

5

ENVIRONMENTAL MANAGEMENT

The environmental management requirements included in this section of the QEMP are auditable at each scheduled external audit and should be reported upon in the annual environmental management report (refer to section 8). References to the "Quarry consent" refer to the development consent for the quarry issued by the Land and Environment Court on 21 February 2006. References to the "Access road consent" refer to the development consent for the access road determined by Shellharbour City Council on 10 May 2007.

5.1 BOUNDARY OF OPERATIONAL AREA (Quarry consent: schedule 3, condition 1)

The approved limit of extraction is shown on the survey plan *Figure 2.2*. A full sized copy of this plan is available. The boundaries are to be clearly and permanently marked at all times in a manner that is obvious to operating staff and inspecting officers. Audit reports should verify that the boundaries remain clearly marked and that extraction remains within the boundaries.

5.2 STAGING

5.2.1 *Stages 1 to 4* (Quarry consent: schedule 3, condition 5)

Figure 5.1 shows the six stages of the quarry as proposed in the 2003 EIS, adjusted to show the southern boundary as modified by the consent, the 10 metre buffer along the northern boundary and the minor alteration in alignment of the access road deriving from the subsequent Council consent. Development consent for the quarry has been issued for stages 1 to 4 only.

5.2.2 *Stages 5 and 6*

A separate development approval will be required before proceeding into stages 5 and 6. Until that approval is received the area of land affected by stages 5 and 6 is to be fenced off from stages 1 to 4 and not used for any purpose associated with the quarry, except for access to the noise/sight bund in the north-east corner, the revegetation/restoration area to the south of the site and monitoring devices. Audit reports are to verify that this is the case.

Development approval for stages 5 and 6 does not require a separate development application. Instead a report is to be submitted to the Minister as described in Schedule 3, Condition 6 of the quarry consent.

5.3 DURATION OF OPERATIONS (Quarry consent: schedule 3, condition 7; Access road consent: condition 12)

The quarry development consent lapses 30 years after the date of determination. The consent was determined on 21 February 2006.

The access road consent provides that the use of the land for quarry access and haul road shall cease 30 years after the date of determination of the quarry consent. The road may be used for a further five years for the purposes of rehabilitation.

5.4 PRODUCTION LIMIT

5.4.1 Performance Objective

- Source - Quarry consent: schedule 3 ,conditions 8 and 9
- Requirement - Production of quarry products from the quarry is limited to a maximum of 400,000 tonnes per annum.
- Verification - Annual production data is to be provided to the Department of Primary Industries and included in the annual environmental management report.

The Environment Protection Licence places no further restriction. The licence applies to hard rock quarrying producing from 100,000 to 500,000 tonnes per year.

5.5 NOISE LIMITS

5.5.1 Performance Objective

- Source - Quarry development consent: schedule 4, conditions 4, 8 and 9; Access road consent: conditions 16, 17 and 18. (identical)

- Requirement** - Operational noise generated by the development must not exceed criteria specified in *Table 5.1* under conditions of wind speeds (10 metres above ground) of up to 0.5 metres per second and under temperature gradients of up to 0°C per 100 metres (Condition 4).
- Verification** - Noise measurement to be undertaken at the most affected point on the receptor boundary or within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary. Measurements to be undertaken by a qualified person within eight weeks of commencing extraction and annually thereafter. Results to be submitted to DECC and the Director-General within three months (Condition 8). Noise monitoring procedures are included in the noise monitoring plan and summarised in section 7 of this QEMP.
- Notification** - Within seven days of detecting an exceedence of a noise limit in *Table 5.1*, the exceedence is to be reported to DECC, the Director-General and the owner of the property. (refer to Condition 9 for details).

Table 5.1 NOISE LIMITS

Receiver Locations	Noise Limits $L_{Aeq15\text{minute}}$		
	Stages 1-2	Stages 3-4	Stages 5-6
"The Hill" residence (Dunster premises)	35	38	35
"The Cottage" residence (Dunster premises)	35	38	35
Approved rural worker's dwelling (Dunster premises)	35	38	35
Greenmeadows residential estate	41	41	41

5.5.2 Design Features

- (i) A noise/sight bund, 350 metres long and approximately three metres high, is to be constructed at the north-eastern corner of the extraction area along the northern and eastern boundary. This bund is designed to attenuate noise transmission in the direction of the residences and approved rural worker's dwelling on the Figtree Hill property.

5.5.3 Management Procedures

- (i) Confine work to the approved operating hours (see 5.6 below)
- (ii) Maintain plant and equipment so that sound power levels specified in *Appendix D* are not exceeded.

5.6 OPERATING HOURS (Quarry consent: schedule 4, conditions 5 and 6; Access road consent: conditions 17 and 18)

Operating hours for all external activities except blasting (where there are more stringent controls) are limited as follows: (Condition 5):

- ❑ 7.00 am to 5:30 pm Monday to Friday;
- ❑ 7.00 to 1.00 pm Saturdays;
- ❑ no operation on Sundays or public holidays.

Exceptions to the above limits are as follows (Condition 6):

- ❑ delivery of materials as requested by the police or other authorities for safety reasons;
- ❑ emergency work to avoid loss of life, property or to prevent environmental harm;
- ❑ workshop activities and other maintenance work inaudible at the nearest affected receiver.

5.7 BLASTING

5.7.1 Performance Objective

Source	- Quarry development consent: schedule 4, conditions 10, 11 and 12 and Blast Management Plan (Condition 14)
Requirement	- Airblast overpressure and peak particle velocity from blasting must not exceed criteria specified in <i>Table 5.2</i> . Blasting may only take place between 9 am and 5 pm Monday to Friday and is limited to one blast per day unless otherwise approved by DECC.
Verification	- Blast monitoring procedures are described in the Blast Management Plan and summarised in section 7 of this QEMP.

Table 5.2 BLASTING LIMITS

Maximum Airblast Overpressure dB(Lin Peak)	Maximum Peak Particle Velocity mm/s	Allowable Exceedence
1. At any point located at least 3.5 metres from any residence on privately owned land		
115	5	5% of the total number of blasts over any 12 month reporting period.
120	10	0%
2. At the southern boundary of the Figtree Hill land		
135	200	0%

5.7.2 Design Features

- (i) Blasting is offset from the northern property boundary by the 10 metre planted buffer.
- (ii) For the initial stages of extraction the haul road is located close to the northern boundary of the extraction area further separating blasting from the property boundary (refer to the sketch in Appendix 3 of the quarry development consent – subsequent redesign of the access road has provided greater separation from the boundary).

5.7.3 Management Procedures

- (i) The following blast design parameters are to be implemented for each blast, subject to review as indicated in (vi) below:
 - ❑ Direction of detonator initiation is away from nearest residence;
 - ❑ All blast faces are to be oriented generally to the south;
 - ❑ Each hole is to have 1.5 metres of solid decking;
 - ❑ Two or more columns of explosives of equal length per blast hole;
 - ❑ Two detonators per blast hole;
 - ❑ Explosive columns are to be initiated from the bottom;
 - ❑ Blast holes are to be 76 mm diameter;
 - ❑ Minimum stemming depth is 2.2 metres;
 - ❑ Subdrill 1.2 metres for both production and overburden blasts;
 - ❑ Bench height is to be between 7 and 12 metres;
 - ❑ Minimum front row burden is to be 2.2 metres;
 - ❑ Minimum spacing is 2.2 metres.

