Water and land

EPA identification no.	Type of monitoring point	Type of discharge point	Description of location
1	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 300 metres to the north-east of the Runnymede residence as shown on map titled 'EPA Identification Points' dated 13/11/06.
2	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from the final sediment basin located approximately 250 metres to the west of the Runnymede residence and within the catchment of the washing plant for the precoat product, as shown on map titled ' EPA Identification Points" dated 13/11/06.
3	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 400 metres to the south of the Runnymede residence and south of the stockpiles and main crushing plant area as shown on map titled 'EPA Identification Points' dated 13/11/06.
4	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 150 metres south of the Runnymede residence and west of the stockpiles and main crushing plant area, as shown on map titled "EPA Identification Points' dated 13/11/06.
5	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 700 metres to the south of the Runnymede residence and south of the stockpiles and main crushing plant area, as shown on map titled "EPA Identification Points' dated 13/11/06.

3 Limit conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Load limits

L2.1 Not applicable.

L2.2 Not applicable.

L3 Concentration limits

L3.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.

Water and Land

POINTS 1,2,3,4,5

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit
Total suspended solids	milligrams per litre				50

L3.4 Exceedence of the discharge quality limit specified in this licence for Total Suspended Solids from Points 1 to 5 is permitted if the discharge occurs during, or within 24 hours after, a rainfall event at the premises exceeding a total of 42 millimetres over any consecutive five day period.

L4 Volume and mass limits

L4.1 Not applicable.

L5 Waste

L5.1 Not applicable.

L6 Noise Limits

L6.1 Not applicable.

L7 Hours of operation

L7.1 Activities covered by this licence must only be carried out between the hours of 0700 and 1730 Monday to Friday and at no times on Public Holidays

4 Operating conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:
(a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
(b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
(a) must be maintained in a proper and efficient condition; and
(b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

5 Monitoring and recording conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
(a) in a legible form, or in a form that can readily be reduced to a legible form;
(b) kept for at least 4 years after the monitoring or event to which they relate took place; and
(c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
(a) the date(s) on which the sample was taken;
(b) the time(s) at which the sample was collected;
(c) the point at which the sample was taken; and
(d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

Water and Land

POINTS 1,2,3,4,5

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 1	Representative sample
Total suspended solids	milligrams per litre	Special Frequency 1	Representative sample

For the purposes of the table(s) above Special Frequency 1 means the collection of samples on the first day of each discharge event.

M3 Testing methods - concentration limits

M3.1 Not applicable.

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:
(a) the date and time of the complaint;
(b) the method by which the complaint was made;
(c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
(d) the nature of the complaint;
(e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
(f) if no action was taken by the licensee, the reasons why no action was taken.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M5 Telephone complaints line

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 Conditions M5.1 and M5.2 do not apply until 3 months after:
(a) the date of the issue of this licence or
(b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

M6 Requirement to monitor volume or mass

M6.1 Not applicable.

M7 Requirement to monitor weather

M7.1 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

Note: The rainfall monitoring data collected in compliance with Condition M7.1 can be used to determine compliance with L3.4.

6 Reporting conditions

R1 Annual return documents

What documents must an Annual Return contain?

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
(a) a Statement of Compliance; and
(b) a Monitoring and Complaints Summary.
A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

Period covered by Annual Return

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
(a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
(b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
(a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
(b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

Deadline for Annual Return

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

Notification where actual load can not be calculated

R1.6 Not applicable.

Licensee must retain copy of Annual Return

R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

Certifying of Statement of Compliance and signing of Monitoring and Complaints Summary

R1.8 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
(a) the licence holder; or
(b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.9 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

R2 Notification of environmental harm

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
(a) where this licence applies to premises, an event has occurred at the premises; or
(b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

(a) the cause, time and duration of the event;
(b) the type, volume and concentration of every pollutant discharged as a result of the event;
(c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
(d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
(e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
(f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
(g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

General conditions

G1 Copy of licence kept at the premises

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

Pollution studies and reduction programs

U1 Spill Control

U1.1 **COMPLETED**

U2 Real Time Video Monitoring and Recording

U2.1 To ensure the licensee is complying with condition L7.1 of this licence the Department requires the licensee to install, operate and maintain real time video equipment that monitors the weighbridge and entrance/s to the licensed premises. The video monitoring must operate 24 hours a day seven days a week and must record continuously. These recordings must be kept for a minimum of three months from the time of recording and must display the time and date on the recorded image.

The licensee must submit to the Department's Armidale office by no later than **25 February 2011** for approval a proposal which details the type of real time video monitoring and recording equipment to be installed and used at the site, the locations where it will be installed and the measures that will be incorporated to ensure it cannot be tampered with or altered to enable out of hours operations to go undetected. Installation must be undertaken by a suitably qualified person and must occur within one month of the equipment being approved by the Department.

COMPLETION DATE: 25 FEBRUARY 2011

Special conditions

E1.1 Not applicable.

Dictionary

General Dictionary

In this licence, unless the contrary is indicated, the terms below have the following meanings:

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
BOD	Means biochemical oxygen demand

CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 1998.
flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
Noise	Means "sound pressure levels" for the purposes of conditions under L6 of this licence
Noise sensitive locations	Means buildings used as residence, hospital, school, child care centre, places of public worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building
NSW Industrial Noise Policy	Means the document titled "NSW Industrial Noise Policy" published by the Environment Protection Authority in January 2000
O&G	Means oil and grease
percentile [in	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit

relation to a concentration limit of a sample]	specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Nigel Sargent

Environment Protection Authority

(By Delegation)

Date of this edition - 10-Feb-2011

End Notes

1	Licence varied by notice 1009590, issued on 20-Sep-2002, which came into effect on 15-Oct-2002.
2	Licence transferred through application 141531, approved on 16-Oct-2002, which came into effect on 15-Oct-2002.
3	Licence varied by notice 1032383, issued on 06-Jan-2004, which came into effect on 31-Jan-2004.
4	Licence varied by notice 1052269, issued on 09-Jan-2007, which came into effect on 09-Jan-2007.
5	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
6	Licence varied by notice 1105999, issued on 23-Nov-2009, which came into effect on 23-Nov-2009.
7	Licence varied by notice 1124038, issued on 10-Feb-2011, which came into effect on 10-Feb-2011.

Appendix 3 – Approved Road Train Use on Mosquito and Gil Gil creek roads

Roads on and east of the Newell Highway approved for Modern Road Trains operating at General Mass Limits (GML)

GWYDIR SHIRE COUNCIL AREA

Type	Road No	Road Name	Starting Point	Finishing Point	Access Condition(s)
MRT 36.5	SR41	County Boundary Road	Terling Park Road	Buckie Road (SR43)	NHVAS maintenance
MRT 36.5	SR43	Buckie Road	Croppa Moree Road	County Boundary Road (SR41)	NHVAS maintenance
MRT 36.5	SR5	Croppa Moree Road	County Boundary Road (SR41)	Croppa Creek Road (SR7)	NHVAS maintenance
MRT 36.5	SR7	Croppa Creek Road	Croppa Moree Road (SR5)	I.B Bore Road (SR9)	NHVAS maintenance
MRT 36.5	SR9	I.B Bore Road	Croppa Creek Road (SR7)	North Star Road (RR7705)	NHVAS maintenance
MRT 36.5	RR7705	North Star Road	Baroma Road (SR36)	Moree Plains Shire Boundary (near Bruxner Way)	NHVAS maintenance
MRT 36.5	SR36	Baroma Road	Croppa Creek Road (SR7)	North Star Road (RR7705)	NHVAS maintenance
MRT 36.5	MR462	Bruxner Way	Moree Plains Shire Boundary	Inverell Shire Boundary	NHVAS maintenance
MRT 36.5	SR14	Mosquito Creek Road	Moree Plains / Gwydir Shire Boundary	Gil Gil Creek Road, Gwydir	NHVAS maintenance
MRT 36.5	SR63	Gil Gil Creek Road	Mosquito Creek Road, Gwydir	Runnymede Quarry approx 5km north of Mosquito Creek Road	NHVAS maintenance

Last Updated 18 June 2013

Roads & Maritime Services

PO Box 94 Glen Innes NSW 2370
T 1300 364 847 | E iap@rms.nsw.gov.au
www.rms.nsw.gov.au

Road Train General Mass Limits Permit

Transport Roads & Maritime Services

This permit is issued in respect of the vehicle (the Vehicle) identified below pursuant to section 27 of the *Road Transport (General) Act 2005*. The permit allows the Vehicle to operate on the routes specified subject to the conditions set out in this permit. This permit sets out the conditions that the operator is required to meet when the Vehicle is operating under this permit.

A reference in this permit to "the Regulation" means the Road Transport (Mass, Loading and Access) Regulation 2005.

The registered operator must comply with all of the conditions set out in this permit.

This permit is valid and in force up to and including the End Date set out in the Permit Details unless cancelled or surrendered at an earlier time.

This permit is not transferable.

The registered operator must immediately notify Roads and Maritime Services (RMS) by email to iap@rms.nsw.gov.au or by telephone on 1300 364 847 of any change of registration details, including a change of registration number, of the Vehicle.

PART 1 PERMIT, OPERATOR AND VEHICLE DETAILS

1.1 PERMIT DETAILS

Permit No:	281243	Start Date:	01/05/2013	End Date:	30/04/2014

1.2 REGISTERED OPERATOR DETAILS

Name:	Johnstone Plant Pty Ltd				
Address:	LOT 1INVERELL ROAD				
Suburb/Town:	MOREE	State:	NSW	Post Code:	2400

1.3 VEHICLE DETAILS

Prime Mover/Hauling Unit

Plate:	BL54TN	State:	NSW
Make:	KENWTH	GCM:	90000
VIN / Chassis:	6F50000006A432704		

PART 2 ROAD TRAIN at GENERAL MASS LIMITS

2.1 Application

2.1.1 This Part applies to the Vehicle at all times the Vehicle is operating as a road train at GML not exceeding an overall length of 36.5 metres, consisting of a prime mover and two trailers, where one trailer consists of a tri-axle converter dolly fitted with certified road friendly suspension supporting a semi-trailer.

