



Modification 16 Northern Tailings Storage Facility Buttress Optimisation



EXECUTIVE SUMMARY

Cadia Valley Operations (hereafter referred to as Cadia) is located approximately 25 kilometres south-west of Orange, in the Central Tablelands of New South Wales (NSW).

Cadia Holdings Pty Limited (CHPL) is a wholly owned subsidiary of Newmont Corporation (Newmont). CHPL is the owner and operator of Cadia.

Project Approval 06_0295 (PA 06_0295) for Cadia was granted by the NSW Minister for Planning under Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) on 6 January 2010.

PA 06_0295 includes the Cadia East Underground Mine, the Cadia Hill Open Cut Mine (now used to store tailings), the Ridgeway Underground Mine, the concentrate dewatering facilities east of Blayney (only the Cadia Valley Operations Dewatering Facility is in operation), and a wide range of ancillary and supporting infrastructure. These integrated operations are herein referred to as Cadia (Plate ES-1).

CHPL proposes a modification to PA 06_0295, under section 4.55(2) of the EP&A Act. The main elements of the Modification include:

- using recovered sand to buttress the southern wall of the Northern Tailings Storage Facility (NTSF);
- emplacing/stockpiling excess recovered sand within the approved Southern Tailings Storage Facility (STSF) disturbance footprint; and
- integrating the recovered sand demonstration embankment approved under Modification 15 to PA 06_0295 with the proposed NTSF southern wall recovered sand buttress, with the integrated structure to remain and form part of the final landform.

Through this Modification, CHPL would continue to contribute substantial economic and social benefits at a local, state and regional level whilst continuing to contribute to the local communities in which Cadia and its employees operate and reside.

This Modification Report has been prepared to support a modification application in consideration of the *State Significant Development Guidelines* (Department of Planning, Housing and Infrastructure, 2024), in particular Appendix E *State significant development guidelines – preparing a modification report* (Department of Planning and Environment [DPE], 2022a).



Plate ES-1 Cadia Valley Operations

Strategic Considerations

In 2024/2025, Cadia produced 431,812 ounces of gold (Newmont, 2025b) making the operation the largest single producer of gold in NSW in what was NSW's second most valuable exported product in 2025 (NSW Minerals Council, 2025). Cadia also produced 87,564 tonnes of copper in concentrate form and 1,856 tonnes of molybdenum (as concentrate) making Cadia the largest producer of copper in NSW and only molybdenum producer in Australia, both being strategically important metals required for the transition to a low carbon future (Newmont, 2025b).

Cadia is recognised as a current major operating mine in the *Future of Minerals in NSW* report (Department of Planning, Industry and Environment, 2020a). Both the Commonwealth and NSW Governments recognise the importance of continued investment in minerals mining and the associated economic benefits.

The strategic policies relevant to Cadia are described below:

- *Australia's Global Resources Statement – Reliable, Responsible, Ready for the Future* (Department of Industry, Science, Energy and Resources, 2020): Highlights the Australian Government's commitment to a technology-led approach to lowering Australia's greenhouse gas emissions, including a strong focus on minerals and high-tech metals within the mining sector.
- *National Resource Statement – Pursuing Our 2030 Vision 2020 Update* (Department of Industry, Science and Resources, 2020): Details the Australian Governments long-term vision for natural resources, focusing on the economic, regulatory, and environmental future of industry in Australia.
- *Critical Mineral Strategy 2023 – 2030* (Commonwealth of Australia, 2023): Identifies copper as a key energy transition metal. Cadia is a significant producer of copper. Newmont expects that, given the global energy transition, demand for copper will continue to escalate.

- *NSW Minerals Strategy* (DPE, 2019): Focuses on the existing and potential mining resources for a range of minerals in NSW, including minerals critical for renewable energy and electrified transport.
- *NSW critical minerals and high-tech metals strategy 2024 – 35* (Department of Primary Industries and Regional Development, 2024): Discusses a desire to continue to develop the critical and high-technology metal industry in NSW. This strategy highlights NSW's rich mineral resources, including abundant copper resources and specifically notes Cadia as being a world-class deposit of gold and copper.
- *The Role of Critical Minerals in Clean Energy Transitions* (International Energy Agency [IEA], 2022): The IEA also identified copper as being central as the world transitions to renewable energy sources, particularly because energy networks require a "huge amount of copper", with copper being a cornerstone of all electricity-related technologies. The report describes molybdenum is a mineral used in clean energy technologies, particularly as it is used in specialised steel for geothermal and wind generation.

The continued extraction of gold, silver, copper and molybdenum from Cadia provides a broad range of positive economic impacts at national, state and local levels and is consistent with Commonwealth and NSW Government policies.

On Friday 9 March 2018, Cadia experienced a partial slump of the NTSF embankment, which was fully contained within the adjacent STSF. CHPL subsequently adopted a precautionary approach by temporarily suspending operations at Cadia and ceasing/limiting the deposition of additional tailings in the NTSF and STSF.

CHPL has since progressively recommenced operations at Cadia through a series of modifications that have facilitated the deposition of tailings into the Pit Tailings Storage Facility, along with a measured and progressive sequence of buttressing works to the NTSF and STSF embankments using rock fill, including the application of findings from ongoing technical/engineering studies.

The strategic context of the proposed Modification continues to build on the existing process of progressive buttressing. However, the Modification proposes buttressing of the NTSF embankment using a tailings product known as recovered sand as the main construction material as well as rock.

The Modification is a key enabler to allow for the efficient buttressing of the NTSF embankment within the STSF footprint.

Description of the Modification

The main elements of the Modification include:

- using recovered sand to buttress the southern wall of the NTSF;
- emplacing/stockpiling excess recovered sand within the approved STSF disturbance footprint; and
- integrating the recovered sand demonstration embankment approved under Modification 15 to PA 06_0295 with the proposed NTSF southern wall recovered sand buttress, with the integrated structure to remain and form part of the final landform.

The Modification would not change the following components of the approved Cadia:

- Existing/approved disturbance footprint.
- Mining method.
- Cadia East Underground Mine and Ridgeway Underground Mine footprint/dimensions.
- Processing rate.
- Mine life.
- Maximum approved heights of the Tailings Storage Facility embankments.

Geotechnical Review

GHD (2025) (Appendix A) has considered the requirement to create a final landform that is safe and stable over the long term in accordance with the PA 06_0295 conditions. The modified buttress, which includes a shallower slope, has been designed with the appropriate geotechnical Factor-of-Safety (FoS) for a design earthquake event, satisfying the performance aspects set out by the Australian National Committee on Large Dams (ANCOLD) *Guidelines on Tailings Dams – Planning, Design, Construction, Operation and Closure*. (ANCOLD [2019] in GHD [2025]).

Similarly, GHD evaluated the emplacements/stockpiles proposed for the Modification and concluded that, for all cases assessed, the required FoS under both drained and undrained conditions meets the ANCOLD recommendation for no risk of tailings release (GHD, 2025).

Stakeholder Engagement Overview

CHPL has consulted with several stakeholders during the development of this Modification Report, including:

- Department of Planning, Housing and Infrastructure;
- NSW Resources;
- NSW Department of Climate Change, Energy, the Environment and Water – Water;
- NSW Environment Protection Authority (EPA);
- Dams Safety NSW;
- the Community Consultative Committee, which includes representatives from:
 - Blayney Shire Council;
 - Orange City Council;
 - Cabonne Shire Council;
 - Orange Local Aboriginal Land Council;
 - landholder representatives;
 - the local community; and
 - Cadia Community Sustainability Network.

Comments raised by Government agencies primarily related to technical assessment requirements, which have been addressed in the relevant parts of the Modification Report.

Summary of Assessment of Impacts

A review of the potential environmental impacts of the Modification and the key potential environmental impacts has been undertaken as part of this Modification Report.

Upon review, no environmental impacts were assessed as exceeding the approved performance criteria. A summary of the environmental assessments and the government policies under which they are assessed is provided in Table ES-1. The existing extensive environmental monitoring initiatives at Cadia would remain in place for the Modification.

Cadia Economic Benefits

Cadia is a significant contributor to the local and regional economy. There has been a large year-on-year increase in contribution as measured by key economic indicators, such as employment, household income and overall benefits received by regional households from increased economic activity attributed to Cadia's operations. Cadia's economic benefit in 2023/24 included:

- \$233.4 million (M) in wages to fulltime resident employees;
- \$472.1M in purchases of goods and services from 683 local suppliers;
- approximately \$2.1M in voluntary contributions to 140 community organisations across NSW;
- \$108.4M in government payments (including royalties) to support improved services and infrastructure in NSW; and
- \$7.9M was paid in local government payments in rates.

Conclusion

Cadia is both a major regional employer and producer of strategically important metals; gold, silver, copper and molybdenum.

The Modification would allow for buttressing of the NTSF with recovered sand and would provide improved environmental outcomes whilst delivering the same geotechnical stability of the final embankment (Plate ES-2).

As there are negligible environmental impacts and socio-economic aspects (costs and benefits) associated with the Modification, as assessed and described in this Modification Report, the Modification is considered to have merit and be in the public interest.



Plate ES-2 Example of Recovered Sand

Table ES-1
Key Environmental Assessment Findings

Aspect	Key Policies Considered	Key Outcomes
Noise	<i>Noise Policy for Industry</i>	- Conservative assessment considering worst case fleet, noise enhancing meteorological conditions and elevations. - Operational noise predictions would comply with the noise impact assessment criteria at all privately-owned residential receivers and assessment periods. - Noise levels would decrease during the day and evening periods when compared with Modification 15. - At night, noise levels are generally found to increase, however would not result in exceedances of criteria.
Air Quality	<i>Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i>	- Conservative modelling including maximum materials movements and worst-case emissions scenario. - Modelling results showed compliance with all NSW EPA assessment criteria.
Greenhouse Emissions	<i>National Greenhouse Accounts Factors</i> <i>NSW Guide for Large Emitters - Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes</i>	- As the Modification would use recovered sand (that would be pumped using electricity) rather than rock (that would be trucked using diesel-fuelled vehicles), the Modification is expected to result in reduction of on-site diesel consumption, while increasing electricity use from the additional pumps. - The Modification is expected to reduce the scope 1 greenhouse gas emissions, however would increase scope 2 greenhouse gas emissions. The Large Emitters Guide and associated assessments are not required.
Landscape and Visual	-	- Overall, the Modification would result in no change to the maximum approved heights of the TSF embankments (i.e. 779 metres Australian Height Datum (m AHD) for the NTSF and 702 m AHD for the STSF). - The Modification is likely to have minimal impact on the existing visual amenity of Cadia, with minimal change to existing/approved potential visual impacts and would not result in any significant visual impacts.
Surface Water	Landcom: "Blue Book"	- The Modification activities would occur within the STSF, therefore surface water would be contained within this facility and managed through the existing Mine Water Management System. - Water captured by the buttress underdrainage system would flow into the toe collector drain located along the toe of the recovered sand buttress. - Water from the underdrainage system and emplacement/stockpiles would drain to the existing decant ponds within the STSF and be returned to the Mine Water Management System for reuse within the ore processing circuit.
Groundwater	NSW Aquifer Interference Policy	The Modification components would be located within the STSF, therefore, the groundwater regime relevant to the Modification is controlled by the existing seepage controls in the storage.

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1 INTRODUCTION

Cadia Valley Operations (hereafter referred to as Cadia) is located approximately 25 kilometres (km) south-west of Orange, in the Central Tablelands of New South Wales (NSW) (Figure 1-1).

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1.1 DESCRIPTION OF THE APPROVED CADIA VALLEY OPERATIONS

1.1.1 History of the Cadia Valley Operations

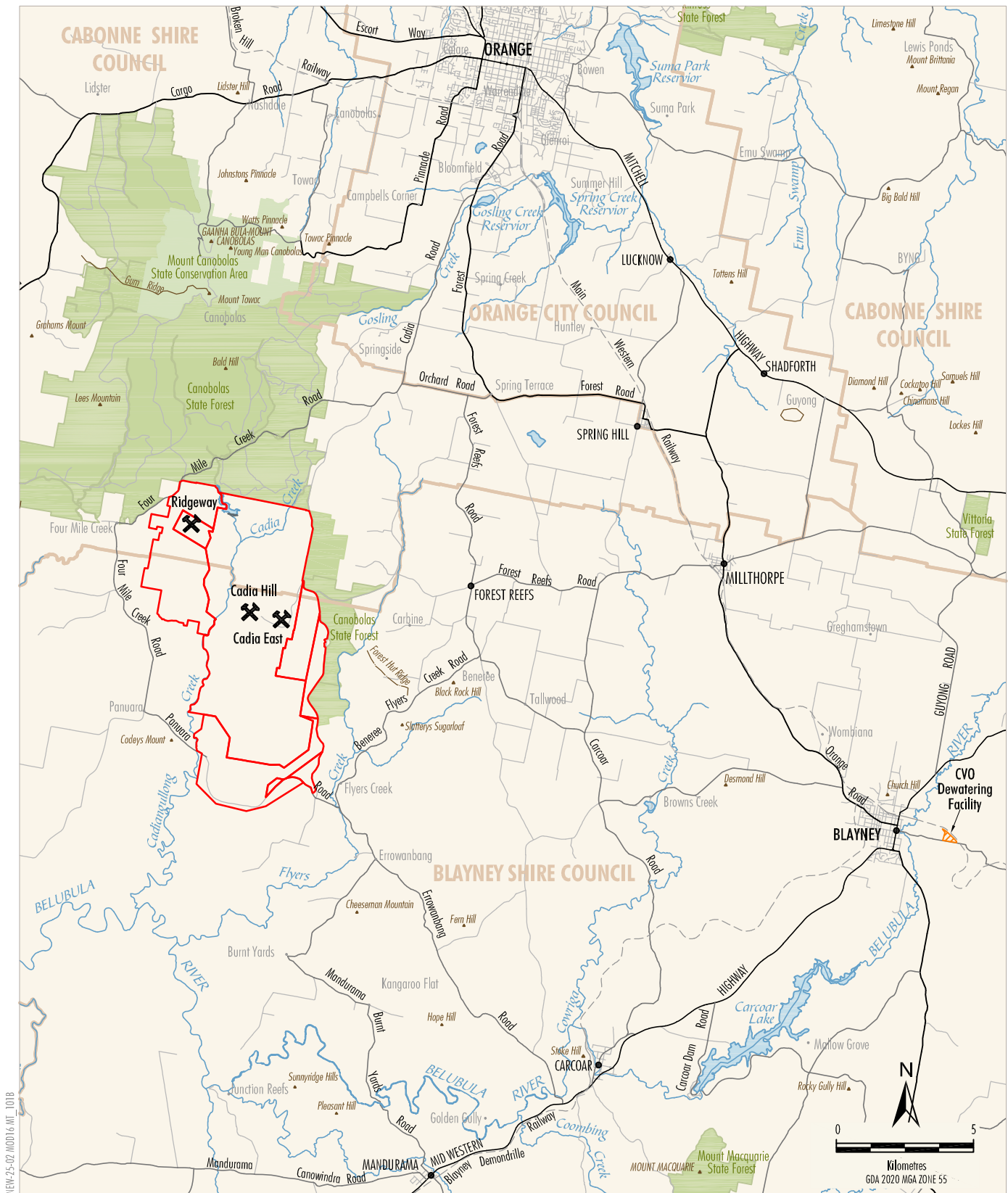
Modern mining operations at Cadia commenced at the Cadia Hill Open Cut Mine in 1998. Ore production from the Ridgeway Underground Mine commenced in 2002. A significant extension to the Ridgeway Underground Mine, called Ridgeway Deeps, subsequently operated until 2017. Ridgeway Deeps used the block caving underground mining method.

The Cadia East Underground Mine involves underground mining of a significant orebody adjacent to the Cadia Hill Open Cut Mine. The Cadia East Underground Mine was approved in 2010 and uses the panel caving underground mining method.

Cadia includes significant ancillary and supporting surface infrastructure and equipment such as ore processing, water management, Tailings Storage Facilities (TSFs), ventilation shafts, roads, pipelines, power, communication infrastructure, workshops, warehouse, laydown yards, and staff facilities.

PA 06_0295 has been modified on 16 separate occasions, with the most recent being the Confirmation of Approved Disturbance Footprint (Modification 17) which was approved on 6 February 2026 and facilitated administrative updates to the approved disturbance footprint, as depicted within PA 06_0295, to confirm that all approved disturbance areas and activities are accurately presented and also included the relocation of the approved hydrocyclone plant.

¹ Newmont Corporation acquired Newcrest Mining Limited on 27 October 2023 with an acquisition implementation date of 6 November 2023. Approved management plans and monitoring programs continue to be applied following the acquisition.



Source: NSW Spatial Services (2020);
Department of Primary Industries and Regional Development (2025)

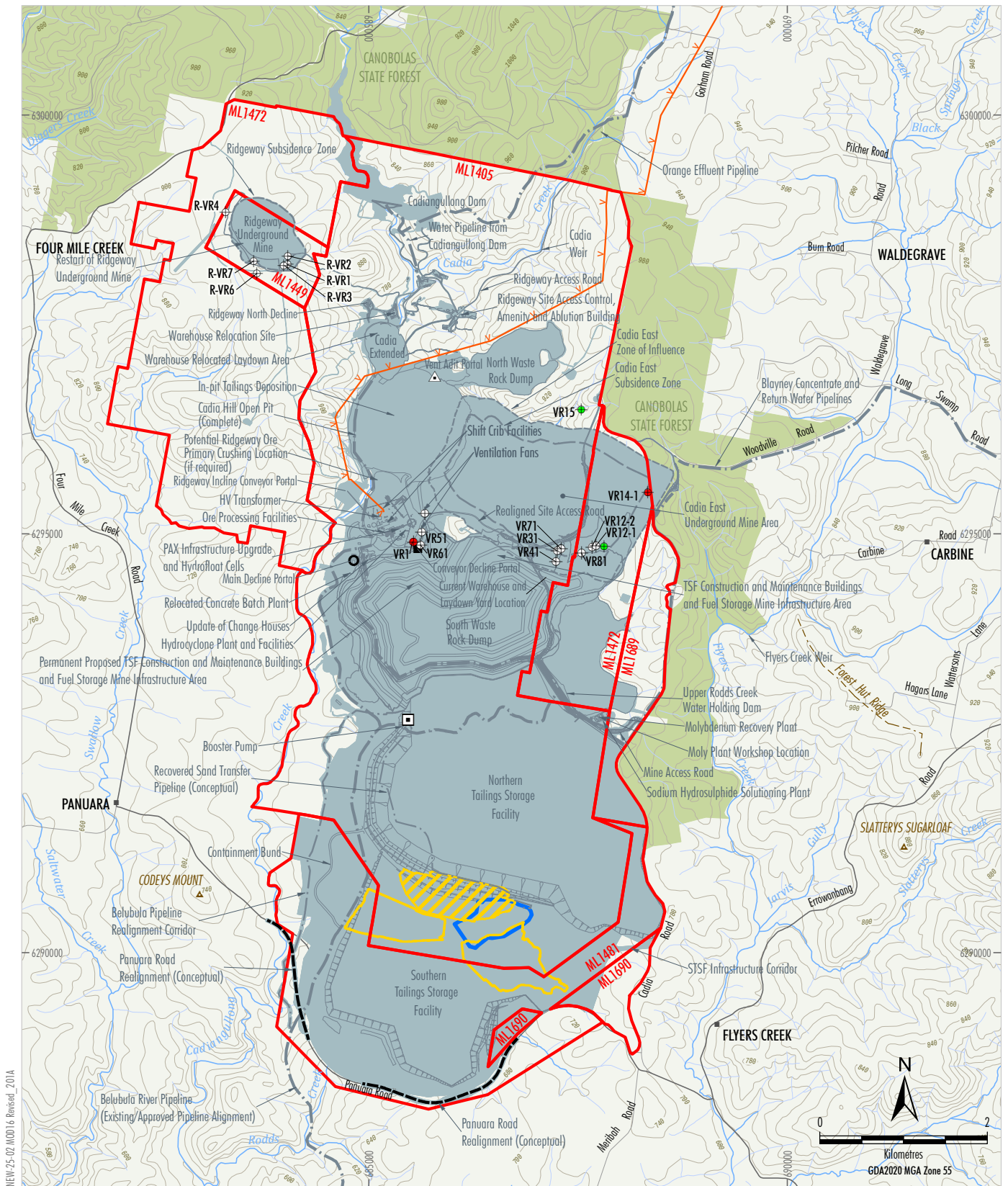


- LEGEND**
- Mining Lease Boundary
 - Local Government Area
 - Road
 - Railway
 - NSW State Forest
 - NPWS Reserve

Newmont
CADIA

CADIA VALLEY OPERATIONS
Regional Location

Figure 1-1



Note: Excludes some incidental project components such as water management infrastructure, access tracks, topsoil stockpiles, power supply, temporary offices, other ancillary works and construction disturbance.

Newmont
CADIA

CADIA VALLEY OPERATIONS

Approved Project and
Modification Elements

Figure 1-2

1.1.2 Existing Mining Area

Cadia is generally located in the Cadia Valley within Mining Lease (ML) 1405, ML 1472, ML 1481, ML 1449, ML 1689 and ML 1690 (Figure 1-3a).

The CVO Dewatering Facility is located approximately 25 km to the east of the Cadia East Underground Mine located near the town of Blayney (Figure 1-1). Cadia also operates the Cadiangullong Dam, Upper Rodds Creek Dam, the Belubula River pipeline, the Orange effluent pipeline and the Flyers Creek and Cadia Creek weirs (Figure 1-2).

Land ownership within the ML area and surrounds is shown on Figure 1-3a and Figure 1-3b (redacted for exhibition version).

