

Bushfire Management Plan

Part 1 - Environmental Management



**Dixon Sand
Lots 1, 2, 29 & 196,
4610 Old Northern Road and
Haerses Road, Maroota**

Dixon Sand (Penrith) Pty Ltd
August 2018

Version	Date	Author	Authorised by:	Comments
0.1	01/06/2016	Hunsamon Churcher Environmental Officer	David Dixon Director – Dixon Sands (Penrith) Pty Ltd	Draft for consultation with the RFS and The Hills Shire Council
0.2	12/08/2016	Hunsamon Churcher Environmental Officer	David Dixon Director – Dixon Sands (Penrith) Pty Ltd	Second draft for consultation with the RFS
1.0	26/08/2017	Hunsamon Churcher Environmental Officer	David Dixon Director – Dixon Sands (Penrith) Pty Ltd	Addressed RFS comments
2.0	17/08/2018	Hunsamon Churcher Environmental Officer	David Dixon Director – Dixon Sands (Penrith) Pty Ltd	Reviewed to exclude Haerses Road. Updated the Hills Shire Council Bushfire Prone Map. Updated identified hazards. Updated Appendices

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ABBREVIATIONS

AHIMS	Aboriginal Heritage Information Management System
BFMP Part 1	Bushfire Management Plan Part 1 – Environmental Management
BFMP Part 2	Bushfire Management Plan Part 2 – Emergency Management and Evacuation Plan
RFS	NSW Rural Fire Service

1. INTRODUCTION

1.1. Background

Dixon Sand (Penrith) Pty Ltd operates the Old Northern Road quarry in Maroota approved under development consent DA250-09-01. This Bushfire Management Plan (BFMP) has been prepared to address the risk and protection measures of bushfire for the quarry. The BFMP is divided into Parts 1 and 2.

1.2. Aims and Objectives

This BFMP Part 1 outlines the mitigation measures to prevent the occurrence of unplanned bushfire and to minimise the danger of the spread of bushfires on or from their land. This BFMP Part 1 addresses the requirements of the relevant development consent and forms part of the Old Northern Road's Environmental Management System.

The objectives of the BFMP Part 1 are as follow:

- Quarry activities on the site are managed in the way that risk of human-induced fire outbreak is minimised,
- In the event of a bushfire outbreak, mitigation measures are in place to contain and prevents the fire from spreading,
- Have in place an arrangement to liaise with and provide support to the RFS should a fire outbreak occurs on the quarry sites, and
- Undertake appropriate investigation for any outbreak of fire to determine the cause and measures to prevent similar events from occurring.

The BFMP has been prepared in consistent with the Environmental Impact Statements and Environmental Assessments for the Old Northern Road quarry, conditions of development consent, relevant legislation and associated guidelines.

1.3. Criteria and Guidelines

The BFMP has been prepared to address the requirement and guidance of the following document:

- Development Consent 250-09-01 (Modification 5), Schedule 3, Condition 37:

The Applicant must:

- (a) ensure that the development is suitably equipped to respond to any fires on site; and*
- (b) assist the Rural Fire Service and emergency services to the extent practicable if there is a fire in the vicinity of the site.*

- *Rural Fire Act 1997 Section 63 Duties of public authorities and owners and occupiers of land to prevent bush fires*

- Rural Fire Regulation 2013.
- The Hills Bushfire Risk Management Plan (The Hills Shire Council, 2010)
- A Guide for Councils, Planners, Fire Authorities and Developers – planning for bush fire protection (RFS, 2006).
- Development Planning – A guide to developing a Bush Fire Emergency Management and Evacuation Plan (RFS, 2014).
- AS/NZS ISO 31000:2009 Risk Management Principles and Guidelines.

1.4. Consultation

This BFMP Part 1 has been prepared in consultation with:

- NSW Rural Fire Service – The Hills Fire Control Centre (Kenthurst), and
- the Hills Shire Council

2. IDENTIFYING AND ASSESSING THE BUSHFIRE RISK

2.1 Bushfire Prone Land Mapping

The Old Northern Road quarry is mapped on the Hills Shire Council Bushfire Prone Land Map Sheet 12 (2018) as being on bushfire prone land. Refer to Appendix A.

Parts of the quarry sites are classified as:

- Bushfire Prone Land Vegetation Category 1 (coloured red) – most hazardous vegetation category and contains the most dense vegetation, and
- Bushfire Prone Land Vegetation Bugger 100m and 30m (coloured yellow) – Areas adjoining Vegetation Category 1 within a 100m buffer.

