Ravensworth Underground Mine Longwalls 403 to 406

Public Safety Management Plan

April 2025

DOCUMENT CONTROL

DOCUMENT DETAILS	**Title**	Ravensworth Underground Mine Longwalls 403-406 Public Safety Management Plan
	Reference	Ravensworth Underground Mine Longwalls 403-406 Extraction Plan
	Document Status	Final for Submission

APPROVAL DATE	Revision	Revision Details	Prepared	Date
-	1	Final for Consultation	ACOL	December 2024
-	2	Final for Submission	ACOL	April 2025

TABLE OF CONTENTS **Page**

FIGURES

APPENDICES

1 INTRODUCTION

Ashton Coal Operations Pty Ltd (ACOL), a subsidiary of Yancoal Australia Limited (Yancoal), owns the Ashton Coal Project (ACP), an underground coal mine located approximately 14 kilometres north-west of Singleton in the Hunter Valley in New South Wales (NSW) (**Figure 1**). Development of the underground mine commenced in December 2005 and is accessed through the southern wall of the Arties Pit under the New England Highway.

The ACP was granted consent on 11 October 2002 by the Minister of Planning pursuant to the provisions of the *Environmental Planning and Assessment Act 1979* (DA 309-11-2001-i). The consolidated Development Consent has been modified on eleven occasions, with the most recent amendment approved on 6 July 2022. The most recent amendment allows ACOL to access and mine coal resources at the Ravensworth Underground Mine (RUM) that are approved to be mined under Development Consent DA 104/96. The RUM is approved to produce up to 7 million tonnes per annum (Mtpa) of run of mine (ROM) coal and operate until 2032.

The RUM is approved for multi-seam longwall extraction, targeting two coal seams in descending order (Pikes Gully [PG] and Middle Liddell [MLD]) (**Figure 2**). Development Consent DA 104/96 approved mining by ACOL of six panels in the PG Seam and five panels in the MLD Seam. Following further detailed studies on the extraction layout, ACOL has decided to not mine Longwalls 401 and 402 in the PG Seam.

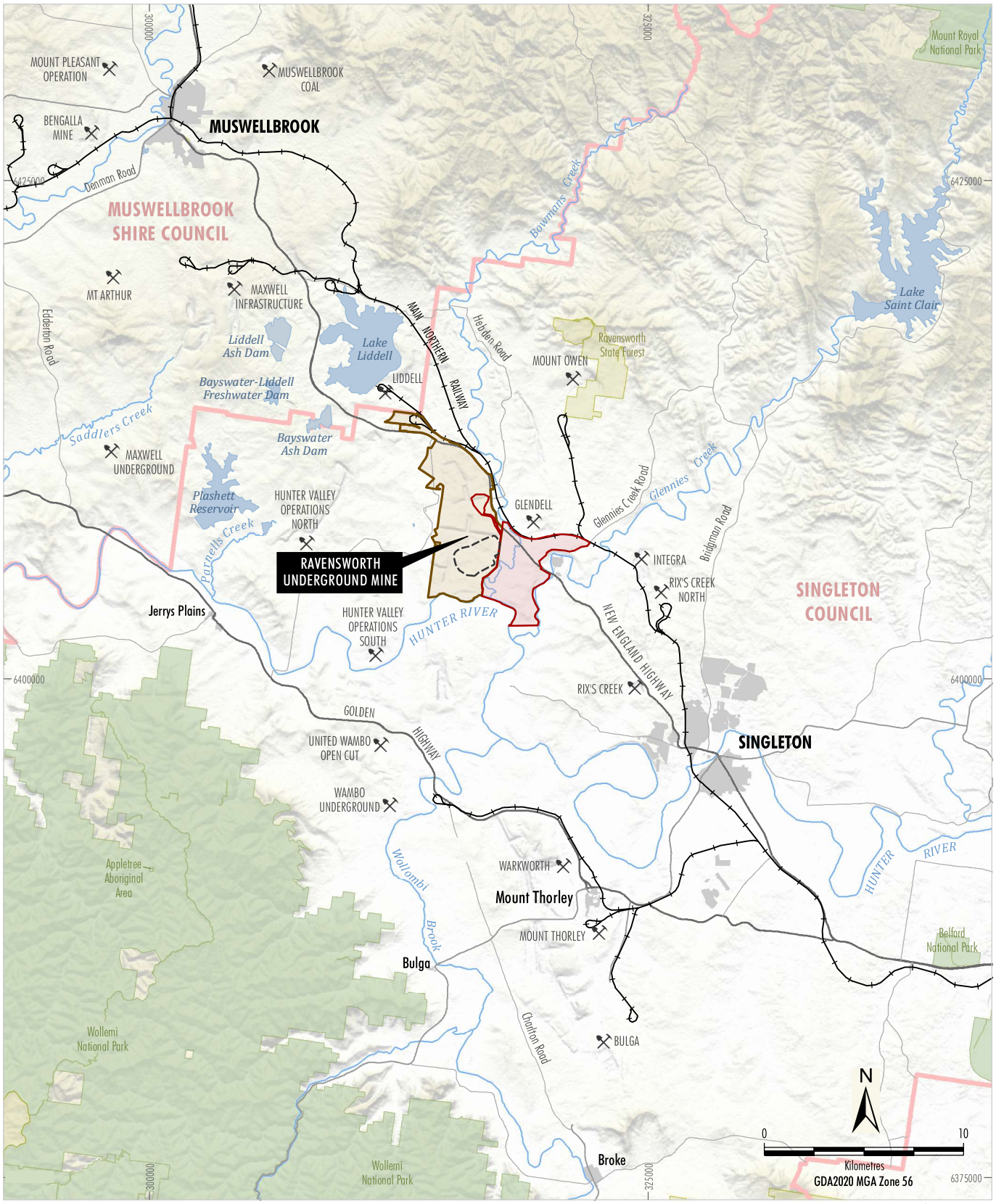
ACOL has prepared an Extraction Plan for mining of Longwalls 403 to 406 in the PG Seam of the RUM (**Figure 3**), varying between 177 metres (m) and 312 m below the surface. Proposed mining of Longwalls 403 to 406 is due to commence approximately September 2025 and is planned to be completed by February 2028.