1.1.3 Summary of Approved Operations

The major components of the approved Cadia include (CHPL, 2020a):

- underground mining of approximately 525 million tonnes (Mt) of ore from the Cadia East Underground Mine deposit using the panel caving mining method and approximately 96 Mt of ore from Ridgeway Underground Mine (inclusive of Ridgeway Deeps);
- underground crushing, handling and conveyor systems to transfer ore and waste rock to the surface;
- supporting infrastructure for underground mining including multiple ventilation shafts and personnel and equipment access systems;
- ore processing facilities (Plate 1-1) of up to 35 million tonnes per annum (Mtpa) subject to Condition 6A of Schedule 2 of PA 06_0295;
- a Molybdenum Recovery Plant and trucking of molybdenum products off-site;
- placement of waste rock produced by the Cadia East Underground Mine in the existing South Waste Rock Dump;
- raising of the existing NTSF and STSF embankments to accommodate approximately 674 Mt of tailings;
- buttressing of the NTSF and STSF embankments;
- deposition of tailings within the Cadia Hill Pit TSF (PTSF) up to a level of approximately 713 metres Australian Height Datum (m AHD);

- Cadia water management/supply system including additional pipeline/pumping systems and raising of the Upper Rodds Creek Water Holding Dam;
- re-alignment of a section of Cadia Road and a section of Panuara Road;
- the CVO Dewatering Facility to the east of Blayney;
- a concentrate pipeline and return water pipeline between Cadia and the CVO Dewatering Facility;
- rail transportation of dewatered mineral concentrate (i.e. copper and gold concentrate) from Blayney to the eastern seaboard;
- augmentation, relocation and upgrade of supplementary surface facilities including workshops, administration and site access roads;
- pre-conditioning of overburden above the Cadia East Underground Mine deposit;
- recovered sand demonstration embankment, including pipeline and pumping infrastructure (i.e. booster pump); and
- other associated ancillary and supporting infrastructure, plant, equipment and activities to allow mining of the Cadia East Underground Mine deposit and integration with the approved Cadia.

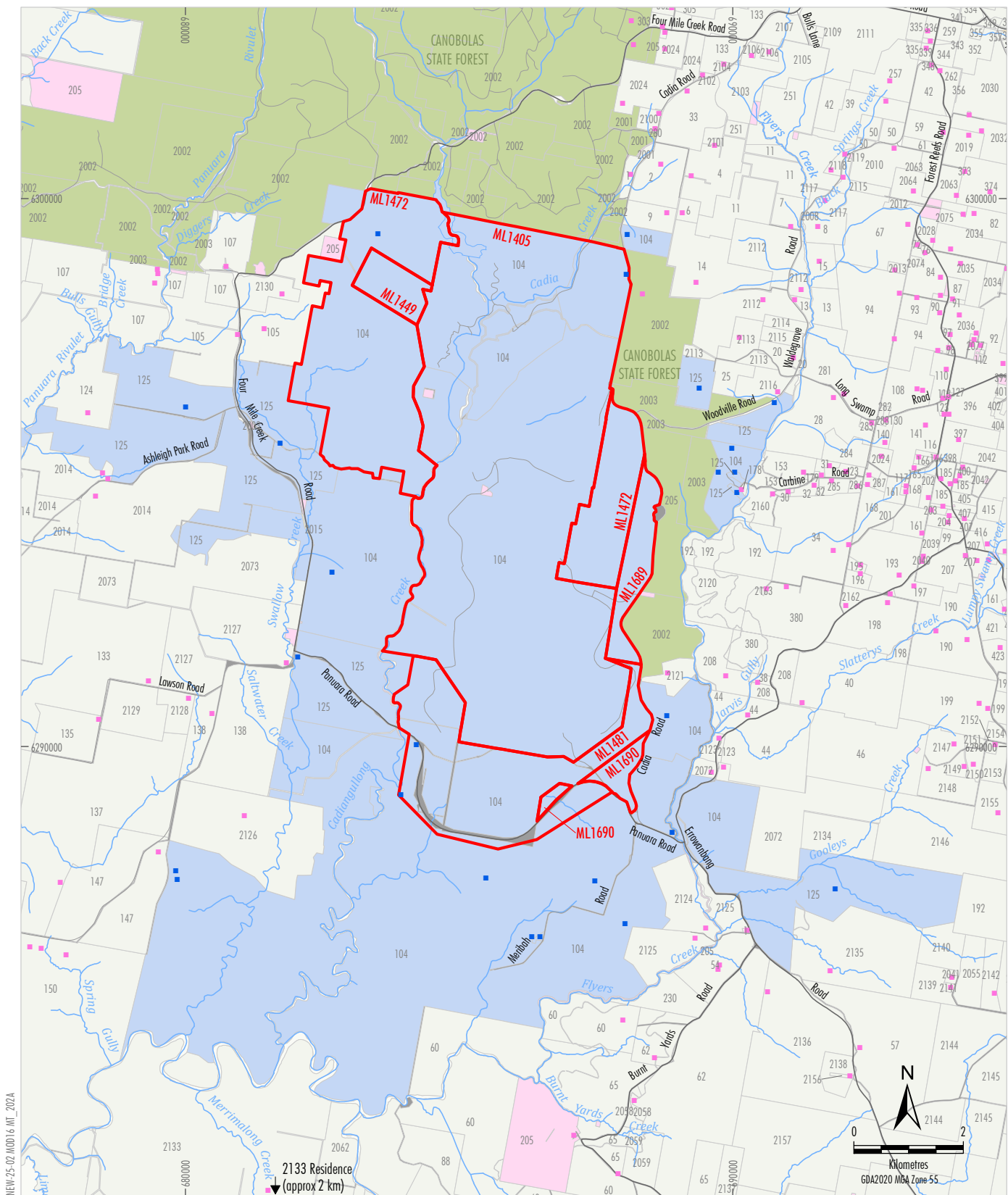


Plate 1-1 Cadia Ore Processing Facilities

1.1.4 Underground Mining and Supporting Infrastructure

CHPL uses the panel caving mining method, which is an underground mining method used to mine large, low grade ore bodies like the Cadia East Underground Mine deposit.

Cadia is currently supported by a range of ancillary infrastructure and services. The existing approved ancillary infrastructure and services are used or modified where possible to minimise the surface disturbance associated with constructing new infrastructure.



- LEGEND**
- Mining Lease Boundary
 - CHPL Owned
 - Privately Owned
 - Local Government
 - State Government
 - Crown Land
 - State Forest
 - Road Corridor
 - Mine Owned Residence
 - Privately Owned Residence

Source: NSW Spatial Services (2020);
Department of Primary Industries and Regional Development (2025)

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CADIA

CADIA VALLEY OPERATIONS
Cadia Valley Operations
Land Tenure and Mining Leases

Figure 1-3a

REDACTED FOR EXHIBITION VERSION

NEC-25-02_M0016_MT_0018

Source: NSW Land Registry Services (2025)



CADIA VALLEY OPERATIONS

Landholder List

Figure 1-3b

Conceptual locations and disturbance footprints for the various surface infrastructure components have been determined based on mine requirements, topography, ecological and archaeological constraints. Refinement of these locations is occasionally required during the detailed design process.

Where surface infrastructure is required to be moved as a result of the detailed design process, it is relocated to manage impacts associated with the final design and location such that they are generally in accordance with those associated with the conceptual locations.

The key site infrastructure and services required for Cadia include:

- Ventilation systems including upcast, downcast and ventilation fans.
- Surface water management infrastructure.
- Power supply infrastructure; powerlines, substation, switchyards, etc.
- Tailings management infrastructure including pipelines and associated infrastructure.
- Communication and monitoring services including communication towers, etc.
- Access roads and other minor infrastructure within the mine leases.
- Portable buildings.

As the Cadia East Underground Mine advances, it is supported by a dedicated network of upcast and downcast ventilation shafts. The number of upcast and downcast ventilation shafts at any one time may vary depending on mining requirements, however, there is nominally five upcast, six downcast and one backfilled shaft for the Cadia East Underground Mine and two upcast and four downcast shafts for the Ridgeway Underground Mine (Figure 1-2).

Downcast ventilation is also provided by the conveyor and main access declines. As the underground mining progresses, new ventilation shafts are commissioned and redundant upcast ventilation shafts are either decommissioned or become downcast shafts.

CHPL also has approval to restart the Ridgeway Underground Mine and mine the remaining 15 Mt of ore that is approved for extraction using the block caving mining method. The remaining approved ore is planned to be mined to supplement the Cadia East Underground Mine ore (e.g. during periods when development works are occurring at Cadia East Underground Mine).

Ore production from the Ridgeway Underground Mine would not exceed 2 Mtpa and processing of this ore would be undertaken within the existing Cadia limits of approval.

1.1.5 Ore Processing

CHPL has approval for several ore processing facility upgrades to achieve the approved ore processing rate of 35 Mtpa (the rate increase from 32 to 35 Mtpa is subject to Condition 6A, Schedule 2 of PA 06_0295).

The processing plant uses flotation cells to produce a gold/copper concentrate slurry (i.e. no cyanide is used during processing). The gold rich copper concentrates are then combined in a concentrate thickener and pumped to the molybdenum recovery plant where a molybdenum rich concentrate is recovered and trucked offsite. The gold rich copper concentrate is then pumped via a buried concentrate pipeline to the CVO Dewatering Facility.

1.1.6 Tailings Storage Facilities

Tailings from the existing ore processing facilities are currently deposited in the void of the former Cadia Hill open cut up to its full capacity, which is a (pre-consolidation) level of approximately 713 m AHD.

In accordance with the findings of Modification 13 Condition 35(b), CHPL is installing a suite of measures (e.g. membrane, grout curtain, monitoring and extraction bores) to mitigate the potential connection between the PTSF and Cadiangullong Creek which allows the storage of unconsolidated tailings above 694 m AHD.

The NTSF and STSF are not currently being used, however have approved capacity which can be accessed via downstream and/or centreline lifts to achieve the approved cumulative tailings disposal volume of 674 Mt from 2013.

Buttressing of the STSF and NTSF is approved (via Modifications 14 and 15) and is being progressively installed. Buttressing involves placing additional material over the outer edge of the previous batter to increase the geotechnical stability, resulting in a gentler slope and larger overall embankment footprint.

Where the approved buttress is installed on existing tailings surface (such as the southern embankment of the NTSF), this would involve the installation of a rock platform initially to provide a working surface for subsequent rock buttress construction.

1.1.7 Processing and Separation of Tailings and Demonstration Embankment

The existing ore processing circuit involves the separation of the tailings into coarse and fine fractions via the existing coarse ore flotation cells (including the Hydrocyclones), before being recombined, and pumped for emplacement within the approved TSFs.

The recovered sand demonstration embankment approved under Modification 15 consists of two primary elements, namely:

- installation and operation of Hydrocyclone infrastructure; and
- construction of the recovered sand demonstration embankment (previously referred to as the Hydrocyclone sand tailings test embankment).

As part of the recovered sand demonstration embankment, the process of recovering sand from the tailings stream has been refined to maintain the separation of the coarse and fine tailings fractions, instead of recombining into a tailings slurry. The coarse tailings portion (recovered sand) would be further dewatered using cyclones within the existing processing area (Figure 1-2) prior to being pumped via pipeline to the demonstration embankment (Chart 1-1).

The recovered sand demonstration embankment includes the construction of a pipeline and pumping infrastructure (i.e. booster pump) to transport the recovered sand to the recovered sand demonstration embankment area (Figure 1-2).

The ore treatment process at Cadia operates at a consistent ore throughput of approximately 35 Mtpa, split between concentrator 1 and concentrator 2. Given this, recovered sand would be delivered from concentrator 1 at a consistent flowrate (i.e. other than during shut down periods).

Recovered sand would be produced and used to construct the demonstration embankment, which will be constructed in a number of cells, in the following manner:

1. Cell walls will be constructed by dozing up recovered sand to form an impoundment.

2. Recovered sand will be hydraulically transported via pipeline to the cell impoundment area and discharged. The pipeline may be repositioned within the cell using an excavator during deposition within the cell.
3. The discharged recovered sand will be continuously compacted by rubber-tyred tractors.
4. As cells are completed the pipeline will be relocated using an excavator (or similar) to a new cell.
5. The height of the demonstration embankment will be raised either by building subsequent cells above previous cells and/or via down slope hydraulic placement of recovered sand³.

1.1.8 CVO Dewatering Facility

The CVO Dewatering Facility is located approximately 25 km to the east of Cadia Valley near the town of Blayney (Figure 1-1). Copper/gold concentrate slurry is pumped via a buried pipeline from Cadia to the CVO Dewatering Facility, where it is dewatered using a filter press and stockpiled within the facility.

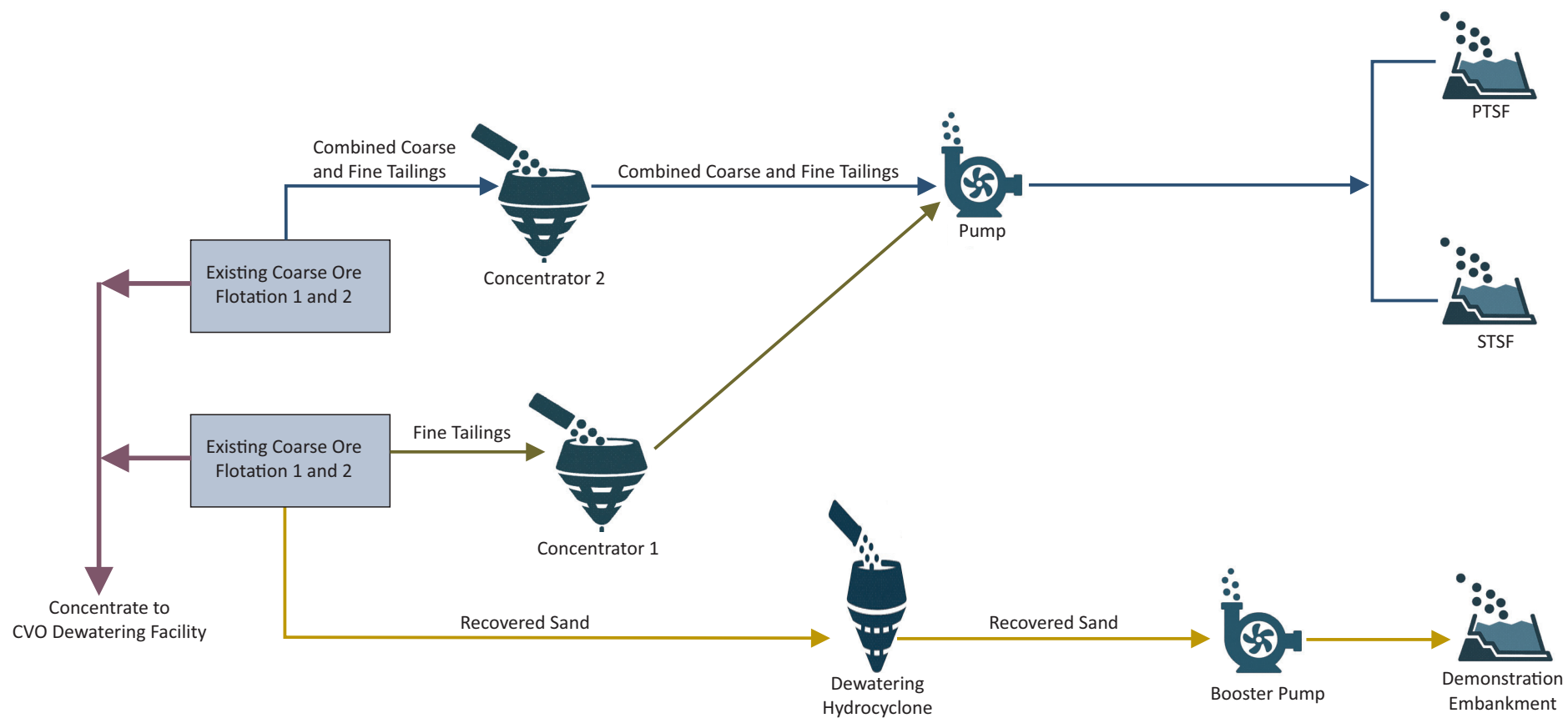
A front-end loader is used to load the dewatered concentrate from the stockpiles into containers for rail transport. A forklift transfers the filled containers from the load-out area within the shed to hardstand areas adjacent to the rail siding, and then onto rail wagons for transport by rail to Port Kembla on the eastern seaboard for export to overseas markets.

1.1.9 Waste Rock Management

The majority of waste rock produced was during the life of the Cadia Hill open cut and was placed in mine waste rock dumps (i.e. North Waste Rock Dump and South Waste Rock Dump). The deposition of waste rock into the North Waste Rock Dump has ceased and waste rock from the Cadia East Underground Mine continues to be deposited in the South Waste Rock Dump.

Non-acid forming (NAF) material used for TSF construction is sourced directly from the North and South Waste Rock Dumps.

³ Down-slope hydraulic placement involves pumping a sand–water slurry to the top of an embankment slope, where the material flows downward under gravity. As the water drains away, the sand settles and forms a stable fill that conforms to the slope geometry. Earthmoving equipment is used as required to assist with placement and compaction of the sand.



1.1.10 Water Supply and Management

Water supply 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 Extended open pit (a completed and backfilled extension of the Cadia Hill open pit) and site runoff. Cadia water management strategies include:

- maximising process water recovery by increasing the density of tailings reporting to the TSFs;
- maximising the reuse of recovered process water;
- decreasing the amount of water used for dust suppression via the use of a surfactant in water trucks;
- additional pipeline/pumping systems and raising of the Upper Rodds Creek Water Holding Dam;
- transfer of supernatant tailings water from STSF and NTSF to Cadia Hill open pit for reuse; and
- internal tailings return water pipeline and pumping systems from Cadia Hill open pit.

1.1.11 Environmental Management and Monitoring

Cadia has an extensive existing environmental management and monitoring regime. Environmental management of Cadia is undertaken in accordance with its approved environmental management plans. Existing environmental management strategies include:

- maintaining an extensive environmental monitoring network for the site, including meteorological, air quality, noise and vibration and water monitoring;
- tracking compliance with the requirements of PA 06_0295 and regularly providing the results to the DPHI (and other agencies/local government authorities as needed);
- undergoing an independent compliance audit every three years; and
- reporting the environmental management actions and environmental monitoring results, including review of CHPL's performance, in the Annual Review.

CHPL will continue to implement its approved environmental management plans, and review and revise them where necessary (in consultation with the relevant regulatory authorities).

1.1.12 Workforce

The existing Cadia has an average operational workforce of approximately 1,090 to 1,140 personnel, with an additional construction/development workforce of up to approximately 970 personnel (Plate 1-2). Intermittent shutdown periods require a nominal workforce of approximately 300 to 700 additional personnel during these periods.



Plate 1-2 Cadia East Underground Mine Worker

1.2 CADIA CONTINUED OPERATIONS PROJECT

Cadia has commenced a project called the "Cadia Continued Operations Project" (CCOP), which is a potential new State Significant Development (under the EP&A Act) approval for Cadia to allow the life of Cadia to extend beyond 30 June 2031. At the time of writing, the formal approval process for CCOP has commenced, and Secretary's Environmental Assessment Requirements have been issued. CHPL expects to submit a separate Environmental Impact Statement for CCOP, to the DPHI in 2026.

1.3 OVERVIEW OF THE MODIFICATION

1.3.1 Description of the Modification

The main elements of the Modification include:

- using recovered sand to buttress the southern wall of the NTSF;
- emplacing/stockpiling excess recovered sand within the approved STSF disturbance footprint; and
- integrating the recovered sand demonstration embankment approved under Modification 15 to PA 06_0295 with the proposed NTSF southern wall recovered sand buttress, with the integrated structure to remain and form part of the final landform.

The Modification would not change the following remainder of components of Cadia:

- Existing/approved disturbance footprint.
- Mining method.
- Cadia East Underground Mine and Ridgeway Underground Mine footprint/dimensions.
- Processing rate.
- Mine life.
- Maximum approved heights of the TSF embankments.

1.3.2 Requirement for the Modification

The Modification proposes buttressing of the NTSF embankment using a tailings product known as recovered sand as the primary construction material rather than rock (Plate 1-3).

The production of recovered sand is a wet process (i.e. can be pumped and directly emplaced), and its use as a buttress material would:

- optimise the life of the TSFs;
- provide improved environmental outcomes by avoiding the additional plant to load, haul and place rock to complete buttressing of the NTSF's southern wall; and
- not change the performance measures in PA 06_0295.

The use of recovered sand for NTSF buttressing is consistent with *Leading Practice Tailings Management for Successful Closure* (NSW Resources Regulator, 2020), as the use of recovered sand for buttressing reduces the need to transport waste rock and would increase the stability of the NTSF southern embankment, consistent with the approved final landform outcomes.



Plate 1-3 Example of Recovered Sand

1.4 ANALYSIS OF FEASIBLE ALTERNATIVES

An analysis of feasible alternatives and consequences of the Modification not proceeding are provided in Table 1-1.

The key issues considered in assessing the viability and feasibility of various alternatives and developing the preferred modification were as follows:

- Design Viability.
- The design meets or exceeds engineering and geotechnical performance standards.
- Minimising social impacts.
- Safety considerations.
- Providing a final landform with the objective of being safe, stable and sustainable.
- Resource recovery efficiency.
- Efficient use of existing infrastructure and equipment fleet.
- Minimising greenhouse gas emissions.
- Minimising noise and air impacts.
- Minimising impacts on biodiversity and water resources.
- Financial viability.

Table 1-1
Analysis of Modification Alternatives

Modification Elements	Feasibility of Alternatives
Recovered Sand Buttress	- Rock is a feasible alternative as approved. - Recovered sand is preferred to rock as it delivers required geotechnical performance with a shorter construction timeframe. - Delivers improved scope 1 greenhouse gas outcomes over the life of construction.
Recovered Sand Emplacement/Stockpile	- Required to manage excess recovered sand. - No feasible alternative – is a requirement of recovered sand construction technique.
No Modification Scenario	Longer buttress construction timeframe leading to an overall increase in greenhouse gas emissions.

1.5 APPLICANT DETAILS

Cadia Holdings Pty Limited is the applicant for the Modification. The contact details for CHPL are:

Cadia Holdings Pty Limited
Level 5, 500 Hay Street
Subiaco,
WA 6008

Website:
<https://operations.newmont.com/australia/cadia>

Cadia is located at 1460 Cadia Rd, Orange NSW 2800.