The Hills Shire Council Bushfire Management Plan identified the bushfire season from spring to autumn. The start of the bushfire seasons often coincides with the prevailing northwest winds.

2.2 Potential Impact

The BFMP Part 1 has been prepared with a priority to provide for the protection and safety of human life (including quarry staff, contractors, nearby residents and firefighters), properties, quarry assets and the environment.

Dixon Sand (Penrith) Old Northern Road quarry is located within the Hills Shire Council jurisdiction and is classified as being in bushfire prone land. A number of bushfire events have previously occurred in the region and immediate area.

A bushfire has the potential to endanger lives and damage property when left unattended. Bushfires also have the potential to impact upon flora and fauna, including threatened species identified at both quarry sites. Some native species would however, benefit from fire events which enhance their life cycle.

Table 1 identifies the natural and anthropogenic assets at the Old Northern Road quarry.

Table 1: Natural and anthropogenic assets identified at the quarry sites

Quarry Site	Asset Type	Asset
Old Northern Road	Natural – threatened flora species	<ul style="list-style-type: none"> • <i>Tetratheca glandulosa</i>, • <i>Melaleuca deanei</i>, • <i>Kunzea rupestris</i>, and • <i>Darwinia fascicularis</i> ssp. <i>Oligantha</i>.
	Natural – conservation areas	Rehabilitation areas: <ul style="list-style-type: none"> • Native vegetation corridor (6.83 hectares) • Rehabilitation area on Lot 196
	Anthropogenic – quarry assets	<ul style="list-style-type: none"> • Site office and amenities • Workshop • Tools and equipment • Quarry plant such as excavators, bull dozers, dump trucks, loaders and screeners/crushers. • Environmental monitoring equipment including groundwater standpipe piezometers, dust gages, weather station and TEOM.
	Anthropogenic – neighbouring properties	<ul style="list-style-type: none"> • Neighbouring residents and commercial premises • Maroota Public School

2.3 Risk Assessment

The process of bushfire risk identification and assessment was established through the Australia/New Zealand Standard AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines. Figure 1 below is a representation of the risk management process.

The bushfire risk assessment is the result of the interaction between the hazard, community and the environment. Identification of the assets at risk is crucial as well as development of a suite of recommended risk treatment options. The risks are to be prioritised in order to protect life, property and the environment respectively, including the preservation of natural features and promote ecological diversity.

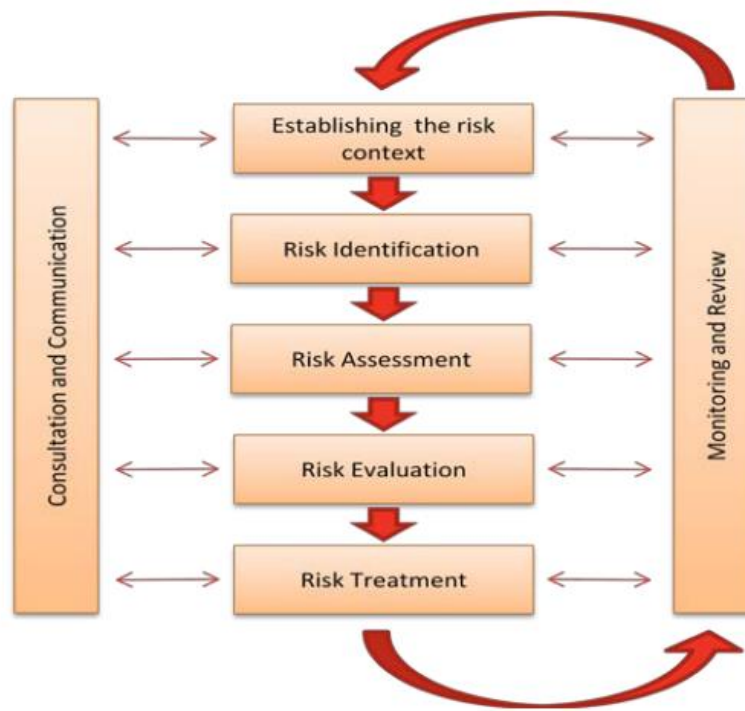


Figure 1 – Risk Management Process (source: NSW RFS 2014)

An annual risk assessment will be undertaken at the quarry sites before the commencement of bushfire season which occurs between October and March. However, the bushfire season may change subject to fuel load and climatic conditions.