2.1.2 A reference to "combination" in this Part is a reference to the Vehicle and the trailers being towed by the Vehicle.

2.1.3 The Vehicle must at all times that it is being operated under this Part be a nominated vehicle of an operator accredited under the Maintenance Module of the National Heavy Vehicle Accreditation Scheme.

2.2 Mass Limits

2.2.1 The total mass of the combination must not exceed the lowest of the following:

(a) the sum of axle and axle group mass limits in Table 1 of Schedule 1 to the Regulation; or

(b) the gross combination mass (GCM) limit specified by the prime mover manufacturer; or

(c) the sum of the manufacturers' mass limits for the prime mover (GVM) and the semi-trailers; or

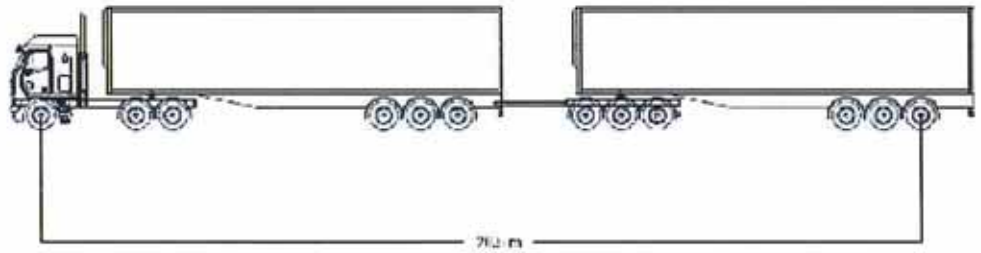
(d) a total mass of 82.5 tonnes (83.0 tonnes where the prime mover complies with the Class 3 Single Steer Axle Mass Limit Exemption Notice 2010).

2.3 Axle Spacings

2.3.1 A road train operating under this Part must comply with the axle spacing requirements in clause 3 of Schedule 1 to the Regulation.

2.3.2 A road train operating under this Part must also maintain an axle spacing for the outermost axles which is not less than the spacing indicated in Figure 1.

Figure 1



Note: The outermost axle spacing is measured from the centre line of the steer axle on the prime mover to the centre line of the last axle in the combination as illustrated in Figure 1.

2.4 Approved Routes

2.4.1 The Vehicle may only operate on the routes approved for Modern Road Trains. A list of Modern Road Train GML Network routes is available on the RMS website at http://www.rta.nsw.gov.au/heavyvehicles/maps/index.html

END OF PERMIT

Appendix 4 - Water Quality Data for Discharge from Quarry

SGS

Unit 1
40 Reginald St
Rocklea, Qld 4106

Ph:07 3274 7900
Fax:07 3255 5240
Email:au environmental brisbane@sgs.com

Attention: Peter Taylor

Client: SMK Consultants - Moree
39 Frome Street

MOREE, NSW 2400

Client Order No.: Job No: 11/310 **Ph:** 02 6752 1025

Batch Reference No.: J-1008-221 **Fax:** 02 6752 5070

Job Description: Stormwater Event Monitoring - Sediment pond at Quarry

Chemical Analytical Results

	Sample Reference	LJ-1008-221-01 -Catchment Pon t 1
	Sample Point	Quarry Sediment Pond
	Date Collected	29/11/2011
	Date Received	8/12/2011
	Date Testing Completed	14/12/2011
WC405.31	Total Oil & Grease	< 10 mg/L
WP100.X	Suspended Solids	14 mg/L

Notes:
Results reported on an 'as received' basis
Samples are disposed of 14 days after completion of testing.

Note: All tests covered by NATA accreditation except where marked *

NATA Corporate Accreditation Number: 2562
Chemical Laboratory Site Number: 30707
Microbiological Laboratory Site Number:1706
NATA ENDORSED TEST REPORT
This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO/IEC 17025.

Authorised for release:

LORA NEWBY
Water Chemistry Supervisor

Date: 15/12/2011

40,777

Johnstone Concrete and Quarries

Runnymede Quarry

Surface Water Management Plan

2013

Introduction

In accordance with the Director General's requirements this SWMP for the proposal has been prepared in accordance with the Landcom document *Managing Urban Stormwater: Soils and Construction, Vol. 1, 4th eds.* (Landcom, 2004) (the 'Blue Book').

The SWMP incorporates:

- an identification and categorisation of the water catchments within the development site;
- a description of the local soil types and their potential influence on the design and construction of water management structures;
- an assessment of constraints posed by the location of the development site and the characteristics of the local soils and surface water catchments;
- a description of the proposed soil and water management at the development site including:
    - soil and water management objectives;
    - soil best management practices;
    - water best management practices, including a description of the structures used on the development site to control and store water flows; and
    - a basic water balance for the development site.
- a Surface Water Monitoring Program.

For management purposes, the water within the development site has been divided into two classes.

(i) **"Clean" water** - surface runoff from undisturbed catchments or relatively undisturbed by extraction, processing or related activities.

(ii) **"Dirty" water** - surface runoff from disturbed catchments such as the active extraction, crushing, stockpiling and loading areas which could produce significant concentrations of suspended sediment.

Soil and Water Management Principles

The principal objective of surface water management at the Runnymede Quarry is to ensure that the water quality leaving the site meets the appropriate quality standards set in Environmental Protection Licence 7379. This objective is basic to erosion and sedimentation designs and controls, and is achieved by implementing the following principles:

- directing sediment-laden runoff into designated sediment control retention basins;
- diverting 'clean water' runoff unaffected by the operations away from disturbed areas and off site; and
- maintaining sediment control structures to ensure that the designed capacities are maintained for optimum settling of sediments.

Catchments of the development site

The development site sits atop an east-west trending ridge and can be divided into six catchments, a clean water catchment 1B and five dirty water catchment 1A, 2, 3, 4 and 5 (illustrated below in Figure 22) with a total area of 61 ha.

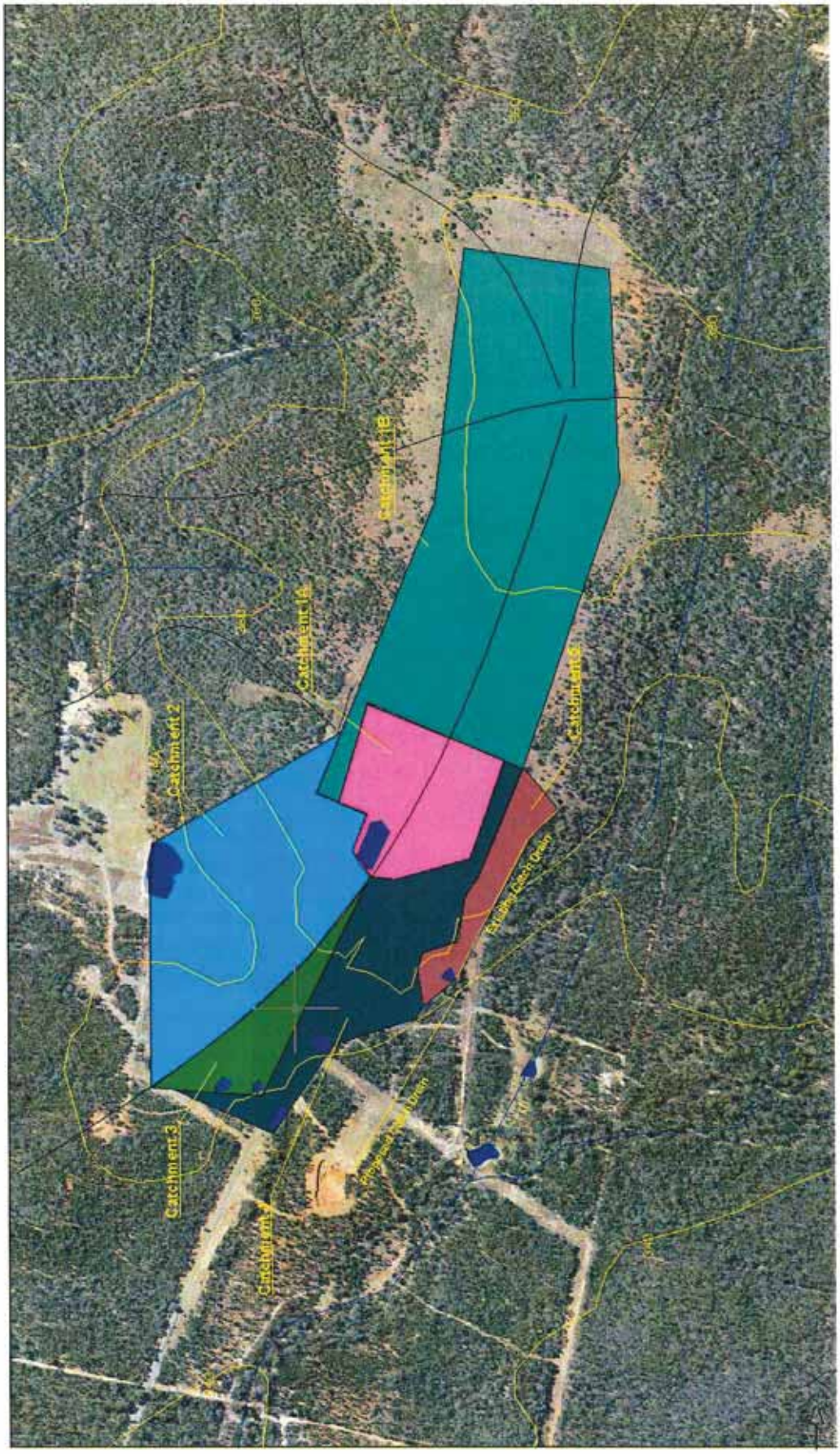


Figure 22 Runnymede catchments

The quarry is located on the top of an east-west trending ridge and surface water from the undeveloped part of the ridge (catchment 1B) flows to three ephemeral drainage lines, two

from the northern side of the ridge trending northwards and the third, on the southern side of the ridge trending west-north-west. All three drainage lines flow to Bullala Creek.