Section 6 Details the environmental assessment findings for the Modification and describes the existing and proposed environmental management systems and measures that would be available to management and monitor any potential impacts. Supporting technical studies (e.g. Noise Assessment) are included as appendices to this Modification Report.

Section 7 Provides a justification and evaluation of the Modification.

Section 8 References.

Appendices A to C, and Attachments A to E provide supporting information as follows:

Appendix A Geotechnical Assessment

Appendix B Noise Assessment

Appendix C Air Quality Assessment

Attachment A Statutory Compliance Table

Attachment B Consolidated Project Description and Summary Compliance Table

Attachment C Photomontages Report

Attachment D Geotechnical Assessment Peer Review

Attachment E Approved Mitigation Measures

1.6 STRUCTURE OF THE DOCUMENT

An outline of the main text sections of this Modification Report is presented as follows:

- Section 1 Provides a summary of Cadia and an overview of the Modification.
- Section 2 Provides a description of the strategic context for the Modification.
- Section 3 Provides a detailed description of the Modification.
- Section 4 Outlines the statutory provisions relevant to the Modification.
- Section 5 Describes the consultation and engagement undertaken in relation to the Modification and ongoing community involvement.

2 STRATEGIC CONTEXT

As one of the largest polymetallic mining operations in Australia, Cadia serves as a critical component of both the regional NSW and more broadly, the NSW economies.

2.1 REGIONAL CONTEXT

Cadia is located within the Cabonne and Blayney Local Government Areas (LGAs), approximately 25 km south-west of Orange in the central west of NSW.

The regional area has a history of both mining and agricultural (grazing) land uses. In terms of mining, the region has historically been known for Australia's first discovery of gold, which occurred in nearby Bathurst and led to the 'Australian gold rush' in 1851. The region around Cadia is a major part of the Lachlan Orogen province, which hosts other mines and many exploration prospects (Department of Planning, Industry and Environment [DPIE], 2020a).

Cadia's mineral endowment includes measured and indicated resources of (Newmont, 2024):

- 14.5 million ounces of measured and indicated gold;
- 3.2 Mt of measured and indicated copper;
- 31.3 million ounces of measured and indicated silver; and
- 100,000 tonnes of measured and indicated molybdenum.

The *Orange, Blayney and Cabonne – Regional Economic Development Strategy – 2018-2022* (Department of Premier and Cabinet, 2018) and the *Orange, Blayney and Cabonne Regional Economic Development Strategy – 2023 Update* (Department of Regional NSW, 2023) are of relevance to Cadia. Mining is noted as a key industry and supporting mining and associated mining services are identified as central to enabling economic development of the region. Cadia itself is identified in the *Orange, Blayney and Cabonne Regional Economic Development Strategy – 2023 Update* as one of the major private investors in the region.

CHPL commissioned Lawrence Consulting (an economics specialist) to provide a baseline economic assessment of the existing Cadia operations. It is evident in the *Economic Impact of Newmont Cadia 2023/24* (Lawrence Consulting, 2024) that Cadia provided substantial economic benefit in Financial Year 2024, including:

- \$233.4 million (M) in wages to fulltime resident employees;

- \$472.1M in purchases of goods and services from 683 local suppliers;
- approximately \$2.1M in voluntary contributions to 140 community organisations across NSW;
- \$108.4M in government payments (including royalties) to support improved services and infrastructure in NSW; and
- \$7.9M was paid in local government payments in rates.

In addition, the *Central West and Orana Regional Plan 2041* (DPE, 2022b) notes that Cadia is the southern hemisphere's largest gold mine and describes the continued development of the mining industry as being central to a diversified economy and promoting investment in technology in the region.

2.2 PROJECT CONTEXT

On Friday, 9 March 2018, Cadia experienced a partial slump of the NTSF embankment, which was fully contained within the adjacent STSF. CHPL subsequently adopted a precautionary approach by temporarily suspending operations at Cadia and ceasing/limiting the deposition of additional tailings in the NTSF and STSF.

CHPL has since progressively recommenced operations at Cadia through a series of modifications that have facilitated the deposition of tailings into the PTSF, along with measured and a progressive sequence of buttressing works to the NTSF and STSF embankments using rock fill, including the application of findings from ongoing technical/engineering studies.

The strategic context of the proposed Modification continues to build on the existing process of progressive buttressing. However, the Modification proposes buttressing of the NTSF embankment using a tailings product known as recovered sand as the main construction material as well as rock.

The production of recovered sand is a wet process (i.e. can be pumped and directly emplaced), and its use as a buttress material would:

- optimise the life of the TSFs;
- provide improved environmental outcomes by avoiding the additional plant to load, haul and place rock to complete buttressing of the NTSF's southern wall; and
- not change the performance measures in PA 06_0295.

This optimised methodology is predicted to result in reduced construction timeframes and an overall reduction in scope 1 greenhouse gas emissions from the buttressing activities whilst delivering the same geotechnical stability for the final embankment.

The use of recovered sand as the primary material for NTSF buttressing is consistent with *Leading Practice Tailings Management For Successful Closure* (NSW Resources Regulator, 2020) as this approach reduces the need to transport waste rock and increases the stability of the NTSF southern embankment, and is consistent with the approved final landform outcomes.

2.3 MINERALS CONTEXT

Cadia is recognised as a current major operating mine in the *Future of Minerals in NSW Report* (DPIE, 2020a).

Both the Commonwealth and NSW Governments recognise the importance of continued investment in minerals mining and the associated economic benefits. Alignment of the Modification with these strategic policies is described in Table 2-1.

The continued extraction of gold, silver, copper and molybdenum from Cadia provides a broad range of positive economic impacts at national, state and local levels and is consistent with Commonwealth and NSW Government policies.

Other benefits from Cadia include employment, the generation of expendable income, export earnings and government revenue. The Modification would provide significant benefit to Cadia operations in allowing the NTSF buttressing to occur using recovered sand to reduce rock requirements, which would result in reduced construction timeframes. Therefore, the Modification would improve the efficiency of the Cadia operation, which would help with the ongoing delivery of key mineral products (i.e. gold, silver, copper and molybdenum).

The Modification components are located entirely on existing/approved disturbance areas and within the STSF footprint and height, as such, there are limited environmental impacts or risks associated with delivering these operational efficiencies.

Copper from Cadia is sold in concentrate form at prevailing market price to copper smelters/refiners mostly in Asian countries who produce copper cathode. In turn, this copper cathode is used in the manufacturing of continuous cast copper rods used by the wire, cable and transformer industries and copper tubes for consumer durable goods, alloys and sheets.

At Cadia, gold is recovered as part of the copper recovery process (Plate 2-1). The key areas of demand for gold are:

- **Jewellery:** the primary demand for gold comes from jewellery, with the metal having high cultural significance across multiple cultures worldwide. Demand for gold for jewellery and other decorative applications generates around 50 percent (%) of demand.
- **Investments:** gold is a central part of global financial markets and is important to the investment strategies of both private investors and central banks, including the Reserve Bank of Australia. Gold is a tangible, safe and liquid asset that provides good long-term returns and is an important tool used to diversify investments and to hedge against inflation or currency fluctuations. Around 40% of gold demand relates to use in investments.
- **Technology and medicines:** gold's conductivity and corrosion resistance make it ideal for use in certain electronics applications. It also plays an important role in a range of other technological and medical applications. These uses contribute roughly 10% of demand for gold.

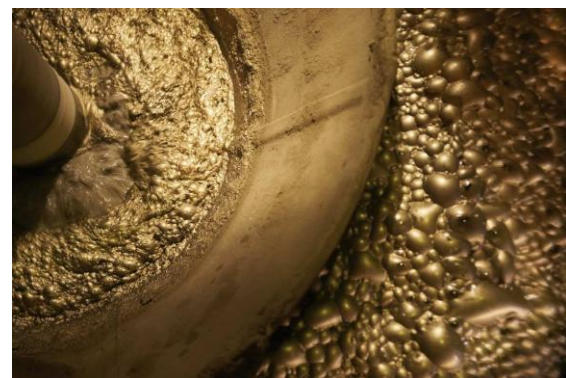


Plate 2-1 Cadia Gold Flotation Cell

Table 2-1
Strategic Minerals and Resources Policies of Relevance to Cadia

Strategic Policy	Comments
Australia's Global Resources Statement – Reliable, Responsible, Ready for the Future (Department of Industry, Science, Energy and Resources, 2020)	Highlights the Australian Government's commitment to a technology-led approach to lowering Australia's greenhouse gas emissions, including a strong focus on minerals and high-tech metals within the mining sector.
National Resource Statement – Pursuing Our 2030 Vision 2020 Update (Department of Industry, Science and Resources, 2020)	Details the Australian Governments long-term vision for natural resources, focusing on the economic, regulatory, and environmental future of industry in Australia.
Critical Mineral Strategy 2023 – 2030 (Commonwealth of Australia, 2023)	Identifies copper as a key energy transition metal. Cadia is a significant producer of copper. Newmont expects that, given the global energy transition, demand for copper will continue to escalate.
NSW Minerals Strategy (DPE, 2019)	Focuses on the existing and potential mining resources for a range of minerals in NSW, including minerals critical for renewable energy and electrified transport.
NSW critical minerals and high-tech metals strategy 2024 – 35 (Department of Primary Industries and Regional Development, 2024)	Discusses a desire to continue to develop the critical and high-technology metal industry in NSW. This strategy highlights NSW's rich mineral resources, including abundant copper resources and specifically notes Cadia as being a world-class deposit of gold and copper.
The Role of Critical Minerals in Clean Energy Transitions (International Energy Agency [IEA], 2022)	The IEA also identified copper as being central as the world transitions to renewable energy sources, particularly because energy networks require a "huge amount of copper", with copper being a cornerstone of all electricity-related technologies. The report describes molybdenum as a mineral used in clean energy technologies, particularly as it is used in specialised steel for geothermal and wind generation.

3 DESCRIPTION OF THE MODIFICATION

3.1 OVERVIEW

The main elements of the Modification include:

- using recovered sand to buttress the southern wall of the NTSF;
- emplacing/stockpiling excess recovered sand within the approved STSF disturbance footprint; and
- integrating the recovered sand demonstration embankment approved under Modification 15 to PA 06_0295 with the proposed NTSF southern wall recovered sand buttress, with the integrated structure to remain and form part of the final landform.

The Modification would not change the following approved components:

- Existing/approved disturbance footprint.
- Mining method.
- Cadia East Underground Mine and Ridgeway Underground Mine footprint/dimensions.
- Processing rate.
- Mine life.
- Maximum approved heights of the TSF embankments.

A summary of the approved Cadia and the Modification is provided in Table 3-1 with key elements of the Modification shown on Figure 1-2.

3.2 NORTHERN TAILINGS STORAGE FACILITY BUTTRESSING

The approval of Modification 15 allowed for the placement of additional rock for buttressing of the NTSF southern embankment as well as emplacement of recovered sand in the recovered sand demonstration embankment area (Sections 1.1.6 and 1.1.7).

The current Modification proposes the placement of recovered sand for buttressing along the NTSF southern wall within Cadia's existing/approved disturbance footprint (Figure 3-1).

The recovered sand production and transport process and associated infrastructure is described in Section 1.1.7, with no change sought to this as part of the Modification.

Cadia has approved tailings storage capacity to meet current requirements (i.e. up to the PA 06_0295 mining operations approval limit date of 30 June 2031) and has flexibility to deposit tailings in any of the approved storages (i.e. NTSF, STSF and PTSF) up to the individual storage's approved capacity. Sections 3.2.7 and 3.2.8 describe potential interactions with future STSF and NTSF raises, respectively.

3.2.1 Buttressing Phases and Schedule

The Modification proposes three discrete phases as part of the buttress design⁴, comprising the following:

1. construction of the underdrainage system and toe collector drain;
2. the placement of recovered sand and cell construction; and
3. rock armouring.

These phases and respective indicative durations are shown in Table 3-2 and described in-turn in the following subsections.

3.2.2 Rock Platform (Approved)

As noted in Section 1.1.6, CHPL has approval to buttress the full extent of the NTSF embankment using rock sourced from the South Waste Rock Dump. As part of the transition to the recovered sand buttress proposed for the Modification, prior to the placement of recovered sand and consistent with the approved rock buttress, crushed NAF rock sourced from the existing/approved South Waste Rock Dump would be placed adjoining the existing NTSF embankment (on the STSF tailings surface) beneath the proposed buttress footprint to form a working rock platform (Figures 3-1 and 3-2).

⁴ Noting that a rock platform would be constructed consistent with the approved Cadia operations (Section 1.1.6).

Table 3-1
Comparison of the Approved Cadia and the Modification

Project Component	Approved Cadia*	Cadia Incorporating the Modification
Mining Methods	Cadia Hill Open Cut Mine - conventional open pit mining methods (mining now completed). Ridgeway Underground Mine - underground sub-level and block caving with development of associated surface subsidence zone. Cadia East Underground Mine - underground panel caving with development of associated surface subsidence zone.	No change.
Life of Mine Cadia East and Ridgeway Ore Production	Approximately 525 Mt of Cadia East Ore. Approximately 96 Mt of Ridgeway Ore.	No change.
Waste Rock Management	Deposition in the North and South Waste Rock Dumps and mined-out void of the Cadia Extended open pit. Cadia East waste rock to be deposited in the South Waste Rock Dump. Material for the construction of the NTSF encapsulation and STSF embankment construction to be sourced from NAF material from the site waste rock dumps.	No change.
Life of Mine	Mining up until approximately 2031. Project Approval until June 2031.	No change.
Tailings Management	Use of the NTSF and STSF and raising of these storages via centreline/downstream embankment lifts. Installation of additional buttressing of the STSF embankment. Deposition of tailings in the Cadia Hill open cut mine to its full capacity, to a (pre-consolidation) level of approximately 713 m AHD. Cumulative tailings disposal volume of 674 Mt from 2013. NTSF repairs to restore embankment by encapsulation of majority of the slumped section. Additional material (i.e. rock buttressing) to be placed on the exterior embankments of the NTSF and STSF, such that the embankment and associated disturbance area extents include areas outside of the southern extent of ML 1481. Construction of a recovered sand demonstration embankment. Working hours for TSF construction 7:00 am to 10:00 pm.	Recovered sand would be used as buttressing material for a portion of the NTSF southern embankment and would be located within the approved STSF disturbance footprint. Emplacing/stockpiling of recovered sand not used for buttressing, within the approved STSF disturbance footprint. Placement of recovered sand occurring 24 hours a day, seven days per week for the recovered sand buttress (along the NTSF southern wall), excess recovered sand stockpiles/emplacement and the recovered sand demonstration embankment area. No change to working hours for STSF rock buttressing and previously approved NTSF rock buttressing.
Ventilation Adit	The mining complex includes several ventilation adits/shafts for ventilation of underground mining areas. Decommissioning and closure of existing adit VR101 located within the Cadia Hill open cut mine. Ventilation shaft within the current approved mine disturbance footprint to replace adit VR101.	No change.
Ore Processing	On-site processing of up to 32 Mtpa of gold/copper ore. Increasing the on-site ore processing to 35 Mtpa is subject to Condition 6A of Schedule 2 of PA 06_0295. Refinement to the process of recovering sand by maintaining the separation of the coarse and fine tailings fractions. The coarse tailings portion (recovered sand) would be dewatered using hydrocyclones.	No change.

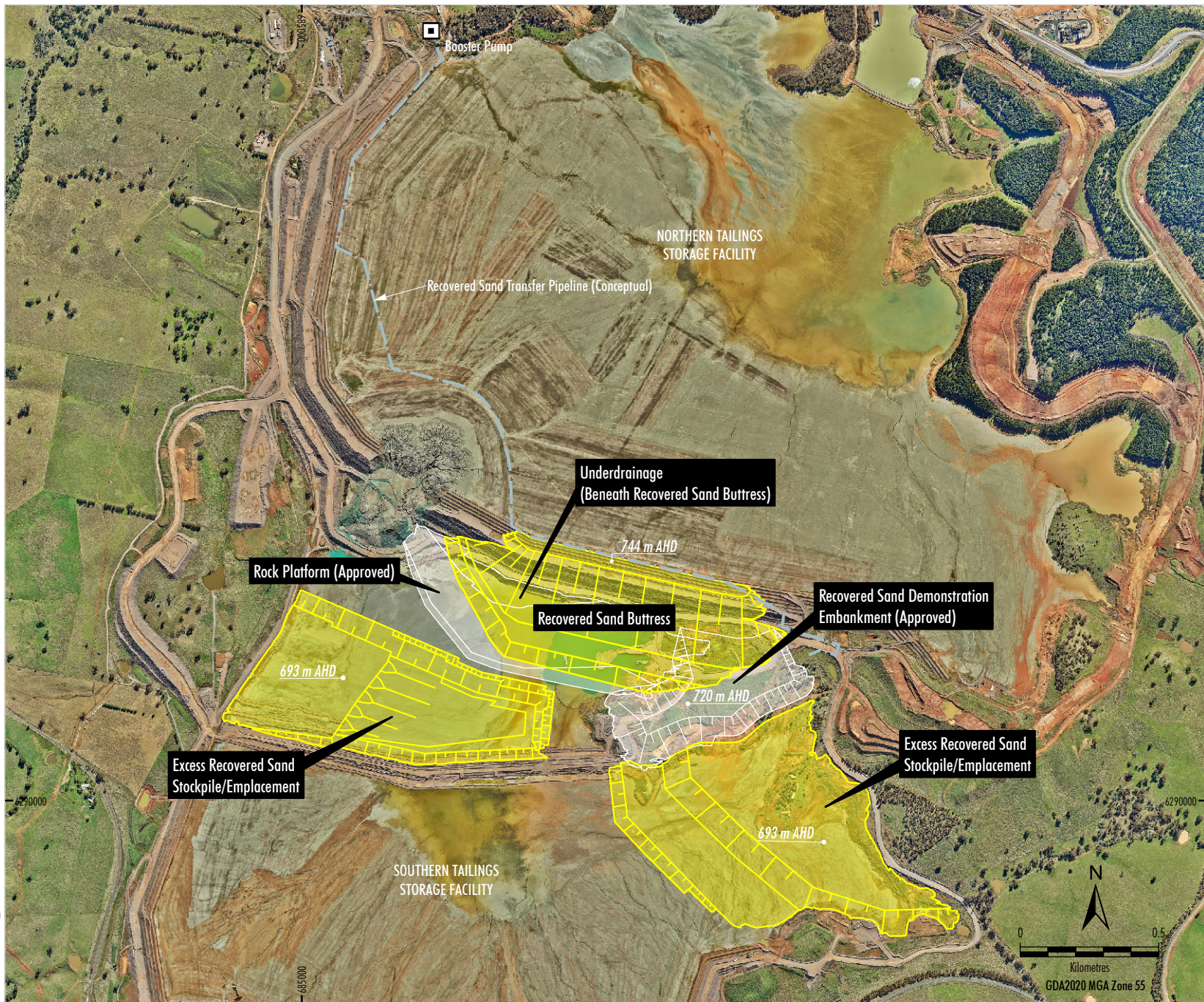
Table 3-1 (Continued)
Comparison of the Approved Cadia and the Modification

Project Component	Approved Cadia*	Cadia Incorporating the Modification
Concentrate Transport and Dewatering	Gold/copper concentrate is transported from the ore processing facilities via a concentrate pipeline to the Blayney Dewatering Facility (now decommissioned and the Modification proposes to remove all conditions associated with the decommissioned Blayney Dewatering Facility). The CVO Dewatering Facility to the east of Blayney and the subsequent decommissioning of the existing Blayney Dewatering Facility (now complete). Concentrate pipeline from Cadia to the CVO Dewatering Facility. Transport of dewatered mineral concentrate by rail to the eastern seaboard up to 24-hours a day, seven days per week.	No change.
Process Consumables	Use of various chemicals and reagents typically used in gold/copper mining and processing. Sodium Hydrosulphide (NaHS) Solutioning Plant (located adjacent to the Molybdenum Recovery Plant) to produce NaHS on-site to meet Cadia's operational requirements. Upgrades to the PAX facility.	No change.
Water Supply and Management	Water supply sourced from the Cadiangullong 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 Extended open pit and site runoff. Additional pipeline/pumping systems and raising of the Upper Rodds Creek Water Holding Dam. Contingent transfer of supernatant tailings water from STSF and NTSF to Cadia Hill open cut mine for water management. Internal tailings return water pipeline and pumping systems from Cadia Hill open cut mine. Further realignment of a portion of the Belubula River pipeline.	Construction of NTSF buttress underdrainage system and toe collector drain. No change to the overall management of supernatant and/or decant water within the STSF.
Power Demand and Supply	Peak demand to 194 megawatts (using existing power supply infrastructure). 132 kilovolts (kV) electrical substation. Expansion of the existing 132 kV electrical substation	Minor increase in electricity usage associated with the pumping of recovered sand.
Employment	An average of approximately 1,090 to 1,140 employees with an additional construction/development workforce of up to approximately 970 personnel. Intermittent shutdown periods require a nominal workforce of approximately 300 – 700 additional personnel during these periods.	No change.
Final Landform	Includes South Waste Rock Dump, North Waste Rock Dump, NTSF, STSF, Cadia East Subsidence Zone, Ridgeway Subsidence Zone, Cadia Hill open cut mine, Cadia Extended open pit, Cadiangullong Dam, Upper Rodds Creek Water Holding Dam and other water management infrastructure. The final landform of Cadia Hill open cut mine would be a pit lake (i.e. a wet cover). No intersection between the Cadia East Underground Mine subsidence zone and Cadia Hill open cut mine in the long term and, therefore, two separate final void waterbodies (smaller in extent compared with the approved subsidence zone) (as described in Modification 13).	Buttressing the southern embankment of the NTSF with a gentler slope with the toe of the buttress largely contained within the approved buttress footprint. Integrate the approved recovered sand demonstration embankment with the proposed sand buttress at the southern embankment of the NTSF, the integrated buttress to form a permanent feature of the final landform.

