DOC17/133932; EF15/16586

Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Ms Megan Dawson

Dear Ms Dawson

State Significant Development (SSD 7332) - Proposed Eagleton Quarry – Eagleton Rock Syndicate Pty Ltd - Environment Protection Authority (EPA) Comments and Recommended Conditions of Approval

Reference is made to your email dated 2 February 2017, requesting the Environment Protection Authority's (EPA) comment on the document *State Significant Development Application, Environmental Impact Statement (EIS), Eagleton Quarry, Barleigh Ranch Way January 2017* and recommended conditions of approval for the proposed Eagleton Quarry at Barleigh Ranch Way, Eagleton (the premises).

The EPA understands the development proposal is for a new hard rock quarry. Some aspects of the project have varied from those proposed earlier in the development phase.

The EPA understands the project now comprises:

- Extraction and processing of up to 600,000 tonnes per annum (tpa) of hard rock over a 30 year quarry life;
- Extraction and processing activities 7am – 6pm Monday to Friday and 7am-4pm Saturday
- Transportation of processed material to market via truck primarily via Italia Road;
- Up to 18,750 heavy vehicles per year (approximately 170 truck movements per day), 6 days per week between 5am-10pm Monday to Friday and 5am-4pm Saturday;
- Blasting activities 7am – 6pm Monday to Friday;
- Construction of on-site infrastructure including internal site access roads, a new bridge over Six Mile Creek, water containment structures, administration buildings, weighbridge, workshop, fuel storage and processing area infrastructure (including four crushers, screening plant, silo, product pads and pug mill);
- Water management system designed to prevent discharges during rainfall events up to the one in 100 year ARI 24 hour storm event; and
- Clearing of approximately 30ha of native vegetation.

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The EPA notes the premises is located on the part of Lot 2 DP 1108702 west of Seven Mile Creek as identified within the EIS and is proposed to be operated separately from the Port Stephens Gardenland landscape supply facility.

The EPA has reviewed the proposal for environmental matters relating to air, noise, surface water, chemicals and waste as described in the EIS and provides detailed comments in **Attachment A**.

If the Department considers approval is appropriate, the EPA recommends that the conditions provided in **Attachment B** are incorporated into the consent.

If you require any further information regarding this matter please contact Rebecca Akhurst on (02) 4908 6807.

Yours sincerely

P. Jamieson 27-2-17

PETER JAMIESON
Head Regional Operations Unit - Hunter
Environment Protection Authority

Contact officer: REBECCA AKHURST
(02) 4908 6807

Enclosure Attachment A – EPA comments - Proposed Eagleton Quarry (SSD 7332) Environmental Impact Statement (EIS) January 2017

Attachment B – EPA Recommended Conditions of Consent – Proposed Eagleton Quarry (SSD 7332)

ATTACHMENT A

EPA comments - Proposed Eagleton Quarry (SSD 7332) Environmental Impact Statement (EIS) January 2017

AIR

The air quality impact assessment (AQIA) was undertaken in general accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW and predicts compliance with the EPA's impact assessment criteria at sensitive receptors, including the potential future Kings Hill residential area.

A number of controls have been assumed for dust management including:

- 70% for water injection during drilling;
- 75% control for level 2 watering on unsealed roads;
- 50% control for water sprays during unloading and rehandling at processing area;
- 40% control for wind shields on conveyors;
- 50% control for water sprays on stockpiles;
- Controlled crushing and screening (controlled emission factors used in emission estimation).

Emission calculations are based on annual production spread over the year rather than impacts from peak daily production/activity. In addition, the adjacent Boral quarry was not explicitly accounted for in the cumulative assessment for TSP, PM_{10} and $PM_{2.5}$. However, despite the lack of assessment of peak emission and the contribution from the adjacent Boral quarry, the results of the AQIA indicates that particulate impacts due to the proposed quarry are approximately an order of magnitude lower than the respective criteria at all sensitive receptors assessed, with the exception of the Manager's residence on Gardenland property. The results of the cumulative assessment also indicate compliance with EPA criteria at all sensitive receptors assessed.