The method employed to divert clean water from entering the active pit is the use of topsoil and/or overburden to form a bund along the northern and southern faces and adjacent to the active eastern quarry face to ensure that all rain water falling on undisturbed areas continues to proceed to the abovementioned drainage lines. No additional water is directed to these drainage lines therefore there is no increase in the velocity of water in the drainage lines that could result in erosion or scouring. This diversion bund is progressively extended in an easterly direction as topsoil and overburden is removed prior to each drill and blast campaign.

Runoff from disturbed catchments 1A, 2, 3, 4 and 5 is directed to sediment basins where the water is used for dust suppression following settling. Over time catchment 1A will progressively incorporate catchment 1B and this additional area has been taken into account in calculating runoff.

A summary of the Study Area catchments is provided in the following table, and illustrated in the figure overleaf.

Catchment	Area (m^2)	Disturbance
Clean water catchment		
1B	274,959	Grazing
Total area	**274,959**	
Disturbed catchments		
1A	61,274	Working pit, blasting, excavation, primary crushing and stockpiling
2	141,055	Stockpiles, pug mill, homestead. topsoil storage and grazing
3	30,636	Workshop, stockpiles, road, weighbridge, homestead and grazing
4	78,215	Secondary crusher, screens, stockpiles and loading
5	24,090	Topsoil storage and grazing
Total area	**335,270**	

Table 39: Study Area Catchments

Assessment of Constraints

Introduction

As noted in the Blue Book, a proper assessment of site constraints is a prerequisite to the preparation and implementation of a SWMP. Constraints are classified as either:

- on-site, i.e. relating to soils, landforms, ecology, pollutants and hydrology occurring on the site of the proposed or approved activities; or
- downstream, i.e. relating to aquatic ecosystem sensitivity and the social and aesthetic values of the community.

Based on the identified constraints and opportunities, best management practices (BMPs) have been developed for the site to minimise the potential degradation of soil and water resources and/or other aesthetic/environmental assets while maximising the achievement of outcomes in accordance with principles of Ecologically Sustainable Development (ESD).

The recommended constraints to be addressed by the Blue Book are discussed in the sections below. These are in addition to the project-specific constraints discussed in the main report.

Riparian Lands

Waterfront Lands (formally known as Riparian Lands under the *Rivers and Foreshores Improvement Act 1948*) are those vegetated lands within 40 metres of water bodies such as rivers, creeks, estuaries, lakes and wetlands. Development on riparian lands is constrained:

- to protect and enhance the social, economic, cultural, spiritual and heritage values of waterfront land for Aboriginal groups and the wider community; and
- to avoid or minimise land degradation, including soil erosion, compaction, geomorphic instability, contamination, acidity, water logging, salinity hazards and decline of native vegetation.

The approved extraction area extends east along the top of the ridge and would not be within 40m of a river, creek, estuary, lake or wetland as defined by the Act.

Erosion (Rainfall Erosivity & Soil Erodibility)

Rainfall Erosivity

The rainfall erosivity factor, R, is a measure of the ability of rainfall to cause erosion. It is the product of two components, namely:

- total energy; and
- maximum 30 minute intensity for each storm.

Based on the key map in Appendix B of the Blue Book, the development site is located within a rainfall erosivity zone of approximately 1,500 (a relatively low to moderate erosivity zone).

Soil Erodibility

Soil erodibility is a measure of the susceptibility of individual soil particles to detachment and transport by rainfall and runoff. Soil texture is the principal component affecting soil erodibility, but structure, organic matter and permeability also contribute. The type of soils and the moderate slopes indicate the soils within the development site are sensitive to erosion without implementation of appropriate surface water and erosion control measures.

Soil Characteristics

Blue Book classifications for the soil in catchment 1B show that the soils are type F soils, which are generally fine-grained soils with less than 10 percent of the soil materials dispersible. Type F soils are slow settling in wet basins. Surface water from this catchment is considered to be 'clean' and is diverted off-site.

The working surfaces in catchments 2, 3 and 4 have been gravelled with crushed aggregate produced on-site and are not prone to erosion. The soils in catchment 5 on the southern slope of the ridge comprise type F at the upper levels grading to type C at lower levels. Type C soils are coarse grained soils, again with less that 10 percent of the soil materials dispersible.

As the sediment basins will have to accommodate runoff that may also contain dust that is entrained during dust suppression operations soil type F has been set as the design standard. Designing a sediment basin to a Type F specification is a quite conservative method, and therefore this approach has been used.

Surface Water Runoff

The surface water runoff expected during average, wet and dry rainfall years has been calculated in the water balance for the site.

- Annual 10th percentile (dry year): 448.2 mm
- Annual 50th percentile (average year): 677.8 mm
- Annual 90th percentile (wet year): 935.4 mm

Groundwater

As discussed elsewhere in this report no significant groundwater source is likely to be intersected by the extraction activities. Any minor seepage that may occur in the active extraction area would be collected by a sump in the northwest corner of the pit area and used for dust suppression.

As the development and operation of the proposed extraction operations is unlikely to have a significant impact on local water tables, this will not constrain development of best management practice water management.

Soil and Water Management

Objectives

The principal objectives of soil and water management adopted in this surface water assessment are to:

- manage the soil resources of the site to minimise the risk of erosion and maximise the potential use of any stripped/disturbed soil in rehabilitation of the disturbed areas;
- ensure appropriately designed and located water management structures are constructed and maintained to segregate "dirty" water from "clean" water;
- ensure that "dirty" water captured within the disturbed catchment of the development site is retained and water appropriately treated to meet the water quality requirements set out in Environment protection Licence 7379;
- minimise erosion and sedimentation from all active and rehabilitated areas of the development site; and
- monitor the effectiveness of surface water erosion and sediment controls and ensure the water quality criteria are met and that the development site has no adverse impact on water quality downstream, such as the Gwydir River.

The following sub-sections have been structured and prepared to provide appropriate best management practices (BMPs) to maximise the potential to achieve each of these objectives.

Soil BMPs

Sources of Erosion and Sedimentation

During operations at the development site, erosion and sedimentation could potentially result directly or indirectly from the following:

- surface water runoff from active extraction areas, including areas cleared ahead of extraction;
- surface water runoff from topsoil, overburden, crushing, screening, loading and product stockpile emplacements; and
- surface water runoff from rehabilitated areas prior to the successful establishment of vegetation.

Minimising the area of soil exposed to surface water flows, either as cleared surfaces ahead of extraction, soil stockpiles or respread soils over rehabilitated surfaces, is the primary aim of soil management at the site. The secondary aim is to provide exposed soils with adequate protection to minimise disturbance caused by surface water flows. These aims are achieved through the adoption of the following BMPs.

Minimal Disturbance

Land disturbance would be minimised by clearing the smallest practical area of land ahead of extraction activities and leaving this disturbed for the shortest possible times. General vegetation clearing and soil stripping would not be undertaken until earthwork operations are ready to commence. All proposed erosion and sediment control measures would be implemented in advance of, or in conjunction with, clearing and stripping operations. Prior to

clearing commencing, the limits of clearing would be marked by pegs placed at intervals on each side of the disturbed area or other similar system. All operations would be planned to ensure that there is no damage to any vegetation outside the limits to be cleared.

Planning Considerations

a) As far as practical, ground disturbing activities should be scheduled such that the time from commencement to completion is less than 6 months.
b) Cleared areas ahead of extraction should be restricted to the areas defined for each clearing campaign.
c) Access to areas designated for ground disturbing activities should be limited to within 10 m (and preferably 5 m) of the designated area and identified with fencing, flagging or other methods.
d) Prior to the commencement of any ground disturbing activities, upslope diversion banks and downstream sediment fencing and/or other sediment retention structures should be constructed/installed.

Handling and Stockpiling of Topsoil

Topsoil stripping should be undertaken when the soil is in a slightly moist condition thus reducing damage to soil structure, achieving a higher standard of revegetation and reduce maintenance requirements. The soil materials should not be stripped in either a dry or wet condition. Stripped material should be placed directly onto the bund with excess material being stockpiled.

A maximum stockpile depth of approximately 3 metres should be maintained to preserve viability and reduce soil deterioration. Longer term soil stockpiles should be sown with the species recommended in the following table as soon as possible after stockpiling. Soil stockpiles should be constructed with a slope of <2:1(H:V) and the stockpile surface left roughened. Placement within natural or constructed drainage lines should be avoided.

Table 40 Pasture specification and sowing rate

Pasture Specification		
Species	**Sowing rate kg/ha (as mixture)**	
	Spring	**Autumn**
Queensland Bluegrass (*Dichanthium sericeum*)	**0.5 - 2**	**0.5 - 2**
Kikuyu (*Pennisetum clandestinum*)	**1 - 2**	**1 - 2**
Perennial Ryegrass (*Lolium perenne*)	**3 - 10**	**3 - 10**
Lucerne (*Medicago sativa*)	**2 - 4**	**2 - 4**
Narrow leaf plantain *(Plantago lanceolata*)	**1 - 4**	**1 - 4**

Soil Respreading

Before soil respreading, the ground surface should be scarified or ripped along the line of the contour to break any compacted and smooth surfaces and assist in keying the respread soil.

