates to the CCOP website.

Further information can be found in Section 5 and Appendix B of the Scoping Report found on the Major Projects Portal at: <https://www.planningportal.nsw.gov.au/major-projects/projects/cadia-continued-operations-project-ccop>

## 1.3.1 Identity: Referring party

### **Privacy Notice:**

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint.  
Alternatively, email us at [privacy@awe.gov.au](mailto:privacy@awe.gov.au).

☒ **Confirm that you have read and understand this Privacy Notice \***

**1.3.1.1 Is Referring party an organisation or business? \***

Yes

|                                      |                                 |
|--------------------------------------|---------------------------------|
| Referring party organisation details |                                 |
| <b>ABN/ACN</b>                       | 062648006                       |
| <b>Organisation name</b>             | CADIA HOLDINGS PTY LIMITED      |
| <b>Organisation address</b>          | 1460 Cadia Road ORANGE NSW 2800 |
| Referring party details              |                                 |
| <b>Name</b>                          | Rodney Williams                 |
| <b>Job title</b>                     | Manager Approvals & Permitting  |
| <b>Phone</b>                         | 0427125688                      |
| <b>Email</b>                         | rodney.williams1@newmont.com    |
| <b>Address</b>                       | 1460 Cadia Road Orange NSW 2800 |

**1.3.2 Identity: Person proposing to take the action**

**1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? \***

Yes

|  |           |
|--|-----------|
| Person proposing to take the action organisation details |           |
| <b>ABN/ACN</b>   | 062648006 |



**Organisation name** CADIA HOLDINGS PTY LIMITED

**Organisation address** 1460 Cadia Road ORANGE NSW 2800

Person proposing to take the action details

**Name** Rodney Williams

**Job title** Manager Approvals & Permitting

**Phone** 0427125688

**Email** rodney.williams1@newmont.com

**Address** 1460 Cadia Road Orange NSW 2800

**1.3.2.14 Are you proposing the action as part of a Joint Venture? \***

No

**1.3.2.15 Are you proposing the action as part of a Trust? \***

No

**1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. \***

Cadia Holdings Pty Limited (CHPL) has a strong track record of responsible environmental management at the Cadia site since it opened in 1998 and has recently been purchased by the Newmont Group which has established global standards for environmental management.

CHPL is committed to continuous improvement in environmental management and performance and has implemented progressive and contemporary measures to improve stakeholder engagement and environment management at the site.

All environmental management activities undertaken across the site are planned, controlled, monitored, recorded, and audited (internally and independently by a third party) in accordance with the Environmental Management Strategy (EMS) and following relevant regulatory requirements. The EMS drives continual improvement and covers various aspects, including air quality, noise, blast and vibration, surface and groundwater, biodiversity, river health, and heritage. The EMS is available at <https://www.cadiavalley.com.au/newcrest/cvo/environmental-management/management-plans>.

**Referral History**

CHPL previously referred the Cadia East Project under the EPBC Act (2006/3196). The Cadia East Project was declared a controlled action in 2007, with a variation submitted in 2008 and approval received in 2010. The variation and original referral are available on the EPBC Act Public Portal (Project Decision · EPBC Act Public Portal).

### **Past and Ongoing Court Proceedings**

In August and October 2023, the NSW Environment Protection Authority (EPA) commenced proceedings in the state Land and Environment Court against CHPL, alleging that air emissions from Cadia in November 2021, March 2022 and May 2023 exceeded the standard of concentration for total solid particles permitted under applicable laws due to the use of surface exhaust fan ventilation rise 8 (VR8) at the mine. Cadia has pleaded guilty to the proceedings and the Court is yet to hand down the sentences.

In October 2023, the EPA filed two charges alleging that Cadia committed offences because it failed to deal with stored tailings in the Southern Tailings Storage Facility (STSF) and the Northern Tailings Storage Facility (NTSF) in a proper and efficient manner causing air pollution from the premises on 13 and 31 October 2022. Cadia has entered a plea of not guilty to these proceedings.

### **1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework**

Newmont Corporation has a Sustainability and Stakeholder Engagement Policy which governs all operations globally and requires all employees and third-party workers to comply with social, environmental, and political laws and regulations, as well as Newmont Global Standards. This policy is provided in **Attachment 3 (Att3)**.

At a site level, Cadia has an Environmental Management Strategy (EMS) which sets out the strategic management framework for Cadia's environmental and community related legal obligations and commitments. The EMS comprises an overarching strategy and a range of management plans that ensure environmental management across site is planned, controlled, monitored, recorded and audited using tools and systems that drive continuous improvement.

The EMS and associated management plans and monitoring programs have been developed in consultation with relevant community groups, government agencies and departments in accordance with Cadia's Project Approval.

The EMS is provided in **Attachment 4 (Att4)** of this Referral, and relevant environmental management plans described in section 6.1 of the EMS, and associated monitoring and reporting can be found at <https://www.cadiavalley.com.au/newcrest/cvo/environmental-management>.

## **1.3.3 Identity: Proposed designated proponent**

### **1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? \***

Yes

Proposed designated proponent organisation details

|                             |                                 |
|-----------------------------|---------------------------------|
| <b>ABN/ACN</b>              | 062648006                       |
| <b>Organisation name</b>    | CADIA HOLDINGS PTY LIMITED      |
| <b>Organisation address</b> | 1460 Cadia Road ORANGE NSW 2800 |

Proposed designated proponent details

|                  |                                 |
|------------------|---------------------------------|
| <b>Name</b>      | Rodney Williams                 |
| <b>Job title</b> | Manager Approvals & Permitting  |
| <b>Phone</b>     | 0427125688                      |
| <b>Email</b>     | rodney.williams1@newmont.com    |
| <b>Address</b>   | 1460 Cadia Road Orange NSW 2800 |

### 1.3.4 Identity: Summary of allocation

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#### ✔ Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

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|                            |                                 |
|----------------------------|---------------------------------|
| ABN/ACN                    | 062648006                       |
| Organisation name          | CADIA HOLDINGS PTY LIMITED      |
| Organisation address       | 1460 Cadia Road ORANGE NSW 2800 |
| Representative's name      | Rodney Williams                 |
| Representative's job title | Manager Approvals & Permitting  |
| Phone                      | 0427125688                      |
| Email                      | rodney.williams1@newmont.com    |
| Address                    | 1460 Cadia Road Orange NSW 2800 |

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#### ✔ Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

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Same as Referring party information.

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**✔ Confirmed Proposed designated proponent's identity**

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

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Same as Person proposing to take the action information.

