

METROMIX PTY LIMITED

Bush Fire Management Plan

Prepared in conjunction with:



Authorised By: Manager of Quarries Location: Divisional Resources

Division / Site: Quarries/Teralba/Management Plans
Reference / Name: TER SHE 4.9 -001 Bush Fire Management Plan

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COMMONLY USED ACRONYMS

AS Australian Standard

DP&I Department of Planning and Infrastructure

DRE Division of Resources and Energy

EP&A Act Environmental Planning and Assessment Act 1979

EPA Environment Protection Authority

EPL Environment Protection Licence

ENM Excavated Natural Material

OEH Office of Environment and Heritage

PA Project Approval

POEO Act Protection of the Environment Operations Act 1997

SHE Safety Health and Environment

SWMS Safe Work Method Statement

VENM Virgin Excavated Natural Material

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Authorised By: Location: Division / Site: Reference / Name: Manager of Quarries Divisional Resources Quarries/Teralba/Management Plans Bush Fire Management Plan Page 6 of 22 Issue Date: xx Approval Date: xx Review Date: xx 1 INTRODUCTION

This Bush Fire Management Plan (the Plan) has been prepared by Metromix Pty Limited (Metromix)

in conjunction with R. W. Corkery & Co. Pty Limited (RWC) for the Teralba Quarry (the Quarry). The

Quarry is located west of the suburb of Teralba, beyond the western shores of Lake Macquarie

(Figure 1.1). The Plan has been prepared in recognition of Commitment 15.3 within the Statement of

Commitments included in Appendix 3 of Project Approval 10_0183. Given the importance of

identifying and managing potential bush fire risks, this Plan will be an important tool for Metromix to

refer to for both its staff and contractors to minimise bush fire risks or managing bush fires should they

occur within and adjacent to the Quarry. The Plan forms one of the documents of the Quarry's

Emergency Response Plan.

The approved Quarry is fully described in the document entitled "Environmental Assessment for the

Teralba Quarry Extensions", compiled by RWC in November 2011 (RWC 2011).

The Plan addresses the following elements.

The activities approved under PA 10 0183.

The consultation undertaken during preparation of this Plan.

• The legal and other requirements associated with bush fire management from the

Quarry.

The objectives and key performance outcomes for this Plan and the Quarry.

Roles and responsibilities in implementing this Plan.

• Competence training and awareness for Metromix's personnel and contractors.

Bush Fire management practices that will be implemented during the ongoing operation

of the Quarry.

• Bush Fire-related record keeping that will be undertaken.

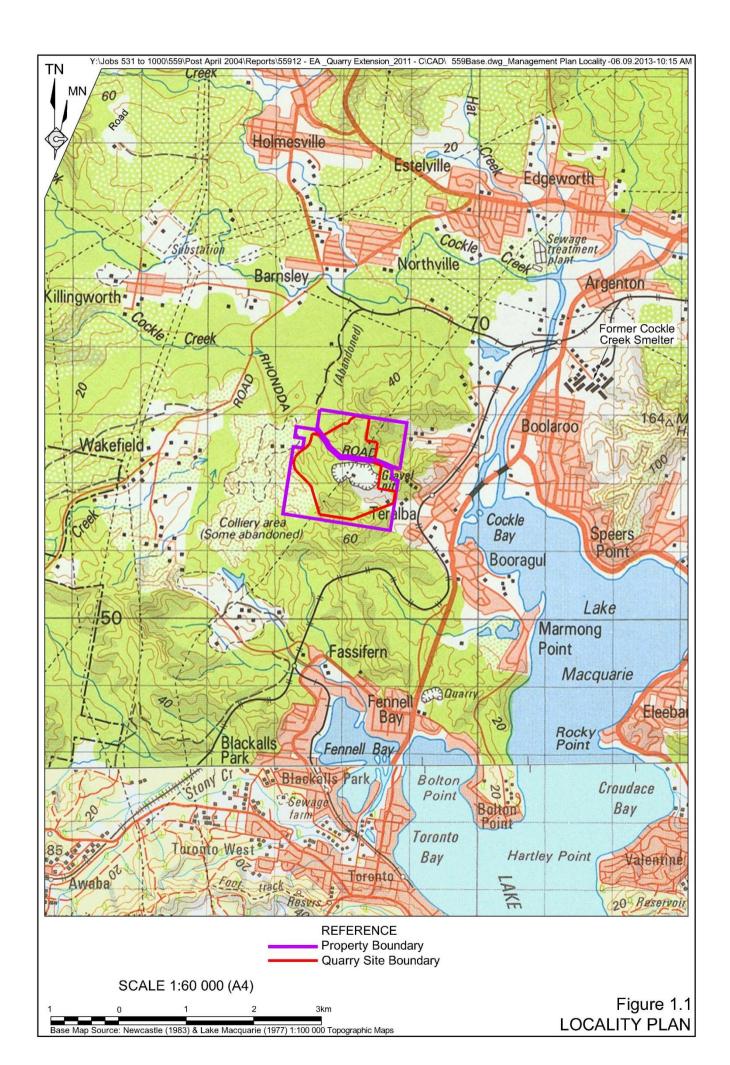
Complaints handling and response procedures that will be implemented.