The proponent commits to the installation of air quality monitoring (High Volume Air Sampler or Tapered Element Oscillating Microbalance) at a location representative of nearby receptors. Should approval be granted for the proposal, the EPA would require ambient air quality monitoring on the environment protection licence.

The EPA notes:

- external roads are to be upgraded and sealed
- no proposal within the EIS to undertake pre-coat activities at the premises.

NOISE AND BLASTING

The noise impact assessment (NIA) does not specifically assess impacts on the potential future residential land release area of Kings Hill, approximately 1 kilometre from the proposed quarry. Planning consideration should be given to any future residential intensification in this area.

The noise limits proposed by the EPA are based on the proponent's noise modelling, which assumed all feasible and reasonable noise mitigation measures are implemented, including noise barriers. The proponent will need to design and build the quarry to include the feasible and reasonable noise mitigation measures recommended in the noise impact assessment (NIA) to ensure compliance with the proposed noise limits.

The NIA predicts exceedances at Receiver 23, (i.e. 11 Barleigh Ranch Way, Eagleton). The NIA states that this receiver is a manager's residence for the landscape supply operation, and that the proponent intends to consider a private agreement with the owner. Noise limits have not been proposed by the EPA for this receiver as it will be subject to a private agreement.

Appropriate noise, blast and meteorological monitoring locations need to be proposed and justified by the proponent if approval for the proposal is granted.

The EIS contains conflicting proposed blasting hours. Section 4.6.1 (pg 21) states blasting activities are to "occur during regular operational hours" (i.e. 7am – 6pm Monday to Friday) and "not take place on weekends or during the night time or evening periods". Table 18 in Section 8 (pg 108) states "drill and blast will take place from between 7am-6pm Monday to Friday and Saturday 7am-12pm".

The proposed blasting hours of 7am – 6pm Monday to Friday are outside the weekday hours recommended by Australian and New Zealand Environment and Conservation Council (ANZECC) Technical Basis for Guidelines to minimise annoyance due to blasting overpressure and ground vibration 1990 (ANZECC Guidelines)

Justification for the extended weekday hours and clarification of whether Saturday blasting is proposed are not provided within the EIS. The EPA recommends blasting hours should only be between 9am and 5pm Monday to Friday as per the ANZECC Guidelines and has proposed a condition to this effect.

The EPA notes the NIA uses the Interim Construction Noise Guideline (ICNG) to assess noise impacts, however the ICNG does not apply to quarry developments. The proponent has also used the Draft Industrial Noise Guideline (dING) to derive amenity criteria for the proposed quarry. The draft guideline is not government policy, and the amenity criteria for the project should have been determined using the Industrial Noise Policy (EPA 2000). These matters have not prevented the EPA from providing recommended noise conditions and assessing the proposed development.

WASTE

The EIS states organic green waste material from vegetation clearing will either be transferred to Port Stephens Gardenland landscape supply facility for processing (page iv) or mulched onsite and reused in landscaping and sediment controls (pg 103). The proponent should be aware that Port Stephens Gardenland has not currently been granted an environment protection licence to receive and compost waste and this transfer must not occur unless Port Stephens Gardenland has all the necessary consents, approvals and licenses required to conduct this activity.

A deposit of between 1,000 tonnes (pg104) and 3,000 tonnes (Page v) of rejected tile fragments is located within the area identified for the location of the process plant. The EIS proposes to assess the tile fragments in accordance with EPA's "Recovered Aggregate Exemption 2010" and proposes reuse of the tiles as aggregate for construction of internal roads and the processing area. The EIS states "if the tiles do not comply with the required chemical characteristics [of the Exemption] they will be re-used subject to the provisions of the Environment Protection Licence that will apply to the site" (pg104).

The referenced exemptions in the EIS are out of date. Assessment of tile fragments should be undertaken in accordance with the Recovered Aggregate Order 2014 (the Order) and applied in accordance with the Recovered Aggregate Exemption 2014 where the conditions of the Order are met.

