
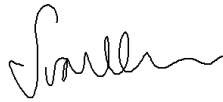

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Prepared by:

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Acronyms and abbreviations

Acronym	Description
AHD	Australian Height Datum
APZ	Asset Protection Zone
AS	Australian Standard
BFMP	Bushfire Management Plan
BFPL	Bushfire Prone Land
CCC	Community Consultative Committee
CoC	Conditions of consent for SSD 10269
DPE	Department of Planning and Environment
EIS	Environmental impact statement
EMS	Environmental Management Strategy
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2021</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
EPL	environment protection licence under the POEO Act
ETL	Electricity Transmission Line
FCNSW	Forestry Corporation of NSW
GHGE	Greenhouse gas emissions
GPS	Global Positioning System
GSC	Gunnedah Shire Council
ha	hectares
IAPUM	Independent Advisory Panel for Underground Mining
IEA	Independent environmental audit
km	kilometre
LGA	Local Government Area
MNES	Matter of National Environmental Significance
m	metre
Mining Act	<i>The Mining Act 1992 (NSW)</i>
ML	Mining lease
MLA	Mining Lease Application
Mtpa	Million tonnes per annum
Namoi-Gwydir BFMC	Namoi-Gwydir Bush Fire Management Committee
NCOPL	Narrabri Coal Operations Pty Ltd
NSC	Narrabri Shire Council
NSW	New South Wales
PHA	Preliminary Hazard Assessment
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>

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Acronym	Description
RFS	NSW Rural Fire Service
ROM	run of mine
SSD	State significant development
Stage 3	The Narrabri Underground Mine Stage 3 Extension Project
TARP	Trigger Action Response Plan
the Permit	FCNSW Forest Permit
WHC	Whitehaven Coal Limited



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1. Introduction

1.1 Background

The Narrabri Mine is an existing underground coal mining operation situated in the Gunnedah Coalfield, approximately 25 kilometres (**km**) southeast of Narrabri and approximately 60 km northwest of Gunnedah, within the Narrabri Shire Council (**NSC**) Local Government Area (**LGA**), in New South Wales (**NSW**). It is operated by Narrabri Coal Operations Pty Ltd (**NCOPL**), on behalf of the Narrabri Mine Joint Venture¹, which consists of two Whitehaven Coal Limited's (**WHC**) wholly owned subsidiaries, and other joint-venture partners.

Stage 1 was approved in November 2007 (as PA 05_0102) under Part 3A of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**). Development of Stage 1 included site establishment and the construction of coal processing infrastructure commencing in 2008, with production using continuous miner mining methods up to 2.5 million tonnes per annum (**Mtpa**) commencing in 2010.

Project Approval 08_0144 for Stage 2 of the Narrabri Mine was issued under Part 3A of the EP&A Act in 2010, which allowed the Narrabri Mine to convert to a longwall mining operation to extract coal from the Hoskissons Coal Seam. Project Approval 08_0144 allowed for the production and processing of up to 11 Mtpa of Run of Mine (**ROM**) coal until July 2031. Approval under the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) was granted on 21 January 2011 (**EPBC 2009/5003**) and the Narrabri Mine converted to a longwall mining operation within Mining Lease 1609, in 2012. Following the determination of Stage 2, PA 05_0102 for Stage 1 was surrendered on 2 August 2011.

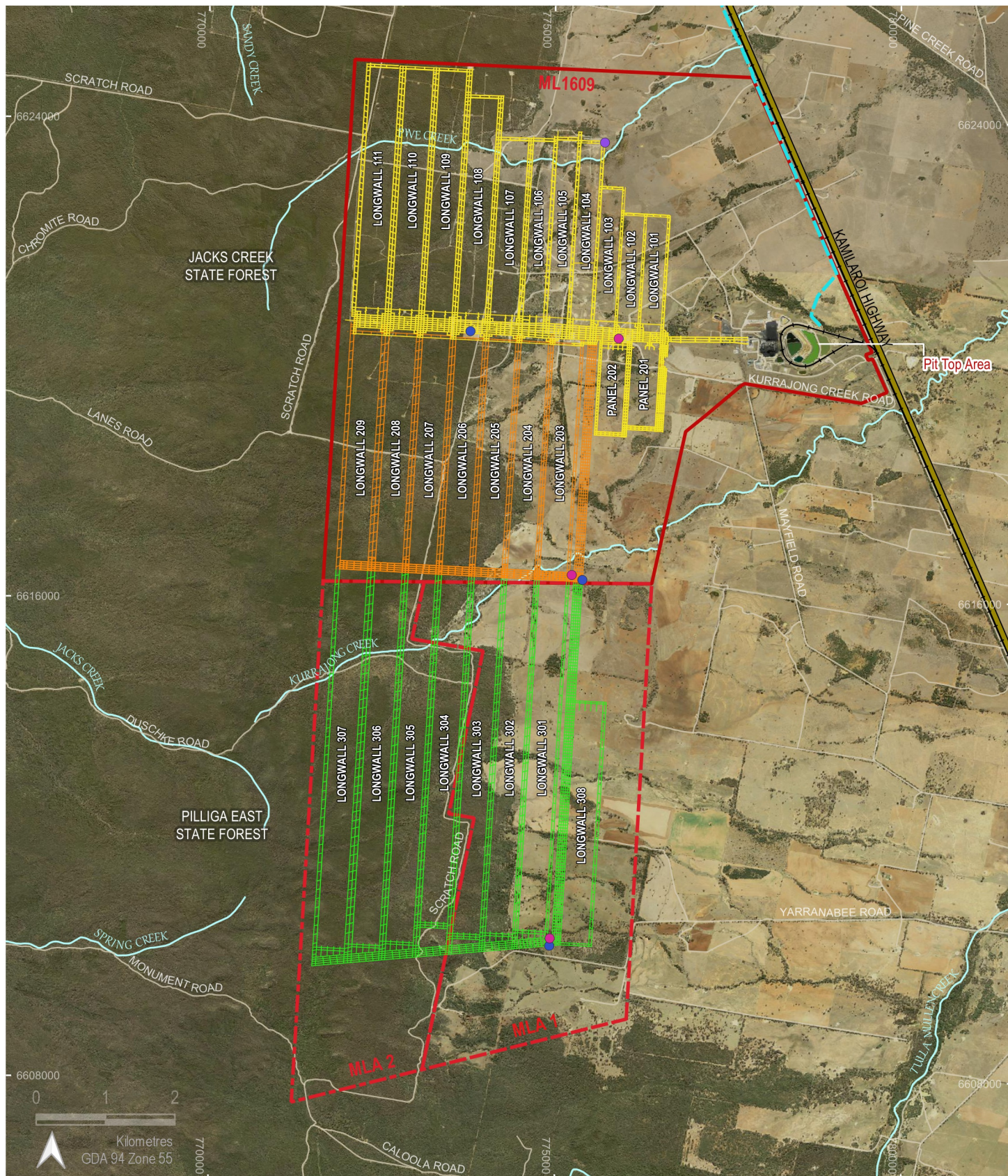
The Narrabri Underground Mine Stage 3 Extension Project (**Stage 3**) involves a southern extension to the previously approved Stage 2 mining area (approximately 609 ha of additional surface development footprint) to gain access to additional areas of coal reserves within ML 1839 and Mining Lease Application 2 (**MLA 2**), an increase in the mine life to 2044, and the development of supporting surface infrastructure. Bord and pillar mining operations for Panels 201 and 202 were previously approved as Modification 7 to PA 08_0144.

The Stage 3 Extension Project State Significant Development (**SSD**) was granted approval under section 4.38 of the EP&A Act on 1 April 2022, following the determination by the Independent Planning Commission (**SSD-10269**). Approval under the EPBC Act (**EPBC 2019/8427**) is pending.

Under the Stage 3 SSD-10269 Conditions of Consent (**CoC**), NCOPL is required to surrender PA 08_0144 no more than 12 months from the date of commencement of the Stage 3 development in accordance with the *Environmental Planning and Assessment Regulation 2021* (**EP&A Regulation**). Until then, the CoC prevail to the extent of any inconsistency with the conditions of PA 08_0144.

The Narrabri Mine underground mining layout is shown in Figure 1-1 and surface development footprint is shown in Figure 1-2.

¹ For full details on the joint venture ownership, refer to the introduction of the Environmental Management Strategy.

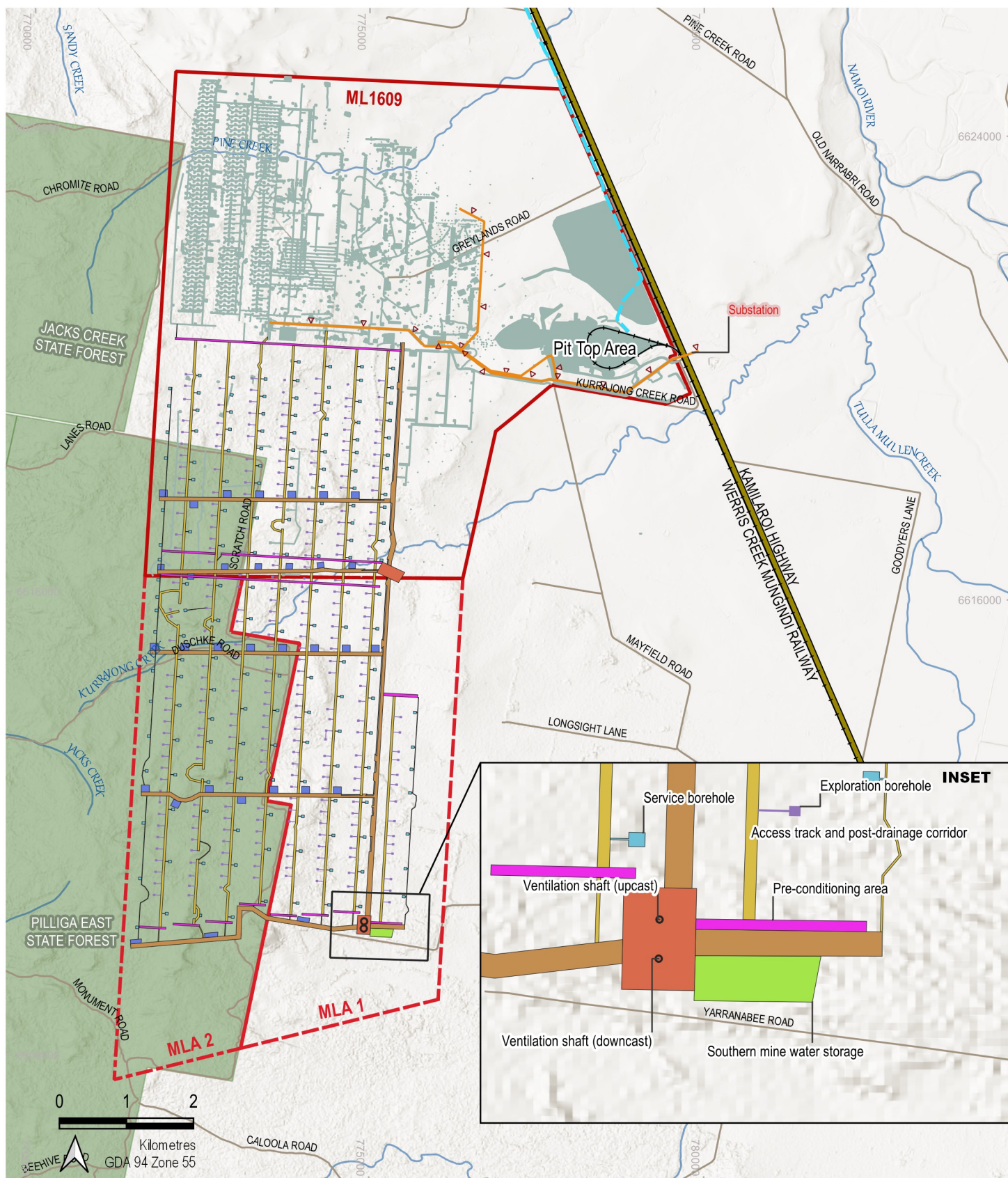


LEGEND

- | | |
|--|---|
| ■ ML1609 | ● Ventilation complex (downcast) |
| ■ MLA1 | ● Ventilation complex (upcast) |
| ■ MLA2 | ● Ventilation complex (upcast - decommissioned) |
| — Namoi River pipeline (buried) | — Highway |
| — Stage 2 underground mining layout | — Road |
| — Stage 3 - 200 series underground mining layout | — Watercourse |
| — Stage 3 - 300 series underground mining layout | — Railway |

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FIGURE 1-1
Underground Mining Layout




LEGEND

	ML1609		Stage 2 surface development
	MLA1		Access track and post-drainage corridor
	MLA2		Exploration borehole
	State forest		Pre-conditioning area
	Namoi River pipeline (buried)		Service borehole
	Electricity transmission line (constructed)		Service borehole and power reticulation
	Highway		Services corridor
	Road		Southern mine water storage
	Watercourse		Ventilation complex
	Railway		

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FIGURE 1-2
Surface Development Footprint

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1.2 Purpose and scope

This Bushfire Management Plan (**BFMP** or **Plan**) has been developed in accordance with CoC B59 and the applicable regulatory framework regarding bushfire management and asset protection in NSW.