Incident reporting procedures.

Plan review.

The above elements reflect each of the relevant specific issues (where required) as outlined in the

relevant 'Management Plan Requirements' condition (Condition 5(3)) from Project Approval 10_0183.



2 APPROVED ACTIVITIES

The approved activities within the Teralba Quarry comprise the full range of activities undertaken prior to 22 February 2013 and the extension of extraction operations to the north and south of the previously approved extraction areas. The approved activities on site comprise the following, the locations of which are displayed on **Figure 2.1**.

- Conglomerate extraction (blasting and excavation).
- Southern Extraction Area.
- Mid Pit Extraction Area.
- Southern Extension.
- Northern Extension.
 - Processing Operations (size reduction, screening and blending).
- Existing processing plant.
- In-pit crushing (in the Southern and Northern Extensions).
 - On-site Load and Haul Operations.
- Off-road trucks on the on-site road network.
- Conveying primary-crushed rock from the Southern and Northern Extensions to processing plant (including conveyor beneath Rhondda Road).
 - Off-site Transportation of Products.
 - Vehicle/equipment maintenance and ancillary activities and stores.
 - Administration and product despatch.
 - Progressive rehabilitation and maintenance.

The sequence of extraction throughout the life of the Quarry will reflect the need to suspend operations in the western side of the Southern Extension whilst bench vegetation grows to visually shield the western extraction faces. The current sequence plan for extraction is as follows.

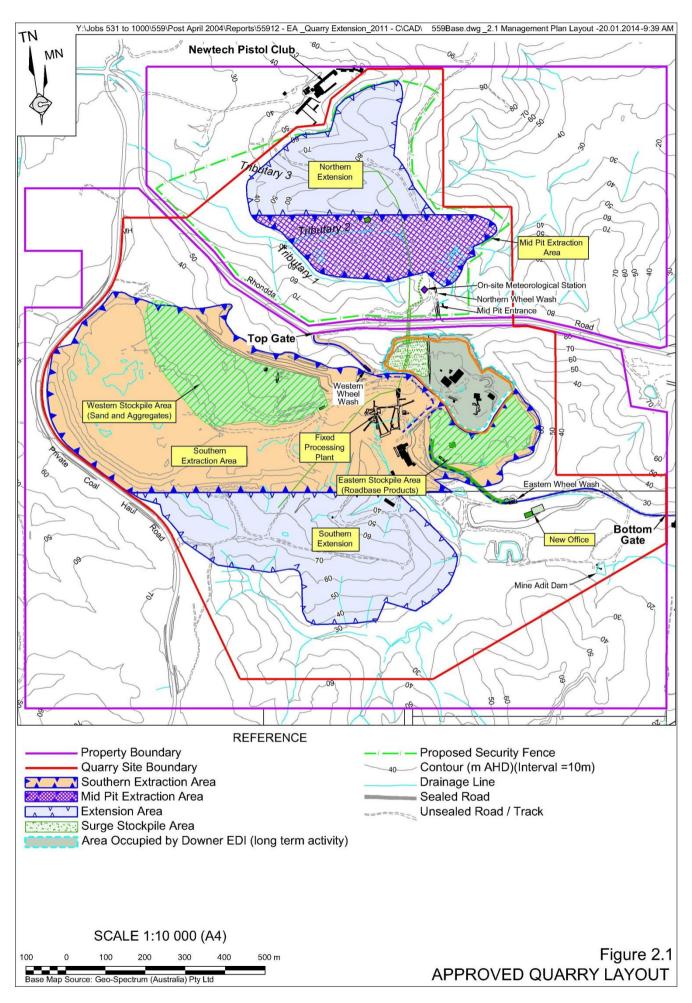
Year 1 – Suspend extraction in Mid Pit Extraction Area.

