



Gas Drainage Management Plan

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1. Introduction

The Bulga Coal Complex is managed by Bulga Coal Management Pty Limited (BCM) and comprises both Bulga Open Cut (BOC) and Bulga Underground Operations (BUO). BUO is subject to Development Consent DA 376-8-2004 (as modified in June 2020 - MOD 7) and comprises the Blakefield South Mine along with the approved, but not commenced, Blakefield North Mine (see **Figure 1**).

1.1 Purpose

This Gas Drainage Management Plan satisfies the requirements of Schedule 4, Condition 7D and 7E of **DA 376-8-2004 MOD 7** (refer **Appendix A**). This Gas Drainage Management Plan applies to the ongoing operation of BUO and associated gas drainage infrastructure. The current layout of the BUO infrastructure is shown on **Figure 2**.

1.2 Scope

While underground mining is currently suspended, gas drainage infrastructure from the Blakefield Mine continues to be operated. This process reduces gas levels in the Blakefield seam in preparation for future mining, supplies gas to the approved gas fired power generator and reduces leakage of methane to the atmosphere and or ingress of oxygen into the goaf. This plan applies to the construction and future use of gas drainage infrastructure including:

- Continued gas drainage activities;
- Sealing of BUO workings; and
- Potential interaction with BOC operations.

For the sake of clarity, both the approved and planned gas drainage management sites have been included in this document and associated figures. This plan therefore encompasses all activities for gas drainage and does not exclude what is already approved in that area.

1.3 Regulatory Requirements

This plan will be prepared to the satisfaction of the Planning Secretary and submitted for approval prior to the construction of any future gas drainage infrastructure. BCC will implement the Gas Drainage Management Plan as approved by the Planning Secretary.

Both BOC and BUO have several baseline environmental studies that were conducted during application for development consents or for modifications to existing approvals. A Statement of Environmental Effects (SEE) was prepared by Umwelt (2019) to assess the environmental and social impacts of DA 376-8-2004 (MOD 7) under section 4.55 (2) of the Environmental Planning and Assessment Act 1979 (EP&A Act) (BUO SEE).

These baseline studies together with the conditions of licences and approvals form the core of the Bulga Coal environmental compliance management system, which is addressed in **Section 3**. Conditions and requirements have been included in **Appendix A** relating specifically to the preparation of this Gas Drainage Management Plan including:

- DA 376-8-2003 (as modified); and
- Mining Lease (ML) 1547, ML1674 and ML1494..