## 1.4 Payment details: Payment exemption and fee waiver

### 1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? \*

No

### 1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? \*

No

### 1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

### 1.4.7 Has the department issued you with a credit note? \*

No

### 1.4.9 Would you like to add a purchase order number to your invoice? \*

No

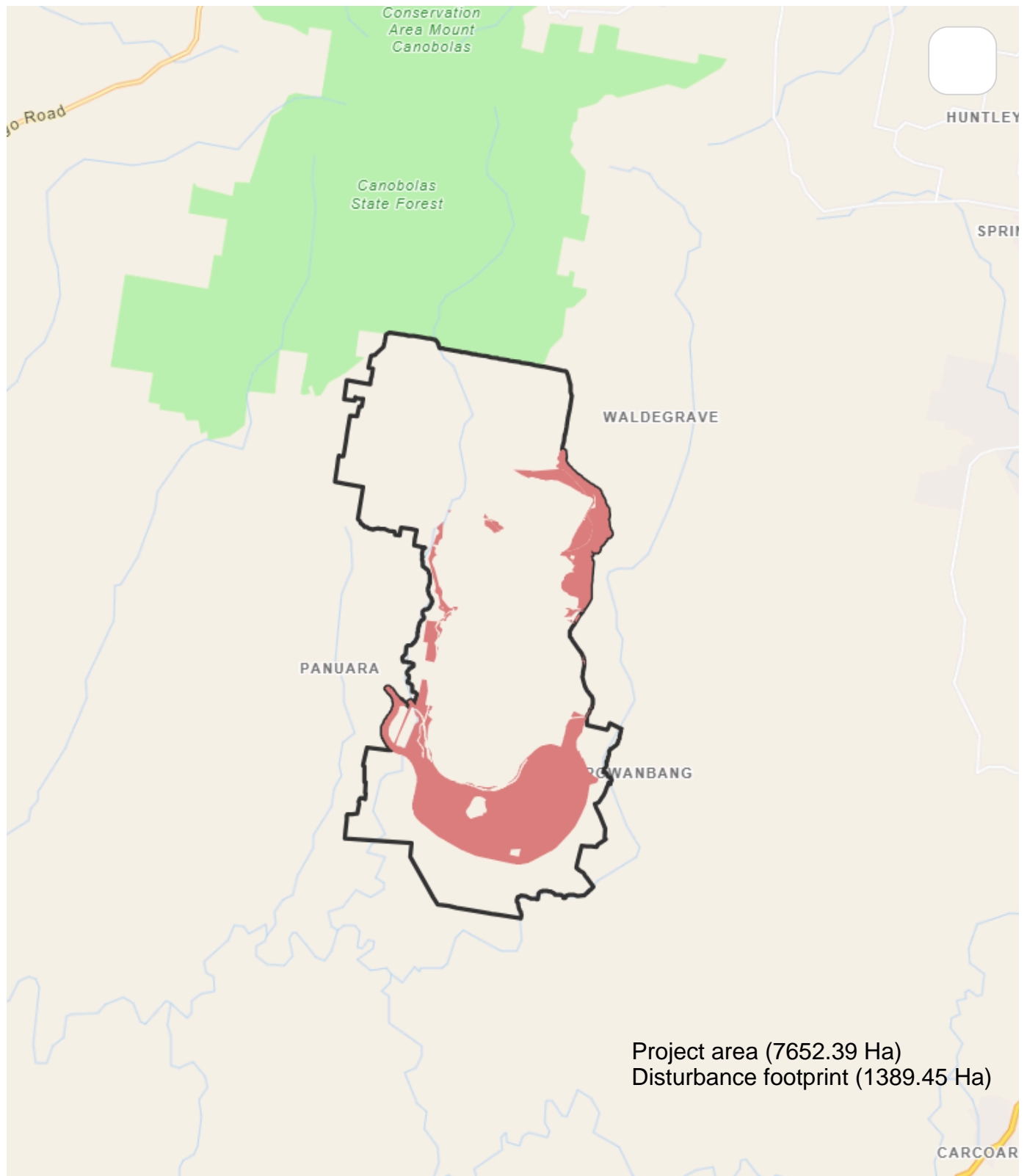
## 1.4 Payment details: Payment allocation

#### 1.4.11 Who would you like to allocate as the entity responsible for payment? \*

Person proposing to take the action

## 2. Location

### 2.1 Project footprint



## 2.2 Footprint details

### 2.2.1 What is the address of the proposed action? \*

1460 Cadia Road ORANGE NSW 2800

### 2.2.2 Where is the primary jurisdiction of the proposed action? \*

New South Wales

### 2.2.3 Is there a secondary jurisdiction for this proposed action? \*

No

### 2.2.5 What is the tenure of the action area relevant to the project area? \*

As identified on **Figure 4 of Attachment 1 (Att1)**, Cadia Holdings Proprietary Ltd (CHPL) (the Proponent) is a major landowner within the Referral Area and the adjoining lands to the south and west of the Referral Area, with the NSW Government (Forestry Corporation of NSW) owning land on the eastern side of the Referral Area which will be subject to additional disturbance associated with the relocation of Cadia Road and subsidence from the Cadia East Mine.

With the exception of the road easement of Panuara Road, Cadia Road, other Crown land associated with Crown Road reserves and creek easements, and the land associated with the concentrate and return water pipeline from the Cadia Dewatering Facility, CHPL owns all the land for the mining operations, including the land on which the STSFX is proposed to be built.

The land parcels surrounding the Referral Area not owned by CHPL include the Canobolas State Forest immediately north and east of the Referral Area, and privately owned rural properties that are mostly used for agricultural purposes.

# 3. Existing environment

## 3.1 Physical description

### 3.1.1 Describe the current condition of the project area's environment.

The CCOP is located approximately 25 km south of Orange in the Central Tablelands Region of NSW with the mining operation occurring across the Blayney and Cabonne Local Government Areas. Land ownership surrounding the site is typified by rural properties with agricultural operations, with scattered residences and farm structures.

The site is generally bounded by Cadia Road and monoculture softwood pine plantations of the Canobolas State Forest to the north and east, and previously disturbed and largely cleared agricultural lands to the south and west. These agricultural lands are typified by grazing of sheep and cattle on a combination of exotic and modified native pastures, with some areas of improved pastures being subject to periodic cultivation and cropping, particularly beyond the Canobolas State Forest to the northeast.

The existing Cadia operations are located within the Cadiangullong Creek, Rodds Creek, Flyers Creek and Swallow Creek catchments. All these creeks drain in a generally southern direction to the Belubula River (which forms part of the Lachlan River catchment).

Cadia is located on land zoned RU1 (Primary Production) under both *the Blayney Local Environment Plan 2012* (Blayney LEP) and *Cabonne Local Environment Plan 2012* (Cabonne LEP). Most of the land in the local setting is zoned RU1 (Primary Production) and has historically been cleared and used for beef and lamb grazing on a rotational grazing method, with the primary activities being the breeding and fattening of steers. Annual cropping for fodder (hay and silage) is also undertaken over a portion of the area.

A large portion of the land subject to disturbance within the Referral Area has been subject to past clearing of native vegetation associated with agricultural land uses, with some areas of remnant and regrowth native vegetation. Approximately 402 ha of the Additional Disturbance Footprint has been verified as Biophysical Strategic Agricultural Land (BSAL) indicating that the land has soil and water resources that can sustain high levels of productivity (refer to **Att1, Figure 5**). The Referral Area has not suffered from recent bushfire, flood or other major events and is located outside areas of major flood hazard.

In addition to the extensive agricultural land uses surrounding Cadia, other important land uses in the local setting include:

- Forestry, most notably the softwood pine plantation of Canobolas State Forest.
- Biodiversity conservation including:
  - Canobolas State Conservation Area located approximately 6 km north of the Referral Area.
  - Native vegetation of Canobolas State Forest located immediately to the north of the Referral Area.
  - Black Rock Range biodiversity conservation area established by Cadia, located approximately 8 km to the west of the Referral Area.
  - Stratton Vale Offset Area established by Cadia, located to the immediate west of the Referral Area.
  - Flyers Creek Offset Area established by Cadia, located approximately 2 km south of the Referral Area.
- Heritage conservation, with several identified local and State listed heritage sites located within the general locality, namely:
  - Errowanbang Homestead, outbuildings, garden and woolshed (locally listed – Blayney LEP; the woolshed is also listed on the State Heritage Register). The woolshed structure is located outside the Referral Area and will not be directly affected by the CCOP.

- Flyers Creek Mining Area (locally listed – Blayney LEP), located outside the Referral Area immediately to the east of the proposed STSFX.
- Cadia Engine House (locally listed – Cabonne LEP). This area is located within the existing/approved disturbance associated with current Cadia operations.
- Cliefden Caves (listed on State Heritage Register) located approximately 10 km southwest outside the Referral Area.
- Energy generation, specifically the Flyers Creek Wind Farm located to the east of the Referral Area, which was approved in March 2014 for development of 38 wind turbines and electricity transmission infrastructure, commenced construction in March 2022 and became operational in late 2023.

Access to Cadia is via local roads which are maintained and managed by local councils. The principal roads used by staff, visitors and suppliers to Cadia are:

- Ridgeway Road: the main vehicular access to Cadia which terminates on the Cadia site.
- Cadia Road: provides an emergency access point to the Cadia site but principally provides a link from Ridgeway Road to Forest Road. It also acts as the primary access for the Molybdenum Recovery Plant.
- Forest Road (MR245): a state/regional road which connects Cadia Road (and the Cadia site) to Orange.

Mine-related traffic makes up a significant proportion of traffic on these roads, most notably Ridgeway Road which is almost solely used by Cadia traffic. As Forest Road approaches Orange, the volume of non mine-related traffic increases as this road provides access to local properties, Orange Airport, Orange Hospital, the village of Spring Hill and locality of Spring Terrace.