The **Study Area** (**Figure 3**) is generally determined as the area within a distance equal to an angle of draw measured form the outermost goaf edge of the planned longwall panel voids of:

- 45 degrees (°) (1 times depth of cover) over waste rock fill material; or
- 26.5° (0.5 times depth of cover) over natural ground.

1.1 SCOPE & OBJECTIVE

This Management Plan describes the process developed, including identification of key risks and proposed management strategies, to manage public safety in any surface areas that may be affected by subsidence arising from longwall mining within the Study Area.



Source: NSW Spatial Services (2023)

LEGEND

- Mining Operation
- Local Government Area
- State Forest
- National Parks and Wildlife Estate
- Ravensworth Underground Mine
- Ashton Mine Complex
- Longwalls 403 to 406 Study Area

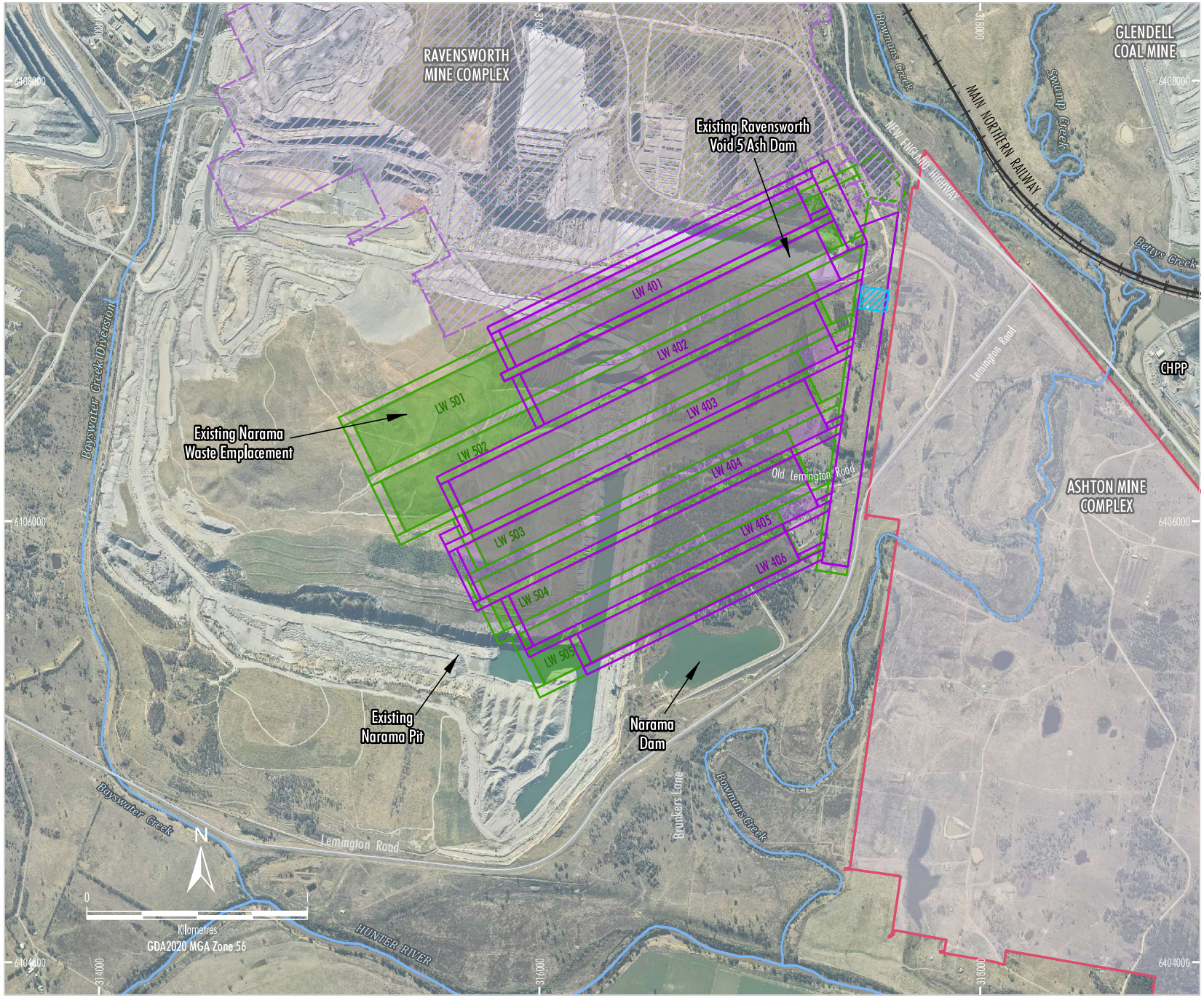
YANCOAL 兖煤澳大利亚有限公司

RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Regional Location

Figure 1

ACO-18-03A LW403-406_EP_MT_203A



LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Indicative Pikes Gully Seam Longwall Layout
- Indicative Middle Liddell Seam Longwall Layout
- Ashton Underground Mine

Source: SCT (2021); NSW Spatial Services (2023)
Orthophoto: Ravensworth Mine Complex (2021)