Topsoil respread over areas of rehabilitation should be approximately 100mm on flat or shallow slopes (<4(H):1(V)) and no greater than 50mm on steeper slopes (>4(H):1(V)).

The respread soils should be left with a roughened surface and sown with an improved pasture species mix (such as set out above) as soon as possible to stabilise the soils.

Water BMPs

Introduction

Best management practices for water on the development site will consider:

(i) the diversion of clean water within a predominantly segregated clean water system;
(ii) the capture and storage of dirty water within a segregated dirty water system; and
(iii) the discharge of excess water from the development site.

Detail is provided to the extent considered necessary to illustrate the concepts and objectives of water management implemented at the development site, and to describe the appropriate design and function of the various BMPs used to achieve these concepts and objectives.

Water capture and Diversion

Introduction

A primary objective of water management on the development site is to segregate clean and dirty water flows, and diverting surface water flows away from the active extraction area is essential in achieving this objective. Uncontrolled water flows over disturbed areas of the development site would also greatly increase the risk of erosion. By diverting water flowing from undisturbed areas of the development site away from the active areas of disturbance, and directing this water at non-erosive velocities to stable areas in adjacent drainage lines, this risk would greatly be reduced.

As discussed above, the general topography of the development site is on the top and the western end of an east/west trending ridge and sloping downward towards the north and the south. The ridge top also has a slight slope to the west, therefore, without any control measures in place, some clean water runoff generated at the top of the development site (to the east of the extraction area) could flow into the active extraction area.

The following section presents an examination of the surface water BMP structures employed on the development site to divert and treat dirty water in accordance with the requirements of the Blue Book.

Diversion Structures (Low Flow)

These structures comprise simple earth banks, natural drainage depressions, table drains and contoured surfaces that guide runoff to sediment basins. Kirpich's formula was used to determine the time of concentration for catchments 2, 3, 4 and 5. Catchments 1A and 1B were excluded as catchment 1A comprises the pit floor, there is no run on water and a lip six metres high at the pit entrance prevents any water leaving the pit. Catchment 1B remains undisturbed and any runoff from this catchment consists of clean water at natural volumes and velocities.

Figure 23 Diversion structures

The quarry is an existing development and dirty water diversion and capture structures are in place and have operated effectively to capture and treat dirty water runoff for the past seventeen years.

For the assessment of catchments 2, 3, 4 and 5 the methods set out in Appendix J of the Blue Book were used. The soil was assumed to by type F and the sediment basin design requirement was assumed to be for this soil type.

Settling zone volume (M^3) = 10 x Cv x A x R

Catchment	Constant	Coefficient (Appendix F)	Catchment Area ha	5 day 90% Rainfall for Moree	Settling Volume M3
2	10	0.51	14.11	36.3	2,612
3	10	0.51	3.06	36.3	566.5
4	10	0.51	7.82	36.3	1,448
5	10	0.51	2.4	36.3	444

Table 41 Settling zone volume calculated from Blue Book for Type F basin

Sediment zone volume (M^3) = A x (R x K x LS x P x C)/1.3

Catchment	Area ha	P Factor	R Factor	K Factor	Length Slope	C Factor	Sediment zone volume M3
2	**14.11**	**0.8**	**1500**	**0.03**	**0.19**	**0**	**74.24**
3	**3.06**	**0.8**	**1500**	**0.03**	**0.19**	**0**	**16.1**
4	**7.82**	**0.8**	**1500**	**0.03**	**0.19**	**0**	**41.15**
5	**2.4**	**1.0**	**1500**	**0.036**	**1.47**	**0.2**	**146.55**

Table 42 Sediment zone volume calculated by Rusle2

Total Required Capacity (M^3) = Settling zone volume + Sediment zone volume

Catchment	Settling zone ML	Sediment zone ML	Required capacity ML
2	2.612	0.07424	2.686
3	0.5665	0.0161	0.5826
4	1.448	0.4115	1.48915
5	0.444	0.14655	0.59055

Table 43 Total required capacity based on Rusle2

Size of catchment storage = 10 x A x I x Tc x Y

Catchment	Area A ha	Tc in hours	Design storm	Storm intensity I (mm/hr)	Yield coefficient Y	Total runoff volume (ML)
2	14.11	0.098	1:100 (tc)	251	0.51	1.77
3	3.06	0.126	1:100 (tc)	233	0.51	0.458
4	7.82	0.248	1:100 (tc)	164	0.51	1.622
5	2.4	0.102	1:100 (tc)	233	0.51	0.29

Table 44 Dam sizing for 1:100 ARI (tc) rainfall event

Catchment	Existing storage (ML)	Required capacity (ML)	1:100 Storage (ML)	Comments
2	3.6	2.686	1.77	Adequate
3	0.8	0.5826	0.458	Adequate
4	2.1	1.48915	1.622	Adequate
5	0.4	0.590	0.29	Not adequate

Table 45 Assessment of storage adequacy

The storage for catchment 5 has a calculated deficiency of 0.19 megalitres (190 cubic metres) based on settlement and sediment storage capacity. The capacity of this sediment basin should be increased to 0.8 megalitres to ensure that it is capable of meeting BMP requirements.

The sediment basins and drains should be inspected monthly, or following a significant rainfall event to ensure that they retain sufficient available volumes to be capable of settling sediment and meeting licence conditions for any discharge. In the event that sediment volumes exceed allowable volumes, the sediment should be excavated and reclaimed.

Road Drainage

Spoon drains are open drains constructed with a parabolic or trapezoidal channel and used to divert water flows from road side drainage to sediment basins, vegetated or otherwise erosion protected areas. The primary function of the spoon drain is to reduce the concentration and velocity of water flows within the road side drainage and, therefore minimise the potential for erosion and transport of sediment to discharge points. Spoon drains divert water from the table drains on the steeper section of the access road to three sediment basins.
Each spoon drain should be inspected at least monthly, or following heavy rainfall with particular emphasis on the condition of land immediately down-slope of the discharge point. Any maintenance work should be completed within 7 days of the initial inspection.

Dirty Water Capture and Settlement

Introduction

By ensuring surface water which falls or flows over disturbed areas within the development site is captured in structures designed to allow for settlement of sediment in the water, the potential for downstream pollution of clean waters and/or lands would be minimised and/or eliminated. The following sub-sections describe the design, location and construction of these structures aimed at diverting, capturing and settling dirty water on the development site.

Sediment Basins

As can be seen in the catchment diagram above, there are seven sediment basins strategically located to capture runoff from disturbed areas.

Based on Blue Book specifications for a Type F sediment basin, the required size of the dams is:

- catchment 2 – 2.686 ML
- catchment 3 – 0.5826 ML
- catchment 4 – 1.622 ML
- catchment 5 – 0.59 ML

The parameters used to assess the adequacy of the dams are set out in the tables above. The key assumptions used to calculate the sediment basin size are as follows.

- Catchment area
- Design storm of 5 day, 90th percentile. This is based on the recommendations in version 2 of the Blue Book (Mines and Quarries), which recommends adopting a 90th

percentile design storm event when designing a Type D/F basin where the duration of disturbance will be greater than two years.

To ensure the dams are also of a sufficient size to capture a 1 in 100 year ARI rainfall event and prevent the escape of contaminated water they were assessed against the 1:100 ARI rainfall event as well as the required volume based on the Blue Book. The assessment of the dams against the 1:100 ARI based on catchment yield showed that this yield is smaller than the Blue Book volume thus confirming that a dam constructed to accommodate the volume required by the Blue Book would also provide sufficient volume to accommodate runoff from a 1:100 ARI for a duration equal to the time of concentration for that catchment.

The assessment determined that the dam for catchment 5, although it has operated satisfactorily since the development commenced, does not meet the settling zone requirements calculated in accordance with the Blue Book. It is therefore recommended that, as a conservative approach, this dam be reconstructed as a Type F sediment basin with a minimum capacity of 0.59 ML. To provide further redundancy, the sizing could be increased to 0.8 ML which would allow the dam to adequately function in rainfall events beyond required design standards.

The entry to the extraction pit is across a lip with a height of approximately 6 metres above the pit floor. An approximately 1.1ML sump has been constructed in the northwest corner of the active extraction area. This is the low point within the disturbance area, and therefore any dirty water generated within the extraction area from runoff or groundwater seepage would naturally flow to this sump. The combination of the raised lip and the sump allows for all water generated within the extraction area and internal haul road to be totally contained within the extraction area.

A monthly inspection of all dams together with diversion structures and the quarry sump should be undertaken where the following information is recorded.

- General condition.
- Evidence of overflow and condition of downstream catchment.
- Water colour, eg. highly turbid, brown, clear etc.
- Evidence of eroding surfaces.
- Evidence of sediment discharge.
- Approximate retained capacity.

Maintenance

All sediment structures should be regularly inspected and maintained as these structures represent the final control point for water discharged from the development site. Each structure should be inspected monthly, or following significant rainfall (i.e. greater than 25mm in 24 hours) and the general condition recorded, including:

- whether the structure(s) has been damaged or not;
- amount of sediment present upstream and downstream;
- breaches of the structure(s);
- presence of eroding surfaces; and
- requirement for maintenance.

In the event maintenance is required, works should be completed within 7 days of the inspection.

Summary

Based on the information presented above in relation to the proposed increase in annual production from Runnymede Quarry, and with the implementation of the recommended mitigation and control measures relating to soil and water management at the development site, it is anticipated that there would be minimal impact on surface water within and

downstream of the development site as a result of the proposed operations. The key features of the proposed water management system are as follows.