### **3.1.2 Describe any existing or proposed uses for the project area.**

The Referral Area is located in a historically active mining area that currently consists of Cadia East, Cadia Hill and Ridgeway mines. Cadia operates under six current mining authorities:

- ML 1405
- ML 1449
- ML 1472
- ML 1481
- ML 1689
- ML 1690.

Additional Mining Lease Applications MLA 505 and MLA 506 are currently being assessed by the Department of Primary Industries and Regional Development (Mining Exploration and Geoscience). Additional mining lease(s) which are generally located to the South of the existing/approved disturbance area will be sought for the CCOP.

The land surrounding the CCOP is largely zoned RU1 (Primary Production) and has historically been cleared of native vegetation and used for beef and lamb grazing on a rotational grazing method, with the primary activities being the breeding and fattening of steers. Annual cropping for fodder (hay and silage) is also undertaken over a portion of the area.

When mining ends, it is anticipated that the Referral Area would be generally used for a combination of agricultural land uses as well as revegetated ecosystems.



### 3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The Canobolas State Forest is located immediately north and east and partially within the Referral Area and largely consists of plantations of introduced Monterey Pine (*Pinus radiata*). A portion of the NSW Foresty Land is within the east of the Referral Area, in the location of the proposed Cadia Road realignment which is required due to the subsidence extent associated with Cadia East Underground Mine, which also is partially within the Canobolas State Forest in this area. Figure 3 and Figure 4 of Attachment 1 show these project features and the areas within the Canobolas State Forest.

Gaanha Bula (Mount Canobolas) is located approximately 11 km to the north of the Referral Area.

The Cliefden Caves are the nearest known protected caves located approximately 10 km to the southeast of the Referral Area.

Nangar National Park is located approximately 40 km west of the Referral Area.

### 3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The Cadia Valley runs in a north-south direction and is bounded by a series of rolling hills which form ridgelines to the east and west of Cadiangullong Creek. Mount Canobolas and Mount Towac are the main topographic features to the north of the Cadia Valley, and stand at elevations of 1,397 m Australian Height Datum (m AHD) and 1,343 m AHD, respectively.

These features are located outside of the Referral Area, with Mount Canobolas located approximately 11 km to the north and Mount Towac located approximately 9 km north of Cadia.

The Referral area is sheltered within Cadia Valley below the foothills of Mount Canobolas and is surrounded by undulating terrain with a handful of localised rises and ridgelines (refer to **Att1, Figure 6**). Natural topographic elevations at Cadia range from around 1000 m AHD in the northeast of the site, 945 m AHD near the headwaters of the Rodds Creek catchment and approximately 540 m AHD at the confluence between Rodds Creek with Cadiangullong Creek to the southwest of the site.

## 3.2 Flora and fauna

### 3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

A Biodiversity Technical Report has been prepared by Umwelt to provide supporting information for this referral and is contained in **Attachment 5 (Att5)**. The report summarises the desktop review and ecological field survey effort undertaken to date for the Proposed Action and provides an assessment of potentially occurring or known flora and fauna that may be impacted by the Proposed Action, with specific reference to MNES.

The DCCEEW Protected Matters Search Tool (PMST) identified threatened and/or migratory entities that have been recorded in and/or are predicted to occur within a 10km buffer of the proposed additional disturbance area. This included four ecological communities, 14 plants, four frogs, three fish, three reptiles, 27 birds, seven mammals and one insect (refer to **Att5, Appendix D, pp 1-15**). Assessments of the likelihood of occurrence were undertaken for all identified threatened entities and are contained in **Att5, Appendix A, pp A-2 to A-24**, and **Att5, Appendix B, pp B-2 to B-4**.

### Fauna

Of the 16 fauna species listed as threatened under the EPBC Act and considered to have a moderate or higher likelihood of occurring within the Referral Area, eight of these species have either been recorded within the Referral Area through surveys conducted by Umwelt between the years of 2020 and 2024, or through BioNet Atlas records (2024). These are:

- Brown treecreeper (eastern subspecies) (*Climacteris picumnus victoriae*).
- Superb parrot (*Polytelis swainsonii*).
- Grey-headed flying-fox (*Pteropus poliocephalus*).
- White bellied sea-eagle (*Haliaeetus leucogaster*).
- Rainbow bee-eater (*Merops ornatus*).
- Flame Robin (*Petroica phoenicea*).
- Satin flycatcher (*Myagra cyanoaleuca*).
- Rufous fantail (*Rhipidura rufifrons*).

Further detail is provided in **Att5, Section 3.0, Table 3.2, pp 8**.

### Flora

Of the 14 flora species listed as threatened under the EPBC Act one was considered to have a moderate or higher likelihood of occurring within the Referral Area, *Swainsona recta* (small purple pea). This species was not detected during targeted flora surveys undertaken in October 2024. No other EPBC Act listed threatened flora species are considered to have a moderate or higher likelihood of occurring within the Referral Area. Survey methods are included in the technical assessment which will form an appendix to the Environmental Impact Statement.

## 3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

A large proportion of the Referral Area (outside of the existing mining areas) is agricultural land which has been previously cleared of native vegetation and actively managed as cropping and grazing land. Portions of the Referral Area have also been mapped as Biophysical Strategic Agricultural Land (BSAL) and this includes land mapped as Category 1 under Section 60H of the NSW *Local Land Services Act 2013*, being land cleared of native vegetation as at 1 January 1990. Some patches of open woodland and woodland occur, with some patches of more dense woodland occurring on the steepest hills and on rocky hilltops that have been historically harder to clear or improve pasture upon. In addition to the cleared agricultural land, other non-remnant vegetation is evident including planted vegetation, pine plantation and rehabilitated areas.

### Plant Community Types

Vegetation surveys conducted by Umwelt identified the presence of nine Plant Community Types (PCTs) as described by the NSW BioNet Vegetation Classification, in addition to non-native vegetation within the Referral Area (refer to **Att5, Section 4, Figure 4.1, pp 26**):

- PCT 85 - River Oak forest and woodland wetland of the NSW Southwestern Slopes and South Eastern Highlands Bioregion.
- PCT 266 - White Box grassy woodland in the upper slopes sub-region of the NSW South Western Slopes Bioregion.

- PCT 277 - Blakely's Red Gum - Yellow Box grassy tall woodland of the NSW South Western Slopes Bioregion.
- PCT 348 - Red Stringybark - Long-leaved Box - *Joycea pallida* grassy open forest in the upper Lachlan catchment, NSW South Western Slopes Bioregion and South Eastern Highlands Bioregion.
- PCT 3370 - Central Tableland Red Stringybark Grassy Forest.
- PCT 3376 - Southern Tableland Grassy Box Woodland.
- PCT 3406 - Southwest Ranges White Box Woodland.
- PCT 3534 - Central West Stony Hills Stringybark-Box Forest.
- PCT 4063 - Central and Southern Tableland River Oak Forest.

### **Ecological Communities**

The PMST search results identified four threatened ecological communities (TEC) considered to have some potential of occurring within the Referral Area. Extensive on-ground vegetation mapping has been undertaken eliminating three of the four TECs from the list of potential occurring TECs. One TEC, White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, has been recorded within the Referral Area.

### **Soil Types**

Statewide mapping of soil types as per the Australian Soil Classification (ASC) indicates the Referral Area is primarily dominated by Kurosols, with some Ferrosols, Kandosols and Dermosols, and a limited extent of Tenosols (refer to **Att1, Figure 5**).

## **3.3 Heritage**

### **3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.**

The Proposed Action will not impact any Commonwealth heritage places overseas.

The nearest Commonwealth Heritage Places are the North Base Trig Station, located at the Richmond Royal Australian Air Force (RAAF) Base and RAAF Base Richmond, both located approximately 146 km east of the Referral Area.

### **3.3.2 Describe any Indigenous heritage values that apply to the project area.**

The Referral Area falls within the traditional lands of the Wiradjuri people.

Aboriginal community consultation is being undertaken as part of the Aboriginal and Cultural Heritage Assessment (ACHA) prepared for the Project with reference to NSW Government guidelines.