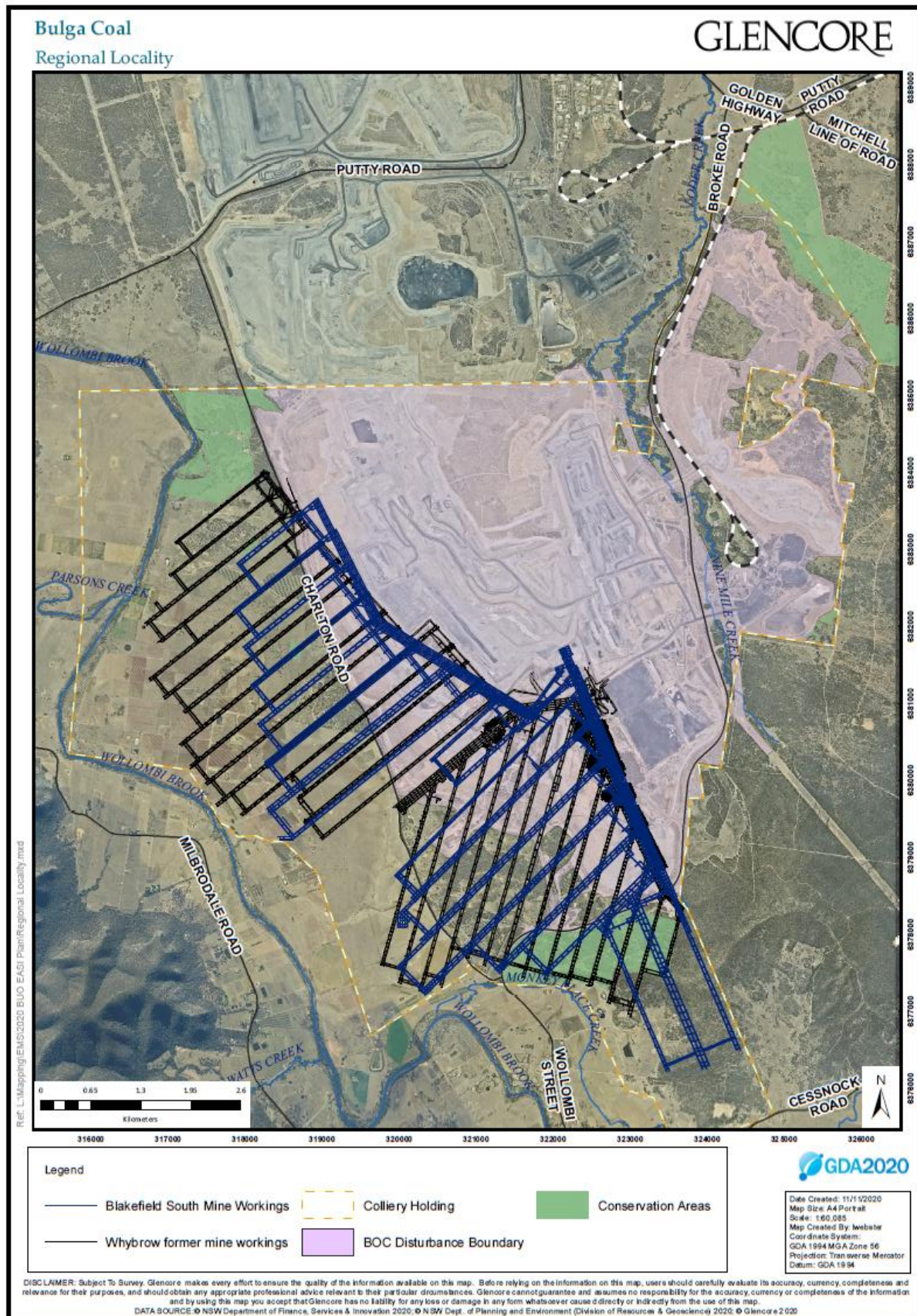


Figure 1 Regional Locality

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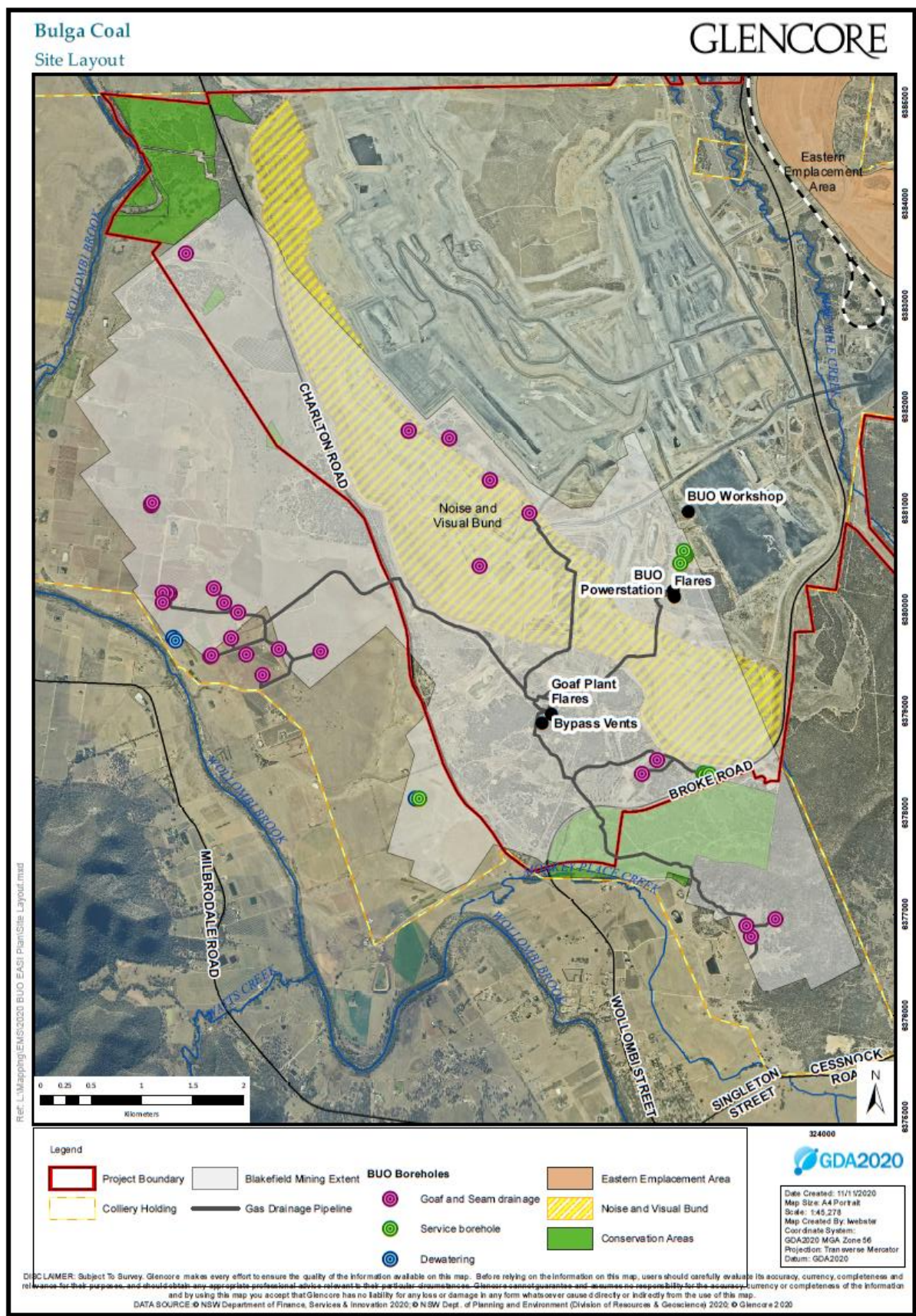


Figure 2 Site Layout

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2. Gas Drainage Operations

2.1 Overview

BUO approvals are being retained and BCM is actively evaluating opportunities to recommence underground mining operations in the future. Retained gas drainage infrastructure includes:

- Blakefield South goaf drainage, which is being operated to reduce leakage of methane to the atmosphere and / or ingress of oxygen into the goaf;
- Blakefield North pre-drainage wells which is ongoing to reduce gas levels in the Blakefield seam in preparation for future underground mining, and supplies gas to the approved gas fired power generator; and
- Supporting infrastructure including the gas drainage plant, flares, laydown areas, dewatering bores, pipelines and access tracks.

DA 376-8-2003 (MOD 7) includes ongoing gas drainage activities and also describes the modification of some components of the existing infrastructure servicing both BOC and BUO (**Figure 4**). This includes the upgrade, relocation or removal of existing BUO workshops, gas-fired power generation plant and associated gas drainage infrastructure, electrical substation and fuel and oil storage facilities.

Assessment of potential environmental impacts associated with the construction and future use of gas drainage infrastructure has been undertaken as part of the BUO SEE (Umwelt, 2019). The planning and management measures to be implemented for these works are summarised below in **Section 3**.

2.2 Mine Infrastructure Area

The BUO administration buildings have been demolished and the workshop will be demolished to accommodate the progression of approved BOC mining operations. To allow for potential ongoing operation of the approved BUO under DA 376-8-2003 (MOD 7), a new Mine Infrastructure Area (MIA) site will be required. The key elements of a new MIA would include:

- Workshop and stores;
- Offices;
- Car parking;
- Bathhouse; and
- Ancillary infrastructure and services as required.

The proposed MIA facilities will be located within the approved BOC disturbance area and will require the augmentation of existing ancillary services such as power, water supply, waste systems and telecommunications facilities. BCM will consult with relevant service providers where required during detailed design and construction of the proposed infrastructure facilities.

2.3 Underground Access and Ventilation Infrastructure

Underground mine ventilation infrastructure is approved for a combination of in-pit access via the BOC mining area, and out- of- pit locations for ventilation and service bores. To allow for future access and ventilation of BUO, new entries and ventilation sites may be required. Further changes to auxiliary ventilation and/or access infrastructure may also be required to be established within the BOC mining area in the future with the progression of the open cut operations. Underground mine entries located within BOC in-pit areas will remain within approved disturbance boundaries.

2.4 Gas Fired Power Generator and Flare Infrastructure

BUO operates an existing gas fired power generation plant, gas flares, goaf plant, associated pipelines, water extraction bores and ancillary service infrastructure to manage the methane production from gas drainage. Gas drainage operations consist of the Blakefield North pre-mining system and the Blakefield South post-mining (goaf) system. The location of gas drainage wells, gas flaring facilities and the 9 MW power plant are shown on **Figure 2**.