- (ii) For the first 20 blasts the maximum instantaneous charge (MIC) is to be restricted according to the lower result derived from the following formulae:
- $$\text{MIC (kg)} = [(\text{Distance to nearest receiver (m)})/152.8]^3$$
- $$\text{MIC (kg)} = (\text{Distance to nearest receiver (m)})^2/4,719$$
- (iii) Blast emissions data collected from the first 20 blasts are to be used to revise the predicted blast emissions site laws included in the Blast Management Plan to generate more accurate site laws based on the measured characteristics of the site.
- (iv) Thereafter MIC for each blast is to be calculated in accordance with the revised blast emissions site laws.
- (v) Blast emissions site laws will be further revised over the life of the quarry using blast emissions data from completed blasts.
- (vi) Blast design will be refined from time to time using the updated site laws, particularly when operating close to the northern property boundary.
- (vii) For blasting within 60 metres of the northern property boundary, the MIC from each blast is to be restricted to below 18 kilograms or as otherwise indicated by the revised site laws, to maintain airblast overpressure below 135 dB(Lin) at the boundary.
- (viii) To minimise flyrock, the front row of blast holes is to be “boretraked” to identify any areas of unsatisfactory burden. Any such blast holes are to be filled with inert material rather than explosives.
- (ix) Also to minimise flyrock, aggregate will be used as the stemming material rather than drill dust.
- (x) When blasting within 20 metres of the northern boundary, a one metre layer of overburden will be left in place on top of each shot and blast mats will be installed over the blast.
- (xi) Meteorological data is to be evaluated as close as possible to the time of blasting to determine if blasting should proceed.
- (xii) Blasting is to be avoided where possible if winds are blowing towards the nearest receptor at sufficient strength to enhance impacts, if there is heavy low level cloud or where a temperature inversion is present.
- (xiii) All affected landowners or occupiers within 500 metres of a blast are to be notified of the expected time of firing by telephone on the morning of the blast.
- (xiv) When planning a blast within 50 metres of the northern boundary, the owners of the Figtree Hill land are to be notified in writing at least 48 hours prior to firing and again by telephone on the morning.

- (xv) Blasts will be conducted at the same time each day where possible. Should Readymix be blasting on the same day, the blasts shall be adequately separated in time.

5.8 AIR QUALITY

5.8.1 Performance Objective

- Source - Quarry development consent: schedule 4 ,conditions 16, 17 and 18 and Dust Management Plan (Condition 20);
Access road consent conditions 19, 20 and 21.
- Requirement - Air quality criteria specified in *Table 5.3* must not be exceeded at any sensitive receiver or residence on privately-owned land. The site must be maintained in a condition that minimises dust emission, including prompt and effective rehabilitation of all disturbed areas. Unsealed roadways, quarry floor and stockpiles are to be watered as necessary to minimise dust impacts on the natural and built environment.
- Verification - Dust monitoring procedures are described in the Dust Management Plan and summarised in section 7 of this QEMP.

Table 5.3 DUST LIMITS

Pollutant	Averaging Period	Criterion	
		Maximum increase	Total
Total suspended particulate matter (TSP)	Annual	90 µg/m ³	
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³	
Particulate matter <10 µm (PM ₁₀)	24-hour*	50 µg/m ³	
		Maximum increase	Total
Deposited Dust	Annual	2 g/m ² /month	4 g/m ² /month

*Note: For continuous PM₁₀ monitoring purposes, the Dust Management Plan derives a one-hour average PM₁₀ limit of 125 µg/m³.

5.8.2 Design Features

- (i) The access road follows a route leading away from residences.
- (ii) All traffic to or from the quarry passes through the existing processing plant where dust control measures are already implemented.

- (iii) The access from public roads to the site is sealed as far as the processing plant weighbridge.
- (iv) Where the quarry access road crosses the ridge top it is located in cut, giving some protection from the wind in this exposed area.

5.8.3 *Management Procedures*

- (i) Permanent or long term stockpiles are to be revegetated.
- (ii) When south-westerly winds average above 5.4 m/s (critical winds) water sprays will be directed onto any exposed stockpiles on the quarry site.
- (iii) A telemetry system is to be fitted to the weather station to notify the Quarry Production Manager when critical winds are sustained for 15 minutes.
- (iv) Only one work face shall be permitted on a materials stockpile, where practicable, and shall be wetted down before working.
- (v) Stockpiles within the quarry shall not exceed the height of the bund in the north-eastern corner.
- (vi) Tipping drop heights will be minimised and water sprays used on excavator buckets and truck trays during dry and dusty conditions.
- (vii) Fine mist sprays will operate when blasting occurs.
- (viii) The haul road is to be kept damp at all times when in use, spraying a minimum of 2 litres/m²/hour with a chemical additive to break the surface tension, if needed.
- (ix) All vehicles on site are to be confined to designated roads with a signposted speed limit.
- (x) Trucks leaving the site to the public road system are to have covered loads, with tailgates effectively sealed.
- (xi) Miscellaneous dust sources such as spillages from trucks and silt from sediment controls are to be regularly cleaned up.
- (xii) Burning is not permitted on the site.

5.9 WATER MANAGEMENT

5.9.1 *Performance Objective*

- Source - Quarry development consent: schedule 4 ,conditions 22, 23, 24, 25, 26 and Surface Water and Groundwater Management Plan and Soil and water Management Plan (Conditions 27 to 32);
Access road consent conditions 22 and 23.

- Requirement - Section 120 of the Protection of the Environment Operations Act 1997 must be complied with at all times.
- Any discharges from licensed discharge points must have total suspended solids of not more than 50 mg/litre and pH within the range 6.5 to 8.5.
 - The stormwater system is to be designed to capture polluted runoff from a 10 year ARI, 24 hour duration storm (225 mm in 24 hours) Within five days of a rainfall event, stormwater basins are to be treated and emptied to maintain storage capacity.
 - Written approval from DECC is required to use a flocculent other than gypsum
- Verification - Monitoring and environmental site audit

5.9.2 Design Features

- (i) Erosion and sediment controls for the access road and first stage of the quarry are included in the erosion and sediment control plan (refer *Figure 4.2*).
- (ii) Long term water storage for operational purposes is designed to occur in the base of the excavation, which is not free draining.
- (iii) During the early years of operation and during dry spells water will be sourced from the large dam associated with the existing quarry and processing plant.
- (iv) When collected water is available, water is to be periodically released from the quarry to the creek system to mirror natural pre-quarry flows.
- (v) Collected water is to be reinjected to groundwater should monitoring show that groundwater levels are declining as a result of quarrying. An infiltration trench is to be installed for this purpose (refer to *Figure 4.1* and the Surface Water and Groundwater Management Plan – Golders 2005)

5.9.3 Management Procedures

- (i) Install and maintain erosion and sediment controls in accordance with instructions on the approved plans.
- (ii) Inspect erosion and sediment controls after each major rain event, repair any damage and ensure correct functioning.
- (iii) Remove accumulated silt periodically from sediment traps/basins.
- (iv) Refuel plant and equipment at least 100 metres from any water storage.
- (v) Test and if necessary, treat water prior to release to the creek system.
- (vi) Regularly collect and remove waste and litter from the quarry site.

- (vii) Limit fertiliser use on rehabilitation works to minimise nutrient runoff.