To further understand Indigenous heritage values and archaeological significance, an archaeological fieldwork program was undertaken, with the Registered Aboriginal Parties (RAPs) involved in the archaeological survey, subsequent test excavation program and review of the draft report. The final ACHA report will incorporate any input and/or feedback from the RAPs that may assist in the management and protection of cultural heritage within the Referral Area.

Systematic survey of the Referral Area identified 25 new Aboriginal sites. Generally consistent with regional and local Aboriginal Heritage Information Management System (AHIMS) data and previous archaeological surveys undertaken at Cadia, the new recorded sites primarily comprised open artefact sites (i.e. isolated artefacts and artefact scatters), with or without identified areas of Potential Archaeological Deposit (PAD) and a single culturally modified tree. The proposed CCOP is anticipated to directly affect six Aboriginal sites based on survey to-date, with avoidance of remaining sites within the Referral Area due to project refinements, including new and previously recorded sites. One remaining area in the Additional Disturbance Footprint requires Archaeological survey and will be completed early November 2024. A targeted surface collection program of sites within the Additional Disturbance Footprint will be undertaken prior to the commencement of ground clearance works in the locations of these sites.

A cultural values assessment is also being undertaken to further consider intangible heritage values beyond what is captured as part of the ACHA process.

## 3.4 Hydrology

### 3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. \*

**Figure 6 of Attachment 1 (Att1)** identifies the catchments and key drainage lines of the local setting. The existing Cadia operations are located within the Cadiangullong Creek, Rodds Creek, Flyers Creek and Swallow Creek catchments. The Referral Area does not extend operations into any new catchment. All these creeks drain to the Belubula River (which forms part of the Lachlan River catchment). The Belubula River is unregulated in this section of the catchment below Carcoar Dam, however provides water to local landholders via licensed abstraction.

The Belubula River generally runs towards the south and west of the Referral Area. Flyers Creek generally runs north-south to the east of the CCOP, meeting the Belubula River to the south. Cadiangullong Creek generally runs north-south through the Referral Area forming the western boundary of the CCOP, before meeting the Belubula River to the south.

Three main aquifer systems have been identified within the Referral Area, as described below:

- Tertiary Basalt (Orange Basalt) is situated mostly throughout the northern portion of Cadia, with small, isolated outliers to the east, west and south. The regional groundwater level within this unit is generally 20 m below ground level, i.e. between 880 to 955 m AHD. Groundwater quality is typically fresh.
- Silurian Sediments are a fine-grained low permeability unit with groundwater intercepted within the fractured sandstone/siltstone and limestone layers. Groundwater depths range from 25 to 64 m below ground level. Groundwater quality is typically fresh and calcium-bicarbonate dominant.
- Ordovician Volcanics are a low yielding groundwater source associated with the fractured basement rocks. Occurring mostly within faults and fractures, groundwater levels in the Ordovician basement rocks are variable, ranging from 592 to 969 m AHD within bores monitored by Cadia. Groundwater is typically brackish to saline, calcium-magnesium-sulphate dominant and flows to the south-west.

Water contained within sedimentary limestone of the Silurian sediments to the east of Cadia is known to discharge at surface and provides base flow to Flyers Creek.

Water at Cadia is sourced from the Cadiangullong Dam, Upper Rodds Creek Dam, Flyers Creek Weir, Cadia Creek Weir, Orange Sewage Treatment Plant treated effluent, Blayney Sewage Treatment Plant treated effluent, on-site groundwater bores, Belubula River, Cadia open pit, the capture and reuse of mine water and harvestable surface water rights.

A Surface Water Impact Assessment (being conducted by ATC Williams on behalf of Cadia) and a Groundwater Impact Assessment (being conducted by Itasca on behalf of Cadia) are being prepared in support of the Environment Impact Statement for the CCOP. These reports will assess the potential impact of the proposed CCOP activities on the site water management system and local and regional surface and groundwater resources and recommend monitoring, management, and mitigation measures relevant to surface water and groundwater resources associated with CCOP.

## 4. Impacts and mitigation

### 4.1 Impact details

**Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.**

| EPBC Act section | Controlling provision  | Impacted | Reviewed |
|------------------|--|----------|----------|
| S12              | World Heritage   | No       | Yes      |
| S15B             | National Heritage  | No       | Yes      |
| S16              | Ramsar Wetland   | No       | Yes      |
| S18              | Threatened Species and Ecological Communities                                | Yes      | Yes      |
| S20              | Migratory Species  | Yes      | Yes      |
| S21              | Nuclear  | No       | Yes      |
| S23              | Commonwealth Marine Area   | No       | Yes      |
| S24B             | Great Barrier Reef   | No       | Yes      |
| S24D             | Water resource in relation to large coal mining development or coal seam gas | No       | Yes      |
| S26              | Commonwealth Land  | No       | Yes      |
| S27B             | Commonwealth Heritage Places Overseas  | No       | Yes      |
| S28              | Commonwealth or Commonwealth Agency  | No       | Yes      |

### 4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

#### 4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \*

No

#### 4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \*

No World Heritage Properties are located in the vicinity of the Referral Area. The Greater Blue Mountains World Heritage Area is the nearest World Heritage Property and is located approximately 92 km to the east of the Referral area.

### 4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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#### 4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \*

No

#### 4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \*

No National Heritage Places are located in the vicinity of the Referral Area. The nearest National Heritage Places are the Sydney Opera House, situated in Sydney, and Kurnell Peninsula Headland, situated on the southern shores of Botany Bay in Sydney's south.

### 4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

| Direct impact | Indirect impact | Ramsar wetland  |
|---------------|-----------------|---|
| No            | No              | Banrock Station Wetland Complex                       |
| No            | No              | Hattah-Kulkyne Lakes                                  |
| No            | No              | Riverland   |
| No            | No              | The Coorong, and Lakes Alexandrina and Albert Wetland |

#### 4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \*

No

#### 4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \*

The Proposed Action is located in the Lachlan River Catchment and there are no Ramsar wetlands located in this catchment area.

#### 4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

##### Threatened species

| Direct impact | Indirect impact | Species  | Common name   |
|---------------|-----------------|--|---|
| No            | No              | <i>Ammobium craspedioides</i>                                | Yass Daisy  |
| No            | No              | <i>Anthochaera phrygia</i>                                   | Regent Honeyeater   |
| Yes           | No              | <i>Aphelocephala leucopsis</i>                               | Southern Whiteface  |
| Yes           | No              | <i>Aprasia parapulchella</i>                                 | Pink-tailed Worm-lizard, Pink-tailed Legless Lizard                                   |
| No            | No              | <i>Botaurus poiciloptilus</i>                                | Australasian Bittern  |
| No            | No              | <i>Calidris acuminata</i>                                    | Sharp-tailed Sandpiper  |
| No            | No              | <i>Calidris ferruginea</i>                                   | Curlew Sandpiper  |
| No            | No              | <i>Callocephalon fimbriatum</i>                              | Gang-gang Cockatoo  |
| No            | No              | <i>Calyptorhynchus lathami lathami</i>                       | South-eastern Glossy Black-Cockatoo   |
| Yes           | Yes             | <i>Chalinolobus dwyeri</i>                                   | Large-eared Pied Bat, Large Pied Bat  |
| Yes           | No              | <i>Climacteris picumnus victoriae</i>                        | Brown Treecreeper (south-eastern)   |
| No            | No              | <i>Dasyurus maculatus maculatus</i> (SE mainland population) | Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) |
| No            | No              | <i>Delma impar</i>   | Striped Legless Lizard, Striped Snake-lizard  |
| No            | No              | <i>Eucalyptus aggregata</i>                                  | Black Gum   |
| No            | No              | <i>Eucalyptus canobolensis</i>                               | Silver-leaf Candlebark, Mt Canobolas Candlebark                                       |
| No            | No              | <i>Eucalyptus pulverulenta</i>                               | Silver-leaved Mountain Gum, Silver-leaved Gum   |
| No            | No              | <i>Falco hypoleucos</i>                                      | Grey Falcon   |