- All clean water would be diverted around the site, minimising the amount of dirty water to be captured and treated.
- All runoff from the site would pass through the existing retention basins.
- If excess water is present in the sediment basins this water should be used to irrigate pastures on the site to ensure that the sediment basins retain sufficient capacity to function as designed.
- These basins should remain in place and serve as a 'backup' following rehabilitation of the site should there be an extreme rainfall event.

Appendix 6: JCQ Environmental Management Plan

Quality System

Quality Endorsed Company

JCQ

Johnstone Concrete & Quarries

Runnymede Quarry
Environmental Management Plan

Johnstone Concrete & Quarries
Inverell Rd
Moree NSW 2400
ABN: 93 151 466 554
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2012

Document Verification

Johnstone Concrete and Quarries					
Environmental Management Plan					
Revision	Date	Purpose	Prepared by	Checked by	Authorised by
			Peter Taylor (SMK Consultants)	Brett Schoppe (JCQ Operations Manager)	Mitchell Johnstone (JCQ Director)
Signature	18-5-10	Initial Release			
Signature	18-5-11	1st Review			
Signature	28-4-12	2nd Review			
Signature					

Contents

Glossary of abbreviations

AEMR	Annual Environmental Management Report
CCC	Community Consultative Committee
DCP	Development Control Plan
DECCW	Department of Environment Climate Change and Water
DNR	Department of Natural Resources
DPI	Department of Primary Industries
DoP	Department of Planning
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP&A Act	Environmental Planning and Assessment act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
INP	Industrial Noise Policy
LEP	Local Environmental Plan
LGA	Local Government Area
OH&S Act	Occupational Health and Safety Act 2000
OH&S	Occupational Health and Safety
POEO Act	Protection of the Environment Operations Act 1997
RTA	Roads and Traffic Authority
WMF	Waste Management Facility
WTS	Waste Transfer Station

1 Introduction

This Quarry Environmental Management Plan has been prepared for Johnston Ready Mixed Concrete Pty Ltd (ACN 106433390). Johnstone Ready Mixed Concrete Pty Ltd is a family-owned company that operates several quarries and concrete batching plants in the Moree, Narrabri, Warialda and Mungindi areas. The company is ISO 9001 endorsed and supplies road-building materials to both the RTA and local government in its areas of operation as well as concrete to the construction industry.

The Runnymede Quarry is located approximately 22km northeast of Pallamallawa on Lots 52 and 53 DP 751093 in the Parish of Bullala County of Burnett. The Quarry falls within the Gwydir Shire Council Local Government Area. Plan 1 shows the Quarry site and surrounding area.

2 Strategic Context

The approach to the environmental management of the Runnymede Quarry will be largely drawn from the experience of Johnston Ready Mixed Concrete Pty Ltd together with Ian Johnston from the operation of this quarry and other sites they manage within northern New South Wales.

3 Statutory Requirements

The "Runnymede" Quarry must comply with the following statutory instruments:

- **Environmental Planning and Assessment Act 1979**
- **Protection of the Environment Operations Act 1997**
- **The National Parks and Wildlife Act 1974**
- **Native Vegetation Act 2003**
- **Threatened Species Conservation Act 1995**
- **Soil Conservation Act 1938**
- **Noxious Weeds Act 1993**
- **Mine Health and Safety Act 2004**
- **Occupational Health and Safety Act 2000**
- **Water Act 1912**
- **Water Management Act 2000**
- **Rural Fires Act 1997**
- **Contaminated Land Management Act 1997**
- **Yallaroi Local Environmental Plan 1991**

4 Environmental Performance Management, Monitoring and Reporting

4.1 Environmental Management Program

Environmental management at the "Runnymede" Quarry will be undertaken in accordance with Development Approval, the Environmental Protection Licence, the statutory instruments identified above and this Environmental Management Plan.

These documents will be reviewed, and if necessary updated, in consultation with the Gwydir Shire Council and relevant agencies to ensure effective environmental performance. The following measures will be adopted to ensure effective environmental management:

Issue	Safeguards
Air quality	
Control dust emissions	Keep areas of open excavation to a minimum. Undertake progressive rehabilitation of excavation areas. Water excavation areas and internal roads as required. Water stockpile area as required. Ensure loads are covered on trucks transporting materials.
Surface water	
Runoff management	Ensure that catch drains and sediment ponds are constructed prior to clearing of vegetation. Cleared vegetation to be spread on exhausted pit areas.
Control erosion and sediment	Place overburden on exhausted pit areas. Progressively revegetate disturbed areas. Ensure that batters are not less than 3 horizontal to 1 vertical (3:1 H:V). Maintain catch drains and diversion drains. Maintain sediment ponds and remove accumulated sediments to ensure adequate volumes are maintained. Spread removed sediment on regeneration or cultivation areas. Keep areas of open excavation to a minimum.
Noise	
Control noise emissions	Maintain equipment to manufacturers' specification. Operate equipment in accordance with the equipment operator's manual. Ensure that all guards and silencers are in place when equipment is being used.
Hazard and risk	
Worker safety	Develop and implement an OH&S Plan. Ensure all workers, contractors and visitors receive a site induction prior to commencing work or entering the worksite.
Aboriginal heritage	
Protection of Aboriginal objects	Aboriginal objects are protected under the NP&W Act 1974 regardless of location. Should any Aboriginal objects be identified during the excavation all works must cease and the DECCW contacted in regard to appropriate permit requirements before any further work at the site is undertaken.
Training	All employees and contractors working on site are to be make aware of the NP&W Act 1974 and the fact that it is an offence to move, disturb or destroy Aboriginal objects without the written permission of the Director General of the DECCW.

4.2 Environmental Monitoring

The table below presents a summary of proposed monitoring that will be undertaken. Any non-compliance with the conditions of consent or statutory instruments will be recorded and included in the annual report along with measures used to mitigate impacts. An incident register (See Appendix 1, section 8.1.1) will be maintained to record any incident and the method adopted to mitigate any environmental harm or non-compliance.

Monitoring Requirements	Frequency
Air Quality	
Visually monitor dust generation from work zones to ensure that excessive dust is not being produced.	Daily.
Inspect sites to ensure that adequate dust controls are being used, such as watering roads, pits and stockpiles.	Daily.
Record any dust complaints in the complaints register and take corrective action.	When received.
Surface Water	
Inspect the site prior to vegetation removal to ensure that catch drains and sediment ponds have been installed and that necessary sediment and erosion controls are in place.	Prior to vegetation removal.
Inspect erosion and sediment controls to ensure that they are installed and operating correctly. Corrective action would be instituted if necessary and follow up inspections would be undertaken to verify the outcome of the corrective action.	Weekly and within 24 hours of a significant rainfall event.
Soils	
Monitor the condition of extraction areas and ensure that batters meet appropriate standards (3H:1V).	Weekly.
Inspect disturbed areas that have the potential for wind and water erosion and confirm stability.	Weekly.
Monitor sedimentation ponds and drains for sediment build up.	As required.
Site Rehabilitation	
Monitor rehabilitated areas to ensure that pasture establishment is proceeding and that erosion controls are functioning as designed.	Monthly.
Aboriginal Heritage	
Report any Aboriginal objects discovered during operations to the Department of Environment and Climate Change. Cease work in the area the object came from pending advice from DECC.	As necessary.
Hazard and Risk	
Visual inspection of fire breaks, groundcover, fuel loads and machinery to assess general fire hazard, particularly during the bushfire season.	Quarterly.
Noise	
Inspect machinery and ensure all guards, panels and silencers are in place and operational.	Daily.
Operate machinery in accordance with the manufacturer's requirements.	At all times.
Record any noise complaint in the complaints register and take corrective action.	When received.

4.3 Annual Environmental Management Report

Runnymede quarry management are responsible for the preparation of an Annual Environmental and Management Report (AEMR) which is to be submitted to the DECCW once a year. This report is to demonstrate that the site is complying with specific conditions set out by DECCW and the development consent. A copy of the Licence document can be found in Appendix 2 (section 8.2)

5 Complaint Management

The company maintains a telephone number 0427 540 212 and a Post Office box 941 Moree 2400 to enable public contact. All complaints will be recorded in the complaints register (See Appendix 1,

section 8.1.2) and the complainant will be contacted and advised of the action taken to address the complaint.

6 Responding to Emergencies

6.1 Fire

The company will ensure that vehicles and plant used in the quarry operation are fitted with effective exhaust systems to reduce the possibility of bushfire.

All earthmoving machines and trucks used on site will be equipped with suitable fire extinguishers.

Effective fire breaks shall be established and maintained around work areas and appropriate asset protection zones shall be established and maintained around buildings and plant storage areas.

6.2 Injury

Suitable first aid equipment will be maintained on site in accordance with OH&S requirements. At least one person who holds a current senior first aid qualification will be employed on site.

6.3 Fuel and oil spill

Fuel and oil sufficient to refuel and service plant and machinery used in the quarry operations will be transported to the site on a day to day basis as required. This will ensure that should there be a spill the quantity involved will be small.

Should any fuel or oil be spilt then contaminated soil will be moved to a bunded area for remediation in accordance with the requirements of the Contaminated Land Management Act.

7 Accountability and Responsibility

Runnymede Quarry is owned by Johnston Ready Mixed Concrete Pty Ltd. The site is managed by one of the company directors Ian Johnston, who is responsible for the environmental management and performance of the quarry operation.

8 Appendices

8.1 Appendix 1 – Incident Reporting Forms And Register Forms

8.1.1 Incident Report form

Date	Time	Nature of incident	Details of action taken. If no action taken, what were the reasons why no action was necessary?

8.1.2 Complaints Register

Date	Time	Complainant name and contact details	Method of complaint	Nature of complaint	Details of action taken. If no action taken, what were the reasons why no action was necessary?