Waste tiles that do not meet the requirements of the Order should be taken to a facility that can lawfully receive that waste. The EPA does not recommend approval for the receipt of waste at the premises.

SURFACE WATER MANAGEMENT

The EPA notes the proposed quarry is within the Grahamstown drinking water catchment.

The proposed quarry has been designed as a closed water management system that can capture runoff and "dirty water" from rainfall events up to a 1 in 100 year ARI, 24 hour storm event (i.e.

approximately 259 mm). Captured water will be re-used on site in processing and dust suppression. Two dams providing a total of 57ML storage (i.e. Dam 1 = 28ML and Dam 2 = 29ML) are to be installed and operated to capture dirty water.

Adequate management of the water management system is crucial to prevent discharges below the system design criteria. The EPA recommends adequate capacity be maintained in the dams to capture the design rainfall events and the installation of a level or volume indicator on the dams.

An emergency overflow from Dam 1 into Seven Mile Creek is to be installed for rainfall in excess of the water management design criteria. Installation of the dams is to be staged with Dam 1 installed prior to construction activities and Dam 2 constructed at approximately Year 6 when the operational area footprint deems it necessary. The EPA has proposed conditions requiring water quality and volume monitoring daily during any discharge.

The EPA notes the EIS proposes monthly surface water quality monitoring of pH, electrical conductivity (EC), total suspended solids (TSS), total phosphorus and total nitrogen within Seven Mile Creek both upstream and downstream of the premises. The EPA proposes to formalise this monitoring in the environment protection licence. The EIS also proposes monitoring of rainfall, water usage, dam volumes and discharges and updating of water balances. Regular review and monitoring of water management measures and erosion and sediment controls is proposed.

The Water Resource Assessment at Appendix M1 (pg 42) notes that "benches at the western end of the quarry will be progressively rehabilitated as the quarry floor level is progressively lowered and each new extraction bench is established. Progressive rehabilitation of exposed areas assists the management of dust and mitigates potential surface water pollution.

Water management at the premises has been assessed in Appendix M1 (pg 2) based on the inclusion of a sewage pump-out system. The EIS main report proposes either pump-out and off-site disposal of sewage by a suitably licenced contractor or treatment and on-site application via spray irrigation. The EPA has not provided recommended conditions of approval in relation to on-site application via spray irrigation as the impacts of such system have not been assessed.

ENVIRONMENT PROTECTION LICENCE

Based on the information provided in the EIS the proposal is a scheduled activity (land-based extractive activity) under the *Protection of the Environment Operations Act 1997* and will therefore require an Environment Protection Licence (EPL) if approval is granted.

Should project approval be granted, the proponent will need to make a separate application to the EPA for an EPL for the proposed facility prior to undertaking any on site works. Additional information is available through EPA's *Guide to Licensing* document (www.environment.nsw.gov.au/licensing/licenceguide.htm).

General information on licence requirements can also be obtained from EPA's Environment Line on 131 555 during office hours, or can be found at the EPA web site at: http://www.epa.nsw.gov.au/licensing/

ATTACHMENT B

EPA Recommended Conditions of Consent – Proposed Eagleton Quarry (SSD 7332)

General and Operational

1) Except as provided by these conditions of approval, the works and activities must be undertaken in accordance with the proposal contained in the document titled "State *Significant Development Application, Environmental Impact Statement, Eagleton Quarry, Barleigh Ranch Way January 2017"* prepared by JBA Urban Planning Consultants Pty, unless otherwise specified in these conditions of approval.

2) If consent is granted for this proposal the proponent will need to make a separate application to the EPA and obtain an Environment Protection Licence issued under the *Protection of the Environment Operations Act 1997* prior to the commencement of any scheduled development work or scheduled activity.

3) 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.

4) 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.

5) The proponent must nominate to the EPA a representative of the proponent that is available at all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including their telephone number, must be current at all times. The nomination and contact details must be provided to the EPA's Director- Hunter at PO Box 488G, Newcastle NSW 2300 or hunter.region@epa.nsw.gov.au

6) The proponent must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must be developed in accordance with the requirements in Part 5.7A of the *Protection of the Environment Operations* (POEO) Act 1997 and POEO regulations. The proponent must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident.