| <b>Direct impact</b> | <b>Indirect impact</b> | <b>Species</b>  | <b>Common name</b>  |
|----------------------|------------------------|---|---|
| No                   | No                     | Gallinago hardwickii  | Latham's Snipe, Japanese Snipe  |
| No                   | No                     | Grantiella picta  | Painted Honeyeater  |
| No                   | No                     | Hirundapus caudacutus   | White-throated Needletail   |
| Yes                  | No                     | Keyacris scurra   | Key's Matchstick Grasshopper  |
| No                   | No                     | Lathamus discolor   | Swift Parrot  |
| No                   | No                     | Leipoa ocellata   | Malleefowl  |
| No                   | No                     | Lepidium aschersonii  | Spiny Peppercress   |
| No                   | No                     | Leucochrysum albicans subsp. tricolor                                 | Hoary Sunray, Grassland Paper-daisy   |
| Yes                  | No                     | Litoria booroolongensis   | Booroolong Frog   |
| No                   | No                     | Litoria castanea  | Yellow-spotted Tree Frog, Yellow-spotted Bell Frog  |
| No                   | No                     | Litoria raniformis  | Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog |
| No                   | No                     | Maccullochella peelii   | Murray Cod  |
| No                   | No                     | Macquaria australasica  | Macquarie Perch   |
| No                   | No                     | Melanodryas cucullata cucullata                                       | South-eastern Hooded Robin, Hooded Robin (south-eastern)  |
| No                   | No                     | Neophema chrysostoma  | Blue-winged Parrot  |
| No                   | No                     | Nyctophilus corbeni   | Corben's Long-eared Bat, South-eastern Long-eared Bat   |
| No                   | No                     | Petauroides volans  | Greater Glider (southern and central)   |
| No                   | No                     | Petaurus australis australis  | Yellow-bellied Glider (south-eastern)   |
| No                   | No                     | Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) | Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)    |
| Yes                  | No                     | Polytelis swainsonii  | Superb Parrot   |
| No                   | No                     | Prasophyllum petilum  | Tarengo Leek Orchid   |
| Yes                  | No                     | Pteropus poliocephalus  | Grey-headed Flying-fox  |
| No                   | No                     | Pycnoptilus floccosus   | Pilotbird   |

| Direct impact | Indirect impact | Species               | Common name   |
|---------------|-----------------|-----------------------|---|
| No            | No              | Rostratula australis  | Australian Painted Snipe                                  |
| Yes           | No              | Stagonopleura guttata | Diamond Firetail  |
| No            | No              | Swainsona recta       | Small Purple-pea, Mountain Swainson-pea, Small Purple Pea |
| No            | No              | Synemon plana         | Golden Sun Moth   |
| No            | No              | Thesium australe      | Austral Toadflax, Toadflax                                |

## Ecological communities

| Direct impact | Indirect impact | Ecological community   |
|---------------|-----------------|--|
| No            | No              | Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia |
| No            | No              | Natural Temperate Grassland of the South Eastern Highlands   |
| Yes           | Yes             | White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland                        |

### 4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \*

Yes

### 4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. \*

Significant Impact Assessments (SIA) have been undertaken for all Matters of National Environmental Significance (MNES) considered to have the potential to occur within the Referral Area or be affected by the Proposed Action. The assessment of significance of the potential direct and indirect impacts of the Proposed Action on listed MNES has been prepared in keeping with the self-assessment process described in *Significant Impact Guidelines 1.1* (DoE 2013) against the significant impact criteria for each MNES.

MNES known or with reasonable potential to occur in the Referral Area have been assessed and relevant SIAs prepared. Future surveys are planned to be undertaken in accordance with relevant guidelines to seek to confirm the presence or absence of MNES with a moderate or higher likelihood of occurring.

The detailed SIAs are contained within **Att5, Appendix C, pp C-2 to C-40**. A summary of results is provided below:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Critically Endangered Ecological Community (CEEC) – 233.8 ha of the CEEC would be directly impacted by the Proposed Action through land clearing. Indirect impacts are predicted to occur on 0.3 ha of the CEEC and may include cracking and shifting of soils in the subsidence impact zone.
- Southern whiteface (*Aphelocephala leucopsis*) – direct impact on 330.49 of potential habitat.

- Pink-tailed worm lizard (*Aprasia parapulchella*) – direct impact on 5.5 ha of potential habitat.
- Brown treecreeper (eastern subspecies) (*Climacteris picumnus victoriae*) – direct impact on 124.6 ha of habitat.
- Large-eared pied bat (*Chalinolobus dwyeri*) – direct impact on 206.9 ha of potential foraging habitat.
- Key's matchstick grasshopper (*Keyacris scurra*) – direct impact on 221.2 ha of potential habitat.
- Booroolong frog (*Litoria booroolongensis*) – direct impact on 34.4 ha of potential habitat.
- South-eastern hooded robin (*Melanodryas cucullata cucullata*) – direct impact on 119.10 ha of potential habitat.
- Superb parrot (*Polytelis swainsonii*) – direct impact on 878.4 ha of potential foraging habitat and 66.2 ha of potential breeding habitat.
- Grey-headed flying-fox (*Pteropus poliocephalus*) – direct impact on 114.8 ha of potential foraging habitat.
- Diamond firetail (*Stagonopleura guttata*) – direct impact on 330.5 ha of potential habitat.
- Flame robin (*Petroica phoenicea*) – direct impact on 119.1 ha of potential habitat.
- Rainbow bee-eater (*Merops ornatus*) – direct impact on 119.1 ha of potential habitat.
- Satin flycatcher (*Myagra cyanoleuca*) – direct impact on 119.1 ha of potential habitat.
- Black-eared cuckoo (*Chalcites osculans*) – direct impact on 119.1 ha of potential habitat.
- Yellow wagtail (*Motacilla flava*) – direct impact on 119.1 ha of potential habitat.
- Rufous fantail (*Rhipidura rufifrons*) – direct impact on 119.1 ha of potential habitat.

#### 4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? \*

Yes

#### 4.1.4.5 Describe why you consider this to be a Significant Impact. \*

The significance of the potential direct and indirect impacts of the Proposed Action on listed Matters of National Environmental Significance (MNES) has been assessed in keeping with the self-assessment process described in Significant Impact Guidelines 1.1 (DoE 2013) against the significant impact criteria for each MNES. The detailed assessments are contained **Att5, Appendix C, pp C-2 to C-40**.

The assessments of significance identified that the Proposed Action is likely to have a significant residual impact on two threatened entities known to occur within the Referral Area:

- 234.1 ha of direct impact to White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (including 4.9 ha of condition Class A and 229.2 ha of condition Class B), would have a significant impact on the CEEC.
- Superb parrot (*Polytelis swainsonii*) (Vulnerable) - The removal of up to 71.5 ha of potential superb parrot breeding habitat (including known confirmed nest trees) and up to 878.4 ha of foraging habitat would significantly impact the important population of superb parrot known to be using the Additional Disturbance Area.

The Proposed Action may have a potentially significant impact on the following MNES if they are found to be present during upcoming targeted surveys and depending on the area of impact:

- Large-eared pied bat (*Chalinolobus dwyeri*) (Vulnerable) - should large-eared pied-bat be found to occur within the Additional Disturbance Area and be using the nearby rockfaces of Cadiangullong Gorge during the breeding season, the removal of up to 206.9 ha of potential foraging habitat within 2 km of that potential breeding habitat would significantly impact the breeding cycle of the species.
- Key's matchstick grasshopper (*Keyacris scurra*) (Endangered) - should Key's matchstick grasshopper be found to occur within the Additional Disturbance Area, the removal of up to 220.2 ha of potential habitat would significantly impact the species.

#### 4.1.4.7 Do you think your proposed action is a controlled action? \*

Yes

#### 4.1.4.8 Please elaborate why you think your proposed action is a controlled action. \*

Despite the implementation of avoidance along with appropriate management and mitigation measures, the Proposed Action is likely to be a controlled action due to proposed impacts to threatened species and communities within the Referral Area.

We therefore consider that the Proposed Action is likely to be a controlled action for threatened species and ecological communities.