* PA 06_0295 for the Cadia East Underground Mine, as modified by section 75W Modifications numbered 1 to 10, section 4.55(1A) Modification numbers 11 to 13 and 17 and section 4.55(2) Modification numbers 14 and 15. Consistent with Clause 3BA of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017*, the consent authority is required to satisfy itself that any consent as modified would result in the Cadia East Underground Mine remaining substantially the same development as was last modified under section 75W (i.e. Modification 10), inclusive of consideration of the changes arising from the previously approved modifications (i.e. Modifications 11 to 15 and 17).

Table 3-2
Indicative Recovered Sand Buttress Construction Schedule

Phase	Approx. Duration	Month												
		1 ¹	2	3	4	5	6	7	8	9	10	11	12	13 – 24
Rock Platform Construction (in accordance with existing approval PA 06_0295)	4-6 months													
Construction of Underdrainage System	6-8 months													
Recovered Sand Placement and Cell Construction	2 years													
Rock Armouring	3 months													

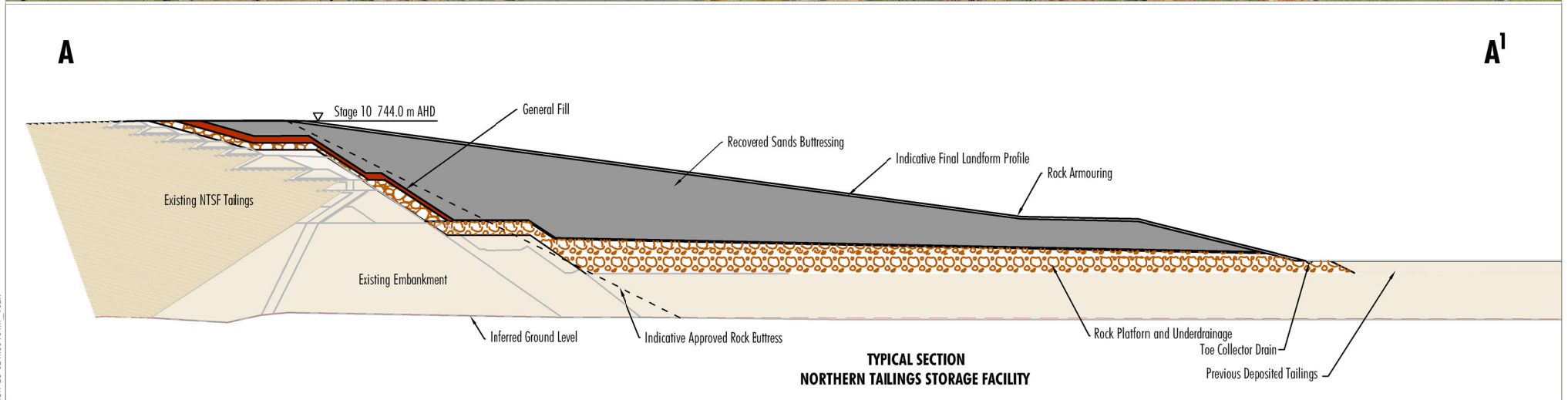
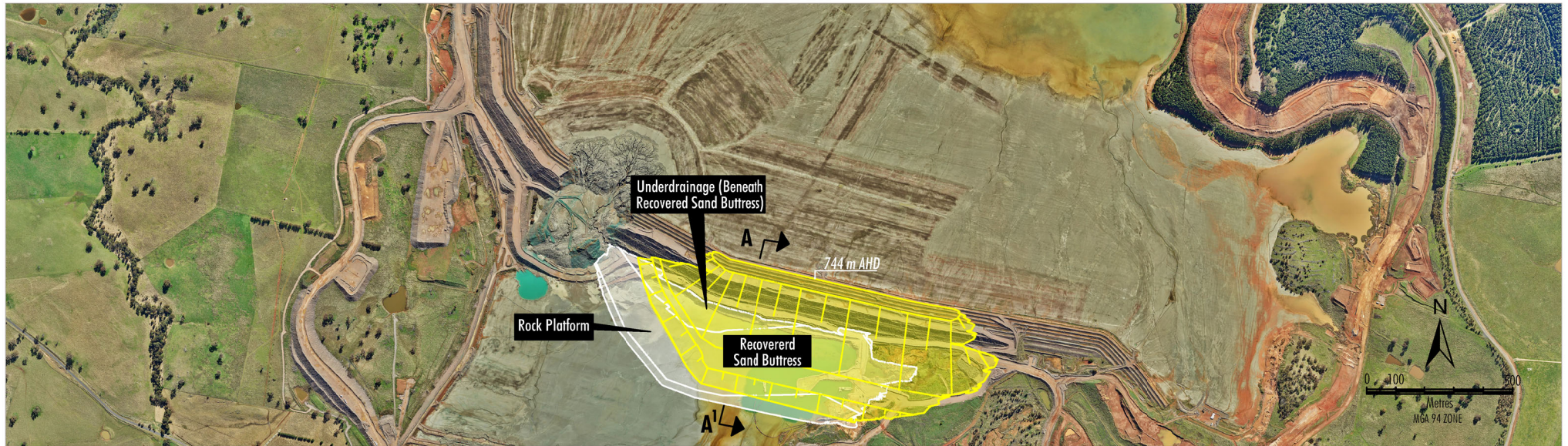


- LEGEND**
- Booster Pump
 - Recovered Sand Transfer Pipeline (Conceptual)
 - Proposed Modification 16 Elements
 - Approved Elements

Source: NSW Spatial Services (2023); GHD (2025)
 Orthophoto: Newmont (2023)

Newmont
 CADIA
 CADIA VALLEY OPERATIONS
 Indicative Approved and Optimised NTSF
 Embankment and Stockpiles

Figure 3-1



- LEGEND
- Approved Elements
 - Proposed Modification 16 Elements

Source: GHD (2025)

3.2.3 Underdrainage System

Subsequent to the construction of the rock platform, a NAF crushed rock drainage material would be placed on top of the platform to form a series of drains to manage water liberated from the sand placement and incident rainfall that would occur on the surface of the future buttress.

Water captured by the underdrainage system would flow into the toe collector drain located along the toe of the recovered sand buttress (Figure 3-2). Water would drain to the existing decant ponds within the STSF and be returned to the Mine Water Management System for reuse.

3.2.4 Recovered Sand Placement and Cell Construction

Above the rock platform and underdrainage system, buttress cells would be constructed using recovered sand in the following manner:

1. Cell walls would be constructed by dozing up recovered sand to form an impoundment.
2. Recovered sand would be hydraulically transported via pipeline to the cell impoundment area and discharged. The pipeline may be repositioned within the cell using an excavator during deposition within the cell.
3. The discharged recovered sand would be continuously compacted by rubber-tyred tractors.
4. As cells are completed the pipeline would be relocated using an excavator (or similar) to a new cell.
5. The buttress would be progressively formed by building subsequent cells above previous cells and/or via down slope hydraulic placement of recovered sand (Figure 3-2)⁵.

Approximately 16.4 Mt of recovered sand would be required to complete the buttress structure.

Rubber-tyred tractors would operate on the deposited recovered sand within each buttress cell to compact the recovered sand. Cells would be constructed, filled with recovered sand and compacted in sequence, with subsequent cells built above previous cells as the buttress is raised. Four tractors would typically be in use during the construction of the buttress.

In addition to the use of tractors (which would be used 24 hours a day, seven days per week), an excavator (also 24 hours a day, seven days per week) and dozer (generally daytime use only) would be used to reposition pipelines and assist in sand placement as required. Booster pumps installed for the demonstration embankment (as described in Section 1) (Figure 3-1) would also continue to be used 24 hours a day, seven days a week.

The recovered sand buttress would be constructed to a height of approximately 744 m AHD (the current height of the NTSF). Sand that is in excess of the available capacity of the buttress cells would be placed in stockpiles (Section 3.3).

The commissioning, buttressing and recovered sand deposition works (including tractor and excavator use) would be undertaken 24 hours a day, seven days a week meeting mill production and operability requirements.

3.2.5 Rock Armouring

Following completion of the recovered sand buttress, the recovered sand would be armoured with a layer of rock (Figure 3-2) to enable:

- further dust mitigation and erosion cover protection; and
- armouring of the lower portion of the toe to protect this area from rising tailings within the STSF (Section 3.2.7).

3.2.6 Buttress Rehabilitation

Rehabilitation would be undertaken on the exterior of completed buttress by capping with topsoil and seeding with native grasses to stabilise the surface, prevent dust, and promote natural revegetation.

⁵ Down-slope hydraulic placement involves pumping a sand–water slurry to the top of an embankment slope, where the material flows downward under gravity. As the water drains away, the sand settles and forms a stable fill that conforms to the slope geometry. Earthmoving equipment is used as required to assist with placement and compaction of the sand.

Final rehabilitation of the recovered sand buttress and NTSF southern wall would be carried out in accordance with the existing *Cadia Rehabilitation Strategy* (CHPL, 2025) as part of the overall STSF closure works⁶.

3.2.7 Interactions with the STSF

The recovered sand buttress would be constructed predominately on the rock platform approved under Modification 15, which is approved to be raised above the present embankment height of 687 m AHD up to 702 m AHD. Given the future raises of the STSF, it may interact with the lower portion of the buttress, appropriate measures (i.e. rock armouring) would be installed to prevent scouring and erosion of the buttress.

The recovered sand emplacements/stockpiles would be constructed directly on the surface of the tailings surface of the STSF.

3.2.8 Interactions with the NTSF

The NTSF is approved to be lifted above its present height of 744 m AHD (up to its approved capacity of 779 m AHD). Should this occur, future downstream and centreline lifts would be constructed consistent with PA 06_0295 and would be designed to integrate with the proposed recovered sand buttress. Ultimately, should the Modification be approved and the proposed buttress constructed, the NTSF embankment would comprise:

- existing embankment to 744 m AHD;
- buttressing comprising; and
 - rock platform (approved);
 - underdrainage;
 - recovered sand buttress; and
 - rock armouring.
- approved downstream/centreline lifts from 744 m AHD up to 779 m AHD as approved by PA 06_0295.⁷

3.3 RECOVERED SAND EMPLACEMENT/STOCKPILES

As discussed in Section 1.1.7, the recovered sand delivery flowrate is fixed by the ore treatment process.

Recovered sand material that is in excess of the available capacity of the buttress cells would be deposited in emplacements/stockpiles located on the existing tailings surface on the STSF (Figure 3-1). The emplacements/stockpiles would be constructed with recovered sand hydraulically placed in the emplacement/stockpile and the surface subsequently worked with the same dozers that would be used to construct the cell walls.

Excess recovered sand material would be deposited in these stockpiles⁸ up to approximately 693 m AHD (Figure 3-1). The stockpiles would be designed such that the required freeboard of the STSF (Condition 35B (d), Schedule 3 of PA 06_0295) is maintained.

Subsequent to the completion of the buttress, the stockpiles may continue to be used for the storage of recovered sand material, where required.

The STSF embankment is approved to be raised above its existing height to the approved maximum height of 702 m AHD under PA 06_0295, to allow for progressive deposition of tailings to nominally 700 m AHD. Accordingly, the emplaced/stockpiled material would be inundated by the rising tailings level in the STSF (should it be constructed to maximum height).

3.4 CONTINGENCY RECOVERED SAND EMPLACEMENT/STOCKPILE CAPACITY

As a contingency (i.e. in the event this is required due to delays in the availability of other approved or proposed tailings storages), CHPL seeks additional emplacement/stockpile capacity (i.e. beyond that described in Section 3.3) for recovered sand up to the approved maximum STSF embankment height of 702 m AHD. Should this contingency be required, the STSF free board requirements (Section 3.3) would continue to be maintained.

⁶ It is noted that, should the CCOP be approved and STSFx constructed (Section1), the buttress would be largely covered with tailings and therefore, the rehabilitation outcome may be different to that currently proposed.

⁷ Note that future tailings deposition in the NTSF would be subject to repair of the partial slump and lifting the prohibition notice issued by the Resources Regulator.

⁸ Note that whilst buttressing is planned for two years, additional stockpile capacity is sought as a contingency, should the activity take longer than planned.

Should the STSF be raised to its approved level of 702 m AHD, all but 2 metres (m) of the excess emplaced/stockpiled material would be inundated by rising STSF tailings to the approved deposition level of 700 m AHD. Any residual recovered sand that is not inundated would be reprofiled to be consistent with the conceptual post mining landform of the STSF upon closure of the facility (i.e. the contingency recovered sand emplacement/stockpiles profile would not form part of the final landform).

3.5 ROLES AND RESPONSIBILITIES FOR TAILINGS MANAGEMENT

CHPL is committed to designing, operating, closing and remediating its tailings storages and disposal facilities in a safe, socially and environmentally responsible manner. This would be achieved via the tailings governance system which requires that appropriate resources and roles are allocated and described.

Figure 3-3 shows the relationship between the various tailings and dam governance roles that are implemented by CHPL to provide assurance that the TSFs are designed, constructed, and decommissioned with appropriate concern for integrity of the facility, and that it aligns with and meets applicable regulations, statutes, guidelines, codes and standards.

The first level of assurance is the Engineer of Record (EOR). The EOR is an external assurance role. The capability (i.e. qualification and experience) of the EOR engaged is commensurate with the level of complexity of the tailings facility and is responsible for ensuring that the tailings facility is designed, constructed, and decommissioned with appropriate concern for integrity of the facility and that it aligns with and meets applicable regulations, statutes, guidelines, codes and standards.

The Responsible Tailings Facility Engineer (RTFE) is an internal assurance role responsible for the TSF and provides a second level of assurance. The RTFE has clearly defined, delegated responsibility for the management of the TSF and has appropriate qualifications and experience compatible with the level of complexity. The RTFE is responsible for (endorsing) the scope of work and managing the implementation of the scope of works, budget requirements for the tailings facility, including risk management and liaising with internal and external stakeholders.

Newmont's corporate tailings group provides a third level of assurance and can implement any combination of the following mechanisms depending on the level of complexity of the TSF:

- Technical leadership and guidance which aligns with and meets applicable regulations, statutes, guidelines, codes and standards.
- Detailed technical review.
- Audits.
- The Internal Tailings Review Board (ITRB) are external subject matter experts. The ITRB provides independent technical review of the design, construction, operation, closure and management of tailings facilities.
- Competent panel review.

The fourth level of assurance is provided by the Newmont Accountable Executives who are accountable to the Newmont Board for:

- The safety of the TSF.
- The environmental and social performance.
- Tailings management training, emergency preparedness and response.
- Selection of EOR and RTFE.

The Accountable Executives are also responsible for the approval of:

- Adopted design criteria.
- Measures to meet as low as reasonably practicable risk level for the management of the TSF.
- The ITRB.
- A process to address concerns.

The fifth level of assurance is provided by Dams Safety NSW. The main role of Dams Safety NSW is to manage the safety of all declared dams in NSW. This is achieved by auditing declared dam owners' policies, processes and procedures to check compliance with the requirements of the *Dams Safety Act 2015*.

- Internal Roles:
- Accountable executive
 - Responsible tailings facility engineer
 - Audit

- External Roles:
- Engineer of Record
 - Independent Tailings Review Board
 - Stewardship board
 - Dam Safety NSW
 - Competent panel review



REC-25-02_MOD16_INT_002A

Source: CHPL (2023)

- LEGEND
- ITRB Independent Tailings Review Board
 - EOR Engineer Of Record
 - RTFE Responsible Tailings Facility Engineer

Figure 3-3

3.6 REHABILITATION AND FINAL LANDFORM

The approved Conceptual Landform for NTSF and STSF is shown in Figure 6.5 of PA 06_0295. The changes to this approved final landform would be minor in nature and limited to:

- A portion of the NTSF southern embankment buttress (located in the STSF), which would be constructed of recovered sand and built to a gentler slope.
- Integration of the recovered sand demonstration embankment in the final NTSF buttress (located in the STSF).
- Reduction in the quantities of NAF rock required from the South Waste Rock Dump (i.e. a greater quantity of waste rock would remain in the South Waste Rock Dump final landform).

Given these minor changes, the key features of the approved final landform would not change, including the water management features shown on Figure 6.5 of PA 06_0295.

The recovered sand emplacement/stockpiles described in Section 3.3 would be completely inundated by the rising tailings level in the STSF and so would not form part of the final landform.

Any excess recovered sand emplacement/stockpile material (Section 3.4) above the final STSF tailings level would be reprofiled to be consistent with the conceptual post mining landform of the STSF upon closure.

3.7 GEOTECHNICAL ASSESSMENT

3.7.1 Impact Assessment Review

GHD (2025) (Appendix A) has considered the requirement to create a final landform that is safe and stable over the long term in accordance with the PA 06_0295 conditions. The modified buttress, which includes a shallower slope has been designed with the appropriate geotechnical Factor-of-Safety (FoS) for a design earthquake event, satisfying the performance aspects set out by the Australian National Committee on Large Dams (ANCOLD) *Guidelines on Tailings Dams – Planning, Design, Construction, Operation and Closure* (ANCOLD [2019] in GHD [2025]).

Similarly, GHD (2025) evaluated the emplacements/stockpiles proposed for the Modification and concluded that, for all cases assessed, the required FoS under both drained and undrained conditions meets the ANCOLD recommendation for no risk of tailings release (GHD, 2025).

3.7.2 Monitoring Recommendations

Consistent with the recommendations of GHD (2025), the following monitoring would be installed for the buttress:

- Piezometers to measure pore pressure in the buttress and associated underdrainage layer.
- Displacement monitoring (i.e. measurements to record any movement).

Since the stockpiles would be inundated by future tailings deposition in the STSF, stability monitoring of these is not proposed.

3.8 CHANGES TO PROJECT APPROVAL CONDITIONS

As part of the Modification, three changes to the conditions of PA 06_0295 are sought, as described below:

- Schedule 2, Condition 7D: Remove condition to provide operational flexibility for the duration of the approved recovered sand demonstration embankment (referred to as the hydrocyclone sands tailings pilot plant in PA 06_0295).
- Schedule 3, Condition 6 (Table 6) add: *NTSF Buttressing and stockpiling using recovered sand - Any day, Any time.*
- Schedule 3, Condition 6 (Table 6) Hydrocyclone tailings sand (recovered sand demonstration embankment) test embankments hours - change to *Any day, Any time.*

4 STATUTORY CONTEXT

This section outlines the statutory requirements relevant to the Modification.

In accordance with the *State Significant Development Guidelines* (DPHI, 2024), in particular Appendix E *State significant development guidelines – preparing a modification report* (DPE, 2022a), Attachment A provides a detailed statutory compliance table for Cadia incorporating the Modification that identifies the relevant statutory requirements and the relevant sections in this Modification Report that address these requirements.

4.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The EP&A Act and NSW *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) sets the framework for planning and environmental assessment in NSW.

4.1.1 Applicability of Section 4.55(2) of the Environmental Planning and Assessment Act 1979

Project Approval (PA 06_0295) for Cadia was granted by the NSW Minister for Planning under Part 3A of the EP&A Act on 6 January 2010.

CHPL is seeking to modify PA 06_0295 under section 4.55(2) of the EP&A Act, which relevantly provides the following regarding the Modification:

4.55 Modification of consents—generally

...

- (2) **Other modifications** A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if –
- (a) it is satisfied that the development to which the consent as modified relates is the same or substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and
 - (b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 4.8) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and

- (c) it has notified the application in accordance with–
 - (i) the regulations, if the regulations so require, or
 - (ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and
- (d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.

4.1.2 Substantially the Same Development

Clause 3BA(6) of Schedule 2 of the *Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017* relevantly provides:

3BA Winding-up of transitional Part 3A modification provisions on cut-off date of 1 March 2018 and other provisions relating to modifications

...

- (6) In the application of section 4.55 (1A) or (2) or 4.56 (1) of the Act to the following development, the consent authority need only be satisfied that the development to which the consent as modified relates is substantially the same development as the development authorised by the consent (as last modified under section 75W)–
 - (a) development that was previously a transitional Part 3A project and whose approval was modified under section 75W,

The consent authority is, therefore, required to satisfy itself that Cadia, incorporating the Modification, would remain substantially the same development as was last modified under section 75W of the EP&A Act (i.e. Modification 10), inclusive of consideration of the changes arising from previously approved modifications.

A comparative analysis is provided in Table B-1 of Attachment B that outlines the key elements of the approved Cadia (including Modifications 1 to 10) as a basis for comparison against the Modification (in addition to Modifications 11 to 15 and 17), including the key environmental assessment outcomes.

The main elements of the Modification include:

- using recovered sand to buttress the southern wall of the NTSF;
- emplacing/stockpiling excess recovered sand within the approved STSF disturbance footprint; and

- integrating the recovered sand demonstration embankment approved under Modification 15 to PA 06_0295 with the proposed NTSF southern wall recovered sand buttress, with the integrated structure to remain and form part of the final landform.

The Modification would not change the following components of the approved Cadia:

- Existing/approved disturbance footprint.
- Mining method.
- Cadia East Underground Mine and Ridgeway Underground Mine footprint/dimensions.
- Processing rate.
- Mine life.
- Maximum approved heights of the TSF embankments.
- Continued use of existing surface facilities and ancillary activities and construction and use of new and previously approved facilities to support the operation.

Since the Cadia East Project approval was granted in 2010, Cadia has been a large mining complex. This would continue to be the case should the Modification be approved.

In consideration of the above, the consent authority can be satisfied that Cadia incorporating the Modification would remain “substantially the same” as the development last modified under section 75W of the EP&A Act.

4.1.3 EP&A Act Objects

Section 1.3 of the EP&A Act describes the objects of the EP&A Act as follows:

- (a) *to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State’s natural and other resources,*
- ...
- (d) *to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,*
- (e) *to promote resilience to climate change and natural disasters through adaptation, mitigation, preparedness and prevention,*

- (f) *to promote the sustainable management of built and cultural heritage, including Aboriginal cultural heritage,*

...