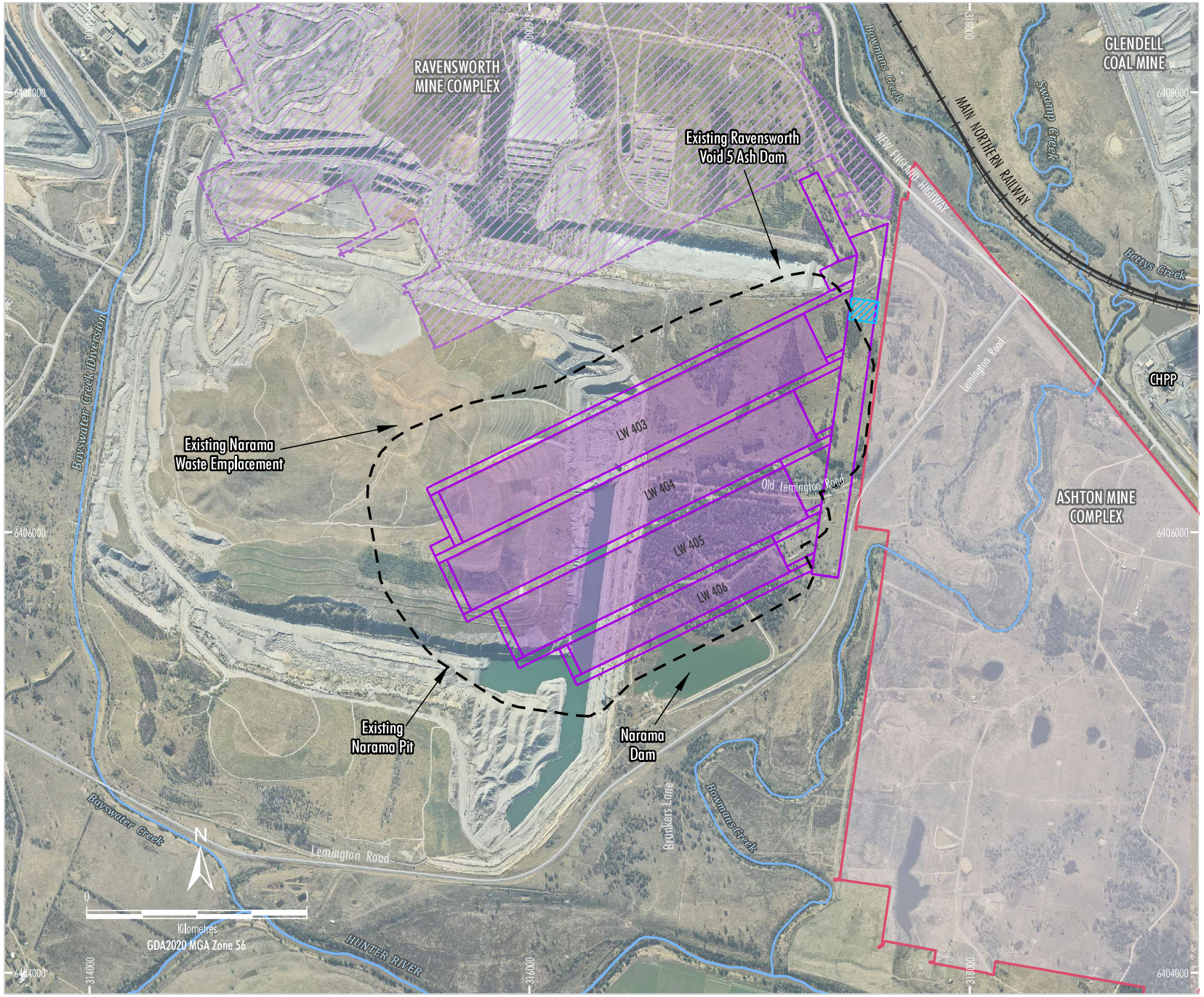
YANCOAL 兖煤澳大有业有限公司

RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Ravensworth Underground Mine
Approved General Arrangement

Figure 2

ACO-18-03A LW403-406_EP_MT_201A



LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Pikes Gully Seam Longwall Layout
- Ashton Underground Mine
- Longwalls 403 to 406 Study Area

Source: SCT (2021); NSW Spatial Services (2023)
Orthophoto: Ravensworth Mine Complex (2021)

YANCOAL 兖煤澳大有业有限公司

RAVENSWORTH UNDERGROUND MINE
LONGWALLS 403 TO 406 EXTRACTION PLAN

Pikes Gully Seam Longwall Layout

Figure 3

ACO-18-03A LW403-406_EP_MT_202A

The objective of this Plan is to outline the management measures that will be implemented as required to minimise surface safety risks to the public during mining within the Study Area such as:

- monitoring of areas posing safety risks;
- erection of warning signs and possible entry or use restrictions;
- backfilling of surface cracks and/or re-profiling of humps and swales on tracks and roads;
- infilling of subsidence pot holes;
- securing of potentially unstable structures and rockmasses;
- identification of potential flood-related impacts that may pose a risk to public safety; and
- provision of regular updates regarding mining progress to the community where management of public safety is a significant issue.

Required actions and responsibilities are defined to ensure detection and timely remediation of any potential public safety hazards from mining induced subsidence.

2 RESPONSIBILITIES AND RESOURCES

The management strategies developed to manage subsidence allocate responsibilities in relation to their implementation. Relevant personnel will be provided with a copy of appropriate documents in addition to necessary training.

The following section outlines the relevant subsidence safety and management responsibilities of ACOL.

2.1 ASHTON MINE ENGINEERING MANAGER

The Mine Engineering Manager must:

- ensure sufficient resources are available to implement the requirements of this plan;