5.10 VEGETATION AND FAUNA MANAGEMENT

5.10.1 Performance Objective

- Source - Quarry development consent: schedule 4 ,conditions 35, 36, Vegetation Management Plan (condition 37) and Vegetation Clearing Protocol (condition 34)
- Requirement - Conserve and maintain the southern areas of remnant vegetation marked on the map in Appendix 1 of the consent.
- Revegetate the areas marked “Area to be planted” on the map.
 - Restore the area marked “Weed control to promote natural vegetation” on the consent map.
 - Periodically release water from the quarry storage for environmental purposes
- Verification - Environmental site audit.

5.10.2 Design Features

- (i) The area to be returned to native forest is to be fenced off from the remainder of the property with a plain wire stock fence to prevent stock access and to ensure that vehicles cannot enter the area randomly without passing through a gate which is signposted to deter entry.
- (ii) In the *restoration area*, the primary management objective is to enhance native vegetation by controlling weeds and allowing natural regeneration of native plants to take place.
- (iii) In the *revegetation area*, the primary management objective is to establish native vegetation by planting and nurturing native species, being vegetation that is indigenous to the site.

5.10.3 Management Procedures

- (i) Spoil or other materials are not to be stored within the area fenced off for protection of vegetation to the south of the quarry.
- (ii) Topsoil may be used to improve the growing area in the revegetation area but is not to be used in the restoration area.
- (iii) Prior to fencing, all foreign material including dumped rubbish, old fences and farming debris is to be removed from the restoration/revegetation area.

- (iv) An induction is to be given to all personnel working on the site stressing that access within the fenced area should normally be on foot and that the area is not to be driven over or disturbed other than where essential for maintenance or monitoring of the restoration/revegetation.
- (v) Signs are to be erected on the fence to make it clear the land beyond is being restored/revegetated and that there should be no unauthorised vehicle entry.
- (vi) Soil disturbance is to be minimised in the restoration area but may occur in the revegetation area for the purpose of revegetation and weed control.
- (vii) Chemical weed control is not to be used in the restoration area, except for painting lantana stumps, but may be used in the revegetation area.
- (viii) Plant stock of selected species listed in the Vegetation Management Plan is to be obtained from a nursery that has propagated them from material obtained on the site or in the local area.
- (ix) Weeds identified in the Vegetation Management Plan are to be controlled in the restoration/revegetation areas with particular emphasis on African Box Thorn, Lantana and Prickly Pear.
- (x) The planting method is as follows:
 - ❑ plants shall be tubestock or similar small stock;
 - ❑ water-holding crystals and two tablets of slow-release fertiliser shall be placed in the hole.
 - ❑ plants shall be watered at the time of planting, with follow-up watering at least weekly until the plants are established.
 - ❑ plants shall be individually bagged but not staked.
 - ❑ trees and shrubs are to be planted no more than two metres apart and ground cover plants at a density of two plants per square metre, avoiding any geometric pattern.
 - ❑ the area around each plant is to be mulched at the time of planting using mulch from the site that is free from viable weed propagation material.
- (xi) The following maintenance activities are to be carried out at least quarterly:
 - ❑ check that fencing is intact;
 - ❑ carry out weed control;
 - ❑ water plants as required;
 - ❑ replace dead plants;
 - ❑ remove any rubbish;
 - ❑ treat any erosion or siltation;

- address the impact of animals.
- (xii) To maintain the riparian environment in the creek system leading from the quarry, water is to be released from the quarry storage to the creek on a varied basis, mirroring rainfall as far as possible to approximate pre-quarrying conditions.

5.11 REHABILITATION

5.11.1 Performance Objective

Source	- Quarry development consent: schedule 4, condition 39 and Rehabilitation Management Plan (condition 40); Access road consent: condition 34.
Requirement	- Progressively rehabilitate the disturbed areas of the quarry site in accordance with the process outlined below, which is the initial rehabilitation management plan. - Rehabilitate the access road when it is no longer required.
Verification	- Environmental site audit

5.11.2 Design Features

- (i) Following completion of construction works described in section 4 of the QEMP the remaining disturbed areas on the site for which rehabilitation will be required include the access road formation and the active quarrying area.
- (ii) A separate rehabilitation management plan has been prepared for the access road and is included in *Appendix E*.
- (iii) Access road rehabilitation will be undertaken at the end of quarrying, in about 30 years, if the road is no longer approved for access to the property.
- (iv) Quarry rehabilitation will be undertaken progressively, commencing when the quarrying has moved to the Stage 2 quarrying area, after year 5.

5.11.3 Medium and Long Term Quarry Rehabilitation Measures

- (i) In consultation with Shellharbour Council identify the most suitable future use for the land.
- (ii) Progressively backfill exhausted areas of the quarry to establish a landform consistent with the agreed future use for the land and to achieve a free draining structure.

- (iii) On the sides of the amphitheatre, aim for a final gradient of about one in four with a series of terraces to break up the slope and provide for future access.
- (iv) As each area of the backfilled quarry reaches final grade, spread available topsoil and stabilise the surface.
- (v) Determine specific surface finishes such as grass, hardstand or vegetation in as appropriate for the agreed final land use and detail them in future revisions of this plan.

5.11.4 Short Term Rehabilitation Measures

It is not anticipated that quarry rehabilitation will commence within the first five years as the Stage 1 extraction area will be in full operation during this period. Rehabilitation will commence when extraction moves into the Stage 2 area in years 6 to 10. This QEMP will be updated to include detailed proposals when land becomes available for rehabilitation, consistent with the development consent.

5.12 TRAFFIC AND TRANSPORT

5.12.1 Performance Objective

Source	- Quarry development consent, schedule 4: conditions 45 to 50; Access road consent conditions 36 to 39.
Requirement	- All site access is to be via the roundabout at East-West Link Road - Do not cause any heavy vehicle movements on Dunsters Lane, except in an emergency - Ensure that all loaded vehicles leaving the site are covered - Prevent spillage of quarry material to the public road system.
Verification	- Environmental site audit

5.12.2 Design Features

- (i) The existing access to the quarry/processing plant connects with the East-West Link road at a roundabout.
- (ii) The access road from the roundabout to the processing plant weighbridge is sealed.

5.12.3 Management Procedures

- (i) Personnel are to be instructed that the quarry site is not to be accessed via Dunsters Lane.
- (ii) If Dunsters Lane has to be utilised in an emergency, inform Shellharbour City Council and the Director-General of Planning as soon as possible.
- (iii) Sufficient parking is to be available on site for all quarry-related vehicles.
- (iv) All loaded vehicles entering or leaving the site to the public road system are to be covered.
- (v) Vehicles leaving the site are to be free from material that may fall to the public roadway.

5.13 HERITAGE

5.13.1 Performance Objective

Source	- Quarry development consent, schedule 4 ,conditions 51 and 52 Access road consent condition 40
Requirement	- Relocation of dry stone walls and baseline dilapidation surveys will occur in the construction phase and are addressed in section 4. - If any identified relic is likely to be disturbed, firstly obtain an appropriate permit under the Heritage Act or National Parks and Wildlife Act as may be applicable.
Verification	- Environmental site audit to confirm dilapidation survey

5.13.2 Management Procedures

- (i) Repeat the baseline dilapidation survey of residences on the Figtree Hill land and *Belmont* prior to the commencement of each stage of quarrying.
- (ii) Should any artefact be encountered during quarrying that may be of European cultural significance, offer the material to Shellharbour City Council for retention in a museum or as appropriate.
- (iii) Should any material be discovered which is suspected to be an Aboriginal artefact, leave the material in situ and have it examined by a qualified archaeologist before determining further action.