#### 4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. \*

A hierarchical approach of avoiding, then minimising vegetation clearing was adopted in the design of the Proposed Action in response to ecological constraints. A summary of the avoidance, minimisation and mitigation measures that will be implemented for the Proposed Action is provided below, with further detail provided in **Att5, Section 6, pp 39 to 50**.

##### **Avoidance and Minimisation Measures**

The avoidance of MNES values as far as practicable has been undertaken through the design (i.e. footprint reduction and siting) of the Additional Disturbance Area. Since Project inception to the present, the Additional Disturbance Area has reduced in size to respond to emerging understanding of site-specific biodiversity constraints and to prioritise the avoidance of impacts on potential serious and irreversible impact entities.

Design refinements of the Proposed Action have also resulted in the Additional Disturbance Footprint being approximately 25% of the 2020 Survey Area (**Att5, Section 6, pp 39 to 50**), through avoidance and minimisation of impacts, including:

- Southern Tailings Storage Facility Extension (STSFX) – the proposed tailings storage facility was originally proposed as a standalone storage facility with a much larger disturbance footprint. However, following the completion of investigations and further design, it is now proposed that the Southern Tailings Storage Facility Extension (STSFX) be integrated with the existing southern tailings facility (STSF) which has significantly reduced the footprint of the facility and therefore reduced biodiversity impacts.
- Panuara Road realignment area – selection of the Panuara Road realignment option which has less impact on biodiversity and Project layout refinements to avoid land containing greater biodiversity value through use of existing disturbed land or areas of lower biodiversity value where practicable.
- Removal of south water storage – The removal of the south water storage from the CCOP has reduced the disturbance area associated with the CCOP in the southwestern corner by approximately 350 hectares which has avoided areas of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, avoided inundation of approximately 2.5 km of a key landscape connectivity

feature (Cadiangullong Creek) comprised of bedrock and cobble substrates, avoided loss of hundreds of hollows and avoided loss of surface rock habitat.

- Supporting infrastructure – refinements to the location of supporting infrastructure were undertaken to avoid patches of higher quality remnant native vegetation that contained a significant number of high-quality tree hollows and were most frequently the location where superb parrots were recorded.

Design optimisation will continue throughout the environmental impact assessment phase, and avoidance and mitigation measures will continue to be developed to minimise potential direct and indirect impacts to threatened species and communities. Where impacts on MNES cannot be avoided, all reasonable efforts have and will be made to minimise Project impacts.

#### **Mitigation Measures**

A Biodiversity Management Plan would be prepared for the Proposed Action that would address:

- Native fauna management including pre-clearing surveys and supervision of habitat removal.
- Native vegetation and weed management.
- Revegetation and rehabilitation works.
- Resource salvage.
- Erosion and sedimentation control and management.
- Pest control and management.
- Workforce education and training.
- Unauthorised access and human disturbance.

These management plans will build on the existing management plans in place at the Cadia mine and will be prepared for the Proposed Action and once the necessary approvals are gained. Management plans will be developed in accordance with relevant Federal and State guidance and will including proposed measures, timing of proposed measures, trigger levels, corrective actions, responsible parties and reporting requirements.

Further general and MNES-specific mitigation and management measures are provided in **Att5, Section 6, pp 39 to 50**.

#### **4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. \***

The NSW and Australian Governments have agreed that endorsement of the NSW Biodiversity Offset Scheme to avoid, minimise and offset biodiversity impacts in NSW on both NSW and Commonwealth listed entities provides for the best and most effective biodiversity and regulatory outcomes. The Australian Government has identified the use of the NSW Biodiversity Assessment Method (BAM) as the underpinning methodology for calculating biodiversity credit requirements in NSW.

To meet offsets required for Commonwealth listed entities impacted by the Proposed Action, Cadia will retire the credits required to offset the impacts of the Proposed Action following the provisions of the BAM. Cadia is seeking flexibility to use one or more of the following options for securing credits as available under the BAM including:

- Land based offsets through the establishment of new Biodiversity Stewardship Sites (and subsequent retirement of credits) or by retiring available credits from existing Biodiversity Stewardship Sites.
- Securing (purchasing) credits through the open credit market.
- Paying directly into the Biodiversity Conservation Fund (BCF).

#### **4.1.5 Migratory Species**

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

| Direct impact | Indirect impact | Species                      | Common name                    |
|---------------|-----------------|------------------------------|--------------------------------|
| No            | No              | <i>Actitis hypoleucos</i>    | Common Sandpiper               |
| No            | No              | <i>Apus pacificus</i>        | Fork-tailed Swift              |
| No            | No              | <i>Calidris acuminata</i>    | Sharp-tailed Sandpiper         |
| No            | No              | <i>Calidris ferruginea</i>   | Curlew Sandpiper               |
| No            | No              | <i>Calidris melanotos</i>    | Pectoral Sandpiper             |
| No            | No              | <i>Gallinago hardwickii</i>  | Latham's Snipe, Japanese Snipe |
| No            | No              | <i>Hirundapus caudacutus</i> | White-throated Needletail      |
| Yes           | No              | <i>Motacilla flava</i>       | Yellow Wagtail                 |
| Yes           | No              | <i>Myiagra cyanoleuca</i>    | Satin Flycatcher               |
| Yes           | No              | <i>Rhipidura rufifrons</i>   | Rufous Fantail                 |

#### 4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \*

Yes

#### 4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. \*

Desktop database search of the PMST identified 11 migratory species known or potentially occurring within the Referral Area:

- Common sandpiper (*Actitis hypoleucos*)
- Fork-tailed swift (*Apus pacificus*)
- Pectoral sandpiper (*Calidris melanotos*)
- Black-faced monarch (*Monarcha melanopsis*)
- Yellow wagtail (*Motacilla flava*)
- Satin flycatcher (*Myiagra cyanoleuca*)
- Rufous fantail (*Rhipidura rufifrons*)
- White-throated needletail (*Hirundapus caudacutus*)
- Latham's snipe (*Gallinago hardwickii*)
- Curlew sandpiper (*Calidris ferruginea*)
- Sharp-tailed sandpiper (*Calidris acuminata*).

Of the above, five non-nationally threatened but Commonwealth listed marine and/or migratory species have been recorded using the habitat within the Referral Area or flying over:

- White-bellied sea-eagle (*Haliaeetus leucogaster*) (marine species) – no direct impact
- Rainbow bee-eater (*Merops ornatus*) (marine species) – direct impact on 119.1 ha of potential habitat.

- Flame robin (*Petroica phoenicea*) (marine species) – direct impact on 119.1 ha of potential habitat.
- Satin flycatcher (*Myagra cyanoleuca*) (migratory and marine species) – direct impact on 119.1 ha of potential habitat.
- Rufous fantail (*Rhipidura rufifrons*) (migratory and marine species) – direct impact on 119.1 ha of potential habitat.

An additional two migratory species are considered to have a moderate likelihood of occurring in the Referral Area:

- Black-eared cuckoo (*Chalcites osculans*) – direct impact on 119.1 ha of potential habitat.
- Yellow wagtail (*Motacilla flava*) – direct impact on 119.1 ha of potential habitat.

#### 4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? \*

No

#### 4.1.5.6 Describe why you do not consider this to be a Significant Impact. \*

A likelihood of occurrence assessment for migratory species is detailed in **Att5, Appendix A, pp A-2 to A-24** and a Significant Impact Assessment (SIA) of the potential direct and indirect impacts of the Proposed Action on listed Migratory species has been prepared in accordance with the assessment criteria in *Significant Impact Guidelines 1.1* (DoE 2013) **Att5, Appendix C, pp C-38 to C-40**.

In summary, despite impacts proposed to potential habitat for the species that are known or have a moderate or higher likelihood of occurring in the Referral Area, the SIA results found the impacts to these species is unlikely to be significant.

Yellow wagtail, satin flycatcher and rufous fantail are widely distributed through Australia, and are evidently landscape mobile, such that seasonal migration across the Australian continent is likely to occur along a broad front.