Years 2 to 9 — Southern Extension (Western Area to 20m AHD).

Years 10 to 22 - Complete extraction in Mid Pit Extraction Area and Northern Extension.

Years 23 to 30 - Southern Extension (Eastern Area to 20m AHD).

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During the next 6 to 9 years, extraction will only take place in the Southern Extension. Subject to sales, extraction activities will be progressively transferred beyond this period to the extraction areas north of Rhondda Road. The relevant limitations upon the approved activities nominated in Conditions within Project Approval 10_0183 are as follows.

- "The Proponent shall not carry out quarrying operations below 20 AHD in the Southern Extension and 24m AHD in the Mid Pit Extraction Area and Northern Extension" PA Condition 2(6).
- "The Proponent shall not extract more than 1.2 million tonnes of extractive materials from the site in any calendar year" *PA Condition 2(7)*.
- "The Proponent shall not:
- a) transport more than 1 million tonnes of Quarry products from the site in any calendar year; or
- b) despatch more than 326 laden trucks from the site on any day; or
- despatch more than 241 laden trucks per day or 20 per hour westwards along Rhondda Road;
- d) despatch more than 85 laden trucks per day or 8 per hour eastwards through Teralba;
- e) despatch laden trucks for travel through Teralba between 6:00pm and 6:00am; or
- f) receive unladen trucks via the Railway St entrance between 6:00pm and 7:00am" *PA Condition (28)*.

The approved Quarry life is until 31 December 2038 *PA Condition 2(5)* and the approved hours of operation are set out in **Table 2.1** *PA Condition 3(6)*.

Table 2.1: Approved Hours of Operation

Day	Receipt of Concrete or VENM	Loading and Despatch of Quarry Trucks	Extraction and Processing Operations
Monday to Friday	7:00am to 5:00pm	4:00am Monday to midnight Friday	7:00am to 7:00pm
Saturdays	7:00am to 2:00pm	midnight Friday to 6:00pm Saturday	7:00am to 2:00pm
Sundays and Public Holidays	None	None	None
Note: Maintenance activities may occur at any time provided they are inaudible at privately owned residences.			

3 CONSULTATION

Informal discussions have been held with the local Rural Fire Service, Fire Control Centre, West Wallsend and the Teralba Fire Brigade. It is understood that both West Wallsend and Teralba Fire Brigade will provide comments in addition to those received by the government agencies.

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4 LEGAL & OTHER REQUIREMENTS

4.1 PROJECT APPROVAL

This Plan has been prepared to outline how Metromix proposes to satisfy the requirements of *PA Condition 3(45)* of Project Approval 10_0183 in relation to bush fire management.

PA Condition 3(45): Bush Fire Management

The Proponent shall:

- a) ensure that the project is suitably equipped to respond to any fires on site; and
- b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as possible if there is a fire in the surrounding area.

As noted previously (see Section 1.1), the creation of a *Bush Fire Management Plan* is not specifically required under PA10_0183 but has been compiled as such for Metromix to use as both a reference document and for training purposes for Quarry staff and contractors to continue to minimise the potential for bush fire to occur and to manage bush fire should it occur from an off-site source.

4.2 STATEMENT OF COMMITMENTS

Table 4.1 presents the relevant bush fire-related commitments from the Statement of Commitments (Appendix 3 of PA10_0183) incorporated within this Plan. These and other control measures are incorporated in Section 7 of this Plan.

Table 4.1: Bush Fire-related Commitments

	Commitment	
15.1	Adopt appropriate controls during re-fuelling	
15.2	Ensure fire extinguishers are fitted to all site vehicles.	
15.3	Incorporate a Bush Fire Management Plan in the overall Emergency Response Plan for the Quarry.	
Source: Appendix 3 – PA10_0183.		

5 OBJECTIVES AND OUTCOMES

Table 5.1 presents the objectives and key performance outcomes relating to bush fire management for this Plan and the Quarry.