- promptly notify the Resources Regulator of any identified public safety issue via telephone to the central reporting number 1300 814 609; and
- complete a written notification using the online incident notification form via the Regulator Portal at https://www.resourcesregulator.nsw.gov.au/safety-and-health/notifications/incident-or-injury.

2.2 TECHNICAL SERVICES MANAGER

The Technical Services Manager must:

- authorise the Plan and any amendments;
- ensure that the required personnel and equipment are provided to enable this Plan to be implemented effectively;
- inform the Mine Engineering Manager of impacts requiring notification to the relevant stakeholders (e.g. NSW Resources Regulator, Singleton Council, etc.); and
- liaise with relevant stakeholders and remediation consultants and contractors as required.

2.3 ASHTON ENVIRONMENT & COMMUNITY SUPERINTENDENT

The Environment & Community Superintendent must:

- inform the landholders of impacts requiring remediation; and
- report monitoring results in the Annual Review.

2.4 ASHTON REGISTERED MINING SURVEYOR

The Registered Mining Surveyor must:

- ensure that subsidence inspections are conducted to the required schedule and that the persons conducting the inspection are trained in the requirements of this plan and understand their obligations;
- review and assess subsidence monitoring results and inspection checklists; and
- promptly notify Technical Services Manager and/or the Environment and Community Superintendent of any identified public safety issue.

2.5 ASHTON TECHNICAL SERVICES TEAM

The Ashton Technical Services Team members must:

- conduct the subsidence inspection within the applicable subsidence zone to the standard required and using the subsidence inspection checklist;
- take actions to remediate any public safety issue identified during inspections; and
- where actions are beyond their capabilities immediately attempt to notify the landowner or infrastructure owner and the Technical Services Manager.