As required by CoC B60, NCOPL will implement the BFMP in consultation with the NSW Rural Fire Service (**RFS**).

This Plan forms part of the Narrabri Mine Environmental Management Strategy (**EMS**).

1.3 Objectives

The objectives of this BFMP are to:

- provide detail of the relevant statutory requirements, including any relevant approval, licence or lease conditions;
- provide detail on bushfire hazards within and surrounding the mine, including the location of managed and unmanaged vegetation within the site;
- describe the bushfire hazard management and mitigation measures
- provide the location of water supply, internal access roads and storage of bulk flammable liquids and materials;
- detail the Bushfire Emergency Management and Evacuation Plan;
- describe the protocol for managing and reporting any incident, non-compliance or complaint;
- detail the regulatory reporting requirements;
- describe the protocol for periodic review of this Plan; and
- identify the roles and responsibilities for implementation of this Plan.


1.4 Preparation and consultation

In accordance with CoC A20 and CoC B59, this BFMP has been prepared in consultation with the RFS. A draft BFMP (Revision A) was provided to the RFS on 19 October 2022 for review and comment. A draft BFMP (Revision b) was also provided to the Forestry Corporation of NSW (**FCNSW**) on 29 July 2022 for review and comment.

Appendix A provides the correspondence from the consultation process, including a reconciliation table with the response to comments and a cross reference to the corresponding section of the BFMP where these comments have been addressed (Table A-1 and Table A-2).

1.5 Access to information


In accordance with CoC E17(a)(iii), the BFMP will be made publicly available on the WHC website following approval by the Department of Planning and Environment (**DPE**). Any subsequent revision of the BFMP approved by the DPE will be made publicly available on the website, and the superseded version will be removed to ensure the information is kept up to date in accordance with CoC E17(b). A copy of this Plan will also be kept on the Narrabri Mine site server. Any printed copies of this Plan are uncontrolled.

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2. Roles and responsibilities

All NCOPL employees and contractors (and their sub-contractors) are responsible for the environmental performance of their activities and for complying with all legal requirements and obligations. All personnel will be required to comply with the statutory approval requirements of the activities they undertake, and any potential environmental impacts from all activities will be managed in accordance with the relevant strategies, plans and programs.

In accordance with CoC E1, the EMS sets out the roles, responsibilities, authorities and accountabilities of all key personnel involved in the environmental management of operations at Narrabri Mine, which encompasses the requirements and obligations under this BFMP.

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3. Statutory requirements

3.1 Environmental Planning and Assessment Act 1979

The EP&A Act provides the statutory basis and framework for planning and environmental assessment in NSW. The EP&A Act includes provisions to ensure that the potential environmental impacts of a development are assessed and considered in the decision-making process. Stage 3 is permissible with development consent under the *State Environmental Planning Policy (Resources and Energy) 2021* and is identified as 'State Significant Development' under section 4.38 of the EP&A Act, and Clause 8 and Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021*.

3.1.1 Project approval and development consent

The Stage 3 Extension Project (SSD 10269) was approved on 1 April 2022. The Narrabri Mine also incorporates the development formerly authorised under Project Approval 08_0144, until such time as this development consent is surrendered, in accordance with CoC A16.

In accordance with CoC E5(b), Appendix B, Table B-1 provides a summary of the relevant CoC relating to bushfire and outlines the section of the BFMP in which each of these conditions have been addressed.

In accordance with CoC E5(c), Appendix C, Table C-1 provides a summary of the relevant commitments or recommendations within the Stage 3 Environmental Impact Statement (**EIS**) relating to bushfire and outlines the section of the BFMP in which each of these commitments have been addressed. These relevant commitments or recommendations include those as amended or added to by the:


- Applicant's *Submission Report* submitted 31 May 2021;
- Applicant's *Amendment Report* submitted 31 May 2021;
- Applicant's final *Biodiversity Development Assessment Report* dated September 2021; and
- Applicant's *Additional Information on GHGEs* dated 15 October 2021 and 17 December 2021.

3.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (**POEO Act**) regulates pollution from a facility or activity through the placement of conditions in an environment protection licence (**EPL**). Activities requiring an EPL are listed in Schedule 1 of the POEO Act and include mining for coal and coal works.

Section 134, Division 2 of the POEO Act regulates air pollution from fires and, if an authorised officer is of the opinion that a fire is burning in or on any premises and air pollution from the fire is injurious to the health of any person or is causing or is likely to cause serious discomfort or inconvenience to any person, the authorised officer may, by notice in writing given to:

- (a) the occupier of the premises or person apparently in charge of the premises, or
 - (b) the person apparently in charge of the fire,
- direct the occupier or other person to whom the notice is given to extinguish the fire immediately.

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3.2.1 Environmental protection licence

NCOPL is the holder of EPL 12789. The EPL will be varied to reflect all Stage 3 related development and operational activities.

3.3 Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)

The EPBC Act defines projects that are likely to have a significant impact on a Matter of National Environmental Significance (**MNES**) as a “controlled action”. A project that is, or may be, a controlled action is required to be referred to the Commonwealth Minister for the Environment (Commonwealth Minister) for a determination as to whether or not the action is a controlled action. EPBC 2009/5003 and EPBC 2019/8427 were declared a controlled action requiring approval due to potential impacts on provisions under Part 3 of Chapter 2 of the EPBC Act.

Significant impacts on listed threatened species and communities as well as significant impacts on water resources have been assessed under the bilateral agreement between the Commonwealth and the NSW Government.

3.3.1 EPBC approval

Narrabri Mine is subject to EPBC 2009/5003 and EPBC 2019/8427 issued under the EPBC Act.

To enhance the habitat of EPBC Act listed threatened species, Condition 14 of EPBC 2009/5003 requires NCOPL to conduct fire management within the Biodiversity Offset Areas in accordance with the Stage 2 Biodiversity Offset Strategy.

3.4 Mining Act

The *Mining Act 1992* (**Mining Act**) regulates the licensing, land access, and operations for coal mines operating in NSW. Under the Mining Act, all resource activities must be licensed, including exploration activities.


3.4.1 Mining lease

NCOPL are the holder of ML 1609 and ML 1839 issued under the *Mining Act 1992* in January 2008 and September 2022, respectively. As the holder of a mining lease, NCOPL must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease.

3.5 Other applicable legislation

Other applicable legislation includes:

- *Rural Fires Act 1997* (NSW);
- *Forestry Act 2012* (NSW);


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- *Work Health and Safety (Mines and Petroleum Sites) Act 2013;*
- *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014;*
- *Work Health and Safety Act 2011;*
- *Work Health and Safety Regulation 2017; and*
- *Work Health and Safety Act 2011 (Cwlth).*

3.6 Relevant guidelines, codes, and standards

The following guidelines have been utilised during the preparation of this BFMP:

- *Development Planning - A guide to developing a Bush Fire Emergency Management and Evacuation Plan (RFS 2014);*
- *Planning for Bush Fire Protection: A guide for councils, planners, fire authorities and developers (RFS 2019);*
- *Assessment Guideline Multi-level Risk Assessment (DP&I 2011);*
- *Guide for the Management of Vegetation in the Vicinity of Electricity Assets (Industry Safety Steering Committee 2016);*
- *Guide for Bush Fire Prone Land Mapping (RFS 2015);*
- *Building Code of Australia;*
- *Australian Standard (AS) AS 3745 Planning for Emergencies in Facilities;*
- *AS 3959 Construction of buildings in bushfire-prone areas;*
- *AS 1674.1 Safety in welding and allied processes - Fire precautions;*
- *AS 2419 Fire hydrant installations system design, installation and commissioning;*
- *AS 1940 The storage and handling of flammable and combustible liquids; and*
- *AS/NZS 1850 Portable fire extinguishers – classification, rating and performance testing.*

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4. Existing environment

4.1 Elevation and slope

Narrabri Mine is located in the North West Slopes and Plains region of NSW, which includes the Namoi River valley and associated agricultural land uses, and the elevated, vegetated country managed as State Forests and National Parks.

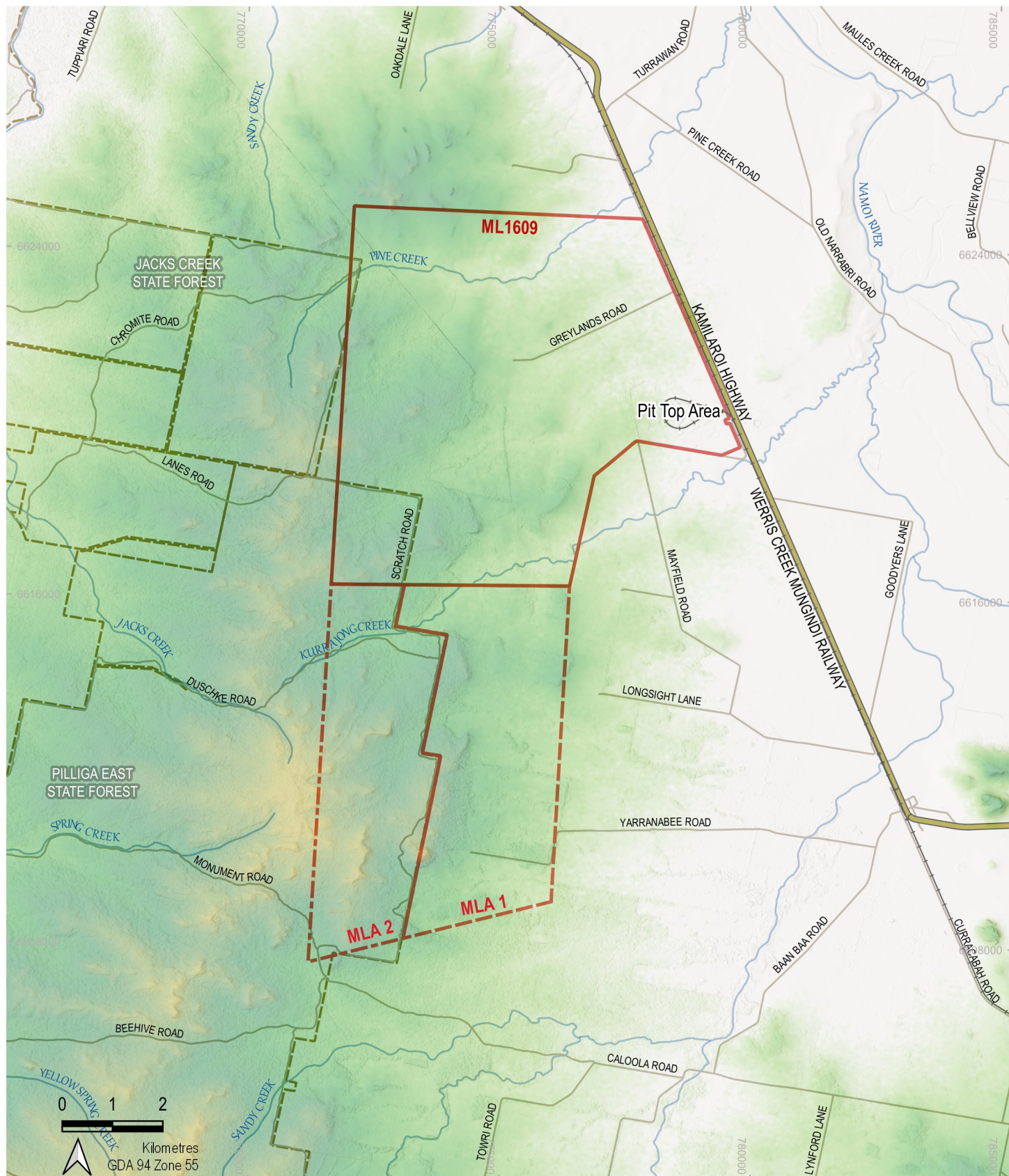
Topography ranges from approximately 370 metres (m) Australian Height Datum (AHD) in the south-west to approximately 240 m AHD in the east of the mining lease area (Figure 4-1). Topography is characterised by the vegetated, hilly country of Jacks Creek State Forest and Pilliga East State Forest to the west (managed by the FCNSW), grading down to the alluvial plains associated with the Namoi River approximately 5 km east of the mine. Further east, topography is dominated by the ranges of the Mount Kaputar National Park.