Table 5.1: Bush Fire Management Objectives and Key Performance Outcomes

Objectives		Key Performance Outcomes	
(a)	To ensure that Project activities are managed in a manner that reduces to an acceptable level the risk of ignition of bush fires within the Quarry Site	(i)	No bush fires are initiated within the Quarry Site as a result of Quarry-related activities.
(b)	To ensure that measures are implemented to allow appropriate management of bush fires within the Quarry Site.	(ii)	Any ignition within the Quarry Site is managed/extinguished without harm to life or property.
		(iii)	In the event a bush fire does encroach upon the Quarry Site, life is protected and assistance is provided to the Fire Fighting Agencies in accordance with this Plan.

6 PERSONNEL MANAGEMENT

6.1 ROLES AND RESPONSIBILITIES

Table 6.1 presents the roles and responsibilities of the personnel within Teralba Quarry for the implementation of this Plan.

Table 6.1: Roles and Responsibilities for Management of Bush Fire

ROLES	RESPONSIBILITIES
Manager Quarries	Ensuring compliance to Bush Fire Management Plan by all staff, contractors and visitors.
Quarry Manager	Training of personnel in Bush fire Management (as required).
	Ensure Statement of Commitments for Bush Fire Requirements are being adhered to.
	Liaise with local Rural Fire Service personnel when required.
All personnel	Comply with all relevant Bush Fire Control Measures

6.2 COMPETENCE TRAINING AND AWARENESS

Metromix personnel and contractors and their employees will undergo site specific training incorporating bush fire management awareness as part of the Quarry's Safety, Health and Environmental (SHE) program if appropriate, ensuring the following is outlined.

- Obligations toward prevention and notification.
- Emergency response procedures.
- · Locations of fire fighting equipment.

7 BUSH FIRE MANAGEMENT MEASURES

7.1 INTRODUCTION

For a bush fire to occur, there are three factors which must be present, and several other factors

which may occur that will affect the progress of a bush fire. For a fire to occur there must be oxygen,

fuel and an ignition source. The progress of a bush fire will be affected by fuel availability (including

type and amount), terrain and weather (including winds, humidity and air temperature). The following

subsection describes the management measures that will be implemented to manage each of these

factors.

7.2 MANAGING BUSH FIRE RISKS – BUSH FIRE PREVENTION

7.2.1 Oxygen

It is not feasible to restrict oxygen to manage risks associated with ignition of a bush fire.

7.2.2 Fuel

Fuel loads within the Quarry Site will be managed in conjunction with Metromix's obligations in

relation to rehabilitation of the Quarry Site and Biodiversity Offset Requirements.

An Asset Protection Zone (APZ) (RFS, 2006) is defined as a buffer zone between the development

and the hazard with a primary purpose to ensure that a progressive reduction of bush fire fuels occurs

between the bush fire hazard and any structures. An APZ is to be maintained using the following

measures.

Trees and shrubs will be maintained in such a manner that the vegetation is not

continuous.

• Fine fuel loading will be managed to approximately 4.5t per hectare.

Height of grass in this area will be maintained below 10cm.

According to RFS (2006), an appropriate APZ distance between an administration area and

vegetation (Dry Sclerophyll Forest (Open Forest) (shrub/grass sub formation) class on downslope 10°

to 15° (Class iv) or >15° to 18° (Class v)) should be a minimum of 45m. Therefore, an APZ of at least

50m will be established and maintained around the buildings of the administration area. Figure 7.1

provides the slope categories as outlined within RFS (2006) and outlines the slopes of the land within