7) Pre-coat material and pre-coating activities are not permitted to be stored or undertaken at the premises.

8) Benches at the western end of the quarry, plus other areas where extractive activities have concluded, must be progressively rehabilitated as the quarry floor level is progressively lowered and each new extraction bench is established.

9) The proponent must maintain the "Right of Way" from Italia Road to the premises at all times in a sealed state free of imperfections or residues from quarry activities that could lead to the generation of sediment discharges, dust or offensive noise from trucks.

10) The proponent must not cause or permit the emission of offensive odour beyond the boundary of the premises.

Dust

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

12) Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission of dust from the premises.

13) Any plant operated in or on the premises must be operated by such practical means to prevent or minimise dust or other air pollutants.

14) All trafficable areas, stockpile areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the emission of dust to the air, or emission from the premises of wind-blown or traffic generated dust.

15) Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

Air Quality Management

16) For all emission sources at the site the proponent must prepare an air quality management plan that includes, but is not limited to:
   a) Key performance indicator(s) that are quantifiable, measurable and auditable;
   b) Monitoring method(s);
   c) Location, frequency and duration of monitoring;
   d) Record keeping;
   e) Response mechanisms; and
   f) Compliance reporting.

17) The air quality management plan must include measures that:
   a) represent both proactive and reactive management;
   b) are benchmarked against international best management practice for the control of fugitive particle emissions; and
   c) achieve emission controls equal to or greater than the control efficiencies included in the project air quality assessment, Eagleton Quarry Production Increase – Air Quality and Greenhouse Gas Assessment (25 January 2017) Pacific Environment Limited.

18) The air quality management plan must be implemented prior to the commencement of any dust generating activities at the site.

Surface Water

19) Except as may be expressly provided by a licence under the *Protection of the Environment Operations Act 1997* in relation to the development, section 120 of the *Protection of the Environment Operations Act 1997* must be complied with in connection with the carrying out of the development.

20) Water management dams are to be constructed downstream of proposed construction and vegetation clearing areas prior to other construction or earthmoving activities occurring.

21) The drainage from all areas at the premises which will liberate suspended solids when stormwater runs over these areas must be diverted into adequately sized sedimentation basins.

22) The sedimentation basins, identified as Dam1 and Dam 2 in the EIS must be maintained to ensure adequate capacity to capture and store runoff from the design rainfall event criteria.

Note: The premises water management system is designed to capture rainfall events up to a 1 in 100 year ARI, 24 hour storm event, which is equivalent to 259mm rainfall, prior to wet weather discharge.

23) Where a discharge occurs from Dam 1 or Dam 2 as described in the condition above during a 24 hour rainfall event less than 259mm rainfall, the proponent must notify the EPA immediately, conduct daily monitoring at Points 2 and 3 for the parameters described in the Monitoring Conditions below for the duration of the discharge, and within 7 days provide a report to the EPA that explains the reason for the discharge and attaches the results of all water quality analysis at Points 1, 2 and 3.

24) A level indicator is to be installed and operated continuously in the sedimentation basins.

25) Stormwater management measures must be prepared and implemented to mitigate the impacts of stormwater run-off from and within the premises in a manner that is consistent with the Stormwater Management Plan for the catchment. Where a Stormwater Management Plan has not yet been prepared the measures should be consistent with the guidance contained in Managing Urban Stormwater: Soils and Construction: Volume 2C Unsealed Roads and Volume 2E Mines and Quarries (DECCW 2008).

26) The premises must prepare a flood management plan that details the impacts of flood waters on the premises, including how the site will be managed prior to a flood occurring, along with mitigation measures during and immediately following a flood event, till the premises returns to normal operation. This needs to include management of exposed areas, machinery and materials (including chemicals) stored at the premises.

Chemical Management and Bunding

27) All above ground tanks and storage areas for drums containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.

28) Bunds must:

a) have walls and floors constructed of impervious materials;
b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
c) have floors graded to a collection sump; and
d) not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

29) All fuel storage and refuelling areas at the premises must be designed, engineered, and constructed to comply with the relevant Australian Standards.