The majority of the mining lease area is characterised as flat grazing land with isolated landform features such as minor cliffs, rock outcrops and steep slopes.

4.2 Bushfire regime

The Narrabri Mine is located in the jurisdiction of the Namoi-Gwydir Bushfire Management Committee (**Namoi-Gwydir BFMC**), which includes the Narrabri LGA. The bushfire season in the Namoi-Gwydir BFMC area is generally from October to March, which coincides with north-westerly winds accompanied by high daytime temperatures and low relative humidity. There are also many dry lightning storms that occur during the bushfire season which are a major source of fire ignition. Other sources of fire include farm machinery, arson, and escaped burns (both legal and illegal).

The Namoi-Gwydir BFMC area has on average, 440 bushfires per year, of which 10 on average can be considered to be major fires. The most recent uncontrolled bushfire event that occurred in proximity to the Narrabri Mine was a small bushfire approximately 500 m west of ML 1609 in February 2017. Whilst the Narrabri Mine is partially mapped as being bushfire prone (section 4.4), no bushfires have occurred within the mining lease to date.

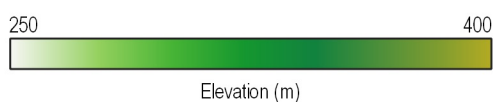



LEGEND

	ML1609		Highway
	MLA1		Road
	MLA2		Watercourse
	State forest		Railway

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FIGURE 4-1
Surface topography



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4.3 Hazard identification and risk assessment

A Preliminary Hazard Assessment (PHA) (WHC 2020) was conducted for Stage 3 to evaluate potential hazards associated with the construction and operation of the Narrabri Mine. The PHA was conducted in accordance with the general principles of risk evaluation and assessment outlined in the *Assessment Guideline: Multi-level Risk Assessment* (DP&I 2011).

The potential fire hazards identified at the Narrabri Mine include:

- fires on plant and equipment and/or occurring as a consequence of maintenance activities on plant or equipment;
- spontaneous combustion from stockpiled coal;
- underground explosion;
- on site storage of hydrocarbons, oils, greases, explosives, chemicals and flammable material;
- 'Hot Work' activities;
- malfunction of on-site power reticulation;
- inappropriate staff behaviour i.e. smoking on site and/or undertaking activities without adequate controls;
- malfunction of gas management/flaring facilities; or
- unrelated mining incidents such as fire from adjacent land holdings or lightning strike.


Potential hazards to personal safety include:

- surface personnel becoming trapped in a bushfire;
- disruption to underground operations should smoke/ash/embers enter the underground workings via the mine ventilation system and/or disruption to underground services, e.g. ventilation fans; and/or
- infrastructure damage as a result of a bushfire including the gas drainage pipe network and surface drilling operations.

The PHA assessed the potential hazards that could lead to a bushfire, including a qualitative assessment of the risks to the public, property, and the environment. An evaluation of the consequence and probability rankings concluded that the overall risk ranking for the identified fire hazards from mining operations is low.

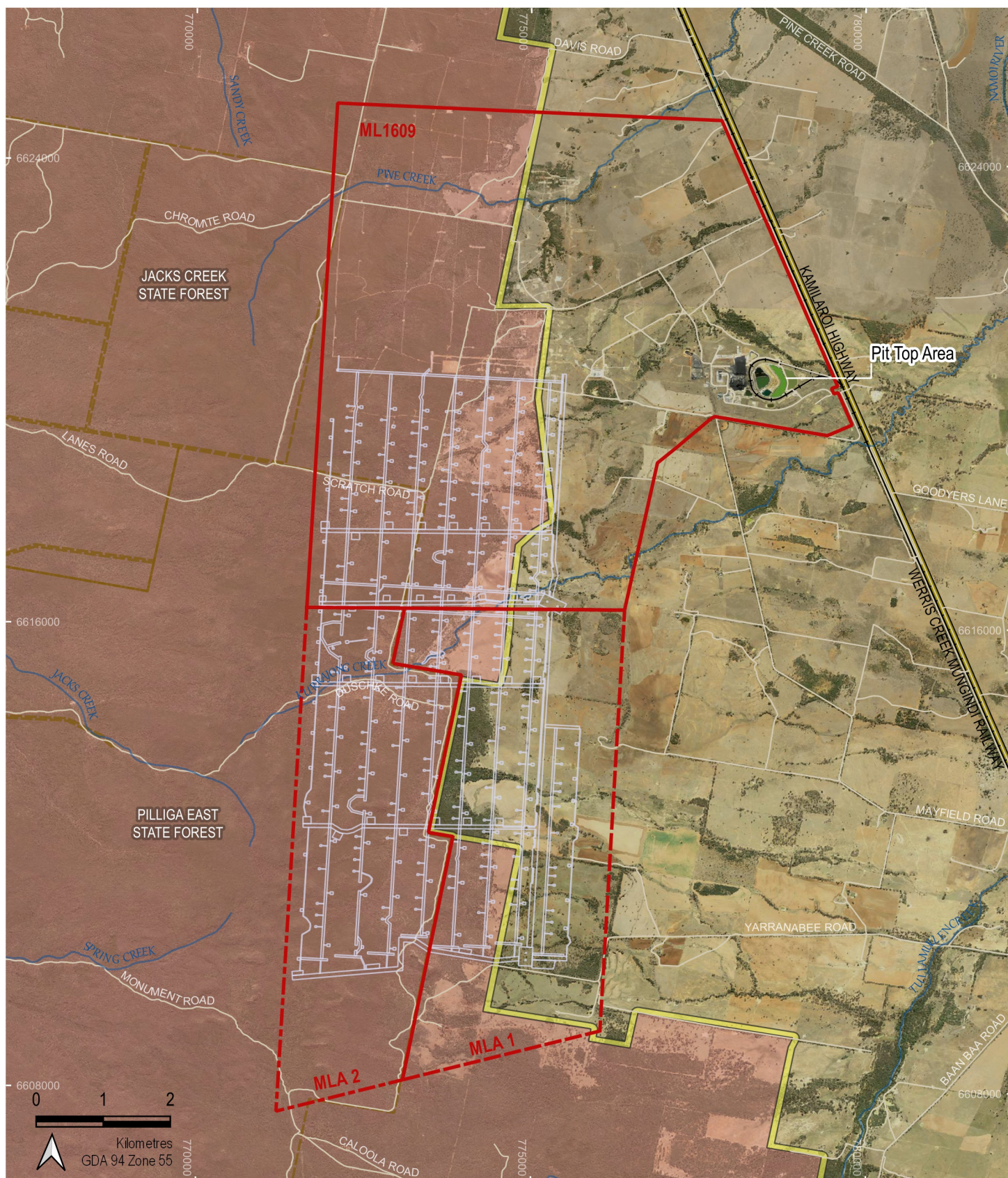
Notwithstanding the above, an uncontrolled fire originating from the mine may present potentially serious impacts to the Narrabri township, Boggabri township, Baan Baa Village and rural properties. In addition, the Pilliga East State Forest, Jacks Creek State Forest, and surrounds may also be adversely impacted by fire events.

Similarly, fires originating in nearby forested areas could pose a significant risk to mine infrastructure and to mine personnel and equipment. Smoke from fires can also have adverse impacts on the operation of the mine, such as impacting underground air quality through ventilation infrastructure. The degree of potential impact would vary with climatic conditions (e.g. temperature, humidity and wind), location of the fire and the quantity of available fuel.

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4.4 Bushfire prone land

Parts of the Narrabri Mine are mapped as Vegetation Category 1 Bushfire Prone Land (**BFPL**) (Figure 4-2). Vegetation Category 1 BFPL is vegetation that is considered to be the highest risk for bushfire. It is represented as red on the BFPL map and, for mapping purpose only, is required to have a 100m buffer zone (Figure 4-2). This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Vegetation Category 1 consists of areas of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.



LEGEND


- ML1609
- MLA1
- MLA2
- Surface disturbance footprint
- State forest
- Local highways
- Roads
- Watercourse
- Railway

Bushfire vegetation categories

- Vegetation Category 1
- Vegetation Buffer

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FIGURE 4-2
Bushfire Prone Land

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5. Bushfire prevention

The following sections describe the bushfire prevention measures implemented at Narrabri Mine to manage the risk of bushfires occurring onsite or encroaching the site. These measures are supported by bushfire standards, procedures, and checklists.

5.1 Asset protection zone

An Asset Protection Zone (**APZ**) is a fuel-reduced area surrounding a built asset or structure which provides:

- a buffer zone between a bushfire hazard and an asset;
- an area of reduced bush fire fuel that allows for suppression of fire;
- an area from which backburning or hazard reduction can be conducted; and
- an area which allows emergency services access and provides a relatively safe area for firefighters to defend assets.

Where possible, a minimum 10 m APZ will be established around all key infrastructure associated with mining production in accordance with the *Planning for Bush Fire Protection* (RFS 2019). Key assets on site include buildings, structures (including conveyors, stockpiles, and ventilation shafts), mobile plant, Coal Handling and Preparation Plant, train loading facility and rail loop, operational pipelines, powerlines, sub-stations and transformers. If designed and maintained correctly, the APZ will reduce the risk of direct flame contact on the asset, and damage to the asset from intense radiant heat and ember attack.

NCOPL will conduct annual visual inspections (prior to summer) to identify potential bushfire hazards and to monitor fuel loads. If fuel loads are identified as unacceptable, a hazard reduction burn may be conducted through consultation with the RFS and NSC, or the fuel load is removed through clearing to establish a bare firebreak (i.e. clear of vegetation).