- (h) *to provide opportunities for participation in environmental planning and assessment,*
- (i) *to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,*
- (j) *to promote a proportionate and risk-based approach to environmental planning and assessment,*
- (k) *to promote the orderly and economic use and development of land.*

The Modification is considered to be generally consistent with the objects of the EP&A Act, as it would:

- optimise the life of the TSFs;
- provide improved environmental outcomes by avoiding the additional plant to load, haul and place rock to complete buttressing of the NTSF’s southern embankment;
- increase the geotechnical stability for the NTSF southern embankment and thereby minimising potential consequential impacts on the environment as previously approved;
- allow for the continued deposition of tailings as previously approved;
- facilitate Ecologically Sustainable Development (ESD), as economic and operational efficiencies can be achieved with no increase in the duration of existing impacts of Cadia⁸;
- not result in any increased Scope 1 greenhouse gas emissions;
- be publicly exhibited by the DPHI; and
- not change the performance measures in PA 06_0295.

⁸ Cadia has commenced a project called the Cadia Continued Operations Project (CCOP), which is a potential new State Significant Development approval for Cadia to allow the life of Cadia to extend beyond 30 June 2031. At the time of writing, the formal approval process for CCOP has not commenced, however initial consultation with some stakeholders has commenced.

4.1.4 Evaluation under section 4.15(1) of the Environmental Planning and Assessment Act 1979

In evaluating the Modification, the consent authority is required to take into consideration the matters referred to in section 4.15(1) of the EP&A Act as are of relevance to the development which is the subject of the modification application. This Modification Report has been prepared to address the requirements of section 4.15(1) of the EP&A Act, to assist the consent authority as described in Table 4-1.

4.1.5 Permissibility

The *Cabonne Local Environment Plan 2012* (Cabonne LEP) and *Blayney Local Environmental Plan 2012* (Blayney LEP) are the relevant local environmental planning instruments which apply to Cadia. The land use zoning which applies to the Cadia mine site is Zone RU1 (Primary Production).

Clause 2.9(b)(i) of the *State Environmental Planning Policy (Resources and Energy) 2021* provides for mining to be carried out with development consent, on land where development for the purposes of agriculture or industry may be carried out (with or without development consent). Therefore, the Modification is permissible.

4.2 RELEVANT NSW LEGISLATION

In addition to the EP&A Act, the following NSW legislation may be applicable to Cadia, incorporating the Modification:

- *Aboriginal Land Rights Act 1983*;
- *Biodiversity Conservation Act 2016*;
- *Biosecurity Act 2015*;
- *Climate Change (Net Zero Future) Act 2023* (Net Zero Act);
- *Contaminated Lands Management Act 1997*;
- *Crown Land Management Act 2016*;
- *Dams Safety Act 2015*;
- *Dangerous Goods (Road and Rail Transport) Act 2008*;
- *Electricity Supply Act 1995*;
- *Fisheries Management Act 1994* (FM Act);
- *Heritage Act 1977*;

- *Mining Act 1992*;
- *National Parks and Wildlife Act 1974* (NPW Act);
- *Protection of the Environment Operations Act 1997* (PoEO Act);
- *Roads Act 1993*;
- *Water Management Act 2000* (WM Act);
- *Work Health and Safety (Mines and Petroleum Sites) Act 2013*; and
- *Work Health and Safety Act 2011*.

Relevant licences or approvals required under these Acts would continue to be obtained for Cadia, incorporating the Modification, where required. Further description of the key legislation above and its relationship with the Modification is provided below.

Section 4.41 of the EP&A Act outlines authorisations that are not required for an SSD authorised by a development consent under Division 4.7 of Part 4 of the EP&A Act:

- FM Act (permit under section 201, 205 or 219);
- *Heritage Act 1977*;
- NPW Act; and
- WM Act.

In addition, section 4.42 of the EP&A Act lists legislation which must be applied consistently:

- FM Act (aquaculture permit under section 144);
- *Mining Act 1992*;
- PoEO Act; and
- *Roads Act 1993*.

4.2.1 Water Management Act 2000

The WM Act contains provisions for the licensing, allocation, capture and use of water resources (surface and groundwater). Under the WM Act, water sharing plans establish rules for sharing water between different users and between the various environmental sources (namely rivers or aquifers), where they are in addition to extractions permitted under harvestable rights.

The Modification would not change water licensing, supply and storage requirements for Cadia. Cadia would continue to obtain and hold licenses required under the WM Act, including licenses required for the supply of surface water from Cadiangullong Dam, Belubula River, on-site bores and other approved water sources.

Table 4-1
Section 4.15(1) of the EP&A Act Matters for Consideration—General

Matter	Indication of How the Matter is Addressed
(a) <i>the provisions of —</i> (i) <i>any environmental planning instrument, and</i> (ii) <i>any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and</i> (iii) <i>any development control plan, and</i> (iiia) <i>any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and</i> (iii) <i>the regulations (to the extent that they prescribe matters for the purposes of this paragraph),</i> ... <i>that apply to the land to which the development application relates,</i>	- Consideration of the requirements of relevant environmental planning instruments is provided in Section 4.3 and Attachment A. - Clause 2.10 of the <i>State Environmental Planning Policy (Planning Systems) 2021</i> states that development control plans do not apply to State Significant Developments (such as PA 06_0295). - This Modification Report has been prepared in consideration of the relevant provisions of the EP&A Regulation. - The existing Voluntary Planning Agreements (VPAs) with the Blayney Shire Council, Cabonne Council and Orange City Council (under PA 06_0295) would continue to apply to the modified Cadia.
(b) <i>the significant likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,</i>	A description of the existing environment, an assessment of the potential environmental impacts associated with the Modification, and a description of the potential measures to avoid, mitigate, rehabilitate, remediate, monitor and/or offset the potential impacts of the Modification are described in Section 6 and Appendices A to C.
(c) <i>the suitability of the site for the development,</i>	The Modification is located at the Cadia mine site on existing mining tenements and hence is suitably sited.
(d) <i>any submissions made in accordance with this Act or the regulations,</i>	Following exhibition of the Modification Report, CHPL would prepare a Submissions Report addressing submissions received regarding the Modification.
(e) <i>the public interest.</i>	Consideration of whether, on evaluation, the Modification is considered to be in the public interest is provided in Section 7.

4.2.2 Biodiversity Conservation Act 2016

No impacts on biodiversity values have been identified as no additional surface disturbance or vegetation clearance would be associated with the Modification. Accordingly, a Biodiversity Development Assessment Report is not required for the Modification.

4.2.3 Mining Act 1992

The objects of the *Mining Act 1992* are to encourage and facilitate the discovery and development of mineral resources in NSW, having regard to the need to encourage ESD.

The proposed Modification activities at Cadia would be located within ML 1481 and ML 1405. Accordingly, the Modification is consistent with the objects of the *Mining Act 1992*.

4.2.4 Dams Safety Act 2015

The *Dams Safety Act 2015* requires that Dam Safety NSW ensure that any risk that may arise in relation to dams (including any risks to public safety and to the environment and economic assets) are of a level that is acceptable to the community.

Dam Safety NSW may, by order published in the Gazette, declare a dam or proposed dam to be a declared dam for the purposes of this Act.

Under section 48 of the *Dams Safety Act 2015*, the area of land surrounding, or in the vicinity of, a declared dam can be declared a notification area. Before granting Development Consent for any mining operations in a notification area, a consent authority must refer the application for Development Consent to Dams Safety NSW and take into consideration any matters that are raised by Dams Safety NSW in relation to the application.

CHPL conducts annual Dam Safety Standards Reporting on declared dams within Cadia including the NTSF and the STSF. The proposed design, construction, operation and monitoring of the TSFs would continue to be undertaken in consultation with Dams Safety NSW.

4.2.5 National Parks and Wildlife Act 1974

The NPW Act contains provisions for the establishment, preservation and management of national parks, historic sites and Aboriginal cultural heritage in NSW.

No additional surface disturbance would be associated with the Modification and an Aboriginal cultural heritage impact permit under section 90 of the NPW Act is not required for the Modification.

4.2.6 Roads Act 1993

Works or structures that disturb the surface of a public road or connect a road to a classified road require consent under section 138 of the *Roads Act 1993*. The *Roads Act 1993* applies to all public roads in NSW, and is typically administered by the local council for local roads. The Modification does not propose any changes to public roads.

4.2.7 Protection of the Environment Operations Act 1997

The PoEO Act and the *Protection of the Environment Operations (General) Regulation 2021* set out the general obligations for environmental protection for industry in NSW, which is regulated by the NSW Environment Protection Authority (EPA).

Operations and monitoring at Cadia are currently undertaken in accordance with the current Environment Protection Licence (EPL) 5590 held by CHPL issued under the PoEO Act.

4.2.8 Climate Change (Net Zero Future) Act 2023

The Net Zero Act sets out NSW's approach to effective action on climate change and legislates whole-of-government climate action to deliver net zero by 2050.

Neither the Net Zero Act nor any other relevant policies in NSW impose specific requirements on the Modification to implement measures to reduce, avoid and monitor greenhouse gas emissions.

PA 06_0295 imposes specific requirements on CHPL with respect to minimising greenhouse gas management at Cadia. Greenhouse gas emissions are further addressed in Section 6.6.

4.3 ENVIRONMENTAL PLANNING INSTRUMENTS

The potential Modification requirements under the key environmental planning instruments is included in the statutory compliance table provided in Attachment A.

4.3.1 Blayney LEP and Cabonne LEP

Cadia is located within the Blayney LEP and also the Cabonne LEP. The Modification Area is zoned as Zone RU1 (Primary Production).

The Modification is consistent with the general objectives of Zone RU1 (Primary Production) as:

- The Modification would facilitate the continued extraction of natural resources (gold, copper, silver and molybdenum) from Cadia.
- The Modification would not result in the fragmentation or isolation of any existing agricultural land use, as it is within the Cadia TSF operational areas.
- The Modification would not have a significant detrimental impact on current or future extraction or recovery of gold, copper, silver and molybdenum (either by CHPL or another proponent) and is not incompatible with adjacent land uses.

4.4 COMMONWEALTH LEGISLATION

4.4.1 Environment Protection and Biodiversity Conservation Act 1999

The objective of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is to protect the environment, especially Matters of National Environmental Significance (MNES). Proposals that are likely to have a significant impact on a MNES are defined as a "controlled action" under the EPBC Act.

The Cadia East Project was referred to the Commonwealth Minister in December 2006, and was determined by a delegate of the Commonwealth Minister to be a controlled action in January 2007, therefore, requiring approval under the EPBC Act.

Approval Decision (EPBC 2006/3196) for the Cadia East Underground Mine was granted on 18 February 2010 under the EPBC Act, and the operation of Cadia continues to be carried out in accordance with this Approval Decision.

As the Modification would not involve additional clearing of vegetation, or impacts on MNES an EPBC Act Referral is not required.

4.4.2 National Greenhouse and Energy Reporting Act 2007

The Commonwealth *National Greenhouse and Energy Reporting Act 2007* (NGER Act) introduced a single national reporting framework for the reporting and dissemination of corporations' greenhouse gas emissions and energy use.

Clause 3 of the NGER Act defines the objects of the Act:

- (1) *The first object of this Act is to introduce a single national reporting framework for the reporting and dissemination of information related to greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production of corporations to:*
 - (b) *inform government policy formulation and the Australian public; and*
 - (c) *meet Australia's international reporting obligations; and*
 - (d) *assist Commonwealth, State and Territory government programs and activities; and*
 - (e) *avoid the duplication of similar reporting requirements in the States and Territories.*
- (2) *The second object of this Act is to contribute to the achievement of Australia's greenhouse gas emissions reduction targets by ensuring that each of the following outcomes (the **safeguard outcomes**) are achieved:*
 - (a) *net covered emissions of greenhouse gases from the operation of a designated large facility do not exceed the baseline applicable to the facility;*

Additionally, the Safeguard Mechanism (underpinned by the Commonwealth *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015*) was established through the NGER Act.

The Safeguard Mechanism provides baseline emissions and offset requirements for applicable facilities. The Safeguard Mechanism Reforms (Commonwealth Department of Climate Change, Energy, the Environment and Water [DCCEEW], 2023) introduced an amendment to the NGER Act and other legislation to establish the framework to give effect to key elements of the reforms, such as introducing credits to the scheme to provide an incentive for facilities to go beyond their baselines in terms of greenhouse abatement.

Newmont International Holdings Pty Ltd (owner of CHPL) is a controlling corporation listed in the latest Safeguard Mechanism compliance data available for 2023-24 (Clean Energy Regulator, 2025).

The reforms apply a decline rate to facilities' baselines so that they are reduced predictably and gradually over time on a trajectory consistent with achieving Australia's emission reduction targets of 43% below 2005 levels by 2030, 62 to 70% below 2005 levels by 2035 and net zero by 2050 (Commonwealth DCCEEW, 2025a).

Greenhouse gas emissions from Cadia are currently measured and reported annually, which would continue for the Modification.

Greenhouse gas emissions are further addressed in Section 6.

4.4.3 Native Title Act 1993

The Commonwealth *Native Title Act 1993* provides for the recognition and protection of Native Title rights in Australia.

The *Native Title Act 1993* provides a mechanism to determine whether Native Title exists and what the rights and interests are that comprise that Native Title. The process is designed to ensure that Indigenous people who claim to have an interest in a parcel of land have the opportunity to express this interest formally, and to negotiate with the Government and the applicant about the proposed grant or renewal of a mining tenement, or consent to access Native Title land.

The *Mining Act 1992* must be administered in accordance with the *Native Title Act 1993*. The primary effect of the *Native Title Act 1993* on exploration and mining approvals is to provide Native Title parties with 'Rights to Negotiate' about the grant and some renewals by Governments of exploration and mining titles. Since there are no new mining tenements triggered by the Modification, there are no *Native Title Act 1993* requirements.

4.5 OTHER APPROVALS

A number of environmental management plans and programs for Cadia are required to be approved and implemented under PA 06_0295, consistent with the relevant conditions of EPBC 2006/3196 and EPL 5590.

The existing environmental management plans would be updated to incorporate the Modification and any revised or new mitigation measures (Section 6).

5 ENGAGEMENT

This section provides an overview of the engagement undertaken during the preparation of this Modification Report, the key issues raised during this engagement, and how issues raised have been considered in the Modification Report.

CHPL is committed to continuing open and constructive dialogue with the community and stakeholders (Plate 5-1).



Plate 5-1 Consultation with Community Members

5.1 ENGAGEMENT APPROACH

The engagement undertaken during the preparation of this Modification Report has been undertaken in consideration of *Undertaking Engagement Guidelines for State Significant Projects* (DPIE, 2024).

Feedback obtained through engagement with key stakeholders has provided the opportunity to identify issues of concern or interest, and to consider these issues within the Modification Report.

Key objectives of the engagement undertaken for the Modification are to:

- engage with key government and public stakeholders about the Modification;
- seek input from key stakeholders on elements of the Modification; and
- continue the ongoing dialogue between CHPL and key stakeholders regarding Cadia, incorporating the Modification.

CHPL will continue consultation with the community and stakeholders regarding the environmental assessment findings and the Modification assessment process and the public exhibition dates for this Modification Report.

Further consultation during the assessment of the Modification with the NSW Government will be undertaken, as required. CHPL will also continue to provide updates to the Cadia Community Consultative Committee (CCC).

CHPL has engaged with a range of stakeholders including State and local government agencies, and the local community to obtain feedback on the proposed assessment approach, potential impacts, and/or proposed mitigation and management measures for the Modification.

CHPL continues to consult with relevant stakeholders on a regular basis in relation to the Modification and the ongoing mining activities at Cadia.

5.2 STATE GOVERNMENT

5.2.1 Department of Planning, Housing and Infrastructure

CHPL issued a Scoping Letter to DPHI in November 2025 to provide a briefing on the Modification and to confirm the Modification approval pathway and the proposed scope of environmental assessment.

Secondary consultation with DPHI was held in mid December 2025 to discuss key findings of the specialist studies.

CHPL will continue to consult with DPHI throughout the Modification assessment process to respond to any requests for additional information.

5.2.2 Other NSW Government Agencies

In November 2025, CHPL consulted with the following State government agencies to provide an initial description of the Modification and proposed scope of environmental assessment:

- NSW Resources;
- NSW DCCEE – Water;
- NSW EPA; and
- Dams Safety NSW.

Following initial briefing of the government agencies listed above, CHPL further developed the description of the Modification and actively engaged in a subsequent round of consultation in early December 2025 with Resources Regulator and the NSW EPA. Details of briefings and matters raised are provided in Table 5-1.

Table 5-1
Summary of Key Regulator Comments

Summary of Comment	Relevant Section in Modification Report	Response
Dams Safety NSW requested that all relevant Modification updates are sent directly to them.	Section 5	All relevant Modification updates were sent to Dams Safety NSW.
NSW Resources indicated that the potential use of recovered sand as a buttress material had been previously discussed with NSW Resources through the recovered sand demonstration embankment and were generally supportive of the use or recovered sand for buttressing purposes. CHPL is working with NSW Resources to facilitate the secondary approvals needed for the Modification activities (which are subject to the approval of the Modification being granted).	Sections 1 and 2	The Modification describes the existing demonstration embankment and recovered sand operational context.

5.3 LOCAL GOVERNMENT AUTHORITIES

Cadia is located within the Blayney and Cabonne LGAs and is near the Orange LGA.

CHPL holds regular meetings with the Blayney Shire Council, Cabonne Shire Council and Orange City Council in relation to the existing and proposed activities at Cadia.

CHPL provided a briefing letter to the Blayney Shire Council, Cabonne Shire Council and Orange City Council in November 2025 to provide an overview of the Modification.

Representatives of the Blayney Shire Council, Cabonne Shire Council and Orange City Council are members of the Cadia CCC.

CHPL would continue to consult with the Blayney Shire Council, Cabonne Shire Council and Orange City Council during the Modification assessment process to respond to any questions.

5.4 COMMUNITY ENGAGEMENT

5.4.1 Community Consultative Committee

CHPL has an established CCC that provides a forum for open discussion on Cadia's activities and community investment initiatives, as well as environmental performance and community relations. The CCC meets quarterly, and is made up of representatives from:

- Cadia Valley Operations;
- Blayney and Cabonne Shire Councils, and Orange City Council;
- Orange Local Aboriginal Land Council;
- landholder representatives;
- the local community; and
- Cadia Community Sustainability Network.

Consultation between CHPL and CCC regarding buttressing requirements for the TSF's has been ongoing, with the most recent consultation regarding this Modification being in November 2025. Within this briefing, CHPL provided an overview of the Modification and anticipated timing of exhibition.

The Cadia CCC and community members have raised concern that the Modification may result in the use of recovered sand for embankment construction, which is proposed by CHPL's separate CCOP application. CHPL reiterates that the Modification is to use recovered sand as part of NTSF buttressing only as described in Section 3 (i.e. inclusive of a rock underdrainage layer and rock armouring) and is not being used as the primary embankment material as its in CCOP.

The Cadia CCC also raised concerns about the use of tractors for compaction during the night period. Their concern is in relation to vehicle operations in an elevated position as the buttress rises. The Cadia CCC was interested in specific details around the type of tractor to be used and the number operating. CHPL has included these details into the Noise Assessment (Appendix B).

CHPL will provide a summary of the findings of the Modification Report to the CCC in February 2026. CHPL will continue to provide updates on the status of the Modification at future CCC meetings.

5.4.2 Aboriginal Stakeholders

The Modification is solely within CHPL-owned land and within existing MLs at Cadia. There is no proposed change to the approved disturbance footprint. As such, an Aboriginal Cultural Heritage Assessment was not required for the Modification.

Notwithstanding, in accordance with the *Cadia Aboriginal Cultural Heritage Management Plan* (Newmont, 2025a), CHPL would continue to conduct ongoing consultation with relevant Aboriginal stakeholders throughout the life of the Cadia mine.

5.4.3 Public Consultation

Cadia operates a Smart Comms update (via email) that disseminates key information to residents and interested parties on a regular basis.

The Cadia website provides regular updates on the Cadia operation, and access to the Modification application and information sheets, along with relevant operational environment and community information, including compliance reports and approval documents. The website link is as follows:

<https://operations.newmont.com/australia/cadia>

Newsletters from 2006 to 2025 are available on Cadia's website. The newsletters provide an update on information discussed at Cadia's CCC meetings, Cadia District Residents meetings and other ongoing activities at Cadia. These newsletters are provided quarterly.

The Cadia Community Complaints Line (1800-063-043) and website allows members of the public to contact CHPL with enquires or complaints 24 hours, 7 days per week.

A copy of this Modification Report will be made available on the Cadia website (as above) and on the NSW Major Projects website, as below:

<https://www.planningportal.nsw.gov.au/major-projects/projects/mod-16-ntsf-hydrocyclone-sands-buttressing>

5.4.4 Community Partnerships and Investment

CHPL contributes to the local community through its Community Partnership Program. The Community Partnership Program has two opportunities (i.e. Cadia Cares and the Cadia Legacy Fund) for the community to seek financial and in-kind support. The Community Partnership Program is CHPL's primary program to support and enhance community groups and organisations in the Blayney, Cabonne and Orange LGAs.

The program provides both a short and long-term funding program as follows:

- Short-term funding – focused on supporting education, community and disadvantaged groups to offset the current impacts of CHPL's activities.
- Long-term funding – focused on supporting alternative industry sectors and deliver strategic projects which will create a legacy on the local region and assist to continue the prosperity of the region when Cadia reaches mine closure.

6 ASSESSMENT OF IMPACTS

This section provides an assessment of the potential environmental impacts associated with the Modification.

The scope and content of the environmental assessment and technical appendices have been informed by the Scoping Letter, which was provided to DPHI in November 2025.

Sections 6.1 to 6.7 and the relevant appendices include a description of the methodology undertaken for each assessment, the existing environment, an assessment of the potential impacts of the Modification, and, where relevant, a description of measures that would be implemented to avoid, minimise and/or mitigate the potential impacts.

6.1 NOISE

A Noise Impact Assessment was undertaken by RWDI Australia Pty Ltd (RWDI) (RWDI, 2025) and is presented in Appendix B, with an overview of the assessment provided in this section.