30) No fuel storage or refuelling activities may occur at the premises outside of the areas constructed to the relevant Australian Standards.

Waste

31) The proponent must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste

generated at the premises to be disposed of at the premises, except as expressly permitted by a licence.

32) The proponent must ensure that any liquid and/or non-liquid waste generated and/or stored at the premises is assessed and classified in accordance with the EPA Waste Classification Guidelines as in force from time to time.

33) Waste tiles which have been land applied at the premise must be tested to determine whether the waste meets the conditions and chemical criteria in the 'Recovered Aggregate Order 2014'.

34) Waste tiles which meet the conditions of the 'Recovered Aggregate Order 2014' may be land applied at the premises in accordance with the 'Recovered Aggregate Exemption 2014'.

35) Waste tiles which do not meet the conditions of the 'Recovered Aggregate Order 2014' must be removed from the site within 6 months of the issue of this consent and taken to a facility which is lawfully able to receive that waste.

36) For all waste removed from the premises to meet the condition above, the licensee must provide documentation to verify that the waste has been taken to a facility which is lawfully able to receive that waste.

Hours of Operation

37) Operations are only permitted:

a) Between 7:00 am and 6:00 pm, Monday to Friday, excluding public holidays;
b) Between 7:00 am and 4:00 pm Saturdays, excluding public holidays;
c) At no time on Sundays or public holidays.

38) The following activities are permitted outside of the hours described in the condition above:
a) Sales activities are permitted only from 5:00 am to 10:00 pm, Monday to Friday and 5:00 am to 4:00 pm Saturdays.
b) Trucks may arrive and depart the site between 5:00 am and 10:00 pm, Monday to Friday, excluding public holidays;
c) Trucks may arrive and depart the site between 5:00 am and 4:00 pm Saturdays, excluding public holidays;
d) Unscheduled maintenance works shall not exceed the evening noise limits contained in "Table 1 – Noise Limits in dB(A)".

Noise

39) All noise mitigation measures identified in the Noise Impact Assessment for Eagleton Rock Syndicate Pty Ltd – Eagleton Quarry (Report Reference: 15396_R01_Revision C) by Global Acoustics Pty Ltd, dated 28 January 2017 and used to determine noise impacts from the premises must be installed prior to the commencement of crushing and processing activities.

40) Noise generated at the premises must not exceed the noise limits in the table below. The locations referred to are in Figure 21 – Reception Locations on Page 63 - Noise Impact Assessment for Eagleton Rock Syndicate Pty Ltd – Eagleton Quarry (Report Reference : 15396_R01_Revision C) by Global Acoustics Pty Ltd, dated 28 January 2017.

TABLE 1 - NOISE LIMITS IN dB(A)

		NOISE LIMITS dB(A) ($L_{Aeq,15min}$)			NOISE LIMITS dB(A) ($L_{A1,1\ min}$)
Locality	Location	Morning Shoulder	Day	Evening	Morning Shoulder
R1 16 Italia Road	Balickera	35	38	35	46
R5 64 Six Mile Road	Eagleton	37	40	35	49
R6 100 Six Mile Road	Eagleton	38	41	35	49
R7 106 Six Mile Road	Eagleton	38	41	35	49
R8 112 Six Mile Road	Eagleton	39	41	35	49
R9 132 Six Mile Road	Eagleton	37	40	35	49
R10 160 Six Mile Road	Eagleton	37	40	35	49
R13 164 Six Mile Road	Eagleton	37	39	35	49
R14 164 Six Mile Road	Eagleton	35	37	35	49
R18 258 Six Mile Road	Eagleton	35	35	35	49
R19 264 Six Mile Road	Eagleton	35	35	35	49
R20 3 Killaloe Lane	Balickera	35	35	35	49
R21 8 Killaloe Lane	Balickera	35	35	35	49
R22 8 Killaloe Lane	Balickera	35	35	35	49

41) For the purpose of the noise limit condition in Table 1:

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- Evening is defined as the period 6pm to 10pm.
- Morning Shoulder is defined as the period from 5am to 7am Monday to Saturday.