The function of the pre-mining gas drainage infrastructure is to reduce in-situ gas levels to permit safe development of underground roadways. The pre-mining system utilises a combination of SIS drilling and conventional vertical drilling. SIS drilling comprises long horizontal holes drilled within the coal seam along the length of the longwall block. Combined with the use of vertical pre-drainage wells which intersect with the horizontal in-seam well, gas drainage is able to be conducted from the surface, providing a safer working environment and more efficient mining. Methane gas flows out of the coal seam under reservoir pressure through these gas wells into the buried pipeline system, before being piped to the Pre-drainage 9MW gas-fired power station and Flaring Facility, where it is burned to generate electricity and be converted to carbon dioxide.

The function of the post-mining (goaf) system is to allow high longwall extraction rates while maintaining compliance with gas content regulations in the longwall return roadway. Vertical post-mining wells are drilled and installed prior to mining, however gas extraction does not occur until the methane becomes liberated by the goaf. The gas is removed under suction to prevent it entering nearby mine workings. The gas is also collected through the buried pipeline system and is flared at the Post-drainage Flaring Facility.

Following MOD 5 pre-drainage gas infrastructure has been installed to enable the effective and ongoing management of methane gas from both the Blakefield North Mine (Blakefield Seam), and where possible, the underlying Glen Munro Seam; to also address future interactions with the Bulga Optimisation Project; and adequately address the gas drainage requirements that have been identified through increased sampling of relevant coal seams during exploration activities.

It is proposed to relocate the existing gas fired power generation plant, flare installation and associated service infrastructure to accommodate the proposed extension of BOC operations. The relocated gas fired power generation plant, gas flare installation and associated infrastructure will be located within the approved disturbance boundaries. The locations of the existing and proposed gas fired power generation plant are shown on **Figure 3**

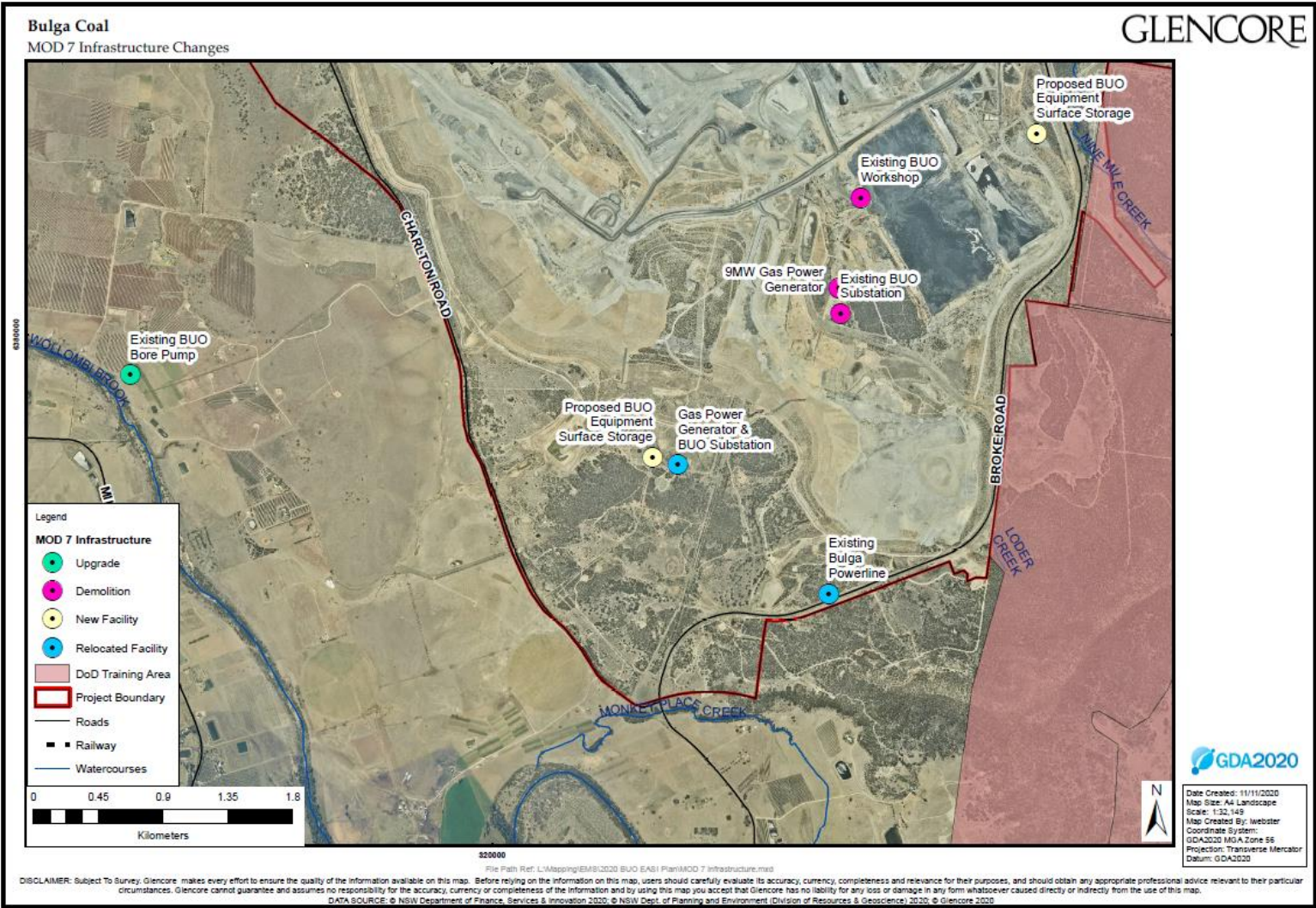


Figure 3 DA 376-8-2003 (MOD 7) Infrastructure Changes

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2.5 Ancillary Infrastructure and Services

Other ancillary infrastructure and services required to support future underground mining activities may require relocation to accommodate approved BOC mining operations. The relocation of any ancillary infrastructure or services will be undertaken within the approved disturbance area and/or follow existing access road alignments where possible, to reduce the vegetation disturbance associated with the clearing required along the transmission line easement for safety purposes.

All gas drainage pipelines (other than connection points, monitoring points, dewatering facilities, regulation or isolation points) between gas drainage plants will be buried, unless otherwise agreed with the relevant landowner or unless burial is inappropriate for safety or other reasons.

3. Mitigation Measures

Bulga Coal operates within a comprehensive Environmental Management System (EMS). This includes a wide range of environmental management plans and procedures which have been developed by Bulga Coal in accordance with conditions of DA 376-8-2003 (as modified), mining authorities, Environment Protection Licence 563 and GCAA Corporate standards.