Appendix 2 – Environmental Protection Licence 7379

SCALES : HORIZ 1 IN 7,000 Approx VERT 1 IN 7,000 Approx DATUM : A.H.D. CONTOUR INTERVAL : SURVEYED DESIGNED CHECKED	S.M.K. CONSULTANTS Pty Ltd PO BOX 774 MOREE 2400 PHONE (02) 6752 1021	PLAN 1 : Johnston Readymix Concrete Pty Ltd – site plan	FILE No. 09-62 PLAN No. 1 DATE May 2010 DRAWING FILE : CALC. FILE :	SHEET No. 1 No.OF SHEETS 1

Appendix 2 – Environmental Protection Licence 7379

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

Licence Details
Number: 7379
Anniversary Date: 25-June

Licensee
JOHNSTONE; IAN ANTHONY
PO BOX 941
MOREE NSW 2400

Licence Type
Premises

Premises
'RUNNYMEDE'
GIL GIL ROAD
PALLAMALLAWA NSW 2399

Scheduled Activity
Crushing, grinding or separating
Extractive activities

Fee Based Activity	Scale
Land-based extractive activity	> 100000 - 500000 T obtained

Region
North West - Armidale
Level 1, NSW Govt Offices, 85 Faulkner Street
ARMIDALE NSW 2350
Phone: 02 6773 7000
Fax: 02 6772 2336

PO Box 494 ARMIDALE
NSW 2350

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT Environment, Climate Change & Water

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act); and
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees.

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT Environment, Climate Change & Water

The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

JOHNSTONE; IAN ANTHONY
PO BOX 941
MOREE NSW 2400
JOHNSTONE; LEE- ANNE ROBYN
PO BOX 941
MOREE NSW 2400
JOHNSTONE; PAUL FRANCIS
PO BOX 941
MOREE NSW 2400
JOHNSTONE; JULIE MARGARET
PO BOX 941
MOREE NSW 2400

subject to the conditions which follow.

1 Administrative conditions

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

A1 What the licence authorises and regulates

A1.1 Not applicable.

A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity
Crushing, grinding or separating
Extractive activities

Fee Based Activity	Scale
Land-based extractive activity	> 100000 - 500000 T obtained

A1.3 Not applicable.

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT Environment, Climate Change & Water

A2 Premises to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
'RUNNYMEDE'
GIL GIL ROAD
PALLAMALLAWA
NSW
2399
LOT 52 & 53 DP751093, PARISH OF BULLALA,
COUNTY OF BURNETT

A3 Other activities

A3.1 Not applicable.

A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
(a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
(b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to air and water and applications to land

P1 Location of monitoring/discharge points and areas

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

P1.1 Not applicable.

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

P1.3 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

Water and land

EPA identification no.	Type of monitoring point	Type of discharge point	Description of location
1	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 300 metres to the north-east of the Runnymede residence as shown on map titled 'EPA Identification Points' dated 13/11/06.
2	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from the final sediment basin located approximately 250 metres to the west of the Runnymede residence and within the catchment of the washing plant for the precoat product, as shown on map titled ' EPA Identification Points" dated 13/11/06.
3	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 400 metres to the south of the Runnymede residence and south of the stockpiles and main crushing plant area as shown on map titled 'EPA Identification Points' dated 13/11/06.
4	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 150 metres south of the Runnymede residence and west of the stockpiles and main crushing plant area, as shown on map titled "EPA Identification Points' dated 13/11/06.
5	Wet weather discharge Discharge quality monitoring	Wet weather discharge Discharge quality monitoring	Overflow from sediment basin located approximately 700 metres to the south of the Runnymede residence and south of the stockpiles and main crushing plant area, as shown on map titled "EPA Identification Points' dated 13/11/06.

3 Limit conditions

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT Environment, Climate Change & Water

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Load limits

L2.1 Not applicable.

L2.2 Not applicable.

L3 Concentration limits

L3.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.

Water and Land

POINTS 1,2,3,4,5

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile Concentration Limit
Total suspended solids	milligrams per litre				50

L3.4 Exceedence of the discharge quality limit specified in this licence for Total Suspended Solids from Points 1 to 5 is permitted if the discharge occurs during, or within 24 hours after, a rainfall event at the premises exceeding a total of 42 millimetres over any consecutive five day period.

L4 Volume and mass limits

L4.1 Not applicable.

L5 Waste

L5.1 Not applicable.

L6 Noise Limits

L6.1 Not applicable.

L7 Hours of operation

L7.1 Activities covered by this licence must only be carried out between the hours of 0700 and 1730 Monday to Friday and at no times on Public Holidays

4 Operating conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:
(a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
(b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
(a) must be maintained in a proper and efficient condition; and
(b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

5 Monitoring and recording conditions

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT Environment, Climate Change & Water

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
(a) in a legible form, or in a form that can readily be reduced to a legible form;
(b) kept for at least 4 years after the monitoring or event to which they relate took place; and
(c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
(a) the date(s) on which the sample was taken;
(b) the time(s) at which the sample was collected;
(c) the point at which the sample was taken; and
(d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

Water and Land

POINTS 1,2,3,4,5

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 1	Representative sample
Total suspended solids	milligrams per litre	Special Frequency 1	Representative sample

For the purposes of the table(s) above Special Frequency 1 means the collection of samples on the first day of each discharge event.

M3 Testing methods - concentration limits

M3.1 Not applicable.

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Recording of pollution complaints

M4.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M4.2 The record must include details of the following:
(a) the date and time of the complaint;
(b) the method by which the complaint was made;
(c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
(d) the nature of the complaint;
(e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
(f) if no action was taken by the licensee, the reasons why no action was taken.

M4.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M4.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M5 Telephone complaints line

M5.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M5.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M5.3 Conditions M5.1 and M5.2 do not apply until 3 months after:
(a) the date of the issue of this licence or
(b) if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

M6 Requirement to monitor volume or mass

M6.1 Not applicable.

M7 Requirement to monitor weather

M7.1 Rainfall at the premises must be measured and recorded in millimetres per 24 hour period, at the same time each day.

Note: The rainfall monitoring data collected in compliance with Condition M7.1 can be used to determine compliance with L3.4.

6 Reporting conditions

R1 Annual return documents

What documents must an Annual Return contain?

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
(a) a Statement of Compliance; and
(b) a Monitoring and Complaints Summary.
A copy of the form in which the Annual Return must be supplied to the EPA accompanies this licence. Before the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

Period covered by Annual Return

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
(a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
(b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
(a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
(b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

Deadline for Annual Return

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

Notification where actual load can not be calculated

R1.6 Not applicable.

Licensee must retain copy of Annual Return

R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

Certifying of Statement of Compliance and signing of Monitoring and Complaints Summary

R1.8 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
(a) the licence holder; or
(b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R1.9 A person who has been given written approval to certify a certificate of compliance under a licence issued under the Pollution Control Act 1970 is taken to be approved for the purpose of this condition until the date of first review of this licence.

R2 Notification of environmental harm

Note: The licensee or its employees must notify the EPA of incidents causing or threatening material harm to the environment as soon as practicable after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
(a) where this licence applies to premises, an event has occurred at the premises; or
(b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

(a) the cause, time and duration of the event;
(b) the type, volume and concentration of every pollutant discharged as a result of the event;
(c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
(d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
(e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
(f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
(g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

General conditions

G1 Copy of licence kept at the premises

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

Pollution studies and reduction programs

U1 Spill Control

U1.1 **COMPLETED**

U2 Real Time Video Monitoring and Recording

U2.1 To ensure the licensee is complying with condition L7.1 of this licence the Department requires the licensee to install, operate and maintain real time video equipment that monitors the weighbridge and entrance/s to the licensed premises. The video monitoring must operate 24 hours a day seven days a week and must record continuously. These recordings must be kept for a minimum of three months from the time of recording and must display the time and date on the recorded image.

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT Environment, Climate Change & Water

The licensee must submit to the Department's Armidale office by no later than **25 February 2011** for approval a proposal which details the type of real time video monitoring and recording equipment to be installed and used at the site, the locations where it will be installed and the measures that will be incorporated to ensure it cannot be tampered with or altered to enable out of hours operations to go undetected. Installation must be undertaken by a suitably qualified person and must occur within one month of the equipment being approved by the Department.

COMPLETION DATE: 25 FEBRUARY 2011

Special conditions

E1.1 Not applicable.

Dictionary

General Dictionary

In this licence, unless the contrary is indicated, the terms below have the following meanings:

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
BOD	Means biochemical oxygen demand

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 1998.
flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 1998
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
Noise	Means "sound pressure levels" for the purposes of conditions under L6 of this licence
Noise sensitive locations	Means buildings used as residence, hospital, school, child care centre, places of public worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building
NSW Industrial Noise Policy	Means the document titled "NSW Industrial Noise Policy" published by the Environment Protection Authority in January 2000
O&G	Means oil and grease
percentile [in	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Environment, Climate Change & Water

Licence - 7379

relation to a concentration limit of a sample]	specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Mr Nigel Sargent

Environment Protection Authority

(By Delegation)

Section 55 Protection of the Environment Operations Act 1997

Environment Protection Licence

Licence - 7379

NSW GOVERNMENT | Environment, Climate Change & Water

Date of this edition - 10-Feb-2011

End Notes

1	Licence varied by notice 1009590, issued on 20-Sep-2002, which came into effect on 15-Oct-2002.
2	Licence transferred through application 141531, approved on 16-Oct-2002, which came into effect on 15-Oct-2002.
3	Licence varied by notice 1032383, issued on 06-Jan-2004, which came into effect on 31-Jan-2004.
4	Licence varied by notice 1052269, issued on 09-Jan-2007, which came into effect on 09-Jan-2007.
5	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
6	Licence varied by notice 1105999, issued on 23-Nov-2009, which came into effect on 23-Nov-2009.
7	Licence varied by notice 1124038, issued on 10-Feb-2011, which came into effect on 10-Feb-2011.