Area thresholds for important habitats for these species have not been determined. The Proposed Action would:

- not cause a significant long-term decrease of an important population
- not cause a reduction in the area of occupancy of an important population
- not fragment an existing important population into two or more
- adversely affect habitat critical to the survival of a species, however it is unlikely that this would significantly impact the species
- not disrupt the breeding cycle of an important population
- have only minor cause to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent such that the species is not likely to significantly decline
- not result in additional invasive species that are harmful to a vulnerable species becoming established in the species' habitat, nor significantly increase the effects of existing invasive species
- not likely introduce disease that may cause the species to decline
- not interfere substantially with the recovery of the species.

The Proposed Action is therefore unlikely to significantly impact the yellow wagtail, satin flycatcher and rufous fantail.

#### 4.1.5.7 Do you think your proposed action is a controlled action? \*

No

**4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action. \***

Despite migratory and marine species having been recorded or having a moderate or higher likelihood of occurrence, the Proposed Action would not have a significant impact on these species due to their generalist habitat and breeding requirements and wide-ranging occurrence. No wetland specialist species would be impacted as there is no wetland habitat within the Additional Disturbance Area.

**4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. \***

Avoidance and mitigation measures relating to the migratory species whose habitat/potential habitat would be directly impacted by the Proposed Action include:

- Avoidance of impacts to connectivity through:
  - Locating new site infrastructure (e.g. the STSFX electricity booster station) in areas of previously disturbed by mining activities where possible.
  - Siting the STSFX so that 70% of the emplacement area utilises existing disturbed mine lands and the residual 30% of clearing required occurs on lands dominated by exotic pastures and exempt Category 1 land.
  - Locating material borrow pits within the footprint of the proposed future emplacement area.
  - Locating the realignment of Panuara Road as close to the STSFX as practicable to minimise habitat fragmentation within the operational area.
- Mitigation measures that would be detailed in the updated BMP for:
  - Impacts to habitat connectivity.
  - Native fauna management including pre-clearing surveys and supervision of habitat removal.
  - Detailed tree-clearing protocol.
  - Native vegetation and weed management.
  - Pest control and management.

**4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. \***

To meet offsets required for Commonwealth listed entities for controlled actions under the NSW Biodiversity Offsets Scheme, Cadia will retire the credits required to offset the impacts of the Proposed Action.



#### **4.1.6 Nuclear**

**4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? \***

No

**4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \***

The Proposed Action does not involve a Nuclear Action.

#### **4.1.7 Commonwealth Marine Area**

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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**4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \***

No

**4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \***

There are no Commonwealth Marine Areas located in the vicinity of the Referral Area.

#### **4.1.8 Great Barrier Reef**

**4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? \***

No

**4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \***

The Great Barrier Reef Marine Park is not located within or adjacent to the Referral Area. The Great Barrier Reef Marine Park is located over 1,500 km by direct line to the north of the Referral Area.

#### **4.1.9 Water resource in relation to large coal mining development or coal seam gas**

**4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? \***

No

**4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \***

The Proposed Action does not involve coal mining or coal seam gas.

#### **4.1.10 Commonwealth Land**

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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##### **4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \***

No

##### **4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \***

There is no Commonwealth Land within or adjacent to the Referral Area.

#### **4.1.11 Commonwealth Heritage Places Overseas**

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

—

##### **4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? \***

No

**4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. \***

There are no Commonwealth Heritage Places Overseas within or adjacent to the Referral Area.

**4.1.12 Commonwealth or Commonwealth Agency**

**4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? \***

No

**4.2 Impact summary**

**Conclusion on the likelihood of significant impacts**

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

- Threatened Species and Ecological Communities (S18)

**Conclusion on the likelihood of unlikely significant impacts**

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)

- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

## 4.3 Alternatives

### 4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? \*

No

### 4.3.8 Describe why alternatives for your proposed action were not possible. \*

The primary element of the proposed action is the location of the Tailings Storage Facility (TSF). Several locations were considered during the feasibility and site selection process. The various reports, including copies of the *Southern Tailings Storage Facility Site and Technology Selection Process* (WSP 2023) report (**Att6**) and the *Evaluation of Siting and Technology Report* (December 2023) are located on the CCOP website: (<https://caportal.com.au/umwelt/cadia>). The findings of this process identified the STSFX as the preferred location.

Several alternative configurations of the STSFX were considered in the Cadia Continued Operations Project (CCOP) conceptual design process and material changes were made in response to stakeholder feedback including changes in the size, location and design of the STSFX.

Alternatives that have been considered as part of the CCOP are summarised below.

#### **TSF Site and Technology Review**

Since 2005, extensive studies have been conducted to assess potential locations for a new TSF. These studies have considered over 15 potential sites and have involved wide-ranging site searches within a 40 km radius around Cadia. These studies did not identify any credible alternatives to a new TSF in the area proposed for the STSFX.

Cadia Holdings Property Ltd (CHPL) engaged WSP in 2023 to complete a Tailings Storage Facility Site and Technology Selection Report (**Att6**). This report offers detailed insights into the considerations made during the assessment of various options for tailings management, providing additional clarity on the site and technology selection process. This report was submitted to DPE (now DPHI) for its consideration. Following this, DPHI commissioned a peer review by two independent experts to assess the chosen location, technology and associated documentation, ensuring the proposed site and technology represent the most optimal choice.

The peer review agreed that the proposed STSFX location is the most suitable option for the new TSF. It was deemed to have the least effect on both community and habitat, being located on land owned by CHPL and provides sufficient storage for the proposed term of the CCOP. Further, the review supported the proposed hydrocyclone sand dam option as the preferred tailings containment and delivery strategy. The peer review provided a number of recommendations, including the development of a larger-scale cyclone sand pilot plant to confirm the sand production methodology.

#### **Tailings Disposal Method and TSF Design**

Cadia currently uses the conventional slurry method of tailings deposition. For the CCOP, five methods of tailings disposal were initially considered, each requiring a different footprint and method of construction. The five options considered and the reasons why they were not viable include:

- **Thickened slurry/paste deposition with rock wall embankment** – this option would require large volumes of rock and other materials to construct the facility. Sourcing this volume of rock and other material would require either a large increase in the CCOP impact area or supply from an external commercial quarry. An initial investigation of possible sources identified that there are currently no viable commercial sources of the volume of material required.
- **Dry stack** – this option was dismissed as it would likely result in an increase to noise and dust impacts in surrounding areas and the technique has not been proven viable at the throughput level required by Cadia.
- **Mixed placement – co-dispose/co-mingle/co-place** – this technique is reliant on both waste rock and tailings streams and is not a suitable option for Cadia as the current mining method and plan does not produce sufficient waste rock or overburden quantities.
- **Engineered sand wall using coarse tailings (hydrocyclone sand)** – while the hydrocyclone technology is new to NSW, it has been implemented successfully in other jurisdictions. This technique was identified as the TSF option with the smallest impact footprint, allows for greater control over the moisture content of tailings deposited and repurposes a portion of the tailings as a construction material. This was the technology selected for STSFX.
- **Underground placement of tailings into void spaces** – while the option of underground placement of tailings will continue to be reviewed over the life of the CCOP, it is currently considered unfeasible due to ongoing mining activities and connectivity between underground cave zones creating a safety hazard. The available capacity within the underground void spaces is also insufficient to meet the current requirements for the CCOP. It is noted that this option could become viable towards the end of the proposed life of the extension as the storage capacity required at this time would be significantly less.

### **Panuara Road Realignment**

The selection of the location of Panuara Road Realignment initially considered six options for the realignment of Panuara Road (or realignment of transport operations).

Following an internal evaluation considering engineering, environmental, social and cost factors, three options were ruled out due to either impractical implementation or cost considerations relative to potential benefits for road users and landowners. **Attachment 1 (Att1)**, **Figure 7** identifies Options 1, 2 and 6 which were presented to the local community.

Following consultation with the local community, a seventh realignment option was also investigated (identified on **Att1**, **Figure 7** as 'Alternate Panuara Road Realignment'). This option was a community suggestion and involved the construction of a public road from Cadia Road to Four Mile Creek Road through the Cadia mine site. This option was discounted due to the:

- Safety risks posed by a public road passing through an active mine site.
- Requirement for frequent road closures due to daily mine operations.
- Ownership and liability issues from the perspective of both the council and Newmont.
- Challenges presented by the need to relocate an explosives storage plant without suitable alternative locations.
- Potential regulatory issues.