The EMS includes plans for water, noise and air quality and greenhouse gas management, visual mitigation, land rehabilitation, and subsidence remediation. These plans are updated on a regular basis and are supported by an environmental monitoring network including meteorological, air quality, water quality, noise and subsidence monitoring. The existing environmental management plans also outline environmental performance standards for site operations and are available on the Bulga Coal website (<http://www.bulgacoal.com.au>).

3.1 Planning Management

Bulga Coal uses the work authorisation process in accordance with GCAA-625378177-10532 – Work Authorisation and Permit Management. The system outlines the different work permits which are mandatory for all tasks defined within specific criteria, namely the GCAA Ground Disturbance Permit (GDP). The permits described below are specific requirements prior to carrying out or construction/upgrade of minor surface infrastructure.

A GDP must be completed for all surface disturbance work including slashing tree lopping, removal of topsoil, clearing and access to rehabilitation areas. The permit is designed to assess the internal and external environmental compliance requirements relevant to the task. The GDP process includes:

- A summary of the activities proposed;
- Review of any relevant approvals and licences;
- Interaction with the community;
- Use of the BCM GIS database to review any constraints and develop specific permit conditions including:
 - Landownership
 - Known areas or items of Aboriginal or other heritage significance
 - Threatened species, their habitats or Endangered Ecological Communities (EECs)
 - Existing rehabilitation and disturbance areas
 - Clearing and topsoil stockpile plan
 - Watercourse locations
 - Erosion and sediment control requirements and plan
 - Rehabilitation requirements for disturbed areas; and
- Pre, during and post clearance inspection requirements.

3.2 Noise

The management of any noise generated by any BUO gas drainage management activities will be undertaken in accordance with DA 376-8-2003 noise impact criteria and the requirements of the Bulga Coal Complex Noise Management Plan (BULCX-2103827161-3527) (NMP). If an alternative temporary construction noise limit is required, a Construction Noise Work Protocol will be prepared and submitted to the Department of Planning, Infrastructure and Environment (DPIE) for approval prior to the commencement of construction.

3.3 Heritage

The BULCX-2103827161-4225 – Aboriginal Cultural Heritage Management Plan (ACHMP), was developed with consideration to the requirements of the consents and in line with the GCAA Protocol GCAA-625378177-10266 – 11.21 Aboriginal Cultural Heritage Management – NSW. This Protocol provides:

- An overview of the relevant Aboriginal cultural heritage legislation; and
- A description of Aboriginal Cultural Heritage Assessment processes and practices applicable to the various mine development phases.

Management of European heritage is in accordance with the BULCX-2103827161-5242 – Historic Heritage Management Plan (HHMP). Any management controls required for heritage items during gas drainage management activities at BUO will be implemented in accordance with the ACHMP, HHMP and described in the relevant GDP.

3.4 Biodiversity

The Bulga Coal Complex has a consolidated BULCX-2103827161-4916 - Biodiversity Management Plan (BMP) with the purpose of outlining the strategies to be employed for the management of remnant vegetation and fauna species on site, in accordance with biodiversity requirements in the BOC and BUO approvals.

BUO will assess potential impacts to native vegetation and threatened species, populations or their habitat and EECs during gas drainage management activities in accordance with the BMP. Any specific management controls required to minimise impacts to biodiversity values at BUO will be implemented in accordance with the BMP and described in the relevant GDP.

3.5 Visual Impact

Mitigation of impacts to visual amenity associated with gas drainage operations are undertaken by Bulga Underground in accordance with the BULUG-693788284-7 Visual Impact & Light Management Procedure.

Prior to the construction of any gas drainage infrastructure, an assessment of the likelihood of the public being able to observe the infrastructure from any surrounding viewing location will be undertaken. The measures may vary for specific infrastructure dependent upon the size of the facility

as well as the nature of the potential visual impact. All practicable measures will be taken to mitigate off-site lighting impacts. Visual screening options include:

- Wire caging or other screening barriers;
- Photo decals or green panels supplemented with native vegetation planting; and
- Locally sourced, endemic native tree and shrub species that are moderately fast growing may be used for screening instead of compounds.

The final choice of screening will be influenced by consultation with near neighbours in the area, including consideration of the placement of visual screens, the required height, the need for supplementary plantings and security considerations.

3.6 Traffic

BCM have retained a network of access tracks to the BUO surface infrastructure shown on **Figure 2**. All BCM employees and contractor are required to complete inductions regarding mine safety and environment management and community stakeholder issues prior to commencement of work on site. This includes training in the appropriate use of light vehicles and other mobile equipment. Site access intersections and access tracks are also sited and designed to minimise the potential for impacts to public road users.

In accordance with Schedule 4 Condition 49A prior to the construction of a gas drainage well outside the BOC Project Boundary, a Construction Traffic Management Plan will be developed. Measures will be implemented to minimise construction traffic and hours of heavy vehicle movements to avoid road use conflicts. Use of public roads will be minimised as much as is practical.

3.7 Air Quality & Greenhouse Gas

The management of air quality at BUO is described under the [BULCX-2103827161-5135 – Bulga Coal Complex Air Quality & Greenhouse Gas Management Plan](#) (AQGGMP).

The AQGGMP outlines operational controls and responses that are implemented at BCM to minimise air quality impacts. BUO will continue to implement air quality controls and responses from the AQMP to minimise impacts from gas drainage and other surface activities at BUO. This will include ensuring exploration drill rigs and construction equipment have dust suppression equipment fixed, operating water carts on unsealed / exposed areas and modifying operations during adverse weather conditions.

Greenhouse gases captured by BUO gas drainage infrastructure are re-used at the power station or sent to the flares wherever practicable. To reduce greenhouse gas emissions, hydrocarbon gases are reused at the gas fired power station or goaf flares. Underground goaf gas is drained and flared to maintain a safe working environment for open cut mining through underground workings. The operation of the flares and power station significantly reduces Scope 1 greenhouse gas emissions via the combustion of CH₄ into CO₂ and H₂O.

3.8 Land and Property Management

BCM Mining Leases cover an area of over 5,000 hectares, with a substantial amount of the largest lease (ML 1547) containing private farming land and non-surface disturbed mine-owned buffer lands. There are also several rental properties, leased vineyards and an olive grove. Programmes are in place to manage pests, weeds, fire breaks on these buffer lands.