Appendix 7 – Seven Parameter Test

The seven part test is referred to as an assessment of significance in the form of a Seven Parameter Test. The following presents the seven parameters:

a) *in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction:*

Comment:

No habitat exists on the quarry site to support populations of the threatened species. No viable populations have been recorded on the site but individuals may transit or occasionally forage. As the footprint of the presently approved quarry operation would not change as a result of this proposal there would be no additional effect on their lifecycle such that a viable local population could be placed at risk of extinction.

b) *in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction:*

Comment:

No endangered populations have been declared for this site.

c) *in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:*

(i) *is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*

Comment:

No. There are no endangered ecological communities or critically endangered ecological communities present on this site.

(ii) *is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*

Comment:

No. There are no endangered ecological communities or critically endangered ecological communities present on this site.

d) *in relation to the habitat of a threatened species, population or ecological community:*

(i) *the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*

Comment:

The footprint of the quarry would be confined to the presently approved area which consists of previously farmed and/or previously logged land and no habitat of threatened species is proposed to be removed.

(ii) *whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*

Comment:

No additional fragmentation would occur as a result of the development.

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality:

Comment:

The footprint of the quarry would be confined to the presently approved area which consists of previously farmed and/or previously logged land and no habitat of threatened species is proposed to be removed.

e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly):

Comment:

No critical habitat has been declared for the subject land.

f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan:

Comment:

The Office of Environment and Heritage website has the following to say about recovery and threat abatement plans:

"Previously, the TSC Act required the preparation of a recovery plan for each threatened species, population or ecological community and a threat abatement plan for each listed key threatening process. However, as the number of threatened species continues to grow, this approach is no longer workable.

To address this, in 2004 the NSW government reformed the TSC Act, removing the mandatory requirement to prepare individual recovery plans and threat abatement plans, replacing it with a more strategic, landscape-based approach that integrates species recovery with threat abatement."

The Act now requires the preparation of *Priority Action Statements*; however, no Priority Action Statements have been prepared for the above identified species.

g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process:

Comment:

Quarrying is not listed as a key threatening process. The increase in the extraction rate would not expand the presently approved footprint for the quarry and no additional clearing is required.

Summary

The subject land has been heavily modified by logging, clearing, farming and 17-years or more of quarrying. The quarrying of basalt has previously been approved and this proposal, increasing the annual output, will not alter the presently approved footprint for the quarry. It will, however, shorten the life of the quarry thereby reducing the length of time that disturbance would last and bring forward its rehabilitation.

The proposed increase in annual output complies with the requirements of relevant legislation, is a lawful use of the land and will provide a public social benefit.

Some of the listed threatened species may use the area; however, the existing and continued operation would not result in an immediate loss of corridors or foraging areas for these potential inhabitants. It is expected that the species will adapt to the slow changes that will

occur by utilising the remaining 600 Ha of Runnymede which will remain in a relatively untouched state.

Although searches of relevant data bases revealed that there is one endangered species and ten vulnerable species possibly found on or within the vicinity of the subject site, a Seven Parameter Test of Significance resulted in a decision that there was no need to undertake any further assessment such as a Species Impact Statement. This decision was based on the fact that

- the proposed increase in annual output would not require an expansion of the presently approved quarry footprint;
- does not require clearing of previously undisturbed native vegetation and;
- predicted impacts from the quarrying are short-term and reversible. That is, any impacts would stop once quarrying ceases and be reversed once rehabilitation is complete.

Appendix 8 – Runnymede Quarry Acoustic Assessment

ViPAC

SMK Consultants

Runnymede Quarry (Moree)

Acoustic Assessment

Report No. 29N-12-0080-TRP-471508-0
15 Aug 2012

DOCUMENT CONTROL

Runnymede Quarry

Acoustic Assessment

REPORT NO:
29N-12-0080-TRP-471508-0

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REVISION HISTORY:

Revision No.	Date Issued:	Reason/Comments:
0	10/09/2012	Initial issue

DISTRIBUTION:

Copy No. 2		Location
1		Project Folder
2	Uncontrolled Copy	Client (PDF Format)

KEYWORDS:

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EXECUTIVE SUMMARY

Vipac Engineers and Scientists Ltd (VIPAC) was engaged by SMK Consultants on behalf of Runnymede Quarry to carry out the acoustic modelling and assessment.

A noise assessment has been performed to determine the impact due to expanded hours of operations on nearby sensitive noise receivers.

The Quarry operations are predicted to be within the project specific noise criteria of $35dB_{Aeq.}$ The level of noise received by the sensitive receivers ranged between 6dBA to 28dBA from the quarry operations.

It is VIPAC's professional opinion that the impact due to expanded operational hours of Runnymede Quarry will be acceptable from an acoustic point of view.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

Vipac Engineers and Scientists Ltd (VIPAC) was engaged by SMK Consultants on behalf of Runnymede Quarry to carry out the acoustic modelling and assessment of the impact due to expanded hours of quarrying operations at the site.

The following standards were used for this assessment:

- Office of Environment and Heritage (OEH) NSW Industrial Noise Policy (INP).
- Australian Standard AS1055-1989, "Acoustics – Description and Measurement of Environmental Noise, Part 1 General Procedures".

2 PROJECT DESCRIPTION

2.1 SITE LOCATION

The Quarry site is located on the property "Runnymede" approximately 17kM to the Northeast of the village of Pallamallawa, near Moree, NSW. The Bullala National Park adjoins to the North and West. ***Figure 1*** shows the location of the Quarry with the Extraction and Rock Processing areas.

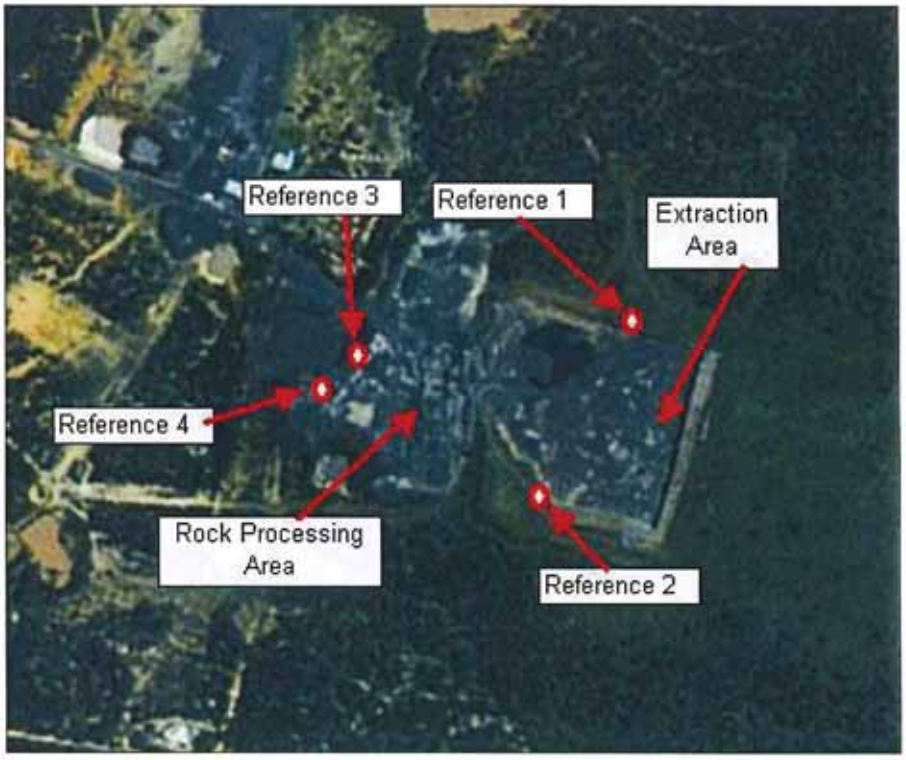


Figure 1: Runnymede Quarry - Operation's Location

2.2 NOISE SENSITIVE RECEIVERS

Table 1 provides the six nearest affected noise sensitive receivers to the quarry operation site.

Table 1: Nearest Sensitive Receivers

Property	Location
Kirkton	3.2 Km West- north west
Mynook	3.99 km North
Waipanuka	4.34 km South west
Hybla	6.31 km West-south west
Billandrie	6.47 km South west
Nardoola	5.53 km South-south east

However, this impact assessment focuses on two (2) of the closest monitoring locations being, Kirkton and Waipanuka for the purpose on the noise model.

2.3 QUARRY OPERATIONS

The quarrying process involves the following:

Raw material crushing operations consists of an Excavator, which loads the rock into a Primary Crusher located close to the quarry high-wall. The crushed material is then stockpiled onto the pit floor.

The crushed rock is transported from the primary stockpiles to the Processing Plant ROM hoppers by either front-end loader or dump trucks.

The rock material is then processed through secondary crushers and vibrating sizing screens and conveyed to the processed stockpiles.

The final processed product is then loaded into trucks and transported from site or stockpiled, as required.

Table 2 provides a list of the Quarry plant and machinery.

Table 2: Quarry plant and machinery.

Type	Manufacture	Model
Excavator	CAT	330CL
Primary Crusher	TEREX-CEDARAPIDS	-
Secondary crushing operation (Hopers, crushers, vibrating screen)	-	-
Dump Truck	CAT (WESTRACK)	4000 series
Loader - 1	CAT	980H
Loader - 2	CAT	966H
Loader - 3	CAT	962H

Measurements of the quarry noise were designed to be in accordance with AS2012 *"Acoustics– Measurement of airborne noise emitted by earthmoving machinery and agricultural tractors– Stationary test condition"* and ISO 6395 *"Earth moving machinery – Determination of sound power level – Dynamic test conditions"*.