6.1.1 Methodology

The assessment was conducted in consideration of the following guidelines:

- *Noise Policy for Industry* (NPfI) (EPA, 2017); and
- *Voluntary Land Acquisition and Mitigation Policy* (VLAMP) (NSW Government, 2018).

The Noise Impact Assessment included consideration of the key Modification activities.

As no changes are proposed with regard to the CVO Dewatering Facility, blasting activities, rail transportation noise and road traffic noise, those aspects of the operations were not addressed in the noise assessment (Appendix B).

6.1.2 Background

Noise Management and Monitoring Regime

The management of noise emissions at Cadia is undertaken in accordance with the approved *Noise Monitoring Program* (CHPL, 2021), which includes:

- the PA 06_0295 noise limits;
- a description of the noise monitoring network; and

- procedures for the assessment and management of potential noise exceedances and complaints.

CHPL undertakes routine attended compliance monitoring and unattended operational performance monitoring at management sites in accordance with the *Noise Monitoring Program* and PA06_0295. The attended noise monitoring sites in the vicinity of Cadia are shown on Figure 6-1 and are used by CHPL to assess compliance with the noise limits described in PA 06_0295 and the Cadia's EPL.

In addition, Cadia is continuing to use operational performance management monitoring sites. The real time data collected at these operational performance management monitoring sites would be used to actively manage construction and operational activities to maintain compliance with noise limits. These operational performance management monitoring sites are located between the noise source on the mine site and the compliance monitoring location and can be located on site or off site. The operational performance management monitoring sites are a tool used by CHPL to manage its noise emissions and are not used for compliance purposes.

The noise monitoring data collected in 2024-25 in the vicinity of Cadia have been reviewed by RWDI. The noise monitoring in the vicinity of Cadia includes both attended and unattended monitoring. The attended monitoring data shows that compliance with noise criteria was achieved at all ten sites for both project-specific and cumulative noise impact. The unattended noise monitoring data also shows compliance at Cadia. Two exceedances were recorded at the CVO Dewatering Facility monitoring locations (Newmont, 2025b). CHPL has since established voluntary noise agreements with the residents which were the subject of these exceedances and has advised the DPHI of terms of these agreements.

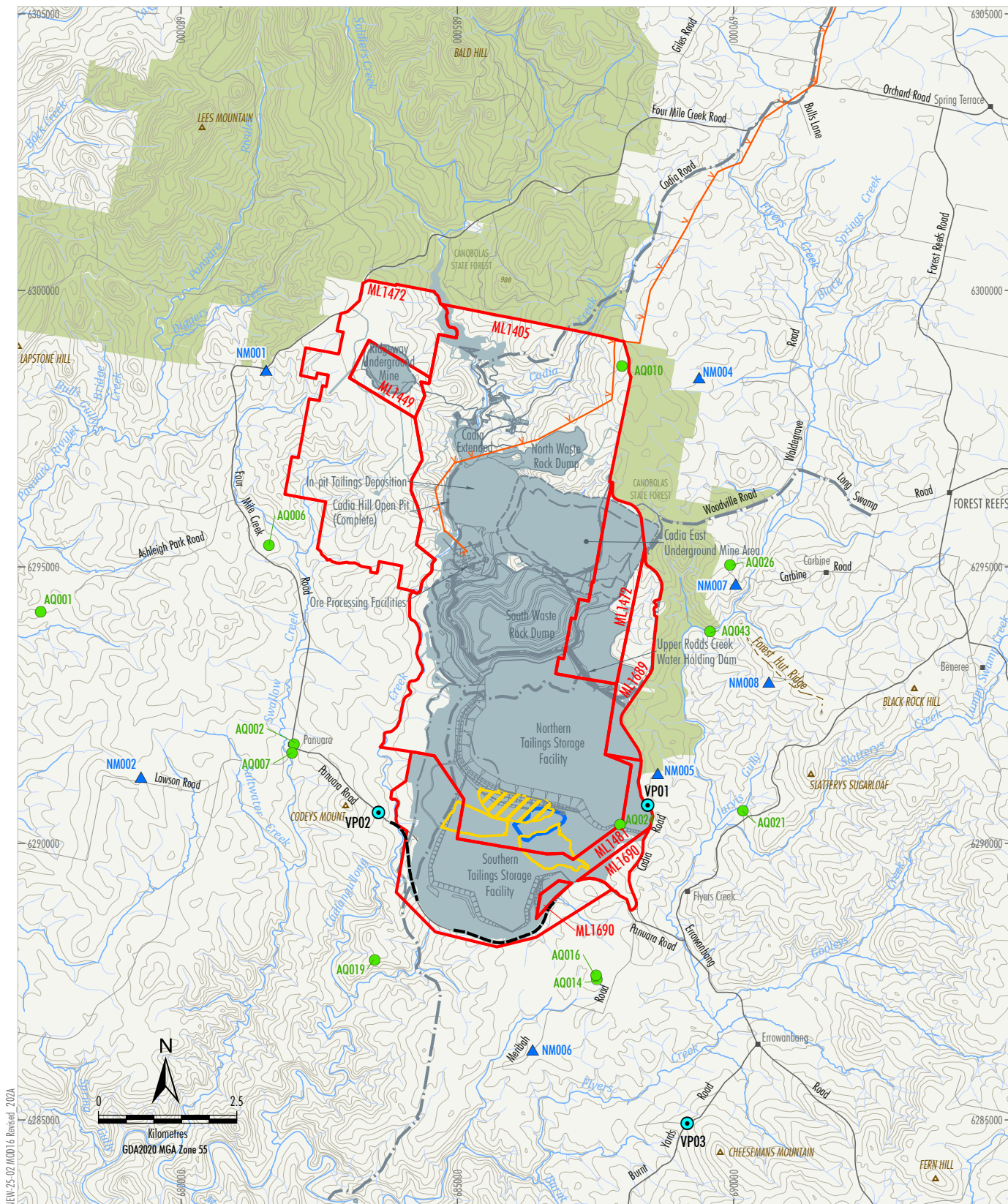
Table 6-1 summarises the noise-related complaints for 2023 to 11 December 2025.

Table 6-1
Number of Noise-Related Complaints

Year*	Number of Community Complaints
2023	5
2024	100
2025	41

Source: Newmont.

*Calendar year



LEGEND

- Mining Lease Boundary
- NSW State Forest
- Powerline
- Existing/Approved Mine Infrastructure, Disturbance Footprint and Landform
- Transfer Pipeline (Conceptual)
- Panvora Road Realignment (Conceptual)
- Recovered Sand Demonstration Embankment
- Air Quality Monitoring Station
- ▲ Noise Monitoring Station
- Viewpoint Location

- Proposed Modification 16 Elements
- Recovered Sand Buttress
- Excess Recovered Sand Stockpile/Emplacement

Source: Land and Property Information (2017);
Department of Primary Industries and Regional Development (2025);
CHPL (2018; 2023); Newmont (2026)

Newmont
CADIA

CADIA VALLEY OPERATIONS

Air Quality, Noise Monitoring Stations
and Viewpoint Locations

Note: Excludes some incidental project components such as water management infrastructure, access tracks, topsoil stockpiles, power supply, temporary offices, other ancillary works and construction disturbance.

Figure 6-1

Between 2023 and 10 December 2025, Cadia received 146 noise complaints from 25 unique complainants. Of those 146 complaints, there were no exceedances and no reportable exceedances.

Out of the 146 complaints, 73% (106) came from three households:

- Household A – 31% (45 complaints).
- Household B – 28% (41 complaints).
- Household C – 14% (20 complaints).

The complainant households are clustered in an area where equipment TSF buttressing works could be audible under certain weather conditions. The increase in complaints in 2024 is the result of recommencing buttressing works in 2024 after a period of relative inactivity. Subsequent investigations in response to these complaints identified Cadia was complying with the approved noise limits.

The majority of noise complaints were from the Errowanbang area. Complaints were also received from Panuara and Forest Reefs. The nature of the complaints was generally related to a perceived increase in noise at the complainant's property.

All community complaints (including the noise-related complaints) received were investigated by CHPL and actions were implemented where appropriate (Newmont, 2025b).

Applicable Criteria

Operational Noise Criteria

Existing noise assessment criteria for the Cadia mine site are specified in PA 06_0295 (as updated upon approval of Modification 15 in January 2025) and summarised in Table 6-2. RWDI has assessed potential noise impacts against the existing PA 06_0295 criteria (Appendix B).

Cumulative Noise Criteria

Consideration of cumulative operational noise generated by the Modification and other nearby industrial sources is also required. The cumulative noise criteria, which have been established in PA 06_0295 are provided in Table 6-3. For ease of assessment, PA 06_0295 cumulative noise criteria, expressed as $L_{Aeq,Period}$ levels, were converted to $L_{Aeq,15min}$ noise levels by adding 3 dB following the NPfI methodology for standardising the L_{Aeq} noise descriptors' averaging period (Appendix B).

Table 6-2
PA 06_0295 Noise Impact Assessment Criteria – Cadia Valley Operations

Receivers/Land	Day ($L_{Aeq,15min}$)	Evening ($L_{Aeq,15min}$)	Night ($L_{Aeq,15min}$)	Night ($L_{A1,1min}$)
2127	43	41	35	45
138	42	38	35	45
2121	42	37	35	45
2126	42	38	35	45
2128	42	38	35	45
2163	41	38	35	45
30, 38, 40, 2160	40	36	35	45
133, 208, 380	40	37	35	45
Other privately-owned residential receivers/land	40	35	35	45

Source: Appendix B

Notes:

- Day = 7:00 am – 6:00 pm Monday to Saturday, and 8:00 am – 6:00 pm Sundays and Public Holidays; Evening = 6:00 pm – 10:00 pm; Night = all remaining periods.
- Noise generated by the Modification is to be assessed in accordance with the relevant requirements of the NPfI.
- Noise criteria do not apply if CHPL has an agreement with the relevant owner/s of these residences/land to generate higher noise levels and CHPL has advised the Department in writing of the terms of this agreement.
- The limits set out in Table 6-2 apply under defined meteorological conditions as described in PA06-0295 (as modified).

Table 6-3
PA 06_0295 Cumulative Noise Criteria – Cadia Valley Operations

Receivers/Land	Day (L _{Aeq,15min})	Evening (L _{Aeq,15min})	Night (L _{Aeq,15min})
All privately-owned residential receivers/land	53	48	43

Source: Appendix B

Notes:

- Day = 7:00 am – 6:00 pm Monday to Saturday, and 8:00 am – 6:00 pm Sundays and Public Holidays; Evening = 6:00 pm – 10:00 pm; Night = all remaining periods.
- Noise generated by the Modification is to be assessed in accordance with the relevant requirements of the NPfI.
- Criteria converted from the relevant L_{Aeq,Period} levels to L_{Aeq,15min} levels by RWDI (2025).

6.1.3 Impact Assessment Review

Modelling Methodology

Noise modelling has incorporated the Modification noise sources into the baseline noise model consisting of existing and approved activities at Cadia as follows (Appendix B):

- mobile equipment associated with rock buttressing at the NTSF southern embankment and approved under Modification 15 would not immediately stop but rather be used during the early phase of the Modification for construction activities (to establish the rock platform and allow for a transition to the recovered sand buttress).
- fixed infrastructure associated with the recovered sand demonstration embankment located in the north of the STSF for Modification 15 was relocated to the ore processing area; and
- all mobile equipment associated with the demonstration embankment was removed from the baseline noise model and replaced with the relevant recovered sand fleet for the current Modification.

As such, rock buttressing activities at the NTSF southern embankment were conservatively kept in the baseline noise model and were modelled alongside the recovered sand buttress activities to represent worst-case noise emissions (Appendix B).

Assessment of Meteorological Condition

The NPfI generally directs the use of either default meteorological parameters or site-specific parameters for the assessment of noise impacts. RWDI has assessed Cadia's meteorological data in accordance with Fact Sheet D of the NPfI to determine the significance of noise-enhancing meteorological conditions (Appendix B).

The assessment was based on the most adverse of those meteorological conditions, as summarised in Table 6-4 (Appendix B). This adds further conservatism to the model scenario.

Table 6-4
Assessment Meteorological Conditions

Assessment Period	Meteorological Conditions
Day	Stability Categories D combined with 0.5 m/s source-to-receiver wind speed
Evening	Stability Categories D combined with 0.5 m/s source-to-receiver wind speed
Night	Stability Categories D combined with 0.5 m/s source-to-receiver wind speed

Source: Appendix B

Note:

- Stability Category modelled as vertical temperature gradient of - 0.5 degree Celsius per 100 m.

Noise Predictions

Operational Noise Assessment

RWDI (2025) found that the operational noise predictions would comply with the noise impact assessment criteria at all privately-owned residential receivers and during day, evening and night periods (Appendix B).

Noise levels are generally found to decrease during the day and evening periods when compared with Modification 15. This is primarily due to (Appendix B):

- the removal of the mobile equipment associated with the approved (Modification 15) recovered sand demonstration embankment mobile plant during those periods.
- replacement with the new fleet that would be used for recovered sand deposition.
- reduced height of modelled noise sources for the rock platform/underdrainage compared with Modification 15.

At night, noise levels are generally found to increase due to the coarse sand tailings placement operation, however, are predicted to comply with the approved night-time noise limits (Appendix B).

As the nearest privately owned receiver is in the order of 2 km away from the Modification activities (to the east), the changes in noise levels are not expected to be noticeable to most residents.

Table 6-5 includes the predicted operational noise levels at selected privately-owned receivers in the vicinity of Cadia, with the approved noise limits included in brackets.

Table 6-5
Predicted Operational Noise Levels at Selected Privately-owned Receivers

Receiver	Location	Day ($L_{Aeq,15min}$ [dBA]) / (criteria)	Evening ($L_{Aeq,15min}$ [dBA]) / (criteria)	Night ($L_{Aeq,15min}$ [dBA]) / (criteria)
2121	East	39/(42)	34/(37)	21/(35)
208	East	37/(40)	33/(37)	24/(35)
2123	East	32/(40)	28/(35)	<20/(35)
2072	East	34/(40)	30/(35)	<20/(35)
38	East	35/(40)	33/(36)	23/(35)
44	East	35/(40)	33/(35)	21/(35)
2127	West	42/(43)	41/(41)	35/(35)
138	West	40/(42)	38/(38)	34/(35)
2126	West	39/(42)	38/(38)	31/(35)
2128	West	40/(42)	38/(38)	34/(35)

Source: Appendix B.
dBA = A-weighted decibel.

Land Assessment

RWDI (2025) found that the noise generated by the Modification would comply with the land area noise assessment criteria on all privately-owned land (vacant or otherwise) (Appendix B).

Cumulative Noise Assessment

A cumulative noise assessment was conducted to consider impacts from the modified operations and the only other significant industrial operation nearby, namely the Flyers Creek Wind Farm, located approximately 3 km south-east of Cadia (Appendix B).

From the assessment, RWDI (2025) concluded that exceedances of the cumulative noise criteria would not be expected, and cumulative noise emissions associated with the Modification would not impact on the acoustic amenity of the surrounding community (Appendix B).

Maximum Noise Level Assessment

The maximum noise assessment included all (approved) activities potentially generating maximum noise level events in and around the ore processing area (Appendix B).

Noise modelling results indicated that night-time $L_{A1,1min}$ noise levels would comply with the maximum noise level criteria at all privately-owned residential receivers. Therefore, the Modification is not expected to cause sleep disturbance in the surrounding community (Appendix B).

6.1.4 Mitigation and Management Measures

CHPL would continue to implement the existing noise management and monitoring measures described in the *Noise Monitoring Program* (CHPL, 2021), to minimise noise emissions and comply with relevant noise criteria.

Relevant plans and strategies would be updated, where necessary, to incorporate the Modification.

6.1.5 Adaptive Management

Consistent with the approved Cadia operations, noise adaptive management measures continue to be implemented. These include a real-time noise and meteorological monitoring system which would work in conjunction with a Trigger Action Response Plan (TARP) to guide the day to day planning and real time surface operations undertaken across the mine site. This operational performance management network has fixed far field monitoring locations selected considering the location of the nearest private residences, local topography and modelling results. Near field monitoring would be optimised and moved to reflect the dynamic nature of surface activities. The operational performance management monitors would use real-time alarms to assist with management of noise.

Noise-enhancing meteorological conditions would be identified by a combination of noise and meteorological monitoring and forecasting.

If the real-time monitoring and meteorological forecasting system predicts elevated noise levels at receivers, CHPL would refer to the TARP which may require temporary alterations and/or shutdowns, for example alteration to location (i.e. elevation), shutdowns of specific equipment and/or temporarily undertaking activities in locations which provide more topographic shielding from receiver locations to minimise noise impacts. Further, Cadia would continue to make real-time noise monitoring data available to the community on the Cadia website:
<https://www.cadiavalley.com.au/newcrest/cvo/live-noise-monitoring>.

6.2 AIR QUALITY

An Air Quality Impact Assessment was undertaken by Airen Consulting (Airen) and is presented in Appendix C, with an overview of the assessment provided in this section.

6.2.1 Methodology

The air quality assessment criteria within the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (the Approved Methods) (EPA, 2022) were adopted for the assessment of modelled impacts at any residence on privately-owned land.

The predicted air quality impacts from the Modification have also been assessed against the relevant criteria and procedures in the VLAMP (NSW Government, 2018). Key particulate matters that were considered in the Air Quality Impact Assessment include:

- total suspended particulates (TSP);
- particulate matter with equivalent aerodynamic diameter of 10 microns or less (PM₁₀);
- particulate matter with equivalent aerodynamic diameter of 2.5 microns or less (PM_{2.5}); and
- deposited dust.

6.2.2 Background

Air Quality Management and Monitoring Regime

The monitoring and management of dust emissions at Cadia is undertaken in accordance with the approved *Cadia Air Quality and Greenhouse Gas Management Plan* (Newmont, 2025c), which includes:

- PA 06_0295 air quality criteria;

- a description of the air quality monitoring network; and
- procedures for assessment and management of potential air quality exceedances and complaints.

Monitoring equipment used to measure dust emissions include Beta Attenuation Monitors (BAMs), High Volume Air Sampler, Stack Monitoring Equipment (that meets EPA NSW guidelines for stack emissions sampling and testing), Low Volume Air Sampler and depositional dust gauges. Figure 6-1 shows the current Cadia air quality monitoring network.

CHPL undertakes compliance monitoring, which is supported by operational performance management sites in accordance with the *Air Quality and Greenhouse Gas Management Plan* (Newmont, 2025c). The operational performance management sites record real time data which would be used to actively manage construction and operational activities to maintain compliance with air quality limits. These operational performance management monitoring sites are located between the emission source on the mine site and the compliance monitoring location and can be located on site or off site. The operational performance management monitoring site is a tool used by the mine to manage its emissions and is not used for compliance reporting purposes.

The air quality monitoring data collected in 2024-25 in the vicinity of Cadia have been reviewed. It has been concluded that Cadia was in compliance with PA 06_0295 for Cadia in terms of all relevant air quality limits for data collected in 2024-25 (Airen, 2025).

Table 6-6 summarises the air quality-related complaints from 2023 to 2025. It shows that the number of dust complaints trending downward in the past three years. Nearly all complaints came from households near the STSF with no particular households over-represented.

Table 6-6
Number of Air Quality-Related Complaints

Year*	Number of Community Complaints
2023	16
2024	1
2025	2

Source: Newmont.

*Calendar year

Review of Air Quality Monitoring Data

PM₁₀

A summary of PM₁₀ levels from Cadia monitoring stations is provided in Table 6-7.

The monitoring data showed that the maximum 24-hour average PM₁₀ concentrations exceeded the criterion of 50 micrograms per cubic metre (µg/m³) on some occasions, coinciding with drought conditions and lower than average rainfall, and the DPHI noted these as extraordinary events and not typical air quality conditions (Appendix C). The increases in PM₁₀ concentrations were observed across many locations in NSW and were not unique to the Central Tablelands. Concentrations decreased from mid-2020, coinciding with increased rainfall (Appendix C).

PM_{2.5}

Monitoring of PM_{2.5} in the vicinity of Cadia commenced in 2022. The monitoring data shows that concentrations of PM_{2.5} near Cadia have not exceeded the EPA assessment criteria since the monitoring commenced (Appendix C).

TSP

Table 6-8 shows the estimated annual average TSP concentrations at the PM₁₀ monitoring locations for data collected between July 2018 and June 2025. The estimated annual average TSP concentrations do not exceed the EPA assessment criterion or criteria contained in PA 06_0295 (Appendix C).

Table 6-7
Summary of PM₁₀ Levels in the Vicinity of Cadia

Year	TEOM				BAM				Criteria
	Bundarra	Flyers Creek	Triangle Flat	Meribah	Bundarra ^a	Woodville ^b	Triangle Flat	Meribah	
Maximum 24-hour average (µg/m ³)									
2018-19	293	276	268	299	-	-	-	-	50
2019-20	373	394	331	315	-	-	-	-	50
2020-21	42	35	37	47	-	-	-	-	50
2021-22	34	32	34	74 ^c	26	27	21	42	50
2022-23	-	-	-	48	27	59 ^d	39	38	50
2023-24	-	-	-	-	21	26	22	39	50
2024-25	-	-	-	-	53	36	41	37	50
Annual average (µg/m ³)									
2018-19	25	20	19	21	-	-	-	-	25
2019-20	28	19	18	22	-	-	-	-	25
2020-21	14	12	10	13	-	-	-	-	25
2021-22	10	10	9	11	8	9	7	7	25
2022-23	-	-	-	11	10	10	8	9	25
2023-24	-	-	-	-	10	8	9	11	25
2024-25	-	-	-	-	12	9	10	11	25

Source: Appendix C

Note:

- The concurrent Tapered Element Oscillating Microbalance (TEOM) and BAM data covered slightly different monitoring periods/portions of the year so the results will not be the same.
- Bold = potential exceedance Subsequent investigations identified these exceedances were not attributable to activities at Cadia

^a monitoring commenced 1 April 2022.

^b monitoring commenced 1 June 2022.

^c Elevated concentration on 29/10/21. Winds were from the southwest on this day and not from the direction of Cadia mine.