The bushfire risk assessment will consider the following:

- Fuel loads at the quarry sites,
- Advice from the RFS,
- Climatic conditions of the preceding year, and
- Planning for Bushfire Protection (RFS, 2006).

2.4 Hazard Assessment

A preliminary hazard assessment to the building infrastructure and assets at the quarry site identified a low hazard exists for quarry operations. The assessment is based upon:

- Existing quarried area, hard stands and roads
- Existing vegetation within the land defined for the development is restricted to the edge of the boundary. As the development progresses it is expected that rehabilitated area will vary between a grassed area and woodland / open shrub.
- Distance between the buildings and vegetation is greater than 100 metres and will result in minimal attack from radiant heat.

3. POTENTIAL SOURCES OF IGNITION AND MITIGATION MEASURES

3.1 Potential Sources of Ignition and Ameliorative Actions

The following potential sources of bushfire ignition have been and ameliorative actions have identified for the quarry in Table 2:

Table 2: Sources of ignition, consequence and ameliorative actions.

Sources of Ignition	Consequence	Ameliorative Actions
Quarry extraction areas, offices, amenities, workshop and on-site residents	The risks of bushfire during the construction phase include; ignition from equipment maintenance and repair, unguarded vehicle exhausts, faulty appliances leading to electrical faults.	Vehicles to be restricted to identified vehicle routes in accordance with the quarry Traffic Management Plan to reduce the risk of spark emissions. Activities which create sparks or hot particles (such as metal grinding and welding) will be carried out in the designated area and/or workshop with a minimum of 20 metres from vegetation.
Pile Burns	The risks of spreading fire to the surrounding bushland through ember attack	Undertake pile burns in accordance with The Hills Shire Council requirements.
Electricity Transmission Line	During hot weather electricity transmission lines may sag, and under windy conditions may come in contact with each other and arc, and may cause sparks to ignite vegetation in the vicinity of the lines.	Electricity transmission line easement will be inspected and the utility owner will be contacted regarding the vegetation management within the easement.
Lightning	Lightning may cause ignition of vegetation surrounding the quarry sites	No specific management practise
Transport Corridors	The quarry sites are situated in close proximity to regional roads with heavy traffic at times. The main risk of ignition is from cigarette butts discarded by the road users.	Access road into the quarry sites will be regularly inspected.
External fires	Bushfire may enter the quarry sites from adjacent lands in the form of ember attack.	The quarry sites themselves act as a firebreak. Rapid and co-ordinate fire-fighting responses to the bushfire at their early stage where feasible.
Others	Other potential sources of ignition are related to human activities including unintentional and wilful acts such as vehicle accidents causing fire, out of control hazard reduction in the region or arson.	The potential sources are unanticipated events and therefore cannot be prevented. Rapid and co-ordinate fire- fighting responses to the bushfire at their early stage where feasible.

3.2 Management Safeguards

The following management safeguards will be implemented:

- A 10,000 litre water truck (road registered), mains water, rain water tanks and water in tailings ponds.
- Earth moving equipment
- Portable radios
- Fire extinguishers located at vantage points and in quarry plants
- New buildings to comply with Building Code of Australia
- Appropriate maintenance and testing of equipment, plant and electrical appliances
- Keep all access tracks and roads clear to facilitate movement of fire-fighting vehicles
- Staff and contractors will be trained on the bushfire risks, safeguards and fire emergency procedures.

4. RESPONSIBILITIES AND ACCOUNTABILITIES

4.1 Managers

The Managers of the quarry sites have the following responsibilities:

- Ensure that all development consent conditions are followed by employees, contractors and service providers,
- Ensure compliance with all relevant regulations, licenses and approvals,
- Maintain the overall responsibility for activities undertaken at the quarry sites, and
- Undertake regular inspections on the bushfire protection measures and initiate any maintenance required.

4.2 Environmental Officer

The Environmental Officer of the quarry sites has the following responsibilities:

- Implement the procedures contained in this BFMP (Parts 1 and 2),
- Ensure the employees and contractors are appropriately trained and made aware of the fire emergency procedures including firefighting techniques,
- Ensure all procedures detailed in this BFMP are followed by the employees and contractors,
- Organise inspection and risk assessment of bushfire, and
- Report the bushfire risk assessment and any review in the Annual Review document.

4.3 Plant Operators, Contractors and Visitors

The plant operators, contractors and visitors have the following responsibilities:

- Implement all necessary actions to prevent an outbreak of fire / bushfire,
- Assist the RFS in firefighting where feasible, and
- Follow emergency / bushfire emergency and evacuation procedure.