5.14 VISUAL IMPACT

5.14.1 Performance Objective

- Source - Quarry development consent, schedule 4, conditions 54 to 57
Access road consent conditions 42 to 45.
- Requirement - Minimise visual impact from the quarry and access road.
- Verification - Environmental site audit.

5.14.2 Design Features

- (i) During the construction phase a visual bund, screen planting and landscaping will be provided consistent with the landscape plans, as described in section 4.

5.14.3 Management Procedures

- (i) Continue to nurture and maintain vegetation planted on visual bunds and elsewhere for screening and landscaping purposes.
- (ii) Augment or renew screening vegetation should its effectiveness deteriorate over time.

5.15 WASTE MANAGEMENT

5.15.1 Performance Objective

- Source - Quarry development consent, schedule 4, conditions 58 to 59
- Requirement - Minimise waste generation and avoid the site becoming contaminated as a result of waste being disposed thereon.
- Verification - Environmental site audit.

5.15.2 Management Procedures

- (iii) Waste of any type or quantity that requires a licence issued by DECC for its transport or disposal is not to be brought to the site.
- (iv) Waste generated on the site shall be removed to a facility licensed to receive the waste.

5.16 EMERGENCY AND HAZARDS MANAGEMENT

5.16.1 Performance Objective

- Source - Quarry development consent, schedule 4, conditions 61 to 65
Access road consent conditions 46 to 47.
- Requirement - Store, handle and transport dangerous goods in accordance with relevant Australian standards.
- Secure the site to ensure public safety.
 - Minimise the risk of pollution in the event of a significant threat to the environment.
 - Alert relevant agencies and the affected community in the event of significant pollution.
 - Ensure that employees are familiar with emergency procedures.
 - Integrate emergency management procedures for the quarry with Cleary Bros emergency management plans
- Verification - Environmental site audit.

5.16.2 Significant Threats

Significant events at the quarry that may threaten the environment or public health include excessive rainfall, fire, fuel spillage on the access road, blasting mishap, unauthorised access or major truck accident. Other potential occurrences such as landslip, power failure, pump failure, excess flocculation or spillage within the quarry would be unlikely to present a threat to the environment or public health as the effects would be contained within the quarry, allowing rectification to be planned and implemented in a co-ordinated manner.

Should a major pollution incident occur affecting the external environment, DECC will be advised by telephone (131555) as soon as possible and provided with written details within seven days.

5.16.3 Excessive Rainfall

Excessive rainfall means rainfall generating runoff that floods part of the site or exceeds the design capacity of the drainage and sediment control system and creates a potential for severe erosion and for sediment laden water to be released into the environment.

5.16.3.1 Access Road

From the time of first disturbance, earthworks on the site will be protected by erosion and sediment controls. The Erosion and Sediment Control Plan provides for three sediment basins to be constructed beside the access road to collect dirty water and settle suspended matter. These basins have a designed holding capacity based on 225 millimetres of rainfall in 24 hours as specified in condition 24 of the quarry consent. This rainfall equates to a once in ten year 24 hour storm.

On occasions when heavy rainfall produces runoff in excess of the basin design volume, provision is included to spill the excess stormwater after it passes through the basin. The excess runoff will generally have a lesser sediment load than the first flush and will drop much of this material within the basin, reducing sediment carry over to the spillway. The response to excessive rainfall is to monitor the drainage and sediment control system and effect any repairs or maintenance as soon as possible.

In the unlikely event that a sediment basin wall is overtopped or gives way this would be a serious environmental incident requiring notification to DECC as required under section R2 the licence.

5.16.3.2 Quarry Workings

Once extraction has commenced, the quarry excavation will be capable of retaining runoff from all rainfall within its catchment. While excess water may flood the workings and be a hindrance to operations it will not be an emergency situation. The excess will be flocculated if necessary and released as soon as sampling has indicated that it is appropriate to do so.

5.16.3.3 Management Procedures

When excessive rainfall is experienced:

- (i) Cease quarrying at the lowest level;
- (ii) Check the drainage and sediment control structures for integrity and make any urgent repairs;
- (iii) Relocate mobile machinery and moveable plant not required for emergency work, to higher ground, clear of any part of the quarry likely to become inundated;
- (iv) Should a major pollution incident occur to the external environment advise DECC as indicated above.

After a major rainfall event:

- (i) Inspect erosion and sediment controls and undertake any repairs or maintenance;
- (ii) Return mobile plant and clean deposited debris from the access road and operational area of the site;
- (iii) Flocculate the storage in the quarry base using gypsum and test for suitability for discharge. If the sediment load is less than 50 mg/litre, pH in the range 6.5 to 8.5 and no visual evidence of hydrocarbons, pump water to natural drainage until a satisfactory working level is reached;
- (iv) As time permits, restore any damage to the operational area and rehabilitation works.

5.16.4 Fire

The threat from fire includes equipment fires and grass fires occurring within the property and bushfires threatening the property from external sources. The risk from fire is significantly reduced because the quarry and its access road create extensive fire breaks and hardstand areas.

5.16.4.1 Precautionary Measures

The following steps are taken to minimise the risk of fire and fire damage:

- (i) Fire fighting equipment is stored at the site;
- (ii) Extinguishers are kept on all mobile plant;
- (iii) Staff are trained in fire response procedures;
- (iv) No fuel, explosives or other highly combustible material is kept in the quarry;
- (v) Cattle grazing is permitted to continue on grassland areas of the site as far as practicable to prevent a high fuel load from developing in those areas;
- (vi) The company's work instructions include emergency response procedures, applicable during a fire emergency:
 - ❑ equipment available on the premises;
 - ❑ responsibilities of personnel;
 - ❑ Rural Fire Service contact details;
 - ❑ weekly visual check and quarterly testing of equipment;
 - ❑ signposting for fire fighting equipment;
 - ❑ staff training for fire emergencies.

The bushland area of the property is located downslope of the approved quarry and generally along the creek line. This area contains endangered ecological communities. Under the terms of the development consent the bushland is required to be protected and in some places augmented and restored. In view of the sensitivity of this area and the firebreaks provided by the quarries (Cleary Bros and Readymix) and grazed grassland it is not proposed to undertake hazard reduction activities in the bushland area.

5.16.4.2 *Response to Fire Incident*

- (i) Any fires, such as equipment fires, ignited within the quarry will be controlled in the first instance by trained quarry staff using available fire fighting equipment including fire extinguishers and the water cart. Should the Quarry Manager consider that the fire cannot be readily controlled or in the event of a fire presenting a threat to land outside the working area of the quarry, the Rural Fire Service will be called to assist.
- (ii) In the event of a bushfire threatening the quarry from external land the company will assist the Rural Fire Service as far as possible to prevent the fire spreading onto the site.

5.16.5 *Fuel Spill*

The only fuel within the quarry extension area will be within plant and equipment. Fuel will not be stored in the quarry. Fuel trucks will visit the site as required for refuelling purposes. The following protocols apply to fuel spillages:

- (i) Refuelling is to be carried out more than 100 metres from any water storage that could receive spillage;
- (ii) In the event of a spillage, appropriate steps are to be taken to contain the spill and prevent fuel reaching the water storage;
- (iii) Spilt fuel is to be collected if possible;
- (iv) Should fuel reach the water storage, it is to be skimmed from the surface and removed as liquid waste;
- (v) Should a significant quantity of loose surface material become contaminated with spilt fuel it is to be collected and removed for disposal to a licensed landfill.
- (vi) Should a major pollution incident occur to the external environment, advise DECC as indicated above.