42) The noise limits set out in Table 1 of the noise limit condition above apply under all meteorological conditions except for the following:

a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability category G temperature inversion conditions.

43) For the purposes of the condition above

a) Data recorded by the meteorological station identified as Point 4 must be used to determine meteorological conditions ; and
b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

44) To determine compliance:

a) with the $L_{eq(15\ minute)}$ noise limits in the Noise Limits condition, Table 1, the noise measurement equipment must be located:
   - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
   - within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
   - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.

b) with any L_{Amax} noise limits in the Noise Limits condition, Table 1, the noise measurement equipment must be located within 1 metre of a dwelling façade.

c) with the noise limits in the Noise Limits condition, Table 1, the noise measurement equipment must be located:

   - at the most affected point at a location where there is no dwelling at the location; or
   - at the most affected point within an area at a location prescribed by items a) or b) of this condition.

45) A non-compliance of this Noise Limits condition will still occur where noise generated from the premises in excess of the appropriate limit is measured:
   - at a location other than an area prescribed by this Noise Limits condition; and/or
   - at a point other than the most affected point at a location.

46) For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

Blasting

47) The airblast overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

48) The airblast overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

49) Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

50) Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec at any noise sensitive locations for more than five per cent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

51) Offensive blast fume must not be emitted from the premises.

Definition: Offensive blast fume means post-blast gases from the detonation of explosives at the premises that by reason of their nature, duration, character or quality, or the time at which they are emitted, or any other circumstances:
1. *are harmful to (or likely to be harmful to) a person that is outside the premises from which it is emitted,*
or
2. *interferes unreasonably with (or is likely to interfere unreasonably with) the comfort or repose of a person who is outside the premises from which it is emitted.*

52) Blasting at the premises may only take place between 9:00am-5:00pm Monday to Friday. Blasting is not permitted on weekends or public holidays.

53) Blasting outside of the hours specified in the condition above may only take place with the written approval of the EPA.

Monitoring Conditions

Surface Water Monitoring

54) The following points referred to in the table below are identified for the purposes of monitoring and/or setting of limits for the emission of pollutants to water from the point.

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	Discharge from Dam 1 at the Emergency Overflow point as shown on Figure 3.6 entitled "Water Management Ultimate Development Footprint" within the Water Assessment (Appendix M1 of the EIS) dated October 2016. EPA document No. DOC17/87004-01.
2	Ambient water quality monitoring		Seven Mile Creek upstream of the premises (plan to be submitted for approval by the EPA with the application for environment protection licence)
3	Ambient water quality monitoring		Seven Mile Creek downstream of the premises (plan to be submitted for approval by the EPA with the application for environment protection licence)

Note: The premises water management system is designed to capture rainfall events up to a 1 in 100 year ARI, 24 hour storm event, which is equivalent to 259mm rainfall, prior to wet weather discharge.

55) For each monitoring/discharge point or utilisation area specified below (by a point number) the concentration of each pollutant specified in Column 1 must be monitored by sampling and obtaining results by analysis. Specified opposite in the other columns are the sampling method and units of measure to be used and the frequency with which samples are to be taken.

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Total Suspended Solids	Milligrams per litre	Daily during any discharge	Grab sample
Electrical conductivity	Microsiemens per centimetre	Daily during any discharge	Grab sample
Oil and Grease	Milligrams per litre	Daily during any discharge	Grab sample
pH	pH units	Daily during any discharge	Grab sample

POINT 2, 3

Pollutant	Units of measure	Frequency	Sampling Method
Total Suspended Solids	Milligrams per litre	Monthly	Grab sample
Electrical conductivity	Microsiemens per centimetre	Monthly	Grab sample
Oil and Grease	visible	Monthly	Visual observation
pH	pH units	Monthly	Grab sample
Total nitrogen	Milligrams per litre	Monthly	Grab sample
Total phosphorous	Milligrams per litre	Monthly	Grab sample