^d Annual Review suggested contributions from activities and/or pollens from the state forest.

Table 6-8
Summary of Estimated Annual Average TSP Levels in the Vicinity of Cadia

Year	Bundarra ($\mu\text{g}/\text{m}^3$)	Woodville ($\mu\text{g}/\text{m}^3$)	Triangle Flat ($\mu\text{g}/\text{m}^3$)	Meribah ($\mu\text{g}/\text{m}^3$)	Criteria ($\mu\text{g}/\text{m}^3$)
2018-19	64	51	48	53	90
2019-20	73	50	47	58	90
2020-21	36	32	26	32	90
2021-22	26	27	22	27	90
2022-23	25	25	20	23	90
2023-24	25	20	23	28	90
2024-25	30	23	26	29	90

Source: Appendix C

Respirable Crystalline Silica

Respirable Crystalline Silica (RCS) monitoring co-located with PM_{10} monitoring equipment. RCS monitoring started in January 2025, as agreed with the EPA. The monitoring data shows that rolling annual average concentration has not exceeded the NSW EPA's interim assessment criteria for RCS (Appendix C).

Deposited Dust

Table 6-9 shows the measured annual average deposited dust levels. There have been periods when deposited dust levels exceeded the criterion of 4 grams per squared metres per month ($\text{g}/\text{m}^2/\text{month}$). These periods coincided with drought conditions (2019 to 2020), or contamination (including bird droppings) in the case of AQ010 in 2021-22. Investigations conducted as part of Annual Reviews submitted under PA 06_0295 found that Cadia had complied with the criteria in PA 06_0295 (Appendix C).

Applicable Criteria

The Approved Methods generally specify criteria levels developed to protect human health and amenity (i.e. the criteria are set at levels to reduce the risk of adverse health effects).

Particulate matter also has the potential to cause nuisance (amenity) effects when it is deposited on surfaces. Therefore, Airen has considered criteria for the maximum increase in dust deposition and maximum total dust deposition for the Modification, as specified by the Approved Methods.

A summary of the relevant criteria considered by Airen as specified by the Approved Methods, as well as the existing PA 06_0295 criteria is provided in Table 6-10.

Assumed Background Levels

Table 6-11 shows the assumed background levels that would apply at sensitive receptors near Cadia. These levels have been included in the model along with the Modification 16 contributions to determine the potential cumulative impacts (Appendix C).

Table 6-9
Summary of Annual Average Deposited Dust Levels around Cadia

Year	AQ006	AQ010	AQ043	AQ007	AQ001	AQ024	AQ019	AQ016	Criteria
2018-19	2.5	2.9	2.7	3.0	3.3	4.6	2.0	2.8	4
2019-20	5.3	4.7	4.1	4.8	5.1	3.7	3.7	6.0	4
2020-21	2.7	4.2	1.9	1.9	1.1	1.8	1.7	1.9	4
2021-22	2.0	12.1	1.6	1.4	1.0	2.8	1.1	1.2	4
2022-23	1.6	3.8	1.5	1.2	0.7	1.8	1.2	1.1	4
2023-24	1.8	3.6	2.2	1.5	1.1	2.9	2.6	1.3	4
2024-25	2.5	2.4	1.0	0.9	0.6	N/A	0.5	1.1	4

Source: Appendix C

Note:

- Bold = exceedance
- Units = $\text{g}/\text{m}^2/\text{month}$

Table 6-10
Relevant Air Quality Assessment Criteria

Pollutant	Averaging Period	Criteria	
		Approved Methods	PA 06_0295
PM ₁₀	24-hour	50 µg/m ³	50 µg/m ³ #
	Annual	25 µg/m ³	25 µg/m ³
PM _{2.5}	24-hour	25 µg/m ³	25 µg/m ³ #
	Annual	8 µg/m ³	8 µg/m ³
TSP	Annual	90 µg/m ³	90 µg/m ³
Dust Deposition	Annual – Maximum Increment	2 g/m ² /month	2 g/m ² /month
	Annual – Maximum Total	4 g/m ² /month	4 g/m ² /month

Source: Appendix C

Incremental impact (i.e. increase in concentrations due to Cadia on its own), with up to five allowable exceedances of the criteria over the life of Cadia.

Table 6-11
Assumed Background Levels

Air Quality Indicator	Average Time	Assumed Background Levels	EPA Assessment Criteria
PM ₁₀	24-hour	Variable by day	50 µg/m ³
	Annual	9.3 µg/m ³	25 µg/m ³
PM _{2.5}	24-hour	Variable by day	25 µg/m ³
	Annual	4.0 µg/m ³	8 µg/m ³
TSP	Annual	23 µg/m ³	90 µg/m ³
Dust Deposition	Annual	1.6 g/m ² /month	Maximum Increase: 2 g/m ² /month
			Maximum Total: 4 g/m ² /month

Source: Appendix C

6.2.3 Impact Assessment Review

Modelling Methodology

Airen (2025) has undertaken air quality dispersion modelling to assess potential impacts for a scenario representing the maximum potential air quality impacts for Cadia, incorporating the Modification and using contemporary emission estimation methodologies in accordance with the Approved Methods (Appendix C).

The indicative Modification schedule of activities and material movements has been used to identify the modelled scenarios representing the maximum potential air quality impacts of the Modification. Construction would include the development of the rock platform extension and associated profiling (an activity which is approved under PA 06_0295). This would be followed by the construction of the underdrainage. Recovered sand placement is expected to commence midway through the construction of the underdrainage (Appendix C).

Airen (2025) modelled and assessed three scenarios in accordance with the indicative Modification schedule, which are summarised as follows (Appendix C):

- “Construction”, representing the period of constructing the rock platform and underdrainage only;
- “Construction and operation”, representing the period of concurrent construction of the underdrainage with commencement of recovered sand tailings placement; and
- “Operation”, representing the period of recovered sand placement only.

Emissions Inventory

An air quality emissions inventory was prepared for the indicative modelling scenarios in consideration of the modification activities (Appendix C).

Table 6-12 shows the changes of predicted TSP emissions from the Modification activities compared to the previous estimations (i.e. Modification 15), as well as the activities where changes are expected.

Table 6-12
Estimated TSP Emissions (kg/year)

Activities	Approved Buttress and Recovered Sand Demonstration Embankment	This Modification		
		Construction	Construction and Operation	Operation
Emissions Estimate (kg/year)	6,901,129	7,032,449	6,996,646	6,917,849
Total Change of Estimated TSP Emissions	-	102%	101%	100%

Source: Appendix C
kg/year = kilograms per year

The key matter from an air quality perspective associated with Modification 16 is the use of recovered sand as buttressing material and a reduction of rock haulage. From studies of the recovered sand material, the wind speed required to initiate dust lift-off is higher than that of fine tailings. In addition, rock armouring would be installed over the recovered sand surface upon completion of the buttress (Appendix C).

A full description of the dispersion model methodology and emission inventories is provided in Appendix C.

Particulate Matter Concentration

Airen (2025) found that the modelling results showed compliance with all EPA assessment criteria (i.e. maximum 24-hour average PM₁₀ or PM_{2.5} concentrations, annual average PM₁₀ or PM_{2.5} concentrations, annual average TSP concentrations and annual average deposited dust levels) (Appendix C).

Airen therefore concluded that there would not be exceedances of particulate matter (i.e. dust) concentrations or deposited dust levels at all privately-owned sensitive receivers in the vicinity of Cadia, and the potential air quality impacts would be limited (Appendix C).

Land Assessment

Airen (2025) assessed the potential air quality impacts against the VLAMP. Airen concluded that the Modification would not contribute to an exceedance at any privately-owned residence, privately-owned workplace or extend over more than 25% of any privately-owned land (Appendix C).

6.2.4 Mitigation Measures, Management and Monitoring

CHPL would continue to implement the existing air quality management, mitigation and monitoring measures described in the *Cadia Air Quality and Greenhouse Gas Management Plan* (Newmont, 2025c), to minimise dust emissions and comply with relevant air quality criteria. Further, Cadia will continue to make real time air quality data available to the community on the Cadia website:

<https://www.cadiavalley.com.au/newcrest/cvo/live-air-quality-monitoring>.

The management, mitigation and monitoring measures described Airen (2025) are consistent with that described in the *Cadia Air Quality and Greenhouse Gas Management Plan* (Newmont, 2025d). As such an administrative update to the management plan would be undertaken subject to approval being granted.

6.2.5 Adaptive Management

Air quality adaptive management measures would include responses to any community issues of concern, including discussions with relevant landowners and/or refinement of on-site air quality mitigation measures and mine operating procedures.

CHPL would continue to implement the existing adaptive management measures to comply with relevant air quality criteria. In addition to the compliance monitoring requirements, a network of operational air monitoring would be implemented. These operational performance management monitoring sites are located between the emission source on the mine site and the compliance monitoring location and can be located on site or off site. The operational performance management monitoring site is a tool used by the mine to manage its air emissions and is not used for compliance purposes.

The operational performance management monitors would use real-time alarms to assist with management of dust impacts associated with higher intensity works.

6.3 LANDSCAPE AND VISUAL

Landscape and visual impact assessments were undertaken to inform the approval of Cadia (CHPL, 2009). The project features (e.g. the TSF height, location and receivers) which were assessed in CHPL (2009) and subsequently approved, have been considered in combination with photomontage prepared for the Modification 16 elements by Moir Studio (2025) to assess whether there is any change to the visual characteristics for viewsheds containing the Modification 16 elements. The photomontages were produced by Moir Studio (2025) to assist with visual assessment and are presented as Attachment C.

6.3.1 Background

Existing Environment

Key regional elements that comprise the landscape and visual setting includes existing mining operations, surrounding agricultural enterprises, small rural dwellings, public and private infrastructure and the Canobolas State Forest.

The Modification is proposed within the existing Cadia site. The Cadia site has a history of both mining, agricultural (grazing) land and forestry uses. In terms of mining, the region has historically been known for Australia's first discovery of gold, which occurred nearby in Bathurst and led to the 'Australian gold rush' in 1851. Cadia is a major part of the Lachlan Orogen province, which includes other regional mines and many exploration prospects (DPIE, 2020a).

Residences proximal to the Modification primarily include rural dwellings and properties (including CHPL-owned and privately-owned dwellings). CHPL own the majority of land and dwellings adjacent to the Cadia operation (Figure 1-3a). Land ownership beyond that owned by CHPL is largely privately-owned.

Areas surrounding Cadia are typically characterised by low undulating hills which have generally been cleared to support historical agriculture (grazing). The Modification area is located on previously disturbed land which is being used for mining purposes at Cadia.

Cadia East Visual Character Assessment

A visual character assessment was undertaken for the *Cadia East Project Environmental Assessment* in 2009 (CHPL, 2009), which assessed the visual impacts of the Cadia East project for the approved TSF embankment heights of 779 m AHD for the NTSF and 702 m AHD for the STSF.

Visual simulations were created from six viewpoints (five private and one public). The potential visual impacts were generally considered low to moderate (CHPL, 2009).

CHPL (2009) found that the operation was shielded to a large extent by topographic high points on the east and west sides of the Cadia Valley, and forestry operations to the north and east. Views of the existing operations were available in places, predominantly from the south. CHPL (2009) noted that a limited number of locations would have views of the Cadia operation as a result of the Cadia East project. The main potential visual impacts resulting from the Cadia East project were predicted to be from the raises of the NTSF and STSF and formation of the Cadia East subsidence zone.

CHPL (2009) indicated that screens of native trees would be installed in some locations, and in response to community feedback. These trees have since been planted along the boundary of the southern end of Cadia and Cadia Road.

6.3.2 Environmental Review

Visual Impacts

It is noted that the Modification does not propose to change the approved heights of the TSF embankments (i.e. 779 m AHD for the NTSF and 702 m AHD for the STSF), hence the key findings of CHPL (2009) would be generally unchanged for the Modification.

Three viewpoints (Viewpoints 1 to 3) were chosen as representative views of surrounding rural dwellings and nearby public roads that may have potential views of the Modification. These viewpoints are shown on Figure 6-1.

Plates 6-1 to 6-3 present photomontages (i.e. visual simulations) from Viewpoints 1 to 3 including existing views and simulations with the Modification components (and other approved components including the approved rockfill slump repair and recovered sand demonstration embankment) prior to rehabilitation (i.e. worst-case scenario).

Attachment C includes the methodology and photomontages created for the Modification (Moir Studio, 2025).

Viewpoint 1 – Cadia Road, Errowanbang NSW

Viewpoint 1 is located on Cadia Road (Errowanbang) on the boundary of ML 1481 at a distance of approximately 1.6 km from the Modification components and is limited to short term view from motorists (Figure 6-1).

From Viewpoint 1, there are existing views of the NTSF embankment in the foreground. The proposed Modification elements are located below and behind the existing NTSF (i.e. views of Modification components would be limited to the top portion of the buttress and are negligible) (Plate 6-1). This available view would reduce further should the NTSF be raised above its present height (744 m AHD) as approved (i.e. up to 779 m AHD).

Viewpoint 2 – Panuara Road, Panuara NSW

Viewpoint 2 is situated on Panuara Road (Panuara) on the south-western edge of the site, and is positioned approximately 1.2 km from the Modification components (Figure 6-1).

The existing viewshed comprises distant views of the existing NTSF and STSF embankments (Viewpoint 2) with farmland in the foreground. There is no significant change to the composition, intensity or scale of the components which make up this viewshed between the existing view compared to the view incorporating the Modification (Plate 6-2).

Viewpoint 3 – Intersection of Ellerys Lane and Burnt Yards Road, NSW

This viewpoint lies on the intersection of Burnt Yards Road and Ellerys Lane in the rural location Burnt Yards. It is positioned approximately 5 km to the south of the Modification components (Figure 6-1).

The existing viewshed comprises foreground views of low undulating hills previously cleared for historical agricultural activities. There is a very limited view of the existing NTSF in the distance background (Plate 6-3).

Due to the intervening topography and the distance from the Modification components, there are negligible views of the existing Cadia operations from Viewpoint 3. With the inclusion of the Modification components, the potential visual impacts from this viewshed are predicted to remain negligible and unchanged from that approved.

Contingency Stockpiles/Emplacements

As discussed in Section 3.4, as a contingency, CHPL seeks additional emplacement/stockpile capacity for recovered sand up to the approved maximum STSF embankment height of 702 m AHD. The emplacement/stockpiles shown in Attachment C and Plates 6-1 to 6-3 are based on the designs to 693 m AHD, however, given the limited views shown, it follows that should these features be developed a further 9 m higher, the visual impacts would not materially change and be consistent with that assessed for the *Cadia East Project Environmental Assessment* (CHPL, 2009) given the stockpiles/emplacements would be at the approved STSF height of 702 m AHD.

It is also noted that the contingency emplacement/stockpiles would not be prominent as part of the final landform (Section 3.4), which further reduces potential impacts.

Summary

Overall, the Modification would result in no change to the maximum approved heights of the TSF embankments (i.e. 779 m AHD for the NTSF and 702 m AHD for the STSF).

On account of the existing and approved visual amenity impacts to the area surrounding Cadia, the Modification is likely to have minimal impact on the existing visual amenity of Cadia, with minimal change to existing/approved potential visual impacts.

Night Lighting

Lighting is required to assist with the safety and security of night-time operations. Additional outdoor lighting as a result of the Modification has the potential to impact nearby residents.

Lighting at Cadia is generally associated with the following sources as described in the *Fugitive Lighting Management Plan* (FLMP) (Newmont, 2025d):

- overhead lighting of the ore processing facilities and administration area;
- fixed lights or mobile plant lighting on top of the South Waste Rock Dump;
- mobile equipment and work vehicle-mounted lights; and
- lighting for stockpiling and rail loading activities at the CVO Dewatering Facility.



180° Existing View



180° Proposed Photomontage

MEC-25-02_M0016_MIT_003A

LEGEND

- NTFS Approved Maximum Embankment Height (779 m)
- STSF Approved Maximum Embankment Height (702 m)

Source: Moir Studio (2025)

Newmont.
CADIA

CADIA VALLEY OPERATIONS
Viewpoint 1 - Cadia Road



180° Existing View



180° Proposed Photomontage

MEC-25-02_M0016_MIT_004A

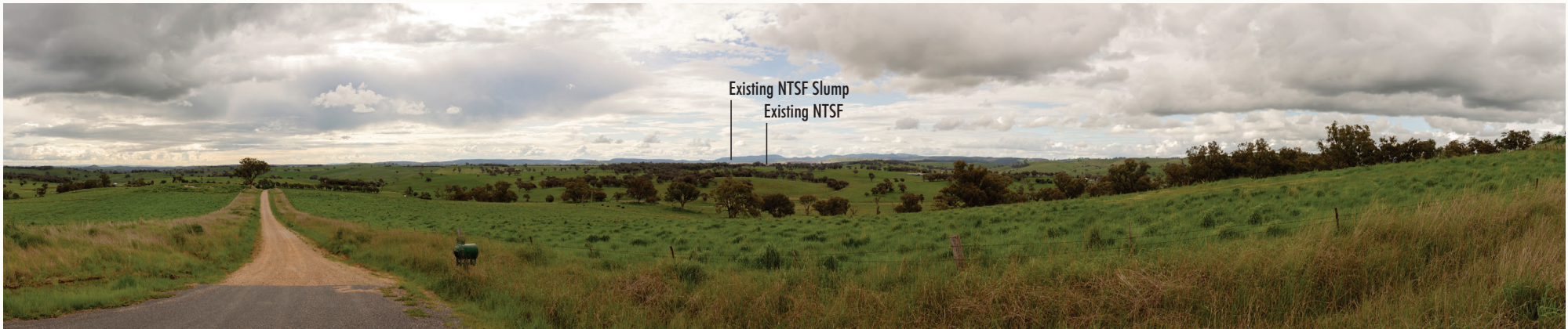
LEGEND

- NTSF Approved Maximum Embankment Height (779 m)
- STSF Approved Maximum Embankment Height (702 m)

Source: Moir Studio (2025)



CADIA VALLEY OPERATIONS
Viewpoint 2 - Panuara Road



180° Existing View



180° Proposed Photomontage

MEC-25-02_M0016_MIT_005A

LEGEND

- NTSF Approved Maximum Embankment Height (779 m)
- STSF Approved Maximum Embankment Height (702 m)

Source: Moir Studio (2025)



CADIA VALLEY OPERATIONS
Viewpoint 3 - Intersection of Ellerys Lane
and Burnt Yards Road

Local Setting

Lighting from the existing Cadia activities is generally visible as a distant night-time glow from the wider area given the typical large distance between the light sources and viewing points.

Views of Cadia's existing operations are possible to varying degrees and are primarily restricted to the TSF from dwellings and public roads to the south of Cadia (Newmont, 2025e). Ridgelines and the Canobolas State Forest effectively screens most views of the central and northern parts of Cadia. Vegetation screens were also planted during the Cadia Hill and Ridgeway developments to further obstruct views from the local surrounds.

Potential Impacts

Potential impacts associated with fugitive light at night can arise from obtrusive light spill, by general luminance diffusion, reflection from existing surfaces, or through atmospheric scattering (Newmont, 2025e).

The Modification elements are located in the central parts of existing Cadia and lighting associated with such infrastructure (such as the tractors) may be available from distant dwellings and public roads located to the south. The potential impact of which is expected to be negligible compared with existing operations from potential off-site viewer locations.

6.3.3 Mitigation Measures

The landscape and visual impact assessment concluded there would be negligible changes in impacts with the Modification. Notwithstanding, current management measures include progressive rehabilitation, vegetation screens, architecture, and night lighting management, which would continue to be implemented for the Modification.

Potential lighting impacts are currently managed in accordance with the FLMP (Newmont, 2025d).

6.4 SURFACE WATER

6.4.1 Background

Cadia is situated within the catchments of Flyers Creek, Cadiangullong Creek and Swallow Creek. These surface water systems generally flow south towards the Belubula River which forms part of the Lachlan River catchment. Tributaries of Cadiangullong Creek which traverse or are adjacent to Cadia include Cadia Creek and Rodds Creek.

The Modification components (recovered sand buttress and emplacements/stockpiles) would be located within the STSF, which is located within the Rodds Creek and Cadiangullong Creek catchments. Construction of the STSF commenced in 2001 and the impoundment has been constructed in a number of stages. Tailings deposition commenced in 2002 and ceased in 2018, however CHPL plans further raises of the STSF as approved.

6.4.2 Existing Environment

Deposition within the STSF occurred from multiple spigots mostly along the main retention embankments to produce subaerial beaches falling to a decant pond at the northern end of the storage area.

Also, in this northern part of the storage, an internal bund within the STSF has been constructed to retain tailings relocated from the NTSF embankment. The bund is permeable allowing for flow through of surface water within the storage.

A spillway has been constructed within the bund to allow for the movement of surface water to the decant pond for water level management via the return water.

6.4.3 Impact Assessment Review

Since the Modification disturbance areas are wholly located within the existing/approved disturbance areas, the runoff would be controlled by the STSF water management system.

Recovered Sand Buttress

As part of the approved operations, Cadia will install a rock platform on the surface of the STSF within the footprint of the proposed NTSF recovered sand buttress. Above this platform, the Modification proposes an underdrainage layer be installed (Section 3.2.3).

The underdrainage system would comprise a series of drains to manage water from the sand cells and incident rainfall. Water captured by the underdrainage system would flow into the toe collector drain located along the toe of the recovered sand buttress (Figure 3-2). Water would drain to the existing decant ponds within the STSF and be returned to the Mine Water Management System for reuse within the ore processing circuit.

Rising tailings associated with the planned recommencement of deposition in the STSF would interact with the toe of the buttress.

Emplacements/Stockpiles

Surface water management for the two emplacements/stockpiles would include:

- Eastern emplacement/stockpile – water entrained in the recovered sand and incident rainfall would report to the decant.
- Western emplacement/stockpile – this would be constructed abutting the existing internal bund, which is permeable, allowing water entrained in the recovered sand and incident rainfall to also report to the decant.

Rising tailings associated with the planned recommencement of deposition in the STSF would completely encapsulate the emplacement/stockpiles and would mostly encapsulate the contingency emplacements/stockpiles (Section 3.4).