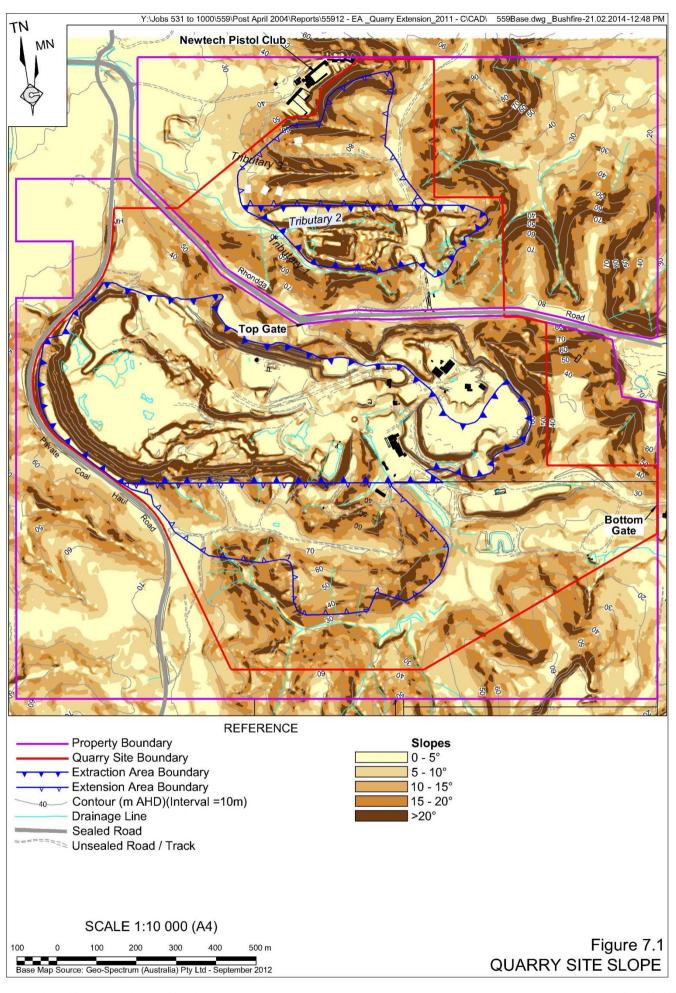
and immediately surrounding the Project Site.

The infrastructure area will be located below a 8m highwall with Dry Sclerophyll Forest (Open Forest)

(shrub/grass sub formation) class vegetation upslope. According to RFS (2006), an appropriate APZ

distance between an Infrastructure Area and vegetation is 20m. An APZ of at least 20m will be

established and maintained around the infrastructure located within the infrastructure area.



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Ignition Sources

Sources of ignition are likely to fall into one of four categories:

- Quarry-related activities;
- external ignition sources;
- · electricity transmission lines; and
- lightning.

Of the above categories, Metromix can only control the first source. The following management measures will be implemented to minimise the risk of Quarry-related activities providing an ignition source.

7.2.3.1 Mobile Plant Operations

- All Quarry-related activities will be undertaken in cleared areas following the cessation of vegetation clearing.
- All mobile equipment will be maintained in good working order with appropriate exhaust and fire suppression and extinguishing systems.
- No earthmoving equipment will be used to clear vegetation during periods of total fire bans.
- All mobile equipment working in vegetated areas will be inspected to ensure that they do
 not pose a risk of starting a bush fire. This will include inspection of exhaust and
 electrical systems, including, in the case of vehicles using unleaded petrol, catalytic
 converters.
- Mobile equipment working in vegetated areas will not be left unattended with the engine running.
- Refuelling will be undertaken within designated fuel bays or within cleared areas of the Quarry Site.
- Vehicles will be turned off during refuelling.
- Continue to enforce the no smoking policy is enforced across the entire Quarry Site.
- 5 kg dry powder type fire extinguishers maintained within site vehicles and refuelling areas, plus some of the major mobile equipment is fitted with foam fire suppression.
- The cannon on the on-site water truck will be tested at least monthly to ensure it remains operational.
- All mobile equipment will be equipped with appropriate communication equipment, including two-way radios and/or mobile telephones.

7.2.3.2 Other Operations

- Continue to enforce the no smoking policy is enforced across the entire Quarry Site.
- Welding or cutting operations will, as far as practicable, be conducted and confined to the main workshop area or within cleared areas in the appropriate area.
- Focus on housekeeping to be maintained by Quarry management.

- All work areas will be equipped with suitable fire extinguishers and their locations indicated by appropriate signage.
- Hydrocarbons will only be stored within appropriately constructed and bunded hydrocarbon storage areas with suitable fire extinguishers, and appropriate signage, located in the vicinity.
- All fire extinguishers will be serviced six monthly with service records tagged to each extinguisher.

7.2.4 Weather

The Fire Danger Rating (FDR) is an assessment of the potential fire behaviour, the difficulty of suppressing a fire, and the potential impact on the community should a bush fire occur on a given day. The FDR is determined by the Fire Danger Index (FDI). The FDI is a combination of air temperature, relative humidity, wind speed and drought factor. An FDI of 1 (Low-Moderate) means that fire will not burn, or will burn so slowly that it will be easily controlled, whereas an FDI in excess of 100 (Catastrophic) means that fire will likely burn so fast and so hot that it will be uncontrollable.