Weather Monitoring

56) The proponent must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Point 4 – Meteorological monitoring station

Parameter	Units of measure	Frequency	Averaging Period	Sampling Method
Rainfall	mm/hour	continuous	1 hour	AM-4
Sigma theta	degrees	continuous	10 minute	AM-2 and AM-4
Siting				AM-1
Temperature at 2 metres	kelvin	continuous	10 minute	AM-4
Temperature at 10 metres	kelvin	continuous	10 minute	AM-4
Total solar radiation	watts per square metre	continuous	10 minute	AM-4
Wind Direction at 10 metres	degrees	continuous	10 minute	AM-2 and AM-4
Wind Speed at 10 metres	metres per second	continuous	10 minute	AM-2 and AM-4

Note 1: Sampling methods as defined in the *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW.*

Note 2: The location of meteorological monitoring must be confirmed and approved by the EPA prior to earth moving activities being undertaken at the site.

57) Monitoring of all parameters listed must commence prior to earth moving activities being undertaken at the site.

Air Monitoring

58) The following points referred to in the table below are identified for the purposes of monitoring and/or setting of limits for the emission of pollutants to the air from the point.

POINT 5 (TBD) Air

Identification no.	Type of Monitoring Point	Type of Discharge Point	Description of Location
5	Ambient Air Monitoring (type of monitoring to be determined by the EPA at the time of the environment protection licence application)		PM10 particulate monitoring station Position TBD

59) For each monitoring/discharge point or utilisation area specified below (by a point number to be determined) the concentration of each pollutant specified in Column 1 must be monitored by sampling and obtaining results by analysis. Specified opposite in the other columns are the sampling method and units of measure to be used and the frequency with which samples are to be taken. The sampling methods are defined in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

POINT 5 (TBD)

Pollutant	Units of measure	Frequency	Sampling Method
PM10	ug/m^3	(frequency of monitoring to be determined by the EPA at the time of the environment protection licence application)	Australian Standard 3580.9.8 – 2001 or as approved by the EPA

Noise Monitoring

60) To assess compliance with Noise Limits specified in Table 1 of the noise limit condition, attended noise monitoring must be undertaken in accordance with the noise location conditions for determining compliance and:
   a) at R1, R5, R8 and R21 as listed in Table 1 of the noise limit condition;
   b) occur annually each reporting period;
   c) occur during the morning shoulder, day and evening as defined in the NSW Industrial Noise Policy for a minimum of:

      - 1 hour duration for each of the morning shoulder/day/evening periods for typical initial and final processing activity.

Note: the frequency of this noise monitoring may be varied at the discretion of the EPA.

Blast Monitoring

61) To determine compliance with the blasting limit conditions:

   a) Airblast overpressure and ground vibration levels experienced at or near the nearest noise sensitive location(s) must be measured and recorded for all blasts carried out on the premises;

(Note: Any Environment Protection Licence issued by the EPA will identify specific noise sensitive locations, identified by Lot & DP and street address)

b) Instrumentation used to measure and record the airblast overpressure and ground vibration levels must meet the requirements of Australian Standard AS 2187.2-2006.

NOTE: A breach of the blasting limit will still occur where airblast overpressure or ground vibration levels from the blasting operations at the premises exceeds the limit specified in the limit conditions at any other noise sensitive location.

"Noise sensitive locations" includes buildings used as a 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.

62) The airblast overpressure and ground vibration limits do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement, relating to airblast overpressure and ground vibration levels, between the licensee and land owner.

Reporting Conditions

Noise Monitoring Report

63) A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the annual monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:
   a) an assessment of compliance with noise limits presented in Table 1 as defined in the condition above; and
   b) an outline of any management actions taken within the monitoring period to address any exceedences of the Noise Limit condition contained in Table 1

Blast Monitoring Report

64) The proponent must supply annually a Blast Monitoring Report which must include the following information relating to each blast carried out within the premises during the respective reporting period:
   a) the date and time of the blast;
   b) the location of the blast on the premises;
   c) the blast monitoring results at each blast monitoring station; and
   d) an explanation for any missing blast monitoring results.