5.2 Firebreaks

A firebreak has been established along the mining lease boundary for the northern longwall panels. NCOPL will continue to implement firebreaks as a component of planned infrastructure corridors, including services and gas drainage.

5.3 Electricity Transmission Lines

NCOPL will manage Electricity Transmission Line (**ETL**) corridors in accordance with the *Guide for the Management of Vegetation in the Vicinity of Electricity Assets* (Industry Safety Steering Committee 2016).

Vegetation clearance and the route of ETLs within the State Forest will be designed to minimise the possible impact from windthrow (i.e. trees uprooted by wind). NCOPL will continue to consult with the FCNSW regarding the requirements for vegetation management adjacent to the proposed ETLs.

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5.4 Hot works

Hot Works have the ability to start fires from sparks or hot materials. Hot Work includes, but is not limited to:

- cutting;
- welding;
- heating;
- grinding;
- gouging;
- lancing; and
- gas fuel operations.

In all instances, where Hot Works are required, the *Narrabri Mine Hot Work Standard* (WHC-STD-NAR-Hot Work) will apply. Only those personnel authorised to undertake skilled or potentially hazardous work will be permitted to do so.

Hot Work permits must be completed to ensure that the minimum precautions are taken prior to and during Hot Works in areas with specific hazards (i.e. if Hot Work occurs outside of a designated hot work area).

The Hot Work permit must be implemented to reduce the risks of fire or explosion, which may cause harm to persons or property. This relates to hot work being performed during manufacture, construction, maintenance and repair of plant and equipment on the surface area and in underground areas.

5.5 Firefighting resources

NCOPL will make equipment available to Emergency Services to assist in fighting a bushfire, including mobile water carts and earthmoving equipment.

A competent person will be available at the mine entrance to escort and/or communicate with Emergency Services arriving on site. The information they shall provide will include the size, location, and best possible access to the bushfire, as well as any other information Emergency Services may require.

5.6 Water supply

Water for firefighting purposes will be sourced from various water storages within the mining lease area and from the dedicated firefighting system. Water supply points for firefighting purposes are located within the Narrabri Mine Pit Top Area (refer to section 6.3). NCOPL will maintain all fire hydrants, couplings, and hoses to ensure they remain compatible with those used by RFS and NSW Fire and Rescue.

GPS co-ordinates of water supply points will be provided to the RFS (refer to section 6.3).

5.7 Additional bushfire management measures

Table 5-1 provides additional bushfire prevention and response measures to be implemented at the Narrabri Mine.




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Table 5-1 Additional bushfire prevention measures

Infrastructure/asset	Management	Monitoring
Mobile equipment	<ul style="list-style-type: none"> Equipment is to be operated in accordance with the Narrabri Mine Mobile Equipment Standard (WHC-STD-NAR-Mobile Equipment), the Surface Transport Major Hazard Management Plan, and the Introduction to Site Standard. Where required by risk assessment, heavy machinery may be fitted with independent fire suppression systems. Where required by risk assessment, site vehicles and machinery to have fitted fire extinguishers. Whenever practicable, mobile equipment will be parked within cleared or slashed areas. Whenever practicable, mobile equipment will avoid driving or operating in long grass. Mobile compressors or generators must be positioned on a pad cleared of all flammable material. Maintenance is to be conducted on all mobile equipment consistent with NCOPLs maintenance schemes, relevant legislation, and manufacturer recommendations. NCOPL will ensure equipment meets the requirements of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2021. 	<ul style="list-style-type: none"> All mobile equipment must complete an Introduction to Site process, which ensures that all safety equipment is to a suitable standard and in working order. Vehicles and machinery require daily pre-start checks which include an assessment of adequate functionality of exhaust systems and condition of fire extinguishers.
Fixed plant and buildings	<ul style="list-style-type: none"> All fixed plant and buildings will be required to meet the Building Code of Australia and comply with AS 2419.1:2017 Fire hydrant installations System design, installation and commissioning and other related Australian fire system standards. Where necessary, critical electrical control equipment will be protected by an automatic detection gas deluge system. 	<p>Monthly inspections of all plant and buildings to assess conditions of:</p> <ul style="list-style-type: none"> Fire extinguishers Fire depots Fire hydrants Smoke detectors

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Infrastructure/asset	Management	Monitoring
	<ul style="list-style-type: none"> Engineering structures will be constructed in accordance with applicable codes, guidelines and Australian Standards. 	
Fuel and oil management	<ul style="list-style-type: none"> Storage and usage procedures for potentially hazardous materials (e.g. fuels, oils, greases) have been developed in accordance with the applicable Australian Standards (e.g. AS 1940) and other relevant standards and legislation. Fuel and oil storages will be required to be signposted as to the contents of the materials and will be fitted with 9kg fire extinguishers. Self-bunded fuel and storage areas are to be located and constructed in accordance with AS 1940-2017 Flammable Liquids Storage & Handling and fitted with fire extinguishers. A firefighting system is available around the workshop/stores area and the coal processing area. 	<p>Monthly inspections to assess:</p> <ul style="list-style-type: none"> Contents and management of fuel and oil storage. Conditions of fire extinguishers, fire depots and fire hydrants.
Smoking	<ul style="list-style-type: none"> Narrabri Mine is a non-smoking site. There are no designated smoking areas within the mining lease. 	Ongoing observations

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Infrastructure/asset	Management	Monitoring
Spontaneous combustion	Refer to the Spontaneous Combustion Management Plan for detailed management measures.	Refer to the Spontaneous Combustion Management Plan for inspection and monitoring requirements.
Flaring	<ul style="list-style-type: none"> Gas flares will be constructed via the enclosed flare method* and internally insulated to reduce noise, luminosity, and heat radiation. There will be no more than three flaring units operating at any one time. 	Refer to the Extraction Plan – Gas Extraction Management Plan for monitoring requirements.
Forested areas	<p>The following suppression resources will be made available:</p> <ul style="list-style-type: none"> Appropriately trained NCOPL personnel. Mobile water carts. Earthmoving equipment including graders, excavator and front-end loader. 	<ul style="list-style-type: none"> Records of training qualifications reviewed for currency All mobile equipment must complete an Introduction to Site process, which ensures that all safety equipment is to a suitable standard and in working order. Vehicles and machinery require daily pre-start checks which include an assessment of adequate functionality of exhaust systems and condition of fire extinguishers.

Note:

* an enclosed flare surrounds the burner head with a refractory shell that is internally insulated. The shell helps to reduce noise, luminosity and heat radiation. Enclosed flares allow better combustion by maintaining temperature, air flow and more stable combustion conditions, maximising the conversion of methane to carbon.

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5.8 Forest Permit

NCOPL hold a FCNSW Forest Permit (**the Permit**) and must adhere to the requirements of the Permit when conducting activities related to mining operations located outside the mining lease and within State Forest (e.g. exploration activities).). NCOPL must take all reasonable steps to minimise the risk of fire and comply with the requirements of the Rules (Schedule 6 of the Permit), all other Authorities, all Laws and any Authorisations in relation to fire safety and fire protection. In addition, NCOPL will:


- Ensure that on days on which a total fire ban has been declared, clearing of vegetation is to cease by 12pm unless approved in writing by FCNSW.
- On other days of extreme to catastrophic fire danger, FCNSW reserves the right to stop NCOPL's activities.
- In the event of a bushfire, FCNSW staff have the right to access all roads and licence areas where activities are being undertaken.
- For any activities conducted during the bushfire danger period (1 October to 31 March), a water tanker capable of fighting fires with a minimum capacity of 400 litres, and an appropriate piece of earthmoving equipment (e.g. grader, backhoe etc.) must be on standby at the worksite during all operations if FCNSW gives notice that they are required.
- NCOPL will notify FCNSW where opportunities exist for the retention of access roads or tracks for fire firefighting purposes.

NCOPL will consult with FCNSW in maintaining nominated evacuation routes within the State Forest.

5.9 Mine site ecological rehabilitation

To limit bushfire risk, NSC has requested that revegetation works be limited to provide a minimum separation distance of 100 m from all dwellings at the time the revegetation works are carried out.

In accordance with the draft *Ancillary Rules for Mine Site Ecological Rehabilitation* (DPIE 2019), there are no ongoing land use restrictions within the proposed mine site ecological rehabilitation areas following mining lease relinquishment. Refer to the Rehabilitation Management Plan for detail on the post-mining land use.

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6. Emergency management and evacuation plan

This Bushfire Emergency and Evacuation Plan has been developed in accordance with the *Guide to developing a Bush Fire Emergency Management and Evacuation Plan* (RFS 2014) and *AS 3745 Planning for Emergencies in Facilities*.

6.1 Bushfire warnings and alerts

There are several ways to obtain the latest bushfire alert information, these are:

Check the RFS “[Fires Near Me](#)” website or, if you have a smartphone, download the “Fires Near Me” mobile application to check the location of fires and review the risks.

OR

Call the ‘Bushfire Information Line’ - 1800 NSW RFS (**1800 679 737**) to obtain information on:

- current major incident activity;
- current ‘Total Fire Bans’;
- advice on protecting your property and other fire related safety information; and
- building development.

OR

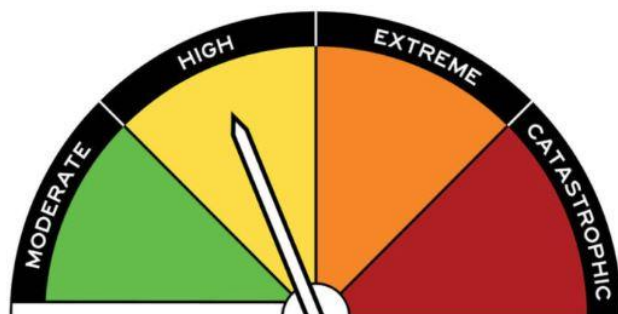
- call the **Narrabri RFS Control Centre** on **(02) 6792 3667**.

Official warnings issued by the emergency services (e.g., via media or text messages) must be followed.

6.2 Fire danger ratings

The Australian Fire Danger Rating System (Figure 6-1) provides information on appropriate actions to take to protect yourself and others from the potentially dangerous impacts of a bushfire, and to provide emergency services with information to support decision making.

The Australian Fire Danger Ratings



Source: <https://afdrs.com.au/>

Figure 6-1 Fire Danger Rating System


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Table 6-1 details the fire danger rating, indicative fire behaviour and response actions.

Table 6-1 Fire danger rating and response


Rating	Fire behaviour and response
Catastrophic	<u>For your survival, leave bush fire risk areas</u> <ul style="list-style-type: none"> • If a fire starts and takes hold, lives are likely to be lost. • These are the most dangerous conditions for a fire. • Your life may depend on the decisions you make, even before there is a fire. • Stay safe by going to a safer location early in the morning or the night before. • Homes and buildings cannot withstand fires in these conditions. You may not be able to leave, and help may not be available.
Extreme	<u>Take action now to protect your life and property</u> <ul style="list-style-type: none"> • Fires will spread quickly and be extremely dangerous. • These are dangerous fire conditions. • Check your bushfire plan and ensure that your property is fire ready. • If a fire starts, take immediate action. If you and your property are not prepared to the highest level, go to a safer location well before the fire impacts. • Reconsider travel through bushfire risk areas.
High	<u>Be ready to act</u> <ul style="list-style-type: none"> • Fires can be dangerous. • There's a heightened risk. Be alert for fires in your area. • Decide what you will do if a fire starts. • If a fire starts, your life and property may be at risk. The safest option is to avoid bushfire risk areas.
Moderate	<u>Plan and prepare</u> <ul style="list-style-type: none"> • Most fires can be controlled. • Stay up to date and be ready to act if there is a fire

Source: <https://afdrs.com.au/>

6.3 Site layout plan

The Narrabri Mine site layout plan is provided in Appendix D and is to be utilised in the event of a bushfire occurrence on site or encroaching the site. The mine site layout plan displays the locations of:

- mine site access;
- internal surface access tracks around key infrastructure;
- water supply points;
- fire depots;
- emergency muster points; and
- location of bulk flammable liquids and explosives.