3 BACKGROUND

3.1 ACOL HISTORICAL PUBLIC SAFETY PERFORMANCE RELATING TO SUBSIDENCE

ACOL has successfully undertaken longwall mining at the Ashton Underground Mine (AUM) using conventional longwall mining methods in the PG seam (Longwalls 1 to 8), ULD seam (Longwalls 101 to 105) and ULLD seam (Longwalls 201 to 207A) over the period of 2007 to 2024. Mining within the ULLD seam of Longwalls 207B is currently being undertaken at the time of writing this plan.

ACOL's experience during this period has indicated that the overall risk to public safety has been low, although some minor public safety management actions have been required. This work has included backfilling of surface cracks and/or re-profiling of humps and swales on tracks and roads.

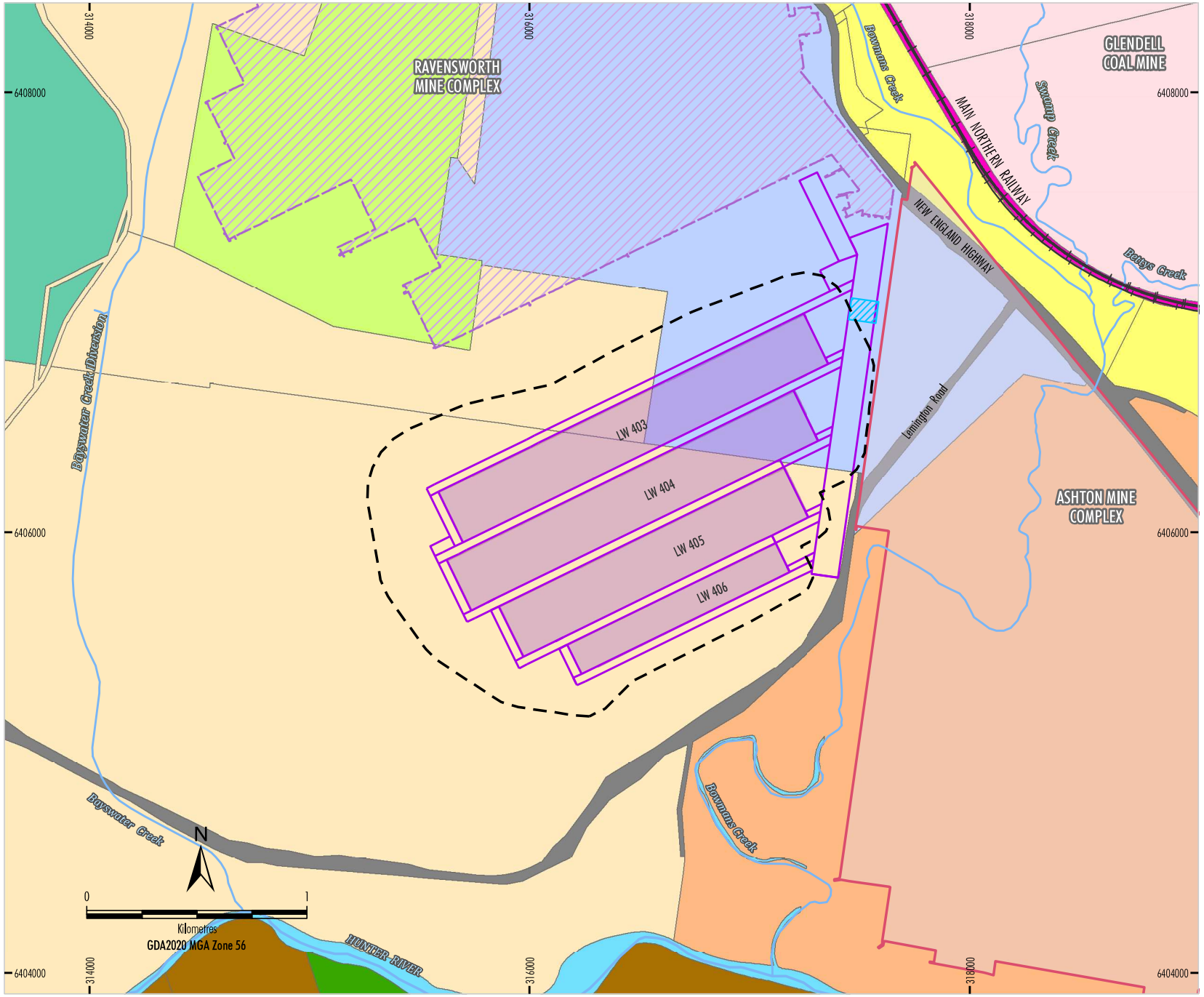
Consequently, risks to public safety from secondary extraction in the Study Area are also expected to be negligible. This is supported by the subsidence assessment for Longwalls 403 to 406 (Strata Control Technology [SCT], 2024).