The Quarry's meteorological station continually monitors the required parameters and produces a FDI for the Quarry. Quarry staff are required to check the FDI levels at the Quarry from the on-line weather station website daily during the fire season (October to March). Should the rating for the day be very high or above (i.e. an FDI of 25 or above), the Quarry Manager will:

- notify site personnel of the increased risk and stress the need to be vigilant in managing potential ignition sources; and
- regularly check the Quarry Site and horizon for smoke.

If a total fire ban has been declared (FDI>50) than the practices outlined in Section 7.3 will apply.

7.3 MANAGING BUSH FIRE HAZARD - ACTIVE BUSH FIRES

7.3.1 Preparation for Managing Active Bush Fires

The following measures will be implemented to enable appropriate management of active bush fires.

- Incorporate the *Bush Fire Management Plan* into the overarching Emergency Response Plan for the Quarry.
- Provide for the use of available water pumps and water cannon for management of ember attack on the buildings of the Processing Plant and Office Area.
- All mobile equipment will be equipped with appropriate communication equipment, including two-way radios and/or mobile telephones.
- Establish two compatible connection points from the Quarry's water infrastructure to permit the accessibility of this water to firefighting equipment, including local Fire Services equipment.
- Maintain all internal access roads and tracks to ensure safe access and egress from the Quarry Site in the event evacuation is called.

- All tracks will be regularly checked and kept clear of all obstructions and debris to permit the safe ingress and egress of personnel from the Quarry Site.
- Appropriate management of existing fire breaks will be undertaken within and around the perimeter of the Quarry Site. The maintenance of firebreaks on Company-owned land will include fuel reduction activities and vegetation lopping along power line easements and along the Quarry's internal access roads. Vegetation thinning and removal operations will occur as required along firebreaks adjacent to the Quarry Site, including the Private Coal Haul Road, Rhondda Road and the Newtech Pistol Club Access Road.
- Training would be provided to the required site personnel in relation to specific fire fighting tasks and procedures.

7.3.2 Managing Active Bush Fires

Following identification of an imminent bush fire threat, the following management measures will be implemented.

- Human life is the most important asset to be protected. If it is safe to do so, then
 property is the second asset to consider preserving.
- The fire will be reported to Emergency Services (Rural Fire Service) using the "000" telephone number.
- If a fire has started in close proximity to a work area and the facilities are on hand to put
 it out and it is safe to do so then it should be contained and extinguished as quickly as
 possible, possibly in conjunction with Rural Fire Service operations.
- If the fire is not in close proximity and it is determined to be safe to do so, work will continue with the following provisions.
 - Fire fighting equipment, including the fire tender and extinguishers will be brought close to hand.
 - UHF radio and local AM radio monitored for fire updates.
 - Check regularly to determine if the fire front is moving closer.
- In the event of a local bush fire event beyond the Quarry boundary, all personnel on the Quarry Site would be directed to assemble at the designated Emergency Assembly Area. A head count would be undertaken to confirm all site personnel and visitors are accounted for. At this time, instructions as to specific procedures to be followed, i.e. site protection or evacuation, would be provided in accordance with the Emergency Management Plan and any advice provided by the NSW Rural Fire Service.

7.4 MANAGING BUSH FIRE RISKS – AGENCY COOPERATION

As bush fires typically impact on more than one property, it will be critical that Metromix ensures that

the relevant Government agencies, including the Rural Fire Service and other Emergency Services,

as well as other agencies responsible for emergency response such as Mines Rescue, are

adequately informed of activities within the Quarry Site. As a result, the following will be implemented

annually well in advance of the commencement of the bush fire season.

 Metromix representatives will meet with the relevant emergency management committees to provide an overview of the Quarry activities during the preceding

12 months and anticipated activities during the forthcoming 12 months.

 Metromix representatives will meet with the relevant officers of the Wakefield Rural Fire Service and Teralba Service Brigade on site to provide an overview of the Quarry layout,

identify areas where fuel loads are required to be reduced and discuss any other

relevant matters.

8 BUSH FIRE MONITORING

The following bush fire-related monitoring will be undertaken.

Maintain all internal access roads and emergency access roads and trucks, to ensure

safe access and egress from the Quarry Site in the event evacuation is called.

· Regular inspection of fire breaks and access tracks to ensure that they remain free of

vegetation and are accessible.