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Appendix E provides the surface transport routes across the mining lease areas. In some instances, entry to and exit from the site may be required from an alternate access route depending on the location of the fire.

The site layout plan and transport route plan will be provided in A3 electronic format to the RFS prior to the commencement of the Stage 3 development.

6.4 Emergency response procedure

If a bushfire is identified within the mining lease, or a bushfire is encroaching the site, the *Narrabri Mine Bushfire Emergency Response Procedure* (WHC-PRO-NAR-Bushfire Emergency Response) will be implemented. Section 6.4 has been developed in accordance with the requirements of the Bushfire Emergency Response Procedure.

Twenty-four (24-hour) emergency contact details in the event of a bushfire are provided in Table 6-2

Table 6-2 Emergency contacts (24-hour)


Contact	Contact details
External	
Emergency Services	000
Narrabri RFS Control Centre	02 6792 3667
RFS UHF	Ch 5
Narrabri Police	02 6792 7199
Internal	
Surface Operations Manager	0436 849 041
Narrabri Mine Control Room Operator	'555' from internal phone (including underground) OR 02 6794 4198 from external phone (including mobile)
NCOPL UHF/two-way	Ch 17 and Tunnel 1

Although not an authorised bushfire response agency, NCOPL may provide a support or ancillary role in bushfire control in conjunction with the RFS and other emergency services. Appropriately trained personnel will be engaged in accordance with the *Narrabri Mine Emergency Management System Principal Control Plan* (WHC-PLN-NAR-Emergency Management System). In order to assist the RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site, NCOPL personnel may be required to provide initial bushfire response. NCOPL is required to provide appropriate Personal Protective Equipment to be worn by all personnel whenever fire suppression is attempted.

6.4.1 Evacuation


If an evacuation has been declared; the following procedure must be followed:

- all personnel (including contractors and visitors) not required as part of the emergency response team must assemble at a designated Surface Muster Point (Appendix D);

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- the relevant Site Supervisors are to take responsibility (as far as possible without endangering themselves or others) of contractors and visitors;
- NCOPL will transport personnel to an offsite refuge (if required and instructed by emergency services); and
- NCOPL must ensure that all personnel are safe and accounted for prior to evacuating off the premises and upon returning to the premises.

Refer to the site layout plan and transport routes in Appendix D and Appendix E, respectively for muster point locations, transport routes and key infrastructure locations.

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7. Recovery

Once the bushfire has been extinguished or controlled, operations may resume in consultation with the RFS or the emergency services, with final approval from the NCOPL General Manager.

7.1 Infrastructure and assets

Infrastructure and assets impacted by bushfire may be directly or indirectly damaged or destroyed. This may include critical services such as water supply, sewerage infrastructure, communication systems and power supplies. A post-fire audit of critical assets and services is required as soon as practical to identify remediation works and ensure capability.

NCOPL will work with the respective authorities (including power and telecommunication providers) so that post-fire repairs are conducted in a timely manner, minimising disruptions to mine operations.

7.2 Injured animals


NCOPL are to report injured animals by bushfire to local wildlife carers or authorities. On occasions, the RFS or emergency services may need to cut fences with a risk that stock may stray. Narrabri Police are to be notified immediately of any potential for stock straying onto roads.

7.3 Vehicle and equipment checks

Following a fire, all firefighting equipment is to be returned to the original fire preparedness condition. The following routine vehicle and equipment checks are also required following a fire:

- refilling fuel, oil and water reservoirs;
- cleaning of all equipment and vehicles;
- re-sharpening tools;
- assessment of the operational standard of vehicles and equipment, and repair or maintenance of any deficiencies;
- replacement of any materials used such as re-charging fire extinguishers;
- identification of any damage and completion of accident report forms; and
- any other matters requiring attention.

If a period of extensive firefighting occurs, then a thorough mechanical service of all vehicles and equipment may be required.

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8. Trigger Action Response Plan

Trigger Action Response Plans (**TARPs**) have been developed as part of the reactive measures to manage risk to operations, personnel, and the environment in response to a bushfire. These plans include measures for all fire danger ratings and activities that may be affected.

In addition to the trigger levels and associated actions to be undertaken, the TARPs detail the delegation of responsibility and contact details.

Table 8-1 details the Bushfire Prevention TARP and Table 8-2 details the Active Bushfire Response plan.


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Table 8-1 Narrabri Mine bushfire TARP

RESPONSE PERSONNEL	Level 1	LEVEL 2	LEVEL 3	LEVEL 4
	MODERATE	HIGH	EXTREME	CATASTROPHIC
Crew/Team Leader or Individuals	<ul style="list-style-type: none"> Work areas must be clear of vegetation and other flammable sources where practical. Do not park vehicles/machinery in areas of long grass. Crew/Team Leader or Individual to monitor conditions and status of the NSW Fire Danger Rating/Total Fire Bans. 	<ul style="list-style-type: none"> Toolbox talk at start of shift. Ensure escape routes and the emergency response procedure are reviewed, including communication. Ongoing monitoring of NSW RFS information on fires in the area by accessing the NSW Rural Fire Service (RFS) smart phone application/website 'Fires Near Me' (https://www.rfs.nsw.gov.au/fire-information/fires-near-me) OR phone the NSW RFS Narrabri Control Centre on (02) 6792 3667. No 'Hot Work' permitted during 'Total Fire Bans' away from hot work workshops and fixed plant areas (NO HOT WORK IN STATE FOREST). 	<ul style="list-style-type: none"> Water fighting ability to be readily available, e.g. water cart with cannon, firefighting pump and water. Identify safe area to retreat to in case of an emergency noting prevailing weather conditions. Relevant Manager to determine if non-essential works (e.g. maintenance, servicing activities) are to be carried out. No 'Hot Work' permitted. <p>STATE FOREST: Approval from Environmental Superintendent required prior to any activity.</p>	<p>Approval from General Manager is needed before commencing work.</p> <p>STATE FOREST: No activities permitted</p>
Department Manager			<p>Approval needed for non-essential works (e.g. Approval needed for work to commence maintenance, servicing activities) to be carried out.</p>	<p>Approval needed for work to commence</p>
Environmental Superintendent			<p>STATE FOREST: Provide notification to FCNSW prior to commencing work and relay approval to work groups.</p>	



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Table 8-2 Narrabri Mine active bushfire response plan

Trigger	Level 1	Level 2	Level 3
	<ul style="list-style-type: none"> no bushfire alert 	<p>Communication from Senior Management or direct Supervisor or, work party determination of bushfire proximity to work area:</p> <ul style="list-style-type: none"> bushfire is greater than 24 hours from work location/ evacuation route; and determined as Out of Control by RFS; and wind direction is moving fire front towards work location. <p>Consult with direct supervisor if concerned or unsure of determination.</p>	<p>Communication from Senior Management or direct Supervisor or, work party determination of bushfire proximity to work area:</p> <ul style="list-style-type: none"> bushfire is less than 24 hours from work location/ evacuation route; and determined as Out of Control by RFS; and wind direction is moving fire front towards work location. <p>Consult with direct supervisor if concerned or unsure of determination.</p>
Guidance Note	<ul style="list-style-type: none"> Distance of fire to work location in km's / wind speed (km/hr) x 60mins = Mins to fire. (50km / 50km/hr x 60mins = 60mins). Consult with supervisor when using calculation to determine accuracy as other factors may affect fire behaviour. 		
Response	Level 1 "Normal State"	Level 2 "Watch & Act" Yellow Alert	Level 3 "Leave to safety" Red Alert
Surface Personnel	<ul style="list-style-type: none"> continue work as normal. at start of shift, ensure you understand location of Evacuation Routes, Surface Muster Point and/or Designated Safe Area. 	<ul style="list-style-type: none"> continue work as normal. make determination of TARP level required. receive and acknowledge advice of yellow alert status from work group supervisor. advise Supervisor if you believe the risk escalates beyond a yellow alert in your work area. 	<ul style="list-style-type: none"> receive and acknowledge advice of Red Alert status and cease work immediately. make determination of TARP level required remove yourself and any mobile plant deemed safe to move out of the area to the Designated Safe Area via the Evacuation Route. after all personnel are accounted for, stay in the Designate Safe Area until advised by the RFS/emergency services that it is safe to return to work.
Work Crew Supervisors / Contract Coordinators	<ul style="list-style-type: none"> advise work groups of likely bushfire risk at start of shift. at start of shift, ensure all work groups understand the location of Evacuation Routes, Surface Muster Point and/or Designated Safe Area. take attendance of all personnel under your supervision. monitor bush fire information including alerts with own observations to be used to monitor for any fire activity throughout shift and act when TARP level changes. 	<ul style="list-style-type: none"> review communication and required actions from Senior Management or direct Supervisor notify workgroups of yellow alert status and receive acknowledgement for relevant work groups under your supervision. determine which mobile plant will be safe to move to the Designated Safe Area to park up if conditions deteriorate. organise for a team member to check the Evacuation Route to the Surface Muster Point and/ or Designated Safe Area. 	<ul style="list-style-type: none"> review communication and required actions from Senior Management or direct Supervisor notify work groups of Red Alert status and receive acknowledgement for relevant work groups under your supervision. ensure work has ceased. ensure all personnel and mobile plant (if deemed safe to do so) move to the Surface Muster Point or the Designated Safe Area via the Evacuation Route. account for all personnel under your supervision by conducting a roll call. continue to monitor fire activity from the Designated Safe Area.
Surface Operations Manager	<ul style="list-style-type: none"> no action required 	<ul style="list-style-type: none"> communication to all site personnel of potential bushfire risk and required "Watch & Act" actions. assess additional controls required to protect critical assets. 	<ul style="list-style-type: none"> activation of the Emergency Management System (WHC-PLN-NAR-EMERGENCY MANAGEMENT SYSTEM). only return to work if advised by the RFS/Emergency Services that it is safe to return to work.
Department Managers	<ul style="list-style-type: none"> no action required 	<ul style="list-style-type: none"> consult with Supervisors on status of emergency preparedness. 	<ul style="list-style-type: none"> account for all personnel under your supervision. assist Surface Operations Manager and the RFS as required.

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9. Training and awareness


Prior to starting work at the Narrabri Mine, all personnel and contractors (including sub-contractors) are required to undertake a site-specific induction covering instruction or training in:

- emergency assembly points in the case of an emergency;
- the location of firefighting equipment;
- emergency firefighting procedures; and
- the use of firefighting equipment.

Training will be relevant to the workplace surface and underground workers. Short-term visitors to site for purposes such as deliveries or equipment servicing will be always accompanied by inducted person.

The NCOPL Safety and Training team will conduct refresher fire training to both underground and surface workers annually. Depending on the roles and responsibilities of NCOPL personnel, training may also include the RFS 'Bushfire Awareness Training' and/or training to obtain a forest fire fighter qualification (training conducted by a registered training organisation).

All training, competency assessment and maintenance of training records must be conducted in accordance with the requirements of the *Narrabri Mine Training and Competency Principal Control Plan* (WHC-PLN-NAR-Training and Competency Principal Control Plan). The Training and Competency Principal Control Plan defines the induction and training requirements for each classification of employee based on the type of work and the work environments that each classification is exposed to.

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10. Incidents and non-compliance

10.1 Incident notification

An incident is defined under the CoC as *an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.*

Material harm, as defined under the CoC, is harm to the environment that:

involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

This definition excludes “harm” that is authorised under either the CoC or any other statutory approval (e.g., EPL).