3.2 SURFACE FEATURES, LAND OWNERSHIP AND PUBLIC ACCESS TO LAND

Land ownership within the Study Area is shown in **Figure 4**. The Study Area extends underneath land owned by Glencore Coal Assets Australia Pty Ltd and AGL Macquarie (AGLM).

The surface is used for mining purposes and mining related activities as well as cattle grazing. AGLM is emplacing fly ash from nearby power stations in Void 5 East (SCT, 2024). Some surface areas over the completed Ravensworth South and Narama open cut pits are in different stages of rehabilitation (SCT, 2024).

Natural features within the Study Area are limited to the remaining surface and natural bushland in the section of natural ground in the southeast (above the eastern ends of Longwalls 404 to 406) (SCT, 2024). Within this section of natural ground, two minor drainage lines flow to Bowmans Creek (SCT, 2024).



LEGEND

- Completed Pikes Gully Seam Workings
- Existing Shaft 5 Location
- Pikes Gully Seam Longwall Layout
- Ashton Underground Mine
- Longwalls 403 to 406 Study Area
- Water Feature Corridor
- Public Road Corridor

Landholder

- AGL Macquarie Pty Ltd
- Ashton Coal Mines Ltd
- Azsa Pastoral Holdings Pty Ltd
- Coall & Allied Operations Pty Ltd and HVO Resources Pty Ltd
- Cumnock Management Pty Ltd
- Enex Foydell Pty Ltd
- Glendell Tenements Pty Ltd
- Ravensworth Operations Pty Ltd
- Resource Pacific Pty Ltd
- Transport for NSW

Source: SCT (2021); NSW Spatial Services (2024); Yancoal (2021)
Orthophoto: Ravensworth Mine Complex (2021)

YANCOAL 兖煤澳大有业有限公司

RAVENSWORTH UNDERGROUND MINE LONGWALLS 403 TO 406 EXTRACTION PLAN

Mining Titles and Land Ownership

Figure 4

ACO-18-03A LW403-406_EP_MT_204A

Major infrastructure in the Study Area for Longwalls 403 to 406 includes (SCT, 2024):

- TransGrid 330 kV transmission line.
- A section of the Ravensworth South (No2) Pit and back-filled topography.
- Sections of Void 5 East Fly Ash Emplacement Area with external dam wall (Void 5 Dam), internal walls, seal wall/barrier, fly ash disposal equipment and access roads.
- A section of the completed Narama Pit currently being back-filled and rehabilitated with the open final void being used as a water storage facility.
- RUM No5 Shaft (to be incorporated into the main headings ventilation circuit for the planned mining)
- Narama Dam storage reservoir.
- Water management installations, including pumping equipment and pipelines, 33 kV overhead powerlines, access roads and other mining related infrastructure.

Both the Narama Dam and the Void 5 Dam are declared dams under the Dams Safety Regulation 2019 administered by Dams Safety NSW (SCT, 2024). The notification areas around these dams cover sections of Longwalls 403 to 406 (SCT, 2024).

4 APPROACH TO PUBLIC SAFETY MANAGEMENT

ACOL's overall strategy to ensure public safety relating to the surface areas that may be affected by subsidence arising from the extraction of coal using conventional longwall mining methods is:

1. **Measure baseline information** – Establish background data for the surface above the mining area by inspection and in certain areas also subsidence survey.

2. **Regular monitoring of the effects of mining** – Continue monitoring and inspection of identified key positions relating to the extraction process.

3. **Regularly assess and interpret monitoring and inspections** – Monitoring and inspection data is analysed to identify any variations from predictions, unexpected anomalies, visual impact or items presenting potential impacts to public safety.

4. **Implement immediate responses** – If potential impacts to public safety are observed or reported, implement an immediate response including notification to the relevant landowner and/or infrastructure owners.

5. **Re-assess any impacts** – Where variations and/or impacts are greater than predictions made in the Extraction Plan, as nominated in the Trigger, Action and Management Response Plan, additional assessment/investigation of impacts will be undertaken. This will be carried out by specialist consultants, ACOL personnel and appropriate stakeholders where required.

6. **Identify and implement remedial actions** – If impacts require mitigation and/or remedial action, these actions will be implemented in conjunction with the landholder and appropriate relevant stakeholder.

5 PERFORMANCE MEASURES

Performance objectives in relation to subsidence impacts in the Longwalls 403 to 406 Study Area from Condition 29, Schedule 3 of DA 104/96 (MOD 10) are detailed in **Table 1** below:

Table 1. Subsidence Performance Measures from DA 104/96

Public Safety	
Public safety.	Negligible additional risk.