6.4.4 Mitigation Measures, Management and Monitoring

Rock armouring would be installed on the toe of the buttress to prevent scouring and erosion of the buttress from rising tailings within the STSF. Given there is no new disturbance and all activities are located within the current water management systems, Cadia would continue to implement the current management, mitigation and monitoring measures described in the *Water Management Plan* (CHPL, 2023).

6.5 GROUNDWATER

6.5.1 Background

The Modification components would be located within the STSF, therefore, the groundwater regime relevant to the Modification is controlled by the existing seepage controls in the storage.

6.5.2 Existing Environment

Seepage controls at the Cadia TSFs include (CHPL, 2020b):

- General sub-excavation within storage areas to remove topsoil and, if required, any loose or weak soils which may allow shallow, lateral migration of tailings water beneath the storage embankment.
- Construction of a low permeability clay core embankment and foundation cut-off key beneath the embankment.
- Placement of reworked *in-situ* clay blanketing in selective areas of the storage floor, where and if required.
- Deposition of the tailings into the storages in a manner that maximises storage densities and reduces tailings permeability.

6.5.3 Impact Assessment Review

As the recovered sand embankments/stockpiles would be placed on top of existing tailings, existing seepage controls remain relevant:

- Seepage from the recovered sand itself to be used for the buttressing and embankments/stockpiles would report to the STSF decant pool.
- Any additional induced seepage from the re-saturation and loading of the tailings already stored in the STSF would report to the seepage collection pond which forms part of the current water management system.

6.5.4 Mitigation Measures, Management and Monitoring

Existing and approved STSF seepage management measures would remain in place as per the existing *Water Management Plan* (CHPL, 2023).

6.6 GREENHOUSE GAS EMISSIONS

A greenhouse gas assessment was undertaken to quantify the potential emissions associated with the Modification activities. This assessment incorporates and evaluates all changes relative to that approved under Modification 15 to greenhouse gas emissions.

6.6.1 NSW Guide for Large Emitters

In January 2025, EPA released the *NSW Guide for Large Emitters - Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes* (the Large Emitters Guide), following a period of consultation from May to July 2024 (EPA, 2025).

The Large Emitters Guide requires proponents of major greenhouse gas emitting projects to assess emissions and mitigation opportunities, both in the short-term and long-term. The Large Emitters Guide sets out a description of NSW's emission reduction objectives, types of greenhouse gases, and the EPA's suggested greenhouse gas assessment and mitigation requirements to be addressed in Environmental Impact Statements and Modification Reports. The Large Emitters Guide also includes a description on how measures to avoid or reduce emissions should be identified and evaluated, including setting out the NSW greenhouse gas mitigation hierarchy.

Specifically, the Large Emitters Guide states that (EPA, 2025):

The assessment requirements in this guide apply to a project if it meets all of the following three criteria:

...

- 3) *The project is likely to emit **25,000 tonnes or more of scope 1 and 2 emissions carbon dioxide equivalent (CO₂-e)** in any financial year during the operational life of the project (based on planned operational throughput and as designed).*

Note: For a modification, the threshold refers to an additional 25,000 tonnes or more of scope 1 and 2 emissions (CO₂-e) in any financial year when the modification project becomes operational, over and above emissions from the existing licensed premises.

6.6.2 Greenhouse Gas Emission Scopes

Under the Greenhouse Gas Protocol (World Business Council for Sustainable Development and World Resources Institute, 2020), establishing operational boundaries involves identifying emissions affiliated with a corporations' operations, categorising them as potential direct or indirect emissions, and determining the scope of accounting and reporting for indirect emissions.

Three "scopes" of emissions (scope 1, scope 2 and scope 3) are defined for greenhouse gas accounting and reporting purposes. These scopes are briefly outlined below.

Scope 1 – Direct Greenhouse Gas Emissions

Scope 1 emissions are direct greenhouse gas emissions within the boundary of the operation. Direct greenhouse gas emissions are defined as those emissions that occur from sources that are owned or controlled by the entity. In the case of the Modification, the direct emissions are mainly associated with CO₂ emissions from the combustion of diesel and the use of explosives.

Scope 2 – Electricity Indirect Greenhouse Gas Emissions

Scope 2 emissions are indirect emissions outside the boundary of the operation, however are controlled by the operation (such as electricity use). Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the entity. Scope 2 emissions physically occur at the facility where the electricity is generated i.e. the power station.

Scope 3 – Other Indirect Greenhouse Gas Emissions

Scope 3 emissions are indirect emissions outside the boundary of the operation that the operation has no direct control over. In the case of Cadia, CO₂ emissions from the combustion of diesel used in the transportation of copper concentrate, gold to the end user (rail and sea), and emissions associated with the purchase of diesel and other consumables used on site.

6.6.3 Impact Assessment Review

Direct and indirect greenhouse gas emissions due to the Modification activities have been estimated in accordance with the emission factors from the latest National Greenhouse Accounts Factors (Commonwealth DCCEW, 2025b). Emissions have been estimated on a worst-case scenario (i.e. assuming maximum material movements and numbers of equipment).

Table 6-13 includes a comparison of annual greenhouse gas emissions of the approved Project (inclusive of Modification 15 [Todoroski Air Sciences, 2023]) and the Project with Modification 16.

The Modification's Scope 1 proportion of projected NSW's emissions in 2027 according to the NSW Net Zero Emissions Dashboard are (NSW DCCEW, 2025):

- 0.14% of the 'base case' emission forecast (109.21 Mt CO₂-e);
- 0.15% of the 'current policy' emission forecast (107.06 Mt CO₂-e).

Table 6-13
Comparisons of Annual Greenhouse Gas Emissions

	Estimated Annual Greenhouse Gas Emissions (t CO ₂ -e)			
	Scope 1	Scope 2	Scope 3	Total
The approved Cadia (Modification 15)	156,813	1,087,987	108,641	1,353,441
Cadia with Modification 16	156,380	1,097,069	109,243	1,362,692

The estimated annual greenhouse emissions for Australia during 2025 was approximately 437 Mt CO₂-e (Commonwealth DCCEEW, 2025c). The estimated annual scope 1 and 2 emissions due to the Modification is 1.25 Mt CO₂-e, equivalent to 0.29% of Australia's annual contribution.

NSW is in the process of decarbonisation of the electricity grid and a transition to alternative energy. The *NSW Electricity Infrastructure Roadmap* forecasted that the transition would result in a large reduction in emissions from NSW's power sector (DPIE, 2020b). In addition, the Commonwealth DCCEEW (2024) predicted the greenhouse gas emissions factors for Australia's electricity grid, and the projected NSW scope 2 emission factor shows a reduction from 2025 onwards.

The Modification would reduce scope 1 emissions. Although scope 2 emissions would increase by approximately 9 kt CO₂-e, the state-wide decarbonisation of the electricity grid would reduce the estimated scope 2 emissions over time.

Cadia is located within the Central West and Orana Region of the AdaptNSW Project domain of the Interactive Climate Change Projections Map.

Mean temperatures in the Central West and Orana Region are projected to rise by 1.2°C and 2.1°C by 2050 for the low-emission and high-emission scenario respectively (NSW DCCEEW, 2024).

Changes to annual rainfall are predicted to vary across the Central West and Orana Region, with rainfall projected to decrease the most in summer (NSW DCCEEW, 2024).

Given that the Modification's contribution to global climate change would be in proportion with its emissions (which are lower for scope 1 and marginally higher for scope 2, albeit in a decarbonising electricity grid), the impacts of the Modification's greenhouse gas emissions on the environment in the locality would be limited.

Table 6-14 presents a summary of the estimated changes in material consumption (i.e. diesel and electricity) from the Modification. In general, because the Modification would primarily use recovered sand (that would be pumped using electricity) rather than rock (that would be trucked using diesel-fuelled vehicles), the Modification is expected to result in reduction of on-site diesel consumption, while increasing electricity use from the additional pumps.

Table 6-15 shows the estimated changes in greenhouse gas emissions due to the Modification. The Modification is expected to reduce the scope 1 greenhouse gas emission by approximately 0.4 kilotonnes of carbon dioxide equivalent (kt CO₂-e), however would increase scope 2 greenhouse gas emissions by approximately 9 kt CO₂-e. Therefore, the Large Emitters Guide and associated assessments would not be required (because the Modification would not emit 25 kt or more of scope 1 and 2 emissions of CO₂-e in a financial year).

6.7 OTHER ENVIRONMENTAL ASPECTS

The following sub-sections summarise potential impacts of the Modification on other matters.

6.7.1 Biodiversity

The Modification is solely proposed within CHPL-owned land and within existing MLs at Cadia. There is no proposed change to the approved disturbance footprint. As such, an assessment of impacts to biodiversity was not required for the Modification.

Cadia would continue to operate in accordance with the approved *Cadia Biodiversity Management Plan* (Newmont, 2025e).

Table 6-14
Summary of Estimated Changes in Material Consumption

Activities/Equipment	Material	Estimated Consumption			Unit
		MOD 15	Modification	Change	
Activities					
TSF Construction (including rock hauling)	Diesel	25,527	13,733	- 947	kL
Hydrocyclone Sand Facility	Diesel	2,350	1,272	- 1,078	kL
Equipment					
Dozer CAT D8	Diesel	-	149	149	kL
Excavator 336	Diesel	-	167	167	kL
4 × John Deere Tractor 9R 390 (rubber tyre)	Diesel	-	1,549	1,549	kL
Pumps (3 × Slurry Pumps + 1 × Water Pump)	Electricity	-	23,652	23,652	MWh
Estimated Total Change in Diesel Consumption due to the Modification				- 160	kL
Estimated Total Change in Electricity Consumption due to the Modification				23,652	MWh

Table 6-15
Summary of Estimated Changes in Greenhouse Gas Emissions

Activity/Equipment	Scope 1	Scope 2	Scope 3	Unit
Activities				
TSF Construction (including rock hauling)	- 2,567	-	- 633	t CO ₂ -e
Hydrocyclone Sand Facility	- 2,921	-	- 720	t CO ₂ -e
Equipment				
Dozer CAT D8	405	-	100	t CO ₂ -e
Excavator 336	453	-	112	t CO ₂ -e
4 × John Deere Tractor 9R 390 (rubber tyre)	4,197	-	1,034	t CO ₂ -e
Pumps (3 × Slurry Pumps + 1 × Water Pump)	-	9,082	710	t CO ₂ -e
Estimated Total Change	- 433	9,082	- 603	t CO ₂ -e

6.7.2 Aboriginal Cultural Heritage

The Modification is solely proposed within CHPL-owned land and within existing MLs at Cadia. There is no proposed change to the approved disturbance footprint. As such, an Aboriginal Cultural Heritage Assessment (ACHA) was not required for the Modification.

Cadia would continue to operate in accordance with the approved *Cadia Aboriginal Cultural Heritage Management Plan* (Newmont, 2025a).

6.7.3 Historic Heritage

There is no proposed change to the approved disturbance footprint. As such, no impacts on historic heritage are expected from the Modification.

Cadia would continue to operate in accordance with the approved *Cadia Historical Heritage Management Plan* (Newmont, 2025f).

6.7.4 Agriculture

There is no proposed change to the approved disturbance footprint. As such, no impacts on agricultural resources are expected from the Modification.

6.7.5 Road Transport

There is no proposed change to the existing workforce or mine life. As such, no impacts on road transport infrastructure are expected from the Modification.

6.7.6 Social Impact

There is no proposed change to the existing workforce or mine life. As such, no social or community infrastructure impacts are expected from the Modification.

6.7.7 Hazard and Risk

GHD (2025) (Appendix A) has reviewed geotechnical aspects associated with the Modification. The buttress and stockpile/emplacements have been designed with the appropriate geotechnical factors-of-safety. Section 3.9 summarises the outcomes of GHD (2025), which was also peer reviewed (Attachment D).

Beyond geotechnical considerations, the Modification would not change any existing hazards and risks.

7 JUSTIFICATION OF THE MODIFICATION

This section provides a justification of the Modification and conclusion for the Modification Report.

7.1 STRATEGIC CONSIDERATIONS

Cadia is recognised as a current major operating mine in the *Future of Minerals in NSW* report (DPIE, 2020). Both the Commonwealth and NSW Governments recognise the importance of continued investment in minerals mining and the associated economic benefits.

The strategic policies relevant to Cadia are described in Table 7-1.

The continued production of gold, copper, silver and molybdenum from Cadia (Plate 7-1) provides a broad range of strategic benefits at national, state and local levels and is consistent with the Commonwealth and NSW Government policies.



Plate 7-1 Product Gold, Silver and Copper Concentrate Transport

**Table 7-1
Strategic Minerals and Resources Policies of Relevance to Cadia**

Strategic Policy	Comments
<i>Australia's Global Resources Statement – Reliable, Responsible, Ready for the Future</i> (Department of Industry, Science, Energy and Resources, 2020)	Highlights the Australian Government's commitment to a technology-led approach to lowering Australia's greenhouse gas emissions, including a strong focus on minerals and high-tech metals within the mining sector.
<i>National Resource Statement – Pursuing Our 2030 Vision 2020 Update</i> (Department of Industry, Science and Resources, 2020)	Details the Australian Governments long-term vision for natural resources, focusing on the economic, regulatory, and environmental future of industry in Australia.
<i>Critical Mineral Strategy 2023-2030</i> (Commonwealth of Australia, 2023)	Identifies copper as a key energy transition metal. Cadia is a significant producer of copper. Newmont expects that, given the global energy transition, demand for copper will continue to escalate.
<i>NSW Minerals Strategy</i> (DPE, 2019)	Focuses on the existing and potential mining resources for a range of minerals in NSW, including minerals critical for renewable energy and electrified transport.
<i>NSW Critical Minerals and High-Tech Metals Strategy 2024-35</i> (Department of Primary Industries and Regional Development, 2024)	Discusses a desire to continue to develop the critical and high-technology metal industry in NSW. This strategy highlights NSW's rich mineral resources, including abundant copper resources and specifically notes Cadia as being a world-class deposit of gold and copper.
<i>The Role of Critical Minerals in Clean Energy Transitions</i> (International Energy Agency, 2022)	The IEA also identified copper as being central as the world transitions to renewable energy sources, particularly because energy networks require a "huge amount of copper", with copper being a cornerstone of all electricity-related technologies. The report describes molybdenum is a mineral used in clean energy technologies, particularly as it is used in specialised steel for geothermal and wind generation.

The production of recovered sand is a wet process (i.e. can be pumped and directly emplaced), and its use as a buttress material would:

- optimise the life of the TSFs;
- provide improved environmental outcomes by avoiding the additional plant to load, haul and place rock to complete buttressing of the NTSF's southern wall; and
- comply with the existing performance limits described in PA 06_0295 (as modified).

This optimised methodology is predicted to result in reduced construction timeframes and an overall reduction in scope 1 greenhouse gas emissions from the buttressing activities whilst delivering the same geotechnical stability for the final embankment (refer to Section 6).

The use of recovered sand as the primary buttressing material for NTSF southern embankment is consistent with *Leading Practice Tailings Management For Successful Closure* (NSW Resources Regulator, 2020) as this approach reduces the need to transport waste rock and increases the stability of the NTSF southern embankment, and is consistent with the approved final landform outcomes.

7.2 STATUTORY REQUIREMENTS

The Modification is considered to be generally consistent with the objects of the EP&A Act. In evaluating the Modification, under section 4.15(1) of the EP&A Act, the consent authority is required to take into consideration a range of matters as they are of relevance to the subject of the application. Table 7-2 describes how these matters have been considered.

7.3 STAKEHOLDER ENGAGEMENT OVERVIEW

CHPL has consulted with several stakeholders during the development of this Modification Report, including:

- key State Government agencies;
- local Councils;
- the local community;
- Aboriginal stakeholders; and
- the Cadia CCC.

Table 7-2
Section 4.15(1) of the EP&A Act Matters for Consideration—General

Matter	Indication of How the Matter is Addressed
(a) the provisions of — (i) any environmental planning instrument, and (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and (iii) any development control plan, and (iii) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), ... that apply to the land to which the development application relates,	• Consideration of the requirements of relevant environmental planning instruments is provided in Section 4.3 and Attachment B. • Clause 2.10 of the <i>State Environmental Planning Policy (Planning Systems) 2021</i> states that development control plans do not apply to State Significant Developments (such as PA 06_0295). • This Modification Report has been prepared in consideration of the relevant provisions of the EP&A Regulation. • The existing VPA with the Blayney and Cabonne Shire Councils as well as Orange City Council (under PA 06_0295) would continue to apply to the modified Cadia.

Table 7-2 (Continued)
Section 4.15(1) of the EP&A Act Matters for Consideration—General

Matter	Indication of How the Matter is Addressed
(b) <i>the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,</i>	A description of the existing environment, an assessment of the potential environmental impacts associated with the Modification, and a description of the potential measures to avoid, mitigate, rehabilitate, remediate, monitor and/or offset the potential impacts of the Modification are described in Section 6 and Appendices A to C.
(c) <i>the suitability of the site for the development,</i>	The Modification is located at the Cadia mine site on existing mining tenements and hence is suitably sited.
(d) <i>any submissions made in accordance with this Act or the regulation,</i>	Following exhibition of the Modification Report, CHPL will prepare a Submissions Report addressing submissions received regarding the Modification.
(e) <i>the public interest.</i>	Consideration of whether, on evaluation, the Modification is considered to be in the public interest is provided in this section.

Comments raised by Government agencies primarily related to technical assessment requirements, which have been addressed in the relevant parts of the Modification Report.

The Cadia CCC and community members have raised concern in regards to night time noise from the proposal which has been assessed in the Noise Assessment and that the Modification may result in the use of recovered sand for embankment construction, which is proposed by CHPL's separate CCOP application. CHPL reiterates that the Modification is to use recovered sand as part of NTSF buttressing only as described in Section 3 (i.e. inclusive of a rock underdrainage layer and rock armouring) and is not being used as the primary embankment material as its in in CCOP.

7.4 SUMMARY OF ASSESSMENT OF IMPACTS

A review of the potential environmental impacts of the Modification and the key potential environmental impacts has been undertaken as part of this Modification Report.

A summary of these potential environmental impacts, the government policies under which they are assessed in this Modification Report, and the key existing environmental management plans is provided in Table 7-3. The existing extensive environmental monitoring initiatives at Cadia would remain in place for the Modification (Plate 7-2).

7.5 CADIA ECONOMIC BENEFITS

Cadia is a significant contributor to the local and regional economy. For example, Cadia's economic benefit in 2023/24 (Lawrence Consulting, 2024), included (Section 2.1):

- \$233.4M in wages to fulltime resident employees;
- \$472.1M in purchases of goods and services from 683 local suppliers;
- approximately \$2.1M in voluntary contributions to 140 community organisations across NSW;
- \$108.4M in government payments (including royalties) to support improved services and infrastructure in NSW; and
- \$7.9M was paid in local government payments in rates.



Plate 7-2 Environmental Monitoring Example at Cadia

Table 7-3
Key Environmental Assessment Findings

Aspect	Key Policies Considered	Key Outcomes	Existing Key Management Plans
Noise	Noise Policy for Industry	- Conservative assessment considering worst case fleet, noise enhancing meteorological conditions and elevations. - Noise predictions would comply with the noise impact assessment criteria at all privately-owned residential receivers and assessment periods. - Noise levels would decrease during the day and evening periods when compared with Modification 15. - At night, noise levels are generally found to however would not result in exceedances of criteria.	Noise Monitoring Program (CHPL, 2021)
Air Quality	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales	- Conservative modelling including maximum materials movements and worst-case emissions scenario. - Modelling results showed compliance with all NSW EPA assessment criteria.	Air Quality and Greenhouse Gas Management Plan (Newmont, 2025c)
Greenhouse Emissions	National Greenhouse Accounts Factors (NGA Factors) <i>NSW Guide for Large Emitters - Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes</i>	- As the Modification would primarily use recovered sand (that would be pumped using electricity) rather than rock (that would be trucked using diesel-fuelled vehicles), the Modification is expected to reduce on-site diesel consumption, while increasing electricity use from the additional pumps, when compared to the approved operations. - The Modification is expected to reduce the scope 1 greenhouse gas emissions, however would increase scope 2 greenhouse gas emissions. The Large Emitters Guide and associated assessments are not required.	Air Quality and Greenhouse Gas Management Plan (Newmont, 2025c)
Landscape and Visual	-	- Overall, the Modification would result in no change to the maximum approved heights of the TSF embankments (i.e. 779 m AHD for the NTSF and 702 m AHD for the STSF). - The Modification is likely to have minimal impact on the existing visual amenity of Cadia, with minimal change to existing/approved potential visual impacts and would not result in any significant visual impacts.	Fugitive Lighting Management Plan (Newmont, 2025d) <i>Cadia Rehabilitation Strategy</i> (CHPL, 2025)
Surface Water	Landcom: "Blue Book"	- The Modification activities would occur within the STSF, therefore surface water would be contained within this facility and managed through the existing Mine Water Management System. - Water captured by the buttress underdrainage system would flow into the toe collector drain located along the toe of the recovered sand buttress. - Water from the underdrainage system and emplacement/stockpiles would drain to the existing decant ponds within the STSF and be returned to the Mine Water Management System for reuse within the ore processing circuit.	Water Management Plan (CHPL, 2023)
Groundwater	NSW Aquifer Interference Policy	The Modification components would be located within the STSF, therefore, the groundwater regime relevant to the Modification is controlled by the existing seepage controls in the storage.	Water Management Plan (CHPL, 2023)

7.6 CONCLUSION

The Modification would allow for the efficient buttressing of the NTSF southern embankment within the STSF footprint and meet the approved performance criteria described in PA 06_0295 (as modified). The Modification would result in reduced greenhouse gas scope 1 emissions whilst delivering the same geotechnical stability for the completed buttress.

In weighing up the main environmental and socio-economic aspects impacts (costs and benefits) associated with the Modification, as assessed and described in this Modification Report, the Modification, on balance, is considered to have merit and be in the public interest.

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Burruguu Art