In accordance with CoC E9, NCOPL will notify DPE and any other relevant agencies immediately as it becomes aware of an incident. Incident notification will be made in writing via the Department’s Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

Notifications to the NSW Environment Protection Authority will be made by contacting the Environment Line on 131 555 and written details of the notification will be provided within 7 days of the date on which the incident occurred.

Incident reporting and emergency response is further described in the EMS.


10.2 Non-compliance and adaptive management

The CoC defines a non-compliance as *an occurrence, set of circumstances or development that is a breach of this consent.* For clarity, ‘this consent’ is referring to development consent SSD 10269.


In accordance with CoC E4, where an exceedance of the relevant criteria or performance measures has occurred, NCOPL will, at the earliest opportunity, take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur. All reasonable and feasible options for remediation (where relevant) will be considered and a report submitted to the DPE describing those options and any preferred remediation measures or other course of action.

In accordance with CoC E10, within seven days of becoming aware of a non-compliance, NCOPL will notify DPE of the non-compliance². The notification will be made in writing via the Department’s Major Projects Website and identify the development (including the development application number and name), set out the CoC that the development is non-compliant with, why it does 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.

² A non-compliance which has been notified as an incident under Section 10.1 does not need to be notified as a non-compliance under section 10.2.

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NCOPL will implement any reasonable remediation measures as directed by the Planning Secretary, to the satisfaction of the Planning Secretary.

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11. Reporting, evaluation and review

11.1 Annual review

NCOPL will review the performance of the bushfire prevention measures for the previous calendar year and report results within the Annual Review to the satisfaction of the Planning Secretary and in accordance with CoC E11. Table B-1, Appendix B lists all components of the Annual Review.

The Annual Review, as required under CoC E12, will be submitted to DPE, the IAPUM (via DPE as Secretariat), NSC and Gunnedah Shire Council (**GSC**), and other regulatory agencies and made available to the Community Consultative Committee (**CCC**) and any interested person upon request. The Annual Review will also be made publicly available on the WHC website.

11.2 Independent Environmental Audit

Within one year of commencement of the development, and every three years thereafter (unless the Planning Secretary directs otherwise), NCOPL will commission an Independent Environmental Audit (**IEA**) of the development, to be conducted in accordance with CoC E13 and CoC E14. The IEA will be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning Secretary.

The IEA process and requirements are further described in the EMS.

11.3 BFMP review and evaluation

In accordance with CoC E7, NCOPL will review the suitability of the BFMP within three months of the:


- submission of an incident report under CoC E9 or E10;
- submission of an Annual Review under CoC E11;
- submission of an IEA under CoC E13;
- approval of any modification of the CoC (unless the conditions require otherwise); or
- notification of a change in development phase under CoC A14.

As required by CoC E8, if the review under CoC E7 determines that the BFMP requires revision to either improve the environmental performance of the development, cater for a modification or comply with a direction, the revised document will be submitted to the Planning Secretary for approval within six weeks of the review. The revision status of this BFMP is indicated in section 15.

A dedicated review register will be maintained which will provide the details of the review of all relevant strategies, plans and programs that need to be reviewed as required by CoC E7.

11.4 Improvement measures


Consent condition E5(g) requires this Plan to include a program to investigate and implement ways to improve the environmental performance of the development over time. Improvement measures may be investigated through review of the following:

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- monitoring data, and any assessment of trends;
- audit outcomes, including audits of the bushfire management measures;
- incident reports, including any community complaints; and
- industry leading practice in bushfire prevention.

Reasonable and feasible improvement measures will be implemented and documented as a management measure in a revision to the Plan as described in section 11.3.

CoC E5(j) states that the Plan is to include a protocol for periodic review of the Plan. The protocol for review is set out by CoC E7, E8 and E11, which have been addressed in section 11.3.


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12. Complaints management

Any complaints received in relation to biodiversity will be managed in accordance with the complaints management protocol as follows:

- Publicly advertised telephone complaints line, 1800WHAVEN, will be in place to receive complaints.
- Each complaint received will be recorded in a Complaints Register, which will include the following details:
 - date and time of complaint;
 - method by which a complaint was made;
 - personal details the complainant wishes to provide or, if no such details are provided, a note to that effect;
 - nature of the incident that led to the complaint;
 - action taken by NCOPL in relation to the complaint (i.e., any required remedial actions), including any follow-up contact with the complainant; and
 - if no action was taken, the reason why no action was taken.
- The Environmental Superintendent will be responsible for ensuring that an initial response is provided within 24 hours of receipt of a complaint (except in the event of complaints recorded when the mine is not operational or outside of usual business hours).
- Once the identified measures are undertaken, the Environmental Superintendent will sign off on the relevant complaint within the Complaints Register.
- If necessary, follow-up monitoring will take place to confirm the source of the complaint is adequately mitigated.
- A summary of the complaints will be maintained by NCOPL and made available to the Community Consultative Committee, the complainant (on request) and on the WHC website. A summary of complaints received every 12 months will be provided in the Annual Review.

In the event that any complainant considers that NCOPL has not adequately addressed their concerns, the NCOPL representative will convene additional meetings with the complainant. If the complainant believes the matter remains unresolved, and no further agreement can be reached as to additional measures to be undertaken, then they may refer the matter to DPE.

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13. References

- National Council for Fire and Emergency Services (AFAC 2022). *Australian Fire Danger Rating System*
<https://afdrs.com.au/>
- NSW Department of Planning & Infrastructure (May 2011) *Assessment Guideline Multi-level Risk Assessment*
- NSW Independent Planning Commission (April 2022) *Development Consent SSD 10269, Narrabri Underground Mine Stage 3 Extension Project.*
- NSW Rural Fire Service (2014) *Development Planning A guide to developing a Bush Fire Emergency Management and Evacuation Plan*
- NSW Rural Fire Service (2021) *Get Ready for A Bush Fire Four Simple Steps To Making Your Bush Fire Survival Plan.* https://www.rfs.nsw.gov.au/_data/assets/pdf_file/0003/36597/GetReadyforABushFire.pdf
- NSW Rural Fire Service (November 2019) *Planning for Bush Fire Protection A guide for councils, planners, fire authorities and developers*
- NSW Rural Fire Service *Standards for Asset Protection Zones*
- Resource Strategies Pty Ltd (October 2020) *Narrabri Underground Mine Stage 3 Extension Project – Environmental Impact Statement.* Prepared for Narrabri Coal Operations Pty Ltd.
- Resource Strategies (September 2021) *Narrabri Underground Mine Stage 3 Extension Project Biodiversity Development Assessment Report.* Prepared for Narrabri Coal Operations Pty Ltd.
- Resource Strategies Pty Ltd (October 2020) *Appendix P Preliminary Hazard Assessment Narrabri Underground Mine Stage 3 Extension Project Environmental Impact Statement.* Prepared for Narrabri Coal Operations Pty Ltd.


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14. Glossary

Term	Definition
Asset Protection Zone (APZ)	A fuel reduced area surrounding a built asset or structure. This can include any residential building or major building such as farm and machinery sheds, or industrial, commercial or heritage buildings.
Bushfire prone land	Areas identified to be subject to, or likely subject to, bushfire attack. It is recognised by the presence of, and proximity to, bush fire prone vegetation, and includes both the area containing the bush fire prone vegetation and a 100m buffer zone immediately surrounding it.
Conditions of Consent (CoC)	SSD 10269 issued under s4.38 of the EP&A Act.
Department	The NSW Department of Planning and Environment (DPE).
Development	The Stage 3 development described in the Stage 3 EIS as modified by the CoC.
Environmental Impact Statement	The Environmental Impact Statement titled <i>Narrabri Underground Mine Stage 3 Extension Project – Environmental Impact Statement</i> , prepared by Resource Strategies Pty Ltd on behalf of the Applicant and dated October 2020, as amended or added to by the Applicant's <i>Submissions Report</i> submitted 31 May 2021, the Applicant's <i>Amendment Report</i> submitted 31 May 2021, the Applicant's final <i>Biodiversity Development Assessment Report</i> dated September 2021 and the Applicant's <i>Additional Information on GHGs</i> dated 15 October 2021 and 17 December 2021.
Incident	An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.
Material harm	Material harm to the environment is defined in section 147 of the POEO Act.
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the Project
Mining lease area	The entirety of Narrabri Mine inclusive of ML 1609 and MLAs 1 and 2.
Narrabri Mine	The development approved under the CoC, along with the development approved under project approval 05_0102 and project approval 08_0144.
Non-compliance	Any exceedance of a consent/licence criteria is considered a non-compliance. However, the type of regulatory action taken by a regulatory authority will depend on a number of factors, in accordance with the authority's prosecution policies and guidelines.
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
Pollution	Under the POEO Act, the definition of pollution is: (a) water pollution, or (b) air pollution, or (c) noise pollution, or (d) land pollution.
Pollution incident	Under the POEO Act means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur.
Rehabilitation	The restoration of land disturbed by the development to ensure it is safe, stable and non-polluting over the short, medium and long term.
Stage 2	Narrabri Mine Stage 2 approved under project approval 08_0144
Stage 3	Narrabri Underground Mine Stage 3 Extension Project approved under SSD 10269.


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Term	Definition
State Forest	A forest that is protected by state laws, rather than by the Government of Australia.
Topography	The physical appearance of the natural features of an area of land, especially the shape of its surface.
Vegetation Category 1	Vegetation Category 1 is considered to be the highest risk for bush fire. It is represented as red on the bush fire prone land map and will be given a 100m buffer. This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Vegetation Category 1 consists of areas of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.

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15. Review history

Revision	Comments	Author	Authorised by	Date
0	Final	S van Der Meulen M Vile	S Rily	1 March 2023

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Appendix A Consultation records

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Table A-1 FCNSW consultation feedback

Consultation feedback	Outcome	Document reference
Conditions of Consent B58 (a)(ii) Ensure there is suitable equipment		
<ul style="list-style-type: none"> Firefighting equipment - How does the Narrabri Mine Fire Fighting Equipment Standard described in section 5.5 consider fire suppression activities in vegetation category 1 shown in Figure 4.2? The BFMP primarily describes preparations for fire on the developed mine footprint. 	<p>Section 5.5 has been updated to state:</p> <p>“NCOPL will make equipment available to Emergency Services to assist in fighting a bushfire, including mobile water carts and earthmoving equipment.”</p>	Section 5.5
<ul style="list-style-type: none"> What are the suppression resources for forested environments (ie. basic fire fighter and crew leader qualifications, off road water tankers (RFS category 1, 7 or 9), heavy plant (and fire trained operator) these could be added to the list in table 5-1). 	<p>Line item added to Table 5-1 ‘Forested areas’ with the following measures:</p> <p>“The following suppression resources will be made available:</p> <ul style="list-style-type: none"> Appropriately trained NCOPL personnel Mobile water carts Earthmoving equipment including graders, excavator and front end loader.” 	Section 5.7
Conditions of Consent B58 (b) Assist RFS and other agencies...		
<p>b) Assist RFS and other agencies... to safely assist in a direct attack, NCPL staff should hold forest fire fighter qualifications. This qualification is offered by registered training organisations (FCNSW has used in the past Fireground Leadership and Training Pty Ltd)</p>	<p>Section 9 has been updated to state:</p> <p>“Depending on the roles and responsibilities of NCOPL employees, training may also include the RFS ‘Bushfire Awareness Training’ and/or training to obtain a forest fire fighter qualification (training conducted by a registered training organisation).”</p>	Section 9
Conditions of Consent B59 (b)(i) Location of managed and unmanaged vegetation		
<p>Is this shown as Vegetation Category 1 (Figure 4-2)?</p>	<p>Figure 4-2 shows the vegetation Category 1 (shaded red)</p>	Figure 4-2