5.16.6 Blasting Mishap

Extensive precautions are in place to prevent any incident occurring during blasting (refer to section 5.7). Should an incident occur where flyrock is believed to have left the quarry area, the owners of any affected neighbouring property will be contacted, notified of the occurrence and asked to report any damage.

5.16.7 Unauthorised Access

The following measures are in place to maintain security of the site:

- (i) All personnel entering the site along the quarry access road are required to report to the office;
- (ii) Vehicular access to the site is locked at times when the site is unattended;
- (iii) Fencing is to be maintained along the property boundary to the north of the quarry and the gate on the access road to *Belmont* will be kept closed when not in use.
- (iv) Signs warning of the deep excavation are to be displayed along the extractive area boundary fencing with the adjoining dairy property at 50 metre intervals.

5.16.8 Major Truck Accident

Potential vehicle accidents on the site include collisions and runaway accidents on the steep access road. Should a vehicle be involved in a major accident on the premises, staff will initially attend to the needs of any injured personnel. If there is a spill of fuel, emergency response procedures will be initiated as described above. Should there be a spill of extracted material, steps will be taken to recover the material as far as practicable. The Department of primary Industries will be notified of any accident on the site in accordance with requirements.

Should a runaway vehicle leave the access road and enter the bushland on Lot 23 DP 1039967 Shellharbour Council and DECC shall be notified as soon as possible.

5.16.9 Emergency Procedures

A copy of Cleary Bros existing staff work instruction for emergency procedures at the Albion Park quarry is included as *Appendix H*.

6

COMPLAINTS MANAGEMENT

6.1 OVERVIEW

This complaints management system contains the following elements:

- advertised telephone number, postal address and email address for complaints;
- system for logging and investigating complaints;
- process for recording the outcome of investigations and action taken; and
- feedback to complainants following investigation.

6.2 CONTACT DETAILS

6.2.1 *Telephone Hot-line*

The 24-hour telephone number for use by the public when making complaints is

0408 322 213.

This number is used to receive complaints specifically for Albion Park quarry. The number will be made known to the public by:

- (i) inclusion in future telephone directory listings for Cleary Bros;
- (ii) direct advice to councils, DECC and any persons who may contact the company regarding a complaint by mail or using existing phone numbers;
- (iii) printing on business cards and fridge magnets for issue to interested persons as the opportunity arises; and
- (iv) inclusion on a sign at the property entrance.

The telephone number is answered by Cleary Bros Quarry Manager. If the manager is on leave the phone will be diverted to the acting manager.

6.2.2 *Post and Email*

Complaints may also be lodged to Cleary Bros by post or email as follows:

Albion Park Quarry Complaints
Cleary Bros (Bombo) Pty Ltd
PO Box 210
PORT KEMBLA NSW 2505

email: environmentalengineering@clearybros.com.au

6.3 COMPLAINTS LOGGING

When a complaint is received by Cleary Bros, details will be recorded on a Customer Feedback Form. These forms are designed to be used to record complaints from purchasers of the company's products as well as members of the community with a complaint about the company's operations. Unused copies of these forms will be kept by the quarry manager and in the site office and divisional office at all times and will be issued to on-call staff. A copy of a Customer Feedback Form is included in *Appendix I*.

Completed forms will be sequentially numbered and filed at the company's divisional office in numerical order. A copy will be retained in the site office and may be inspected by authorised persons from regulatory bodies.

6.4 COMPLAINTS INVESTIGATION

The following procedures will be followed whenever complaints are received:

- (i) Every complaint is to be investigated as far as practicable, a response given to the complainant and a record created of the response.
- (ii) The procedure for investigating complaints and responding is to be explained to the complainant at the time the complaint is recorded.
- (iii) If the complaint is received by staff while an incident is claimed to be occurring, the location of the incident is to be visited, immediately if practicable, to verify and record details.
- (iv) If the complaint is received after the incident when the grievance is no longer occurring, or if it is not practical to visit the location, full details are to be obtained from the complainant and recorded.

- (v) A record is to be made of the company's activities at the location of the incident during the period leading up to the time of the incident.
- (vi) If the matter relates to dust, noise or blasting, the wind strength and direction are to be obtained from the weather station data for the period of about one hour prior to the incident.
- (vii) The complainant is to be contacted within two working days of the complaint being lodged to provide details of the investigations and other action taken in response to the complaint.
- (viii) The Customer Feedback Form is to be completed to summarise all actions taken to investigate the complaint including:
 - time, date and location of incident;
 - name and address of complainant (if provided);
 - name of the person conducting the investigation;
 - activities at the location during the hour preceding the incident;
 - average wind strength and direction during hour preceding a noise or dust incident;
 - any observations as to the possible cause of the incident;
 - summary of information given to complainant in follow up call.
- (ix) Anonymous complaints are to be recorded and investigated but in the absence of contact details, a personal response to the complainant will not be possible.

7

ENVIRONMENTAL MONITORING PROGRAM

7.1 MONITORING PARAMETERS

Monitoring will be carried out as required by the development consents and environment protection licence applying to the site (refer to appendices). These documents require monitoring of meteorology, noise, blasting, air quality and water quality.

7.2 WEATHER MONITORING

The site weather station was set up in 2005 to monitor temperature, wind and rainfall data as detailed in *Table 7.1*. The data are continuously recorded and averaged over one-hour intervals. The location of the weather station is shown on *Figure 7.1*.

Table 7.1 WEATHER MONITORING PARAMETERS

Parameter	Units
Temperature at 2 metres	K
Temperature at 10 metres	K
Total Solar Radiation at 10 metres	W/m ²
Wind direction at 10 metres	Compass points
Wind speed at 10 metres	m/s
Sigma theta at 10 metres	degrees
Rainfall	mm/hr

Meteorological data may be retained in the form of a digital file but shall be accessible on request from representatives of the Department of Planning or DECC. A summary of meteorological data collected at the site during the year shall appear in the Annual Environmental Management Report (refer to section 8) together with progressive long term averages. Auditors should verify that data collection is ongoing and that the telemeter system works to notify the quarry manager when the wind velocity exceeds 5.4 metres per second for more than 15 minutes.