3.9 Public Safety

As described in the Bulga Coal Mining Operations Plans (MOPs), BCM implement a variety of control strategies to minimise the potential for public safety incidents on site. Public safety controls relevant to gas drainage management activities may include:

- Implementation of a security system to ensure public and employee safety is maintained, in accordance with the relevant requirements under the, *Work Health and Safety Act 2011*, *Mining Act 1992* and conditions stipulated in the relevant mining authorities;
- Delineation of work areas where not located on BUO land;
- Employee and contractor inductions regarding mine safety and environment management and community stakeholder engagement prior to commencement of work on site;
- Implementation of traffic controls on the public road network; and
- Notification of nearby landholders prior to the commencement of exploration and construction work.

4. Rehabilitation

Rehabilitation across the Bulga Complex is conducted in line with the approved MOPs:

- GCAA-102386433-4625 Bulga Open Cut Mining Operations Plan 2020 – 2023; and
- GCAA-1023863433-4626 Bulga Underground Operations Mining Operations Plan 2018 – 2023.

BCM are required by GCAA to submit an annual rehabilitation and land management plan in line with the GCAA-625378177-10241 – 11.16 Rehabilitation Management protocol. This annual plan covers which areas are planned to be disturbed and which will be rehabilitated during that year. The results are then reported in the Bulga Coal Complex Annual Review (AR). Where this rehabilitation monitoring indicates that there is a significant threat to rehabilitation outcomes, BCM undertake adaptive or remedial management in accordance with the TARP specified in the BUO MOP (SLR, 2018).

Site-specific rehabilitation planning and post-disturbance requirements will be specified in individual GDP's refer **Section 113.1**. Post-disturbance inspections and assessments are undertaken to ensure all rubbish and decommissioned infrastructure is removed from work areas, rehabilitation works are complete and required erosion and sediment controls are in place.

Rehabilitation of gas drainage infrastructure is undertaken progressively in accordance with the BUO Drill Pad Consolidation Rehabilitation Procedure and the BULCX-2103827161-7656-BUO Pipeline Rehabilitation Procedure.

4.1 Topsoil & Erosion and Sediment Control Management

The management of topsoil and erosion and sediment control, is addressed by site-specific clearing planning and conditions in individual GDPs (refer **Section 3.1**). During and following ground disturbance, sediment fences, spoon drains, sediment catchers and site catch sumps are used as appropriate to manage runoff water and reduce erosion and sedimentation. During clearing, topsoil clearing, stockpile details and use must be identified and completed.

Inspections are undertaken to ensure that the effectiveness of erosion and sediment control structures are maintained. Additional stabilisation works for these areas may include reshaping, amelioration of dispersive soil, revegetation, fencing and weed control.

4.2 Surface Preparation

The following surface preparation is undertaken by BUO to rehabilitate gas drainage pads and/or disturbance following the installation/removal of methane gas pipelines:

- Removal of gas drainage pad ballast (as relevant);
- Ripping/tilling and reshaping to a similar landscape as prior to construction;
- Spreading of topsoil; and
- Revegetation.

Prior to the commencement of drill pad rehabilitation, drill pad ballast is excavated and stockpiled onsite or is used for the next drill pad or access road.

The earthworks contractor prepares the final landform for the rehabilitation area using the teeth of an excavator to rip/till the surface. The landform for rehabilitation of areas following the installation of methane pipelines is gently rounded with no steep edges.

Available topsoil is spread over the prepared final landform prior to the commencement of rehabilitation for gas drainage pads and pipeline corridors. Seeding of prepared areas is undertaken as soon as practicable following the surface preparation using a site and season specific grass mix, however this will be subject to weather conditions (seeding will be delayed during windy conditions). The seed mix is applied to ensure consistent rehabilitated ground cover.

4.3 Decommissioning

Following the cessation of gas drainage activities all infrastructure such as well heads and methane gas pipelines are removed from the site.

Following the removal of well heads the wells are sealed with concrete in accordance with the publication titled *EDG01 Borehole Sealing Requirements on Land: Coal Exploration* (NSW Department of Mineral Resources 1997). Boreholes (with conductive casing extending to mine workings) that are no longer required are to have at least the top 6m removed and backfilled with a material of equivalent or greater resistivity than the surrounding ground.

5. Community Engagement

Consultation on the wider operations of the Bulga Coal Complex is undertaken in accordance with the BULCX-2103827161-7652 Bulga Coal Stakeholder Engagement Strategy (SES). The following approaches to stakeholder engagement are used to promote the effective and timely communication of relevant information to the identified stakeholders for this Gas Drainage Management Plan.

5.1 Stakeholder Engagement

The SES has been developed to assist in:

- Building and maintaining effective relationships with our stakeholders;
- Engaging with our local communities;
- Investing in our local communities;
- Meeting the requirements of the GCAA HSEC Framework;
- Maintaining our social licence to operate; and
- Recording all stakeholder communication in Consultation Manager.

The plan includes details on Bulga Coal Complex stakeholder groups, how they will be engaged, the purpose, and the frequency of the engagement. The key stakeholders and communication and feedback considerations for the SES are also reviewed annually. Further information about the SES is available in the Bulga Coal Complex EMS on the Bulga Coal website (<http://www.bulgacoal.com.au>).

5.2 Complaints Procedures

BCM implements a complaints hotline for handling the complaint resolution process. Complaints regarding Bulga Coal Complex activities are managed in accordance with GCAA-625378177-10296 – 10.05 Complaints Management. This protocol provides a process to ensure that complaints received by GCAA and its operations are properly documented and handled in accordance with licence requirements and company policy.

Details of complaints received by BCM are reported to stakeholders at Community Consultative Committee meetings and in the Annual Review.

5.3 Surrounding Landholders

5.3.1 Land Ownership

The land ownership in the vicinity of the Bulga Coal Complex is shown in **Figure 4**. The gas drainage management network has been designed to avoid private property and all proposed infrastructure associated with this Gas Drainage Management Plan will be located on land owned by BCM.

Gas drainage infrastructure is located entirely within the BCM approvals and ML 1547 boundaries on land that is currently utilised for underground coal mining, viticulture, grazing and rural-residential holdings. Vegetation on non-mining BCM land is dominated by pasture and woodland species.

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5.3.2 Access Agreements

BCM will negotiate access agreements with all landholders whose property will be accessed to construct, operate and rehabilitate any BUO surface infrastructure. Landownership in the vicinity of BUO is shown on **Figure 4**.

The conditions of these agreements will be adhered to by all BCM personnel and contractors. Access agreements will include details of at least the following:

- The location and size of infrastructure to be located on the property (including a locality figure);
- Any specific conditions to be adhered to by BCM at the request of the landholder;
- Procedures for dispute resolution; and
- Details of any agreed compensation to the landholder.

BUO will not impact on any surface infrastructure used by other parties unless they receive prior written approval of the landholder or asset provider.