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Consultation feedback	Outcome	Document reference
Conditions of Consent B59 (b)(iii) Internal access roads		
Access roads – please send FCNSW figures 6-2 and 6-3	NCOPL will provide Appendix D and Appendix E once reviewed by RFS and finalised (prior to commencement of Stage 3)	N/A
Section 6.2 Fire Danger Ratings		
Section 6.2 Fire Danger Ratings system has been updated – seek RFS advice on the new Australia Fire Danger Rating System. FCNSW are redrafting the ops matrix to suit. I will offer for your comment when its ready.	Section 6.2 has been updated to reflect the September 2022 Australian Fire Danger Rating System.	Section 6.2
Section 5.8 Forestry Permit		
Forestry Occupation Permit “now called Forest Permit”	Section 5.8 updated to state: “NCOPL hold a FCNSW Forest Permit (the Permit)”	Section 5.8
Except on areas subject of surface mining lease rights	Section 5.8 updated to state: "NCOPL hold a FCNSW Forest Permit (the Permit) and must adhere to the requirements of the Permit when conducting activities related to mining operations located outside the mining lease and within State Forest (e.g. exploration activities)."	
With the introduction of Australian fire danger rating system, FCNSWs ops restrictions are being recalibrated/rewritten. FCNSW to send a new matrix/control when available.	No update to current text required	N/A
Section 6.2 Fire danger ratings		
There is a new system in use. Australian Fire Danger Rating System AFDRS – Australian Fire Danger Rating System	Section 6.2 has been updated to reflect the new Fire Danger Rating System. The TARP in section 8 has also been updated.	Section 6.2 Section 8
Section 6.4 Emergency Response Procedure		
These staff should be trained by a registered training organisation in forest fire fighter / crew leader. Forest fire fighter is the next level	Section 9 has been updated to state: “Depending on the roles and responsibilities of NCOPL employees,	Section 9

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Consultation feedback	Outcome	Document reference
	training may also include the RFS 'Bushfire Awareness Training' and/or training to obtain a forest fire fighter qualification (training conducted by a registered training organisation)."	
Section 6.4.1 Evacuation		
What are the plans for staff evacuating to the west if necessary? Arrangements to be made with FCNSW for maintaining nominated routes	Emergency and evacuation response as per NCOPLs Bushfire Emergency Response Procedure	Section 6.4 Section 6.4.1

Table A-2 NSW RFS consultation feedback

Consultation feedback	Outcome	Document reference
Concern is on page 11, the draft indicates "low threat" because with note "no bushfire has occurred in the lease area to date." This is misleading because while there may have been no fire in the lease area since Whitehaven have leased it, the lease area is only a couple of years old and the location is in the highly volatile Pilliga Forest. I know we have had major bush fires in the area over the last forty years and the chance of them escaping the Forestry lands has been very high. Nothing in the Pilliga can be referred to as low fire threat.	<p>Section 4 of the Plan provides background information on the surrounding environment and the potential fire hazards identified at the Narrabri Mine.</p> <p>Section 4.3 states that "the overall risk ranking for the identified bushfire hazards from mining operations is low". Section 4.3 proceeds to state that "Notwithstanding the above, an uncontrolled fire originating from the mine may present potentially serious impacts to the Narrabri township, Boggabri township, Baan Baa Village and rural properties. In addition, the Pilliga East State Forest, Jacks Creek State Forest, and surrounds may also be adversely impacted by fire events. Similarly, fires originating in nearby forested areas could pose a significant risk to mine infrastructure and to mine personnel and equipment. The degree of potential impact would vary with climatic conditions (e.g. temperature, humidity and wind), location of the fire and the quantity of available fuel."</p>	Section 4 Section 4.3
Recommend changing the RFS UHF Channel to CB5 on Page 22.	Section 6.4 (table 6-2) has been updated to RFS UHF Ch 5.	Section 6.4

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Appendix B Compliance conditions relevant to this plan

Table B-1 SSD 10269 consent conditions directly relevant to this Plan

Condition	Requirement	Document reference
Obligation to minimise harm to the environment		
A1.	In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Section 5 Section 8 Section 10.2
Evidence of Consultation		
A20.	Where conditions of this consent require consultation with an identified party, the Applicant must: <ul style="list-style-type: none"> a) consult with the relevant party prior to submitting the subject document; and b) provide details to the Department of the consultation undertaken including: <ul style="list-style-type: none"> i. the outcome of that consultation, matters resolved and unresolved; and ii. details of any matters not resolved between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved. 	Section 1.4 Appendix A
Staging, combining and updating strategies, plans or programs		
A21.	With the approval of the Planning Secretary, the Applicant may:	
	a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);	No staging of BFMP proposed
	b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined);	No combining of BFMP with another plan proposed
	c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the development); and	Section 11.3
	d) combine any strategy, plan or program required by this consent with any similar strategy, plan or program required by an adjoining mining consent or approval, in common ownership or management.	No combining of BFMP with another plan proposed
Compliance		
A30.	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 2 Section 9
Applicability of guidelines		

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Condition	Requirement	Document reference
A31.	References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of inclusion (or later update) in the condition.	Section 3.6
A32.	However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, in respect of ongoing monitoring and management obligations, agree to or require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	

Bushfire Management


B58.	The Applicant must:	
	a) ensure that the development:	
	i. provides for asset protection in accordance with the relevant requirements in the <i>Planning for Bushfire Protection (RFS, 2019) guideline</i> ; and	Section 5.1
	ii. ensure that there is suitable equipment to respond to any fires on the site; and;	Section 5.5
	b) assist the RFS and emergency services to the extent practicable if there is a fire in the vicinity of the site.	Section 6.4
B59.	Prior to commencing construction under this consent, the Applicant must prepare a Bushfire Management Plan for the development in consultation with RFS. This plan must include a:	
	c) contact person and 24 hour contact phone number;	Section 6.3 Appendix D
	d) schedule and description of proposed bushfire mitigation works, including:	
	i. location of managed and unmanaged vegetation within the site;	Section 4.4
	ii. location of water supply; and	Section 6.3 Appendix D Appendix E
	iii. internal access roads;	
	e) plan identifying the location and storage of bulk flammable liquids and materials;	
	f) 'hot works' management plan, including:	
	i. circumstances when 'hot works' are limited or prohibited; and	Section 5.4
	ii. safety measures to be implemented when 'hot works' are being conducted; and	
	g) emergency/evacuation plan in accordance with the <i>Guidelines for the Preparation of Emergency/Evacuation Plans (RFS) and Australian Standard AS3745 Planning for Emergencies in Facilities</i> .	Section 6
B60.	The Applicant must implement the Bushfire Management Plan in consultation with RFS.	Section 1.2

Adaptive management

E4.	<p>The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.</p> <p>Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity:</p>	
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Condition	Requirement	Document reference
	a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and c) implement reasonable remediation measures as directed by the Planning Secretary. to the satisfaction of the Planning Secretary.	Section 10.2
Management plan requirements		
E5.	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
	a) a summary of relevant background or baseline data;	Section 4
	b) details of:	
	i. the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 3
	ii. any relevant limits or performance measures and criteria; and	Section 5
	iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 6
	c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	Section 3.1.1 Appendix C
	d) a description of the management measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 5
	e) a program to monitor and report on the:	
	i. impacts and environmental performance of the development; and	Section 5 Section 8
	ii. effectiveness of the management measures set out pursuant to paragraph (d);	Section 10 Section 11
	f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	
	g) a program to investigate and implement ways to improve the environmental performance of the development over time;	
	h) a protocol for managing and reporting any:	
	i. incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;	Section 10
	ii. complaint; or	Section 12
	iii. failure to comply with other statutory requirements;	Section 10.2
	i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	Section 1.5 Section 3.6
	j) a protocol for periodic review of the plan.	Section 11.3
E6.	Management plans prepared for the development must be consistent with the conditions of this consent and any EPL issued for the site	Section 3.1.1 Section 3.2.1 Appendix B
Revision of strategies, plans and programs		

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Condition	Requirement	Document reference
E7.	<p>Within three months of the:</p> <ul style="list-style-type: none"> a) submission of an incident report under condition E9 or E10; b) submission of an Annual Review under condition E11; c) submission of an Independent Environmental Audit under condition E13; d) approval of any modification of the conditions of this consent (unless the conditions require otherwise); or e) notification of a change in development phase under condition A14, <p>the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.</p>	Section 11.3
E8.	<p>If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.</p> <p><i>Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.</i></p>	Section 11.3
Incident notification		
E9.	<p>The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	Section 10.1
Non-compliance notification		
E10.	<p>Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the noncompliance.</p> <p>The Notification must be in writing via the Department's Major Projects Website And identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does 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.</p> <p><i>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</i></p>	Section 10.2
Annual Review		
E11.	<p>By the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary. This review must:</p> <ul style="list-style-type: none"> (a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints record of the development over the previous calendar year, including a comparison of these results against the: <ul style="list-style-type: none"> (i) relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this consent; 	Section 11.1

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Condition	Requirement	Document reference
	<ul style="list-style-type: none"> (iii) monitoring results of previous years; and (iv) relevant predictions in the document/s listed in condition A2(c); (c) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence; (d) evaluate and report on: <ul style="list-style-type: none"> (i) the effectiveness of the noise and air quality management systems; and (ii) compliance with the performance measures, criteria and operating conditions of this consent; (e) include an addendum report on Scope 1 and Scope 2 GHGE, which reports: <ul style="list-style-type: none"> (i) annual methane and annual total CO_{2-e} emissions (both categorised by source) and emissions intensity (based on ROM coal production); (ii) overall annual emissions intensity, benchmarked against representative industry sectors and the predictions in the EIS, and performance measures in Table 3; and (iii) measures undertaken to minimise Scope 1 and Scope 2 GHGE, including actions under condition B19, and estimated reductions in CO_{2-e} as a result of measures implemented; (f) identify any trends in the monitoring data over the life of the development; (g) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (h) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development. 	
E12.	Copies of the Annual Review must be submitted to the Mining Panel (via the Department as Secretariat), NSC and GSC and regulatory agencies and made available to the CCC and any interested person upon request.	Section 11.1
Independent Environmental Audit		
E13.	Within one year of commencement of development under this consent, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development.:	Section 11.2
Access to information		
E17.	<p>Before the commencement of construction until the completion of all rehabilitation required under this consent, the Applicant must:</p> <ul style="list-style-type: none"> a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: <ul style="list-style-type: none"> i. the documents referred to in condition A2(c) of this consent; ii. all current statutory approvals for the development; iii. all approved strategies, plans and programs required under the conditions of this consent; iv. the proposed staging plans for the development if construction, mining operations or decommissioning is to be staged; v. minutes of CCC meetings; vi. regular reporting on the environmental performance of the development in accordance with the reporting requirements in 	<p>Section 1.5 Section 3 Section 10 Section 11 Section 12 Appendix B Appendix C</p>

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Condition	Requirement	Document reference
	<p>any plans or programs approved under the conditions of this consent;</p> <p>vii. a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;</p> <p>viii. a summary of the current phase and progress of the development;</p> <p>ix. contact details to enquire about the development or to make a complaint;</p> <p>x. a complaints register, updated monthly;</p> <p>xi. the Annual Reviews of the development;</p> <p>xii. audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report;</p> <p>xiii. any other matter required by the Planning Secretary; and</p> <p>b) keep such information up to date, to the satisfaction of the Planning Secretary.</p>	

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Appendix C Key EIS commitments

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Table C-1 Key EIS commitments