Base Aerial and Cadastral - LIC and Shellharbour City Council 2003. Aerial Photo date 24/6/2002.
 112R1 14.04.2007

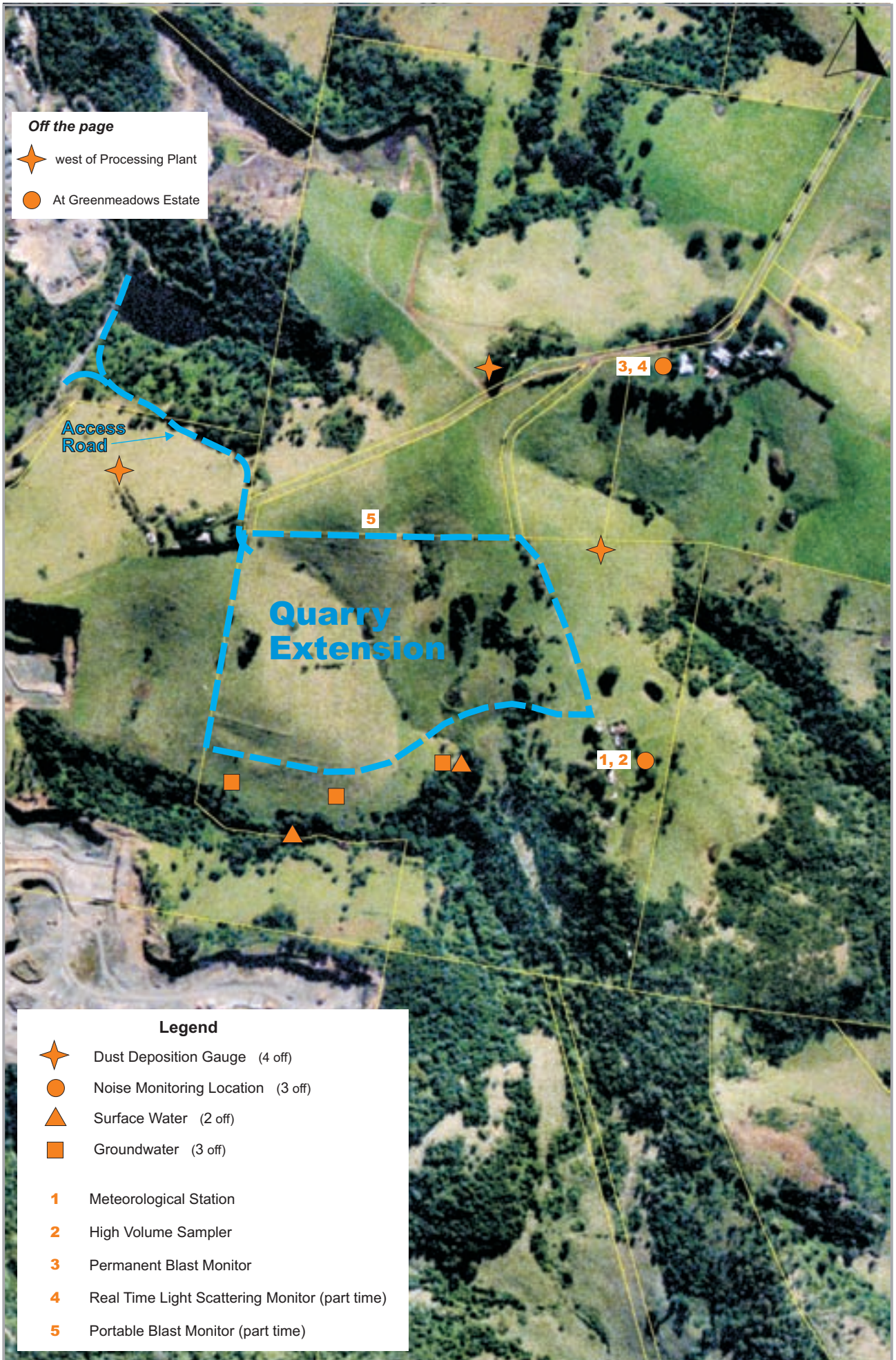


FIGURE 7.1 Location of Monitoring Devices

7.3 NOISE MONITORING

7.3.1 *Source*

Noise monitoring requirements are detailed in the Noise Monitoring Programme/Blast Management Plan (Heggies Australia 2006) and summarised below.

7.3.2 *Location*

Noise monitoring locations are as follows:

Location Type	Monitoring Location
Reference location	"Belmont" (Cody Residence)
Residential Assessment Location	"The Cottage" (Dunster Residence)
Residential Assessment Location	Greenmeadows Residential Estate

Operator attended monitoring and unattended noise logging shall be carried out at all of the above locations, except as detailed in 7.3.3 below.

7.3.3 *Frequency*

Operator attended noise monitoring is to be undertaken on one day per calendar quarter for the first 12 months after commencement of works and then at yearly intervals and at the commencement of any significant operational event.

Unattended noise logging is to be carried out for a minimum period of seven days on a quarterly basis for the first 12 months after commencement of works and then at yearly intervals.

The Greenmeadows estate is affected by noise from the processing plant which is unlikely to change unless the plant is altered. Once compliance has been established, further quarterly noise monitoring at this location is not required, although annual monitoring will continue.

7.3.4 Method

Operator attended monitoring shall quantify and characterise the maximum (LA_{max}) and the average ($LA_{eq15min}$) intrusive noise from quarrying over a 15 minute measuring period.

Unattended continuous noise logging shall be conducted to quantify overall ambient noise amenity levels resulting from quarrying and processing emissions and other environmental noise sources.

Measurements will be taken with acoustic instrumentation carrying current NATA or manufacturer calibration certificates. Instrument calibration will be checked before and after each measurement survey.

All noise measurements will be accompanied by qualitative and quantitative measurements of prevailing local weather conditions. The operator shall record any significant quarry generated noise sources and obtain the operating logs for quarry plant and equipment during the measurement period.

7.3.5 Performance Targets

Performance targets are summarised in section 5.5 of this QEMP.

7.3.6 Assessment

Operator attended residential measurements are designed to confirm that noise generated by the development does not exceed the noise limits specified in the development consent (see section 5.5 of this QEMP).

Unattended noise logger data shall be correlated with weather data and quarry operating conditions, with data from periods of unstable weather deleted. The results shall be presented graphically.

7.3.7 Reporting and Review

The results of noise monitoring are to be included in the Annual Environmental Management Report.

In the event of any exceedence of relevant criteria, the matter will immediately be brought to the attention of the Quarry Production Manager, who will report the exceedence as required in section 7.7 of this QEMP.

After every noise monitoring occasion, the Quarry Production Manager and Environmental Officer will examine the results, compare them with previous results and look for any trends. Should declining performance be indicated, the reasons will be explored and appropriate corrective action taken. Follow-up noise monitoring may be undertaken to confirm the validity of any suspect results or to test the effectiveness of corrective action.

7.4 BLAST MONITORING

7.4.1 Source

Blast monitoring requirements are detailed in the Noise Monitoring Programme/Blast Management Plan (Heggies Australia 2006) and summarised below.

7.4.2 Location

A blast monitor for airblast and vibration is located at "The Cottage" on Figtree Hill land, being the closest inhabited residence. This monitor is to be permanently installed and fitted with a remote communications link.

When blasting within 40 metres of the northern boundary of the quarry property, a portable blast monitor will be located at the property boundary at the point closest to the blast.

7.4.3 Frequency

Every blast is to be monitored.

7.4.4 Performance Targets

Performance targets are summarised in section 5.7 of this QEMP.

7.4.5 Reporting and Review

The results of blast monitoring are to be included in the Annual Environmental Management Report.

After every blast, the Quarry Production Manager and Environmental Officer will examine the results, compare them with previous results and look for any trends. Should declining performance be indicated, the reasons will be explored and appropriate corrective action taken.

In addition to confirming that performance targets are being met, blast monitoring will provide data to allow periodic review and revision of the blast emissions site laws for the quarry. To maximise the benefits of the blast monitoring process, the significant design parameters, location co-ordinates, emission levels and meteorological data shall be collated and maintained by the quarry in a blast design record for each blast event. The Blast Management Plan contains a suitable format for this record which should be audited.