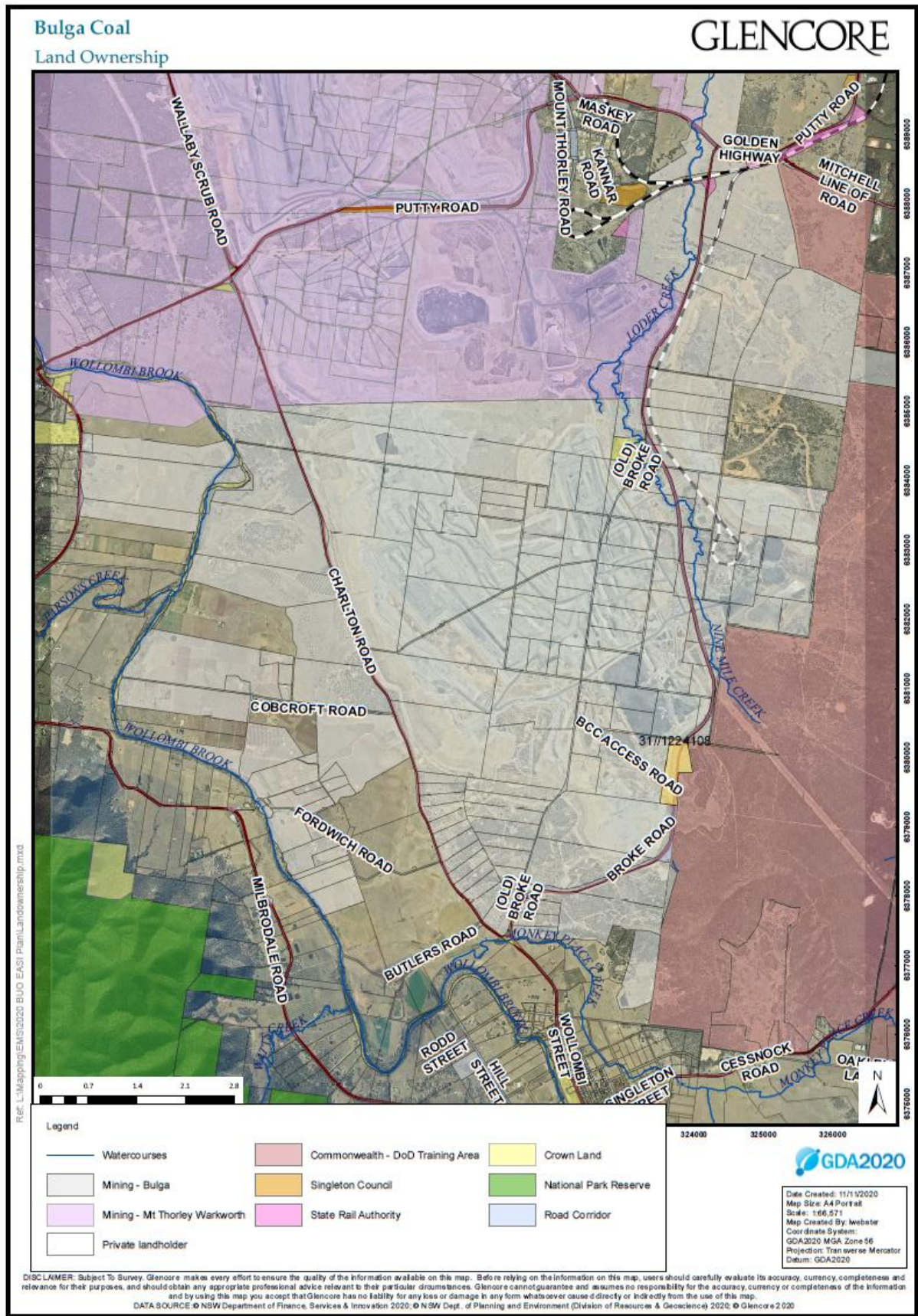


Figure 4 Land Ownership

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6. Document Information

6.1 Monitoring and Reporting

6.1.1 Monitoring Requirements

Monitoring of environmental values across a range of aspects is contained in the many management plans and procedures listed in **Section 3**. The purpose for this monitoring is to provide measures of performance to compare against objectives, targets and performance criteria specified in BUO approval and licence conditions.

6.1.2 Managing Unpredicted Impacts

Any unpredicted impacts and their consequences are managed using Bulga Coal's *Change Management Procedure (BULOC-1104430715-2361)* and the *GCAA Change Standard (GCAA-625378177-9979)*. These documents outline the process used to identify any proposed changes to existing gas drainage activities that have the potential to cause impacts. The process includes the following steps:

- identify the change;
- assess the risk associated with the change and develop a risk treatment plan;
- approve the change subject to risk treatment;
- communicate and implement the change and the risk treatment actions;
- monitor and evaluate the change and risk treatment plan;
- document the change; and
- review the effectiveness of the implemented change.

6.1.3 Reporting

An overview of the activities undertaken in accordance with this Gas Drainage Management Plan will be included in the Bulga Coal Complex Annual Review. This will include details regarding performance of relevant environmental monitoring, stakeholder consultation, and the implementation of management measures during the reporting period.

6.1.4 Incident and Non-compliance Notification and Reporting

The EMS outlines the process for managing environmental incidents and non-compliances. The process involves recording, notifying and investigating incidents in accordance with statutory and internal requirements and implementing corrective/preventative actions, if required.

Within seven days of becoming aware of a non-compliance, Bulga Coal will notify the Department of Planning, Infrastructure and Environment (DPIE) of a non-compliance. The notification will be made in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the conditions of the consent that the Development is non-compliant with, why does it not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

6.2 Review and Improvement

In accordance with the requirements of Schedule 6, Condition 3 of DA 376-8-2003, BUO will review this Gas Drainage Management Plan within 3 months of the following:

- Submission of an Annual Review;
- Submission of an incident report;
- Submission of an Independent Environmental Audit; and
- Any modification to the conditions of DA 376-8-2003.

Where the review leads to revisions of this Gas Drainage Management Plan, the revised document will be submitted to the Planning Secretary for approval within 4 weeks of the review.

Bulga Coal will also undertake an annual review of the environment and community risk assessment and review potential gas drainage risks and improvements required. This process ensures that any trends towards a non-compliance are identified, impacts from Bulga Coal are appropriately managed and improved controls implemented.

6.3 Training and Implementation

This document will be communicated and available to all persons having a responsibility under the plan. A copy is to be retained and available on GCAA SharePoint.

Internal GCAA procedures have not been reviewed or endorsed by DPIE. GCAA takes responsibility for ensuring these procedures are consistent with the requirements for this management plan and are prepared generally in accordance with DA 376-8-2003 requirements.