Source	Aspect	Details	Reference
EIS Section 6.7.6	Biodiversity Offset Strategy (Biodiversity Measure 12 – Bushfire Prevention and Control Measures)	The Narrabri Mine maintains a Bushfire Prevention Standard (NCOPL, 2016b) and Fire Danger TARPs (NCOPL, 2019d) to provide bushfire prevention and control measures for the Narrabri Mine.	Section 5 Section 6.4 Section 8
EIS Section 6.18.2	Hazard Identification and Risk Assessment – Bushfire Regime	Bushfire risk management measures are currently employed at the Narrabri Mine as part of the existing Bushfire Management Strategy contained within the RMP (ELA, 2017b).	Section 4.3 Section 5
EIS Section 6.18.3	Hazard Prevention and Mitigation Measures	NCOPL has a safety management system to manage risks to health and safety in accordance with the requirements of the Work Health and Safety (Mines and Petroleum Sites) Act 2013 and the <i>Work Health and Safety (Mines and Petroleum Sites) Regulation, 2014</i> . NCOPL would continue to meet these obligations for the Project.	Section 6
EIS Section 6.18.3	Hazard Prevention and Mitigation Measures	In addition, a number of hazard controls, including mitigation and management measures, would be described in management plans for the Project, for example: <ul style="list-style-type: none"> Bushfire Management Strategy (within the RMP) (generally in accordance with the <i>Planning for Bush Fire Protection 2019</i> [NSW Rural Fire Service, 2019]). 	This Plan
EIS Section 6.18.3	Hazard Prevention and Mitigation Measures	The following hazard control and/or mitigation measures would be adopted by NCOPL to reduce the likelihood and/or consequences of potentially hazardous incidents associated with the Project: <ul style="list-style-type: none"> Maintenance – Maintenance of all mobile and fixed plant equipment consistent with the maintenance schemes established by NCOPL and based on legislation obligations and the original equipment manufacturer requirements. Staff Training – Only those personnel authorised to undertake skilled or potentially hazardous work would be permitted to do so. Engineering Structures – Mining and civil engineering structures would be constructed in accordance with applicable codes, guidelines and Australian Standards. Where applicable, NCOPL would obtain the necessary licences and permits for engineering structures. Contractor Management – All contractors engaged by NCOPL would be required to 	Section 2 Section 5.1 Section 5.7 Section 6.4 Section 9

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Source	Aspect	Details	Reference
		<p>operate in accordance with the site processes, relevant Australian Standards and NSW legislation.</p> <ul style="list-style-type: none"> Coal Stockpile Management – Coal stockpiles would be managed to reduce the potential for spontaneous combustion. Storage Facilities – Storage and usage procedures for potentially hazardous materials (e.g. fuels, oils, greases) would be developed in accordance with Australian Standards and relevant legislation. Emergency Response – Firefighting and spill management equipment would be kept on-site in appropriate locations. Emergency response training, procedures, manuals and systems would continue to be implemented. 	
EIS Section 6.18.3	Hazard Prevention and Mitigation Measures - Bushfire Hazards	<p>Bushfire risk management measures currently employed at the Narrabri Mine as part of the existing Bushfire Management Strategy would continue for the Project.</p> <p>These are described in the Bushfire Management Strategy in the RMP (ELA, 2017a). Existing specific mitigation and management measures to reduce bushfire risk that would continue to be implemented for the Project include:</p> <ul style="list-style-type: none"> Fixed plant and building required to meet the Building Code of Australia and comply with AS 2419. Self-bunded fuel and storage areas located and constructed in accordance with AS 1940-2017, fitted with fire extinguishers. Maintenance of a non-smoking site. Clear access is maintained around all mining-related activities. Implementation of firebreaks as a component of planned infrastructure corridors (i.e. including services and gas drainage). Availability of appropriate firefighting equipment. <p>In addition, if required for the Project, any flares constructed would be via the enclosed flare method, which is described as (EPA, 2015):</p>	Section 4.3 Section 5

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Source	Aspect	Details	Reference
		An enclosed flare surrounds the burner head with a refractory shell that is internally insulated. The shell helps to reduce noise, luminosity and heat radiation. Enclosed flares allow better combustion by maintaining temperature, air flow and more stable combustion conditions, maximising the conversion of methane to carbon.	
Biodiversity Development Assessment Report (Resource Strategies, September 2021) Section 7	Measures to Mitigate and Manage Impacts (Biodiversity Measure 12 - Bushfire Prevention and Control Measures)	During construction and operations visual inspection to identify all bushfire hazards and monitor fuel loads will be undertaken annually prior to summer.	Section 5.1
EIS Submissions Report Section 4.2.6	Hazards and Risks - Fire Management Plan	It was requested that a Fire Management Plan be prepared for the Project in consultation with the NSW Rural Fire Service (RFS) Namoi Fire Control Centre.	Section 1.4
EIS Submissions Report Section 4.2.6	Hazards and Risks – Bushfire Management Plan	FCNSW requested that vegetation clearance and the route of ETLs in the State Forest be designed to minimise the possible impact from windthrow (trees uprooted by wind).	Section 5.3
EIS Submissions Report Section 4.2.6	Hazards and Risks – Bushfire Management Plan	FCNSW also requested that the Bushfire Management Plan would include a description of the equipment and other resources to be made available for bushfire detection and suppression.	Section 5 Section 6
EIS Submissions Report Section 4.2.6	Hazards and Risks – Restrictions to Fire for Mine Site Ecological Rehabilitation	FCNSW requested detail regarding the restrictions in the application of fire to land subject to mine site ecological rehabilitation.	Section 5.9
EIS Submissions Report Section 4.2.7	Rehabilitation and Final Landform - Bushfire Risks from Rehabilitation and Offset Areas	To limit bushfire risks, NSC requested that all revegetation works be limited to provide a minimum separation distance of 100 m from all dwellings at the time the revegetation works are carried out.	Section 5.9

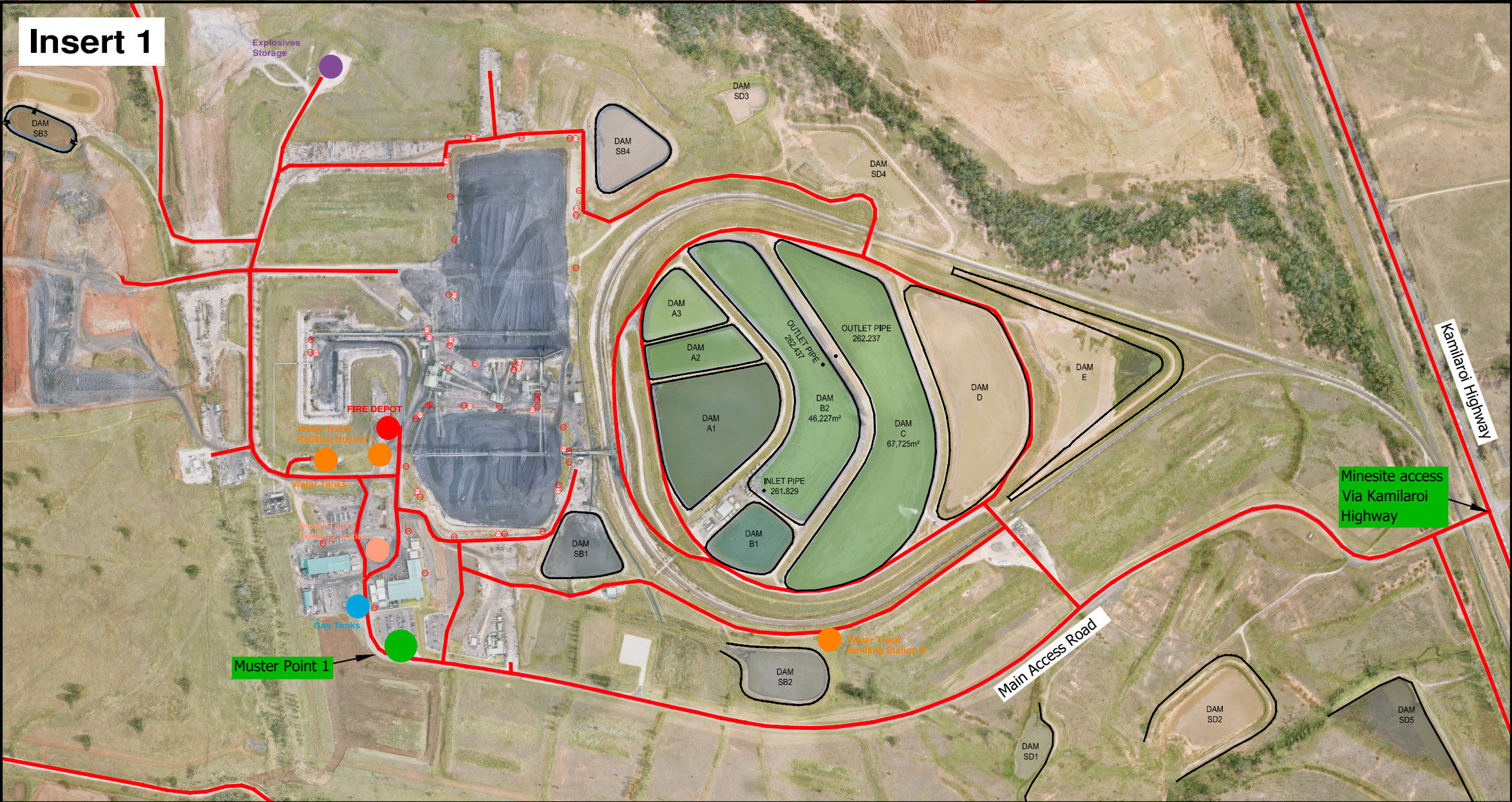
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Appendix D Site layout plan

OVERVIEW



Insert 1



DAM SB1	6620063.586	778230.254
DAM B1	6620081.564	778517.1035
DAM A1	6620272.233	778455.3461
DAM A2	6620385.384	778422.9202
DAM A3	6620456.568	778391.0258
DAM B2	6620330.136	778619.6017
DAM C	6620294.013	778754.621
DAM D	6620321.653	778891.5593
DAM E	6620356.714	779081.3305
SD5	6619791.237	779582.7911
SD2	6619796.613	779276.718
SD1	6619736.894	778972.4868
SB2	6619854.521	778565.793
SD4	6620690.21	778703.1763
SD3	6620797.621	778501.8721
SB4	6620724.382	778305.3318
SB3	6620754.12	777345.6056
SD6	6620438.468	775802.0336
SD8	6620408.241	773709.2706
Fire Station	6620262.384	777913.1523
Truck Refilling 1	6620218.969	777899.8783
Truck Refilling 2	6619915.743	778636.786
Muster Point 1	6619905.729	777933.2698
Muster Point 2	6620117.089	775074.7116
Gas Tanks	6619970.405	777863.8079
Diesel Tanks	6620063.023	777896.9779
Water Tanks	6620210.211	777811.842
Expolsives Storage	6620854.176	777819.4985

Internal contact Information
Surface Operations Manager
Narrabri Mine Control Room Operator (CRO)

NCOPL UHF/two - way

0436 849 041
555 from internal phone (including underground)
OR
02 6794 4198 from external phone (including mobile)

Ch 17 and Tunnel 1


Site Fire depots
FIRE DEPOT
Large Depot shipping container size
Fire Depot, Stored within a Wheelle bin

Insert 1 Shows zoomed in area around the Admin

By	GL	Date:	04/05/22
Drafted:	RB	25/05/22	
Edited:			
Approved:			
Scale:	N.T.S	Plan No:	OOD_SR_Stage 3 Bush Fire

Stage 3 Bush Fire Management Plan

WHITEHAVEN COAL
NARRABRI MINE

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Appendix E Surface transport routes