2.4 PROPOSED EXTENTION TO HOURS OF OPERATIONS

Runnymede Quarry proposes to extend the hours of operations at the quarry site. It is understood that current production levels will be maintained at this time.

2.5 MEASUREMENTS & INSTRUMENTATION

Engineer attended noise monitoring were conducted at two (2) locations focusing on primary crushing operation and two (2) locations which focused on the material processing operations on the 13th August 2012.

Figure 1 shows the noise monitoring locations (Reference #) used to calibrate the acoustic model.

Attended measurements were conducted using a Brüel & Kjær (B&K) 2250 integrating sound level meter, fitted with a B&K 4189 ½ inch diameter elect-ret microphone and a windshield. Details of this instrument are shown in ***Table 3***

Table 3: Instrumentation Parameters

Equipment	Make	Model	Serial No.	Type	Last Calibration	Calibration Due
Sound level meter	B&K	2250	2590530	1	01/09/2011	01/09/2012
Calibrator	Larson Davis	CAL200	0943	-	25/11/2011	25/11/2012

2.6 NOISE MODEL

Noise modelling has been performed using SoundPLAN® computational noise software. This use of the SoundPLAN® software and referenced modelling methodology is accepted for use in the state of NSW by the Office of Environment and Heritage (OEH) for environmental noise modelling purposes in addition to numerous previous mining and industrial noise impact assessments conducted by VIPAC and other consultancies.

Two model scenarios were run within the SoundPLAN program using CONCOWE algorithms with the view to approximating the expected neutral and worst case weather scenarios. Sound will propagate further through the atmosphere under certain weather conditions. The 'worst-case' weather conditions chosen were those highly conducive to the propagation of sound.

The weather parameters used in the CONCOWE calculations to predict expected neutral and worst-case weather conditions at the quarry site are detailed in ***Table 4*** below. As operations occur during daytime hours this situation has been considered.

Table 4: Sound Plan Weather Parameters

Parameter	Day	
	Neutral	Worst Case
Pasquill Stability Category	B	D
Wind Speed (m/s)	0	3
Humidity (%)	50	50
Temperature (deg Celsius)	15	15
Met Category	3	5

3 CRITERIA

The NSW Industrial Noise Policy (INP) sets limits on the noise produced by the quarry when undergoing general usage. These limits are dependant upon the existing noise levels at the site and are designed to ensure changes to the existing noise level are minimised and deal with the intrusiveness of the noise and the amenity of the environment. The most stringent is taken as the limiting criterion for the noise source.

The intrusiveness noise criterion requires that the $L_{Aeq\ 15minute}$ for the noise source, measured at the most sensitive receiver under worst-case conditions, should not exceed the RBL by more than 5dB:

$L_{Aeq,15\ minute} \leq$ Rating Background Level (RBL) plus 5.

The amenity criteria restrict increases made to the current ambient noise levels for day, evening and night periods. ***Table 5*** shows the amenity criteria for dwellings located in a rural environment.

Table 5: INP noise criteria for a rural residential dwelling.

Time	Acceptable L_{Aeq} (dB)	Maximum L_{Aeq} (dB)
Day (7am – 6pm)	50	55
Evening (6pm – 10pm)	45	50
Night (10pm – 7am)	40	45

Notwithstanding the above the rating background level used for this assessment was found to be less than 30dB(A), hence it is set to 30dB(A).

The project specific noise level of ($35dBL_{Aeq,\ 15\text{-}minute}$) was determined from the intrusiveness criterion and is applicable over the entire operational period of the quarry as agreed with the OEH.

4 RESULTS

4.1 QUARRY PLANT AND MACHINARY NOISE

A noise emissions survey of the Quarry plant and machinery was conducted during typical operations at the site. The measured data was analysed to establish the current sound power levels of all noisy operations and activities, which included the following:

Table 6: Quarry Operations - Sound Power Levels (Lw).

Description	Calculated Lw (dBA)
Primary Crushing Plant Operations	118
Secondary Crushing Plant Operations	114
Truck Loading (Primary crushed material)	111
Loader (980H)	110
Loader (966H)	109
Loader (962H)	109

A summary of the environmental noise survey is provided in ***Table 7***.

Table 7: Quarry Noise Impact.

Location	Measurement Time	Measured Result L_{Aeq} (dB A)
Reference 1	15:40	65
Reference 2	15:25	59
Reference 3	14:49	65
Reference 4	14:54	64

4.2 MODELLED QUARRY NOISE

Table 8 provides the predicted noise impact at the reference location (calibration point) and at the specified noise sensitive receiver locations during typical Quarry operations. Noise contour maps for both modelled situations are present in ***Appendix A.***

Table 8: Quarry Operations - Predicted Noise Impact

Location	Predicted Noise Levels (dBA)	
	Neutral	Worst
Reference 1	66	69
Reference 2	61	66
Reference 3	67	67
Reference 4	66	66
Kirkton	17	28
Waipanuka	6	18

Results of noise modelling show general agreement between predicted (neutral condition) and measured results detailed in ***Table 7***. The predicted noise levels at sensitive receivers ranged between 6 to 28dB(A), falling below the project specific noise criteria of $35dB_{Aeq}$ stated in ***Section 3.***

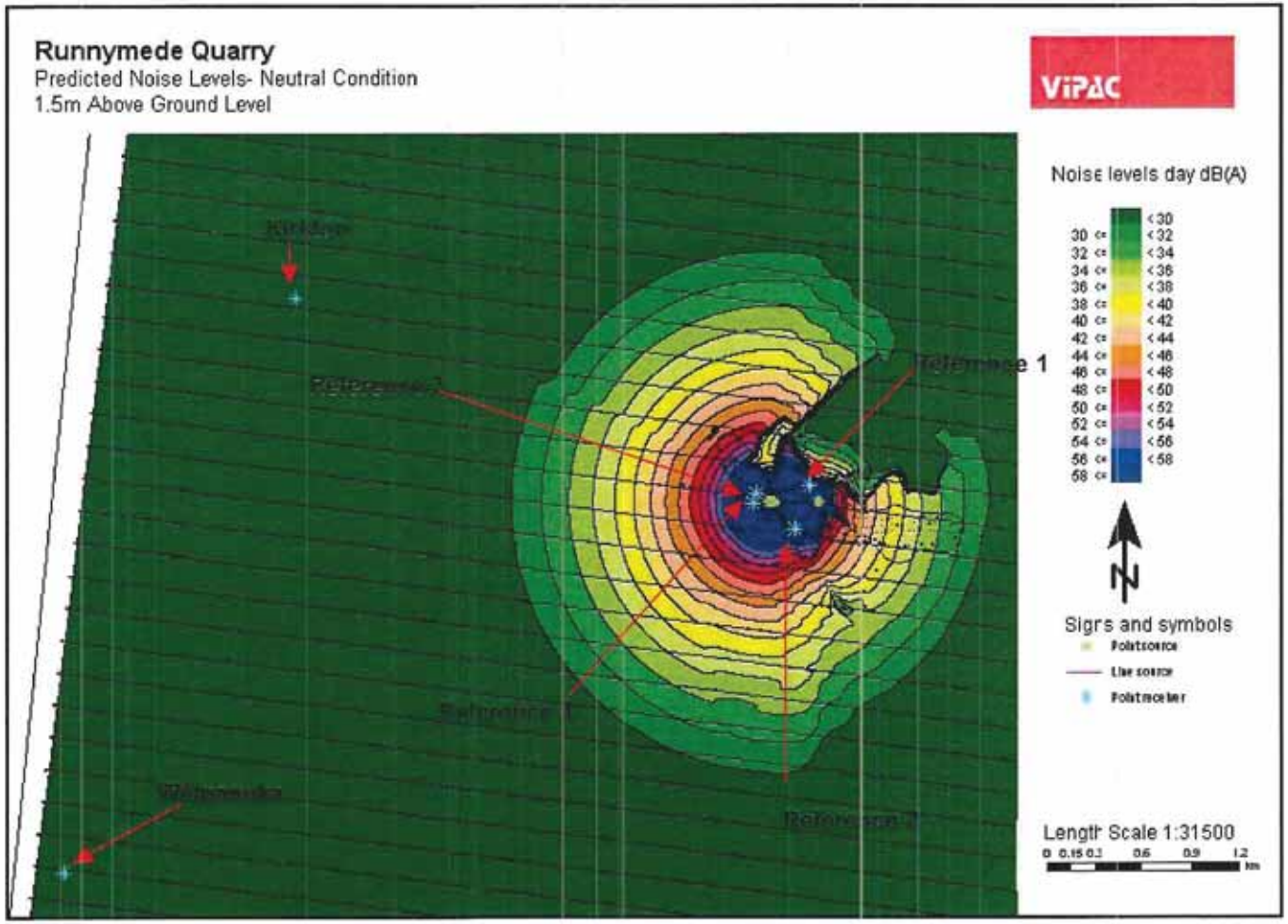
5 DISCUSSION AND CONCLUSIONS

A noise assessment has been performed to determine the impact due to expanded hours of operations on nearby sensitive noise receivers.

The Quarry operations are predicted to be within the project specific noise criteria of $35dB_{Aeq}$. It is therefore, VIPAC's professional opinion that the impact due to expanded operational hours of Runnymede Quarry will be acceptable from an acoustic point of view.

APPENDIX A NOISE CONTOUR MAPS

Predicted Noise Levels- Neutral Condition



Predicted Noise Level- Worst -Case Condition