6.4 Roles and Responsibilities

Roles and responsibilities related to this plan are listed in **Table 6-1** below.

Table 6-1 – Roles and Responsibilities

Condition	Condition Requirement
Operations Manager	Provide resources required to support and implement this Gas Drainage Management Plan.
Environment and Community Manager	Implement, monitor and review the programs and procedures linked to this Gas Drainage Management Plan; Approve sufficient resources for the implementation of this plan; and Provide environmental advice and direction for construction and future use of gas drainage infrastructure.
BUO Environment & Community Officer	Undertake any required consultation with community stakeholders for construction and future use of gas drainage infrastructure; Implement environmental controls required for construction and future use of gas drainage infrastructure; and Record environmental incidents/community complaints
Gas Drainage Manager / Gas Drainage Planner	Undertake site-based actions to implement this Gas Drainage Management Plan in cooperation with the Environment and Community Manager; Undertake training in relevant management plans and procedures as required; and Work with the Environment and Community Department to maintain compliance to regulatory commitments contained in this Gas Drainage Management Plan and to consider these commitments when designing gas drainage activities.

6.5 Related Documents

Related documents, listed in **Table 6-2** below, are *documents* directly related to or referenced from within this document.

Table 6-2 – Related documents

Number	Title
GCAA-625378177-10296 – 10.05 Complaints Management	GCAA Protocol Complaints Management

Number	Title
GCAA-625378177-10323 – 11.06 Erosion and Sediment Control	GCAA Regional Asset HSEC Protocol, Erosion and Sediment Control
GCAA-625378177-10237 – 11.09 Exploration and Drilling	GCAA Regional Asset HSEC Protocol, Exploration and Drilling
GCAA-625378177-10241 – 11.16 Rehabilitation Management	GCAA Regional Asset HSEC Protocol, Rehabilitation Management
GCAA-625378177-10266 – 11.21 Aboriginal Cultural Heritage Management – NSW	GCAA Regional Asset HSEC Protocol, Aboriginal Cultural Heritage Management NSW
GCAA-625378177-10532 – <i>Work Authorisation and Permit Management</i>	GCAA Protocol Work Authorisation and Permit Management
GCAA HSEC PRO 0002	GCAA Ground Disturbance Permit Procedure
GCAA HSEC PER 0015 Surface Drilling Permit	GCAA Surface Drilling Permit Form
GCAA-625378177-10075 Ground Disturbance Permit	GCAA Ground Disturbance Permit Form
BULCX-1254107625-5	Bulga Coal Complex Environmental Management Strategy
BULCX-2103827161-3527	Bulga Coal Complex Noise Management Plan
BULCX-2103827161-5135	Bulga Coal Complex Air Quality & Greenhouse Gas Management Plan
BULCX-2103827161-4916	Bulga Coal Complex Biodiversity Management Plan
BULCX-2103827161-4225	Bulga Coal Aboriginal Cultural Heritage Management Plan
BULCX-2103827161-5242	Bulga Coal Historic Heritage Management Plan
BULCX-2103827161-7624	Bulga Coal Erosion and Sediment Control Management Plan
BULUG-693788284-7	BUO Visual Impact& Light Management Procedure
BULCX-2103827161-7656	BUO Pipeline Rehabilitation Procedure
BULCX-2103827161-7652	BCC Stakeholder Engagement Strategy

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Number	Title
BUO SEE	Umwelt (2019), <i>Bulga Optimisation Project Modification 3 and Bulga Underground Modification 7</i> and supporting documentation.
EDG01	NSW Department of Mineral Resources (1997), <i>EDG01 Borehole Sealing Requirements on Land: Coal Exploration</i>
GCAA-1023863433-4626 Bulga Underground Operations Mining Operations Plan 2018 – 2023	SLR (2018), <i>Bulga Underground Operations – Mining Operation Plan, 29 May 2018 – 31 December 2023</i> .
GCAA-102386433-4625 Bulga Open Cut Mining Operations Plan 2020 – 2023	SLR (2019), <i>Bulga Open Cut Mining Operations Plan Amendment B, 29 May 2018 – 31 December 2023</i> .

6.6 Change Information

Full details of the document history are recorded in the document control register, by version. A summary of the current change is provided in **Table 6-3** below.

Table 6-3 – Change information

Version	Date	Change Details
2.0	13/11/2020	Revised BUO document to meet the requirements of Schedule 4, Conditions 7D and 7E of DA 376-8-2003 (MOD 7).
2.1	28/06/2021	Revised to address comments from Department Planning Industry and Environment Review from 15 March 2021.

Appendix A - Compliance Tables

Relevant DA 376-8-2003 Conditions

Reference	Requirement	Section
Schedule 4, Condition 7D	The Applicant must ensure that all gas drainage pipelines (other than connection points, monitoring points, dewatering facilities, regulation or isolation points) between gas drainage plants are buried, unless otherwise agreed with the relevant landowner or unless burial is inappropriate for safety or other reasons, to the satisfaction of the Planning Secretary.	Section 2.5
Schedule 4, Condition 7E	The Applicant must prepare and implement a Gas Drainage Management Plan in respect of construction and future use of gas drainage infrastructure (i.e. gas drainage not subject to any approval at the date of approval of Modification 5) to the satisfaction of the Planning Secretary. This plan must be submitted to the Planning Secretary for approval prior to the construction and operation of any future gas drainage infrastructure and must include details of the Applicant's commitments regarding:	This document
	(a) Community consultation;	Section 5
	(b) Landholder agreements;	Section 5.3
	(c) Assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods;	Section 3
	(d) Avoidance of significant impacts and minimisation of impacts generally;	Sections 3 - 5
	(e) Beneficial re-use or flaring of drained hydrocarbon gases, wherever practicable;	Sections 3.7
	(f) Achievement of applicable standards and goals;	Sections 3, 4 and 6
	(g) Mitigation and/or compensation for significant noise, air quality and visual impacts (including minimising visibility of infrastructure from public roads); and	Sections 3, 5.3 and 6
	(h) Rehabilitation of disturbed sites.	Section 4
	The Applicant must implement the Gas Drainage Management Plan as approved by the Planning Secretary.	Section 6
Schedule 4, Condition 28B	Approved construction works (including gas drainage well construction) must be undertaken during standard construction hours (7am to 6pm, Monday to Friday and 8am to 1pm on	Section 3.2