The performance measures in relation to public safety will be based around no additional risk to members of the public due to mining. **Table 2** indicates the performance measures in relation to Public Safety for the Study Area.

Table 2. Public Safety Performance Measures

Subsidence Impact	Performance Measure
Surface cracking	Surface cracking or deformation remediated where required in accordance with the Land Management Plan (LMP) to not impact on public safety.
Dams	Impacts to dam walls monitored and maintained to minimise risk of failure in accordance with individual Built Features Management Plan (BFMP) and Water Management Plan (WMP).
Access Roads	Public roads and tracks remediated to not impact on public safety in conjunction with Subsidence Advisory NSW and Singleton Council.
Steep slopes and unstable ground/structures	Exclusion areas established where potential risks to public safety are identified. Remedial measures implemented to remove risk.
Flooding and access	Access to and from private properties established to maintain safe passage.

6 IDENTIFICATION OF RISKS

It is not expected that mining of Longwalls 403 to 406 in the PG seam will pose a significant risk to public safety. As part of the Extraction Plan process a Risk Assessment was conducted to examine the potential impact by subsidence on the surface above the Extraction Plan mining area. A copy of the risk assessment is included as an appendix to the main Extraction Plan document. The risk assessment did not identify any potential high risk to public safety as a result of extraction of Longwalls 403 to 406.

All other risks identified either had existing controls or additional controls / further actions which have been implemented or are available to identify, control or remediate these risks.

The possible public safety risks identified for the Study Area are listed below:

- damage and/or loss of clearance to 330 kV Transgrid transmission lines;
- damage and/or loss of clearance to the two 33 kV Glencore transmission lines;
- damage (cracking) to internal property access tracks;
- damage (cracking) to general land surface; and
- damage to gates and fences.

Controls, monitoring and remedial action, identified as core items have been addressed in this Management Plan including:

- regular monitoring of areas posing potential safety risks;
- erection of warning signs along access road – to include mine contact numbers to report damage and be installed prior to longwall extraction;
- entry restrictions – identified as part of management actions and remedial measures in Public Safety Risk identified;
- backfilling of dangerous surface cracks – noted as remedial measure if identified;
- remediation of any areas with adverse grade impacts or potential ponding restricting access (deformation); and
- provision of timely notification of mining progress to the landholder, community and any other stakeholders where management of public safety is required – noted as part of management actions.

Further detail regarding subsidence predictions is contained in the subsidence report prepared by SCT (2024).

7 NOTIFICATION, MONITORING AND INSPECTION SCHEDULE

Actions associated with potential subsidence impacts from mining of Longwalls 403 to 406 are detailed in the Built Features Management Plan and associated Asset Management Plans. Management of public safety is largely controlled by programmed and targeted inspections as well as reviewing predicted subsidence against actual subsidence.

7.1 NOTIFICATION

Notifications to any landholders, the general public, relevant stakeholders and appropriate authorities either have or will be provided. These include:

- notification of Extraction Plan approvals to relevant parties; and
- signposting of mining area.

7.2 SUBSIDENCE MONITORING

A description of the surface, relevant features and improvements above the longwall panels is contained in **Section 4** with further details available in the Built Features Management Plan and associated Asset Management Plans.

Monitoring is conducted as per the various *Subsidence Monitoring Plan* and *Built Features Management Plan,* consisting of a combination of subsidence surveys, surface and underground monitoring and inspections and monitoring of ecological conditions.

These Plans and Programs generally focus on intensive monitoring in the initial stages of longwall extraction and the long term monitoring of subsidence effects that may develop over time.

7.3 SUBSIDENCE INSPECTIONS

Inspections are to be conducted as per the various Management Plans and Monitoring Programs submitted, consisting of a combination of visual and photographic inspections as detailed in the Management Plans and programs.

Regular inspections at frequencies detailed in the Management Plans and Monitoring Programs are to be initially concentrated on the current mining area and subsidence area. Inspections are concentrated on items identified in the pre-mining survey and in the relevant Management Plans. Inspections are carried out by experienced persons and follow an inspection checklist to include the items above.

At the completion of mining in each longwall panel, a full surface inspection will be conducted and the results included in the Annual Review.

8 ACTIONS AND REMEDIAL MEASURES

ACOL will install appropriate warning signage, positioned along the farm gates that access the Study Area, prior to the commencement of longwall extraction, advising of the potential for subsidence impacts. The objective of the signage is to ensure users of these roads and the surrounding area are aware of the potential hazards resulting from subsidence. Mine contact details shall be included to enable any damage to be reported.

Visual inspections will identify impacts on natural features. Inspections and monitoring noted in the relevant monitoring plans will identify impacts on infrastructure and improvements.