5. FIRE / BUSHFIRE EMERGENCY RESPONSE PROCEDURE

Refer to the Bushfire Management Plan Part 2 – Emergency Management and Evacuation Plan.

6. MONITORING, REPORTING AND REVIEW

6.1 Monitoring

The managers or delegate will appropriately monitor the condition of bushfire protection measures on the quarry site and identify any maintenance required. Monitoring will be undertaken for but not limited to the following:

- Accessibility of roads and tracks with considerations to safety in regards to existing quarried areas and surface constraints,
- Potential interface of vegetation and powerlines,
- Conditions of fire breaks,
- Accessibility to surface water supplies (sediment pond and hydrants),
- Accessibility to earth moving equipment to create fire breaks
- Accessibility to water tankers for transport of water and firefighting, and
- Register of training of employees.

6.2 Reporting

The details of bushfire risk assessment and training will be provided in the Annual Review document.

6.3 Review

The BFMP Parts 1 and 2 will be reviewed after the fire season and after any incidents of bushfire or fire. The review process will ensure ongoing adaptiveness and effectiveness of the BFMP.

7. SUMMARY OF ACTIONS, TRIGGERS, TIMING AND RESPONSIBILITY

Table 3 below summarises the action, timing, triggers, responsibility, monitoring and reporting regime.

Table 3: Summary of action, triggers, responsibility, monitoring and reporting.

Action	Trigger / Timing	Responsibility	Monitoring	Reporting
Annual inspection and bushfire risk assessment	Prior to bushfire season	Managers, Environmental Officer and RFS representative	Bushfire protection measures	
Inspection and maintenance of firefighting equipment	Annually and after a bushfire event	Managers or delegates		
Firefighting training	On appointment	Firefighting Training Contractor or relevant emergency services		
Investigation of fire incidents	After a bushfire event	Police and RFS representative		
Annual reporting on bushfire risk assessment	Annually	Environmental Officer		Environmental Officer
Control of Bushfire		RFS and trained firefighters		Firefighting team

8. REFERENCES

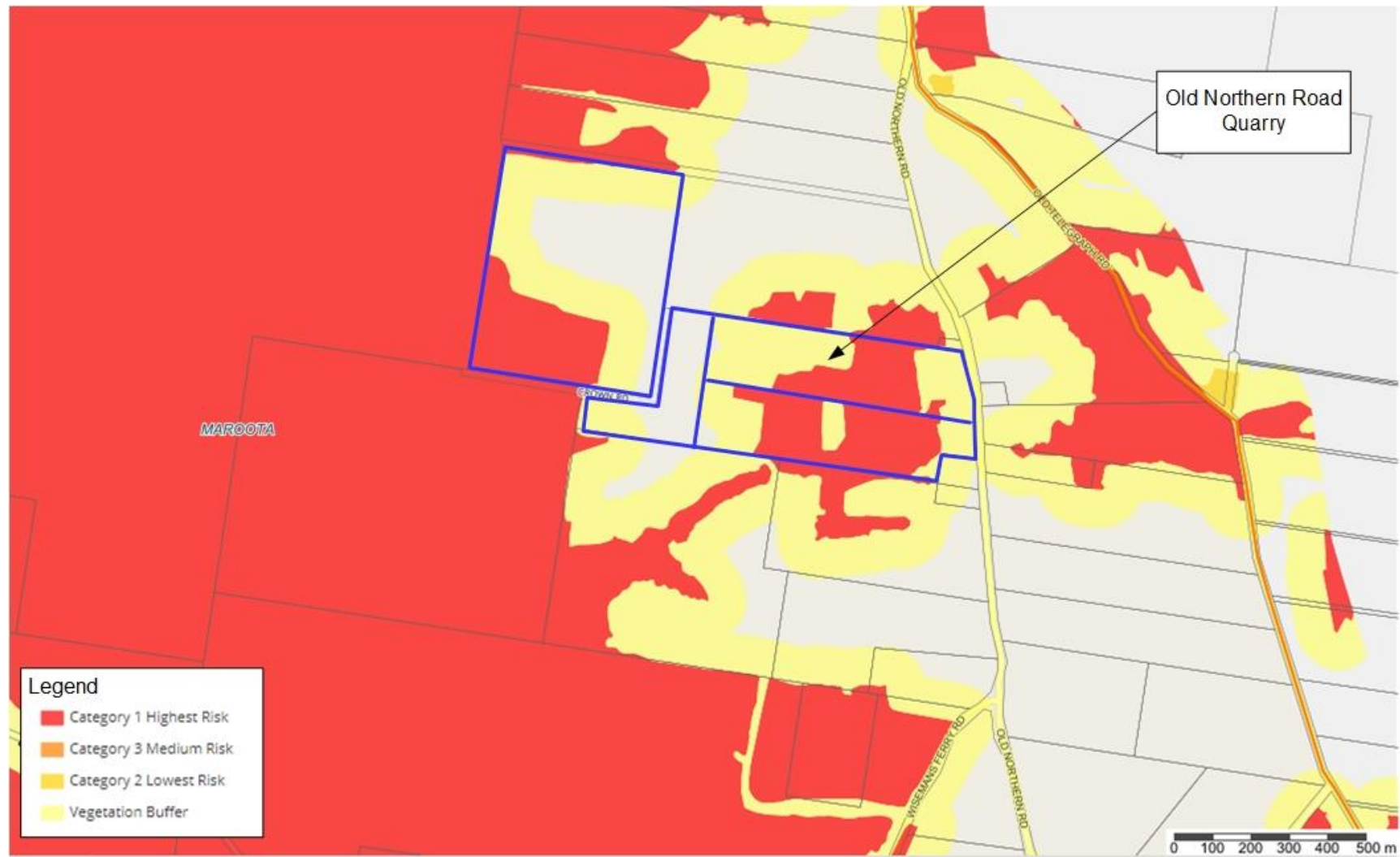
Hills Shire Council, The (2010) The Hills Bushfire Risk Management Plan