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Reference	Requirement	Section
	Saturdays, excluding Sundays and Public Holidays), unless otherwise agreed by the Planning Secretary. The Applicant may undertake construction works outside of these hours provided that: (a) the combined operational and construction noise from the development does not exceed the operational noise criteria under conditions 30 and 30A of this Schedule; or (b) the Applicant has an agreement with the owner/s of the relevant residence/land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement; or (c) an alternative temporary limit has been approved by the Planning Secretary for specific works.	
Schedule 4, Condition 28C	In order to seek an alternative temporary construction noise limit under Condition 28B that exceeds the levels identified in conditions 30 and 30A of this Schedule, the Applicant must submit a Construction Noise Work Protocol to the Planning Secretary for approval, prior to undertaking the nominated construction works. This protocol must: (a) be prepared to the satisfaction of the Planning Secretary; (b) be prepared in consultation with the EPA and any landowners who may be affected by the proposed variation; and (c) address the relevant requirements of the Interim Construction Noise Guideline. The Applicant may only undertake construction activities that require a Construction Work Noise Protocol, in accordance with an approved Construction Noise Work Protocol as approved by the Planning Secretary.	Section 3.2
Schedule 4, Condition 51	The Applicant must minimise the potential visual impacts associated with locating and constructing the proposed gas plants, and gas and dewatering bores on site to the satisfaction of the Planning Secretary.	Sections 3.5

Mining Lease Conditions relevant to the preparation of this Gas Drainage Management Plan have been provided below.

Relevant Mining Lease 1547 Conditions

Reference		Section
Condition 18	The lease holder shall not interfere in any way with any fences on or adjacent to the subject area unless with the prior written approval of	Section 5.3

Reference		Section
	the owner thereof or the Minister and subject to such conditions as the Minister may stipulate.	
Condition 21	If so directed by the Minister, the lease holder shall rehabilitate to the satisfaction of the Minister any lands within the subject area which may have been disturbed by the lease holder	Section 4
Condition 22	Upon completion of operations on the surface of the subject area or upon the expiry or sooner determination of this authority or any renewal thereof, the lease holder shall remove from such surface such buildings, machinery, plant, equipment, constructions and works as may be directed by the Minister and such surface shall be rehabilitated and left in a clean, tidy and safe condition to the satisfaction of the Minister.	Section 4
Condition 23	If so directed by the Minister the lease holder shall rehabilitate to the satisfaction of the Minister and within such time as may be allowed by the Minister any lands within the subject area which may have been disturbed by mining or prospecting operations whether such operations were or were not carried out by the lease holder.	Section 4.1
Condition 25	The lease holder shall provide and maintain to the satisfaction of the Minister efficient means to prevent contamination, pollution, erosion or siltation of any river, stream, creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment and shall observe any instruction given or which may be given by the Minister with a view of preventing or minimising the contamination, pollution, erosion or siltation of any river, stream creek, tributary, lake, dam, reservoir, watercourse or catchment area or any undue interference to fish or their environment.	Section 6.9 - 6.11

Relevant Mining Lease 1674 Conditions

Reference		Section
Condition 2. Environmental Harm	a) The lease holder must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of any activities under this lease. b) For the purposes of this condition: i) environment means components of the earth, including: A) land, air and water, and B) any layer of the atmosphere, and C) any organic or inorganic matter and any living organism, and D) human-made or modified structures and areas, and includes interacting natural	Section 3

Reference		Section
	ecosystems that include components referred to in paragraphs (A)-(C). ii) harm to the environment includes any direct or indirect alteration of the environment that has the effect of degrading the environment and, without limiting the generality of the above, includes any act or omission that results in pollution, contributes to the extinction or degradation of any threatened species, populations or ecological communities and their habitats and causes impacts to places, objects and features of significance to Aboriginal people.	
Condition 7. Rehabilitation	Any disturbance as a result of activities under this lease must be rehabilitated to the satisfaction of the Director-General.	Section 4
Condition 11. Safety	Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be notified in writing to the Department and filled in or otherwise rendered safe to a standard acceptable to the Director-General.	Section 3.9
Condition 12. Prevention of soil erosion and pollution	Prospecting operations must be carried out in a manner that does not cause or aggravate air pollution, water (including groundwater) pollution, soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan.	Section 4.1
Condition 13. Transmission lines, Communication lines and Pipelines	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions stipulated.	Section 3.9
Condition 14 Roads and Tracks	(a) The lease holder must pay to the relevant roads authority in control of the road or track the reasonable costs incurred by the roads authority in making good any damage to roads or tracks caused by operations carried out under this lease less any amount paid or payable from the Mine Subsidence Compensation Fund. (b) During wet weather the use of any road or track must be restricted so as to prevent damage to the road or track (c) Existing access tracks should be used for all operations where reasonably practicable. New access tracks must be kept to a minimum and be positioned in order to minimise damage to the land, watercourses or vegetation	Section 3.6

Reference		Section
	(d) Temporary access tracks must be rehabilitated and revegetated to the satisfaction of the Director-General as soon as reasonably practicable after they are no longer required under this lease.	
Condition 24 Cooperation Agreement	The lease holder must make every reasonable attempt, and be able to demonstrate their attempts, to enter into a cooperation agreement with the holder(s) of any overlapping title(s). The cooperation agreement should address but not be limited to issues such as: • Access arrangements • Operational interaction procedures • Dispute resolution • Information exchange • Well location • Timing of drilling • Potential resource extraction conflicts and • Rehabilitation issues.	Section 5

Relevant Mining Lease 1494 Conditions

Reference		Section
Condition 2. Environmental Harm	The proponent shall implement all practical measures to prevent and/or minimise any harm to the environment that may result from the construction, operation or rehabilitation of the development	Section 3
Condition 7. Rehabilitation	Disturbed land must be rehabilitated to an sustainable/agreed end land use to the satisfaction of the Director General.	Section 4
Condition 16. Safety	Operations must be carried out in a manner that ensures the safety of persons and stock in the vicinity of the operation. All drill holes, shafts and excavations must be appropriately protected, to the satisfaction of the Director General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director General.	Section 3.9
Condition 18. Prevention of soil erosion and pollution	Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purposes of this condition water shall be taken to include any watercourse, waterbody or groundwater's. The lease holder must observe and perform any instructions given by the Director General in this respect.	Section 4.1

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Reference		Section
Condition 19. Transmission lines, Communication lines and Pipelines	Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without prior written approval of the Director General and subject to any conditions he may stipulate	Section 3.9
Condition 21 Roads and Tracks	a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior approval of the Director General and subject to any conditions he may stipulate. b) The lease holder must pay to the designated authority in charge of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to the roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.	Section 3.9

Appendix B - Regulatory Consultation