7.5 AIR QUALITY MONITORING

7.5.1 Source

Air quality monitoring requirements are detailed in the Dust Management Plan (Heggies Australia 2006) and summarised below.

7.5.2 Location

Five dust monitoring devices have been set up and a sixth will be installed subject to landowner agreement at the following locations:

Monitor Type	Monitoring Location
Deposition gauge	Dunsters Lane, south west of <i>The Cottage</i> ;
Deposition gauge	Readymix property, north west of <i>Kyawana</i> ;
Deposition gauge (new)	Northern property boundary, east of the gate to <i>Belmont</i> ;
Deposition gauge	West of the administration area of the existing processing plant;
High Volume Sampler	Ridge top, south of <i>Belmont</i>
Real time light scattering monitor (new)	Adjacent to <i>The Cottage</i> (subject to owner permission)

The location of dust monitoring devices is shown on *Figure 7.1*.

7.5.3 Frequency

Dust deposition gauges will be changed every 30 days with an allowance of plus or minus two days. PM₁₀ is to be assessed on a one-day-in-six cycle using the high volume sampler and will continue for a minimum of one year from the start of quarrying in the extension area.

Real time continuous PM₁₀ monitoring using the light scattering monitor is to be conducted as follows:

- Stage 1 of quarry production – six continuous months;
- Stage 5 of quarry production – six continuous months;
- Each other stage of quarry production – three continuous months.

7.5.4 Method

The method to be used for dust deposition sampling and analysis is as defined in Australian Standard AS 3580.10.1-1991 – *Particulates - deposited matter - gravimetric method*. Samples are to be analysed for insoluble solids, ash residue and combustible matter. The monthly results are to be given in grams per square metre and will be averaged over a 12-month period.

High volume air sampling shall be conducted by an independent consultant in accordance with AS 3580.9.6-1990. The high volume air sampler shall be fitted with a PM₁₀ size selective inlet.

The real time light scattering device shall monitor PM₁₀ in proximity to receptors with information conveyed to the Quarry Production Manager by SMS remote telemetry. This device is to be calibrated monthly by taking it to the high volume sampler for a period of 24 hours. The results from both monitors will be compared to provide a calibration factor for the continuous sampler.

7.5.5 Performance Targets

Performance targets are summarised in section 5.8 of this QEMP. A dust deposition limit of four grams per square metre per month (annual average) applies at the nearest residence. This limit will be initially taken to apply at the deposition gauges. If the company wishes, it may subsequently commission dispersion modelling using on-site wind data to predict the level of dust deposition at the gauges that corresponds to 4 g/m²/mth at the nearest residence. This would enable the performance target for the gauges to be adjusted accordingly.

An additional performance target applies to the continuous real time monitor. The Quarry Production Manager will receive telemetered notification if the continuous monitor records a one-hour average PM₁₀ above 125 µg/m³. This is to be correlated with observations from the on-site anemometer to determine if the wind direction is consistent with dust generation from the quarry.

7.5.6 Reporting and Review

The results of air quality monitoring are to be included in the Annual Environmental Management Report.

The Quarry Production Manager and Environmental Officer will examine dust monitoring results to confirm that the performance target is being met. Should the results indicate a trend towards non-compliance on an annual average basis, dust control measures on the site will be enhanced.

In the event that non-compliance with the instantaneous air quality goal occurs, correlated with wind direction, the Quarry Production Manager will investigate and address the likely cause by implementing appropriate dust suppression measures as described in section 5.8. Should repeated non-compliance occur, a review of work practices and dust suppression measures will be instigated in accordance with section 12 of the Dust Management Plan.

7.6 WATER MONITORING

7.6.1 Source

Water monitoring requirements are detailed in the Surface Water and Groundwater Management/Monitoring Plan (Golder Associates 2005) and summarised below.

7.6.2 Location

Water monitoring locations are shown on *Figure 7.1*. Three monitoring wells have been established to the south of the extraction area in the land to be revegetated. Two of the wells contain shallow and deep monitoring points, while the third contains only a deep monitor.

There are two gauging stations in the natural watercourses south of the extraction area. One of these is located in the watercourse currently draining the extraction area (watercourse 1) and the other is in the main watercourse entering the property from the west (watercourse 2). The gauging stations correspond to surface water quality monitoring points.

7.6.3 Method

Groundwater and surface water is sampled and analysed as follows:

	Groundwater	Surface Water
Field measurement	Water level, electrical conductivity, pH and temperature	Electrical conductivity, pH and temperature
Laboratory testing	pH, TDS, TSS, Na, K, Ca, SO ₄ , Cl, NO ₃ , NO ₂ , alkalinity, TKN, CO ₃ /HCO ₃ , oil and grease, BOD, TOC, ammonia, total phosphorus and dissolved metals.	Fortnightly - pH, EC, turbidity All other - pH, TDS, TSS, Na, K, Ca, alkalinity, SO ₄ , Cl, CO ₃ /HCO ₃ , oil and grease and dissolved metals.

Surface water flow is logged every 15 minutes from transducers in each of the two watercourse monitoring stations. At each location the instrumentation is powered by a 12 volt 10 amp hour battery charged by a 10 watt solar panel.

7.6.4 Frequency

As recommended by Golder Associates, groundwater is being sampled three monthly for the first two years and six monthly thereafter. Groundwater level monitoring began in September 2004 and sampling and analysis in December 2004.

Results for surface water samples are available for the upper section of watercourse 2 since August 2003 (collected by Readymix). Fortnightly sampling with limited analysis commenced within the property in September 2004. Full analysis of three-monthly samples commenced in December 2004.

Flow monitoring in the watercourses commenced in May 2005. One of the transducers was subsequently disturbed by cattle and has since been replaced. Data from the loggers is downloaded periodically and retained at the quarry.

7.6.5 Performance Targets

The initial purpose of water monitoring is to establish over several years the normal range of variability of the parameters being monitored. Subsequently, with the quarry operating any unusual variation may be relevant for investigation. There are no targets for these parameters measured external to the site.

7.6.6 Reporting and Review

The results of water quality monitoring are to be tabulated and included in the Annual Environmental Management Report produced for the site.

7.7 ECOLOGICAL MONITORING

7.7.1 *Source*

Ecological monitoring requirements have been derived from the Quarry Vegetation Management Plan (see Appendix E) and the 2003 EIS (Perram & Partners).

7.7.2 *Restoration/Revegetation Area*

The restoration/revegetation area is to be inspected by a qualified ecologist once per year and a report prepared of the progress in returning this area to native vegetation. The report shall comment on:

- success of planted stock in the regeneration area;
- natural seeding and growth of native vegetation in the restoration area;
- weed control;
- absence of spoil or rubbish;
- any damage caused by animals or human interference; and
- recommendations for remedial action, if needed.

The ecologist's report including recommendations shall be included in the Annual Environmental Management Report.

7.7.3 *Riparian Bushland*

The riparian strip of bushland immediately downhill from the quarry that could potentially be impacted by changes to groundwater or surface water patterns shall be inspected annually by a qualified ecologist. The findings are to be discussed with the Quarry Production Manager and reviewed in light of water management practices during the past year. The ecologist's report shall recommend any changes to surface water release or groundwater injection protocols for the coming year and shall be included in the Annual Environmental Management Report.