8.1 PUBLIC SAFETY ISSUES IDENTIFIED DURING INSPECTIONS OR MONITORING

Should inspections reveal any public safety issue that requires remedial works to ensure public safety, the person conducting the inspection shall:

- immediately notify the Technical Services Manager and/or Environment & Community Superintendent;
- erect “NO ROAD” or barrier tape and warning signs (e.g. traffic control signs, traffic controllers as appropriate) if immediate remediation is not possible;
- the Mine Engineering Manager shall immediately notify the NSW Resources Regulator if a public safety issue is deemed to be a notifiable incident; and
- Technical Services Manager and/or Environment & Community Superintendent to notify landholder and the infrastructure owner.

8.2 REMEDIATION OF PUBLIC SAFETY ISSUES

Following completion of the above, the Mine Engineering Manager or their nominee shall:

- arrange inspections of the area at regular intervals including installation of appropriate barriers if required, until remediation works are carried out; and
- arrange for remediation works as detailed in the Trigger Action Response Plan (Appendix B of the Extraction Plan).

This will require consultation with the Department of Planning, Industry and Environment, Resources Regulator and the landholder, as well as possibly Subsidence Advisory NSW, infrastructure owner, specialist consultants and appropriate stakeholders, as noted in the current Management Plans and Programs, to prepare appropriate remediation plan relating to the particular item. Notification and regular updates to the general public may form a part of the remediation plan.

8.3 ADAPTIVE MANAGEMENT

It is considered unlikely based on subsidence predictions and previous mining impacts observed thus far, that any adaptive management will be required. If, however, continued impacts in excess of those predicted occur due to mining subsidence, ACOL is committed to reviewing options with the Department of Planning, Housing and Infrastructure landholders, Subsidence Advisory NSW and service/infrastructure providers to put measures in place to prevent on-going reoccurrence.

8.4 CONTINGENCY PLANS

Where any unexpected and uncontrolled public safety risk presents itself, ACOL will provide on-going resources to prevent access to the affected area until such time a remediation plan can be enacted. If this prevents members of the public access to their residence ACOL will assist in making alternative arrangements including temporary accommodation.

9 TRAINING

All personnel who conduct Subsidence Monitoring Program inspections will be trained in the requirements of this Public Safety Management Plan. Training will be conducted on the identification of the various subsidence impacts and the associated public safety risks.

10 REPORTING

The results of inspections will be documented in accordance with the Subsidence Monitoring Program. The effectiveness of the Longwalls 403 to 406 Public Safety Management Plan in managing public safety risks will be reported where relevant in the Extraction Plan Stakeholder Reporting process and the Annual Review.

Additionally, notification will be provided to relevant authorities of any incident or occurrence as detailed in the Trigger Action Response Plan (Appendix B of the Extraction Plan).

11 AUDIT AND REVIEW

11.1 AUDIT

The requirements of the Longwalls 403 to 406 Public Safety Management Plan will be audited as required.

11.2 REVIEW

This plan will be reviewed as necessary in the event:

- the mine design criteria are changed;
- subsidence impacts are greater than predicted;
- the Department of Planning, Housing and Infrastructure or Resources Regulator deems a review is necessary;
- any landholders or infrastructure owners raise issues that require a review;
- inspections or monitoring demonstrates that the impacts are such that a review is warranted; and
- following each audit.

Any review will be conducted in consultation with the Department of Planning, Housing and Infrastructure and Resources Regulator. In the event of the management plan being changed, a copy will be sent to the relevant agencies.

12 REFERENCES

SCT Operations Pty Limited (2024) S*ubsidence Assessment for the Extraction Plan for Longwalls 403 – 406 in the Pikes Gully Seam*, Report Number ASH5749.

Appendices

Appendix A

Stakeholder Contact Details

Longwalls 403-406 Extraction Plan Stakeholder List

Position	Name	Phone
ASHTON		
Mine Engineering Manager	Justin Peterkin	65709212
Technical Services Manager	Thomas Kaltschmidt	6570 9110
Environment and Community Superintendent	Phillip Brown	6570 9219
Mine Surveyor	Jarrod Braybon	6570 9125
Senior Mining Engineer	Ben Tockuss	6570 9124
After Hours	Ashton Control Room	6570 9166
GOVERNMENT AND OTHER STAKEHOLDERS		
Subsidence Advisory NSW	Newcastle Office	4908 4300
Resources Regulator	-	1300 814 609
TransGrid	Emergency	1800 027 253
AGL Macquarie	Robyn Adams Business Property Management (AGL Macquarie)	6542 1630
Glencore	Klay Marchant Environment and Community Manager (Ravensworth Complex)	6507 0684
LANDHOLDERS		
Refer to Ashton internal contacts register.		