Annual monitoring of vegetation fuel loads within APZs and remaining Quarry areas to

ensure that they remain at safe levels.

• Daily inspection of FDI during fire danger periods of very high or above.

Quarterly inspections of fire fighting equipment.

9 EVALUATION OF COMPLIANCE

The following procedure will be implemented to enforce the requirements of this Bush Fire

Management Plan.

Regular reminders of responsibilities and obligations regarding bush fire prevention will

be provided at toolbox talks.

In the event of a bush fire incident or reported near miss, the Company will initiate an

investigation. The investigation will seek to determine:

– what occurred at the time of the incident;

the root cause of the incident;

any contributing factors which led to the incident; and

whether appropriate controls were implemented to prevent the incident.

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investigation. Actions will be communicated through planning meetings and toolbox talks. If required,

this Bush Fire Management Plan will be amended and all personnel with responsibilities under the

updated plan review the amended code. Outstanding actions will be monitored for their effectiveness

upon completion.

All reports associated with complaints or incidents will be retained on site for the life of the Quarry.

A brief summary of any bush fire prevention works, bush fires occurring or any other reportable bush

fire-related activities would be collated into the Annual Report for the Quarry which would also be

made publicly available on the Company's website, once accepted.

10 COMPLAINTS HANDLING AND RESPONSE

Metromix will advertise the community inquiries/complaints line 02 4950 6640 as a minimum in the

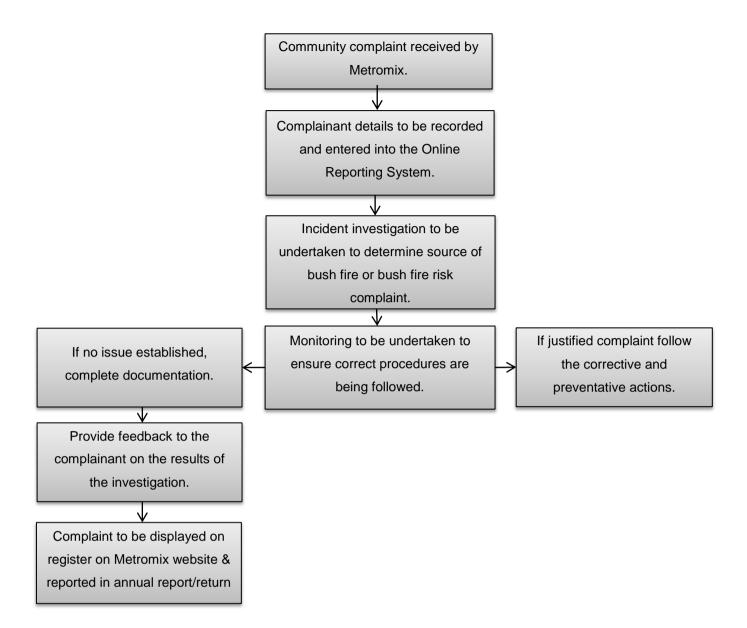
local phone directory and the number through local media or on newsletters.

Metromix will respond to any registered community inquiries or complaints received by this number as

described in the Rapid Online Reporting System.

The following flowchart shows the process that Metromix will follow in the event a bush fire or bush

fire risk-related complaint is received.



11 INTERNAL INFORMATION AND COMMUNICATION

Key avenues for internal communication on bushfire-related issues occurs mainly through toolbox meetings conducted during the bushfire season. In addition, Metromix has the following methods of communication with its employees and contractors.

- Monthly Safety, Health and Environmental Meetings.
- Internal communiques.
- Distribution internally and externally of Metromix's newsletter "Metronews".
- Formal communication meetings approximately 4 times per year.

12 INCIDENT REPORTING

In the event that an investigation into a bush fire incident concludes that the incident was directly

attributed to the Company's activities, the event will be fully documented and records about the

incident held on file.

13 PLAN REVIEW

In accordance with Condition 5(5), this Bush Fire Management Plan will be reviewed and, if required,

revised within 3 months of:

annual review;

incident report relating to nearby off-site or on-site bush fire;

· independent audit report; or

any modification to Project Approval 10_0183.

The Quarry Manager will be responsible for the review of this Plan.

14 REFERENCES

NSW Rural Fire Service (2006). Planning for Bush Fire Protection: a guide for Councils, planners,

fire authorities, developers.

RWC (2013). Environmental Assessment for the Teralba Quarry Extensions", November 2011.

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