7.8 NOTIFICATION OF EXCEEDENCE

7.8.1 *Exceedence of any Criterion*

Condition 1 of Schedule 5 of the Land and Environment Court consent for the quarry provides as follows:

If the results of monitoring required in schedule 4 identify that emissions generated by the development are greater than the criteria in schedule 4, then the Applicant shall notify the Director-General and the affected landowners and/or existing or future tenants (including tenants of quarry owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the development is complying with the criteria in schedule 4.

This condition is self-explanatory. Criteria provided in schedule 4 of the consent are for noise, blasting and dust and are reproduced in the relevant parts of section 5 of this QEMP.

7.8.2 Further Requirement for Noise Exceedance

Condition 9 of schedule 4 of the Land and Environment Court consent for the quarry provides as follows:

Within 7 days of detecting any exceedance of the noise limits in Table 1, the Applicant shall report the exceedance to the DECC and Director-General and to the owner of the property at which there is an exceedance. This report must include details of the date and time of the exceedance, the operational cause of the exceedance, the response initiated, and the measures proposed to ensure ongoing compliance with the noise limits.

The above action is required to be undertaken in addition to providing quarterly monitoring results described in section 7.7.1.

8

AUDITING AND REPORTING

8.1 INDEPENDENT AUDIT

Independent environmental audits shall be commissioned every three years with the first to take place prior to February 2008, provided production has commenced before that time.

Environmental audits will be undertaken in accordance with Cleary Bros' environmental management system and be compliant with ISO 19011:2002 – *Guidelines for Quality and/or Environmental Systems Auditing*. The name of the nominated auditor must be submitted to the Department of Planning for approval prior to an audit commencing. Should a different auditor be proposed for any future audit, the new name must be submitted for approval.

The audit is to include the following actions:

- ❑ assess the environmental performance of the quarry and its effects on the surrounding environment;
- ❑ assess whether the quarry is complying with the relevant standards, performance measures, and statutory requirements;
- ❑ review the adequacy of this Quarry Environmental Management Plan (including environmental strategy and monitoring program); and, if necessary,
- ❑ recommend measures or actions to improve the environmental performance of the quarry, and/or the environmental management and monitoring systems.

An audit report is to be prepared and submitted to the Director-General within three months of commissioning the audit. The submission is to contain the company's response to recommendations contained in the audit report.

8.2 REPORTING

An Annual Environmental Management Report (AEMR) is to be prepared and submitted to the following agencies:

- ❑ Department of Planning (for Director-General);
- ❑ Department of Environment and Climate Change;

- Department of Natural Resources (or successor);
- Shellharbour City Council;
- Department of Primary Industries (Mineral Resources)

The initial report is to be submitted within 12 months of the commencement of works authorised by the development consents.

The AEMR is to respond to the following requirements (schedule 6, condition 5):

- (i) identify the standards and performance measures that apply to the development;
- (ii) describe the works carried out in the last 12 months;
- (iii) describe the works that will be carried out in the next 12 months;
- (iv) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
- (v) include a summary of the monitoring results for the development during the past year
- (vi) include an analysis of these monitoring results against the relevant;
 - impact assessment criteria;
 - monitoring results from previous years; and
 - predictions in the EIS;
- (vii) identify any trends in the monitoring results over the life of the development;
- (viii) identify any non-compliance during the previous year; and
- (ix) describe what actions were, or are being, taken to ensure compliance.

9

COMMUNITY RELATIONS

9.1 COMMUNITY CONSULTATIVE COMMITTEE

9.1.1 Purpose

The purpose of the community consultative committee (CCC) is to oversee the environmental performance of the quarry. In particular the committee has the following functions:

- review and provide advice on the environmental performance of the quarry;
- review the QEMP, monitoring results, audit reports or complaints;
- review each annual environmental management report submitted to DECC and make submissions to DECC if desired.

9.1.2 Membership

The committee membership is as follows:

- two Cleary Bros representatives, one of whom is the environmental officer;
- one representative of Shellharbour Council;
- two community representatives (at least), one of whom represents the Figtree Hill land; and
- an independent chairman.

The appointment of all members, including any replacement for members who resign, is to be approved by the Director-General. It is the responsibility of Cleary Bros to establish the committee, invite membership including any replacement or additional members and obtain the Director-General's approval for the company's nominees.

9.1.3 Meetings

The CCC meets at least twice per year. Cleary Bros has the following responsibilities with respect to committee meetings:

- provide the venue and secretarial support to produce agendas and minutes;
- arrange site inspections when warranted;

- ❑ make minutes available for public inspection within 14 days of a meeting, or as the committee agrees;
- ❑ respond to advice or recommendations from the committee regarding environmental performance of the quarry; and
- ❑ forward to the Director-General a copy of the minutes and any responses to committee recommendations within one month of the committee accepting the minutes.

9.2 COMMUNITY INFORMATION

The following environmental information regarding the quarry is to be made available to the community:

- ❑ this QEMP and each management plan required under the consent which has been produced as a separate document and approved by the Director-General, including:
 - Survey Plan
 - Blast Management Plan/Noise Monitoring Program
 - Dust Management Plan
 - Water Management Plan
 - Vegetation Clearing Protocol
 - Vegetation Management Plan
 - Rehabilitation Management Plans
 - Heritage Management Plan
 - Landscape Plan for visual/noise bunds
- ❑ any revision to the above plans;
- ❑ reports from independent audits;
- ❑ each annual environmental management report;
- ❑ a summary of the results of all monitoring required under the consent, updated at least every six months;

The above documents are to be made available within one month of approval, or where approval is not required, within one month of being created. The means of making the material available is as follows:

- ❑ provide a copy to the CCC;
- ❑ provide a copy to DECC, Shellharbour Council, DNR or RTA, where it is relevant to their responsibilities (Council will receive all documents);
- ❑ make a copy available for inspection by the public at Cleary Bros Port Kembla office;
- ❑ place a copy on the web site for the quarry.

9.3 INDEPENDENT REVIEW

The Director-General may initiate the independent review process after considering a written request from a landowner, other than a quarry owner. This would occur if the landowner believed that the performance goals specified in the development consent and reproduced in section 5 of this QEMP were being exceeded.

If requested by the Director-General, within three months Cleary Bros is to consult with the landowner, commission an independent review and submit the outcome to the Director-General. The review is to be conducted by an independent expert approved by the Director-General. The expert is to conduct monitoring to determine if the performance criteria are being met and if not, the source of the exceedence. Having regard to the possibility of cumulative impacts from more than one quarry, the expert is also required to ascertain the contribution from Cleary Bros' quarry to the exceedence.

If the criteria are found not to be exceeded the independent review can be discontinued with the approval of the Director-General. If exceedence is confirmed then Cleary Bros is to take all practicable measures to bring the quarry into compliance and conduct further monitoring to confirm that this has been achieved or enter a written agreement with the landowner allowing the exceedence to continue to the satisfaction of the Director-General. If agreement cannot be reached either party may refer the matter to the Director-General for resolution.

Should it be discovered that more than one quarry is responsible for an exceedence, Cleary Bros is required to prepare a cumulative management plan for noise, blasting or dust, as the case may be with the agreement of the landowner and the other quarry. The plan is to be implemented by both quarries. If agreement cannot be reached with the other quarry or the landowner over this approach, then either Cleary Bros or the landowner may refer the matter to the Director-General for resolution.

9.4 DISPUTE RESOLUTION

Should the Director-General be unable to resolve a dispute within 21 days then the Director-General is to refer the matter to an independent dispute resolution process for which an indicative outline appears in Appendix 2 of the quarry consent.