Hills Shire Council, The (2018) Bushfire Prone Land Mapping – Sheet 12

Rural Fire Service (2014) Development Planning – A guide to developing a Bush Fire Emergency Management and Evacuation Plan

APPENDIX A

Bushfire Prone Land Mapping



089-2014

Source: HSC Bushfire Prone Land Interactive Map
(June, 2018)

Dixon Sand (Penrith) Pty Ltd

The Hills Shire Council
Bushfire Prone Land Mapping (June 2018)

Appendix A

APPENDIX B

Locations of Assets at the Old Northern Road Quarry



Legend

- Old Northern Road Quarry
- Approved Extraction Limits
- Limit of Maroota Tertiary Sands Groundwater Source
- Groundwater Monitoring Bore
- Surface Water Monitoring Location
- Dust Deposition Monitoring Location
- TEOM
- Weather Station
- ◆ At-source Noise Monitoring Location
- ◆ Attended Noise Monitoring Location
- Buildings and Infrastructure
- ▲ Threatened species or Rehabilitation Areas



Source: Ulmest 2018

089-2014

Dixon Sand (Penrith) Pty Ltd

Old Northern Road Asset Locations

Appendix B

APPENDIX C

NEIGHBOURHOOD SAFER PLACES



NSW RURAL FIRE SERVICE

The Hills LGA Neighbourhood Safer Places

Title	Type	Location	LGA
Hills Community Care	Building	Conie Avenue (Off Seven Hills Road), Baulkham Hills	The Hills
Castle Hill Showground	Open Space	131 Showground Road, Castle Hill	The Hills
George Thornton Reserve	Open Space	42 Hill Road, West Pennant Hills	The Hills
Bernie Mullane Sporting Complex Car Park	Open Space	10 Marella Avenue, Kellyville	The Hills
Wisemans Ferry Park	Open Space	5602-5624 Old Northern Road, Wisemans Ferry	The Hills
South Maroota Community Centre	Building	1 Paul's Road, South Maroota	The Hills
Maroota Public School	Building	4540 Old Northern Road, Maroota	The Hills
Ulinbawn Water Ski Park	Open Space	951 Sackville Ferry Road, Sackville North	The Hills
Dargle Ski Park	Open Space	351-353 River Road, Lower Portland	The Hills
The Hills Centenary Park	Open Space	404 Commercial Road, Rouse Hill	The Hills
Cliftonville Lodge Resort - Kiosk Building	Building	1558 River Road, Lower Portland	The Hills
Glenhaven Community Centre	Building	76 Glenhaven Road, Glenhaven	The Hills
Dural Country Club	Building	662A Old Northern Road, Dural	The Hills
Les Shore Oval - Clubhouse	Building	2658 Old Northern Road, Glenorie	The Hills
Kenthurst Uniting Church	Building	Cnr Kenthurst Road and Jones Road, Kenthurst	The Hills
Dural Mall	Open Space	Kenthurst Road, Dural	The Hills