Initial consultation with local landowners provided minimal support for Option 2 because of the additional travel time it would add for a number of landowners. Strategic regional benefits which were also considered a potential benefit for improved north-south distribution of traffic (Option 2) were not identified as a benefit through this consultation. Option 2 also presents challenges associated with:

- Interaction with a state listed heritage site (Cliefden Caves).
- Interaction with additional roads and road users south of the Belubula River.

- Construction of another crossing of the Belubula River.
- Interaction with additional tributaries of the Belubula River to the south.
- Incursion into another Local Government Area (Cowra Shire).

Option 6 was also less favoured than Option 1 by those consulted as it required the purchase of private land, as well as a new intersection and use of an additional road (Errowanbang Road). Therefore, Option 1 was identified as a preferred option. Through further development and refinement of the CCOP, Option 1 has been amended and the eastern portion of the proposed realignment moved to be closer to the proposed STSFX, moving further away from private landholders, vegetated areas and state-listed heritage items in the south-east outside the Referral Area.

## 5. Lodgement

### 5.1 Attachments

#### 1.2.1 Overview of the proposed action

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures              | 24/10/2024 | Mo          | High       |
| #2. | Document | Att2_DetailedProjectDescription.pdf<br>Description of the Proposed Action | 24/10/2024 | Mo          | High       |

#### 1.2.7 Public consultation regarding the project area

|     | Type | Name  | Date | Sensitivity | Confidence |
|-----|------|---|------|-------------|------------|
| #1. | Link | Cadia Continued Operations Project<br><a href="https://caportal.com.au/umwelt/cadia">https://caportal.com.au/umwelt/cadia</a>                             |      |             | High       |
| #2. | Link | Cadia Continued Operations Project<br><a href="https://www.planningportal.nsw.gov.au/major-proj..">https://www.planningportal.nsw.gov.au/major-proj..</a> |      |             | High       |

#### 1.3.2.17 (Person proposing to take the action) Proposer's history of responsible environmental management

|     | Type | Name  | Date | Sensitivity | Confidence |
|-----|------|---|------|-------------|------------|
| #1. | Link | Cadia Management Plans<br><a href="https://www.cadiavalley.com.au/newcrest/cvo/envi..">https://www.cadiavalley.com.au/newcrest/cvo/envi..</a> |      |             | High       |
| #2. | Link | EPBC Act Public Portal<br><a href="https://epbcpublicportal.environment.gov.au/all-..">https://epbcpublicportal.environment.gov.au/all-..</a> |      |             | High       |

#### 1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

|  | Type | Name | Date | Sensitivity | Confidence |
|--|------|------|------|-------------|------------|
|--|------|------|------|-------------|------------|

|     |          |   |            |    |      |
|-----|----------|---|------------|----|------|
| #1. | Document | Att3_Newmont Sustainability and Stakeholder Engagement Policy.pdf<br>Newmont Sustainability and Stakeholder Engagement Policy                         | 24/10/2024 | No | High |
| #2. | Document | Att4_CadiaEnvironmentalManagementStrategy.pdf<br>Cadia Environmental Management Strategy  | 24/10/2024 | No | High |
| #3. | Link     | Cadia Environmental Management<br><a href="https://www.cadiavalley.com.au/newcrest/cvo/envi..">https://www.cadiavalley.com.au/newcrest/cvo/envi..</a> |            |    | High |

2.2.5 Tenure of the action area relevant to the project area

|     | Type     | Name   | Date       | Sensitivity | Confidence |
|-----|----------|--|------------|-------------|------------|
| #1. | Document | Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures | 24/10/2024 |             | High       |

3.1.1 Current condition of the project area's environment

|     | Type     | Name   | Date       | Sensitivity | Confidence |
|-----|----------|--|------------|-------------|------------|
| #1. | Document | Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures | 24/10/2024 |             | High       |

3.1.4 Gradient relevant to the project area

|     | Type     | Name   | Date       | Sensitivity | Confidence |
|-----|----------|--|------------|-------------|------------|
| #1. | Document | Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures | 24/10/2024 |             | High       |

3.2.1 Flora and fauna within the affected area

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att5_Biodiversity Technical Report.pdf<br>Biodiversity Technical Report | 05/12/2024 | No          | High       |

3.2.2 Vegetation within the project area

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures            | 24/10/2024 |             | High       |
| #2. | Document | Att5_Biodiversity Technical Report.pdf<br>Biodiversity Technical Report | 05/12/2024 | No          | High       |

3.4.1 Hydrology characteristics that apply to the project area

|     | Type     | Name | Date | Sensitivity | Confidence |
|-----|----------|------|------|-------------|------------|
| #1. | Document |      |      |             |            |



|  |            |      |
|--|------------|------|
| Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures | 24/10/2024 | High |
|--|------------|------|

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att5_Biodiversity Technical Report.pdf<br>Biodiversity Technical Report   | 05/12/2024 | No          | High       |
| #2. | Link     | Matters of National Significance Significant Impact Guidelines 1.1<br><a href="https://www.dcceew.gov.au/sites/default/files/do..">https://www.dcceew.gov.au/sites/default/files/do..</a> |            |             | High       |

4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att5_Biodiversity Technical Report.pdf<br>Biodiversity Technical Report   | 05/12/2024 | No          | High       |
| #2. | Link     | Matters of National Significance Significant Impact Guidelines 1.1<br><a href="https://www.dcceew.gov.au/sites/default/files/do..">https://www.dcceew.gov.au/sites/default/files/do..</a> |            |             | High       |

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att5_Biodiversity Technical Report.pdf<br>Biodiversity Technical Report | 05/12/2024 | No          | High       |

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att5_Biodiversity Technical Report.pdf<br>Biodiversity Technical Report | 05/12/2024 | No          | High       |

4.3.8 Why alternatives for your proposed action were not possible

|     | Type     | Name  | Date       | Sensitivity | Confidence |
|-----|----------|---|------------|-------------|------------|
| #1. | Document | Att1_Referral Figures.pdf<br>EPBC Referral Responses Figures  | 24/10/2024 |             | High       |
| #2. | Document | Att6_Tailings Storage Facility Site and Technology Selection Report.pdf<br>Southern Tailings Storage Facility Site and Technology Selection Process | 24/10/2024 | No          | High       |
| #3. | Link     |   |            |             |            |

## 5.2 Declarations

### ✔ Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

|                            |                                 |
|----------------------------|---------------------------------|
| ABN/ACN                    | 062648006                       |
| Organisation name          | CADIA HOLDINGS PTY LIMITED      |
| Organisation address       | 1460 Cadia Road ORANGE NSW 2800 |
| Representative's name      | Rodney Williams                 |
| Representative's job title | Manager Approvals & Permitting  |
| Phone                      | 0427125688                      |
| Email                      | rodney.williams1@newmont.com    |
| Address                    | 1460 Cadia Road Orange NSW 2800 |

☒ Check this box to indicate you have read the referral form. \*

☒ I would like to receive notifications and track the referral progress through the EPBC portal.  
\*

☒ By checking this box, I, **Rodney Williams of CADIA HOLDINGS PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. \*

☒ I would like to receive notifications and track the referral progress through the EPBC portal.  
\*

### ✔ Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

Same as Referring party information.

☒ Check this box to indicate you have read the referral form. \*

☒ I would like to receive notifications and track the referral progress through the EPBC portal.

\*

☒ I, **Rodney Williams of CADIA HOLDINGS PTY LIMITED**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. \*

☒ I, **Rodney Williams of CADIA HOLDINGS PTY LIMITED**, the Person proposing the action, consent to the designation of **Rodney Williams of CADIA HOLDINGS PTY LIMITED** as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. \*

☒ I would like to receive notifications and track the referral progress through the EPBC portal.

\*

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### ☒ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

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Same as Person proposing to take the action information.

☒ Check this box to indicate you have read the referral form. \*

☒ I would like to receive notifications and track the referral progress through the EPBC portal.

\*

☒ I, **Rodney Williams of CADIA HOLDINGS PTY LIMITED**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. \*

☒ I would like to receive notifications and track the referral progress through the EPBC portal.

\*