



Year Ending
30th June
2023

**Annual Review
for
Bringelly Clay / Shale Mine and
Brickworks
ML 1731 & SSD5684**



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Bringelly Clay Mine Annual Review and Annual Rehabilitation Review	
Name of Mine	Bringelly Clay / Shale Mine
DA Number	SSD5684
MOP Commencement Date	27 th April 2016
MOP Completion Date	31 st March 2023
Mining Authorisations	ML1731
Mine Lease Grant Date	9 th March 2016
Annual Report Commencement Date	1 st July 2022
Annual Report Completion Date	30 th June 2023
Name of Authorisation Holder	PGH Bricks & Pavers Pty Ltd
Name of Mine Operator (s)	PGH Bricks & Pavers Pty Ltd
Name and Contact Details of the Mine Manager	Mr Joe Gauci, (02) 9826 3964 jgauci@csr.com.au
Name and Contact Details of the Environmental Representative	
Name of the Representative of the Authorisation Holder	Mr Joe Gauci, (02) 9826 3964 jgauci@csr.com.au

Revision Table

Date	Version	Author	Reviewed	Approved
28/09/2023	F0	LT	TW	

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1 Executive Summary

This Annual Review (AR) has been prepared by VGT Environmental Compliance Solutions Pty Ltd (VGT) on behalf of PGH Bricks & Pavers Pty Ltd for the Bringelly Clay / Shale Mine, SSD 5684 and ML1731. This report describes the mining and rehabilitation activities as well as the environmental monitoring results for the reporting period from 1st July 2022 to 30 June 2023. Compliance with the conditions of consent SSD 5684 Mod 1, are considered for the same period.

Extraction occurred in the report period on the same benches mined in previous years. Brickmaking has continued at a similar rate to previous years. Environmental monitoring has continued in accordance with approved management plans.

The noise bund north of the pit extraction has been built and mulched, and will be vegetated next report period. The erosion on the west wall of the extraction area has been reshaped and remediated.

There are 2 non-compliances in the period 1st July 2022 to 30th June 2023 with the conditions in the SSD 5684 Mod 1 consent, and no non-compliances against the Mining Lease 1731, Environment Protection Licence 1808, or the water licences (numbers given in [Table 7](#)).

One action outstanding following the Independent Environmental Audit in 2021 was closed out this report period and is addressed in section [4.2](#). The Rehabilitation Management Plan was approved and implemented during the report period.

2 Introduction

2.1 PROJECT SITE

PGH Bricks & Pavers Pty Ltd Bringelly Clay / Shale Mine located off Greendale Road, in the Camden Council Government Area, Bringelly NSW. The site is approximately 18km west of Liverpool, as presented in [Figure One](#). The site is constituted of the active mine and brickworks, situated on Lot 100, DP 1203966. The mine and associated brickworks are freehold owned and operated by PGH Bricks & Pavers Pty Ltd.

2.2 BACKGROUND

The report serves to ascertain compliance over the reporting period of 1st July 2020 to 30th June 2021 with the SSD_5684 Mod 1 conditions of consent for the Annual Review (AR) (Schedule 5, Condition 4) reporting requirements to DPE.

The report also serves to review the environmental performance of the site in order to comply with mine lease conditions (Condition 3. (f)). PGH was granted a change in the reporting period for the Annual Rehabilitation Report (ARR) by the Resources Regulator in order to align the report period with the AR in the previous report period, which covered the extended period of 1st January 2020 to 30th June 2021 to assist with report date alignment. This report, covers the financial year from 1st July 2021 to 30th June 2022.

2.3 QUARRY CONTACTS

Table 1. Contact Details

Aspect	Brickworks Manager	Mine Manager
Name	Tony West	Joe Gauci
Company	PGH Bricks & Pavers Pty Ltd	PGH Bricks & Pavers Pty Ltd
Address	Greendale Road Bringelly	59-67 Cecil Road Cecil Park
Mobile	0419 474 953	0417 683 526
Phone	02 9684 8778	02 9826 3964
Email	twest@csr.com.au	jgauci@csr.com.au

3 Statement of Compliance

Table 2. Statement of Compliance

Relevant Approval	All Conditions Compliant?
SSD_5684 Mod 1	No
EPL1808	Yes
ML1771	Yes
Water Licences (Table 7)	Yes

A full list of conditions and compliance status is included in [Appendix F](#).

Plan of:	Bringelly Annual Report Year Ending 30/06/2023 - Site Location	Location:	Bringelly Clay Mine, Off Greendale Road, Bringelly, NSW	Source:	Google Maps & nearmap - Image Date 12/08/2023 Zone MGA 56	Plan By:	SK/JD
Figure:	ONE	Council:	Camden Council	Survey:	Not Applicable	Project Manager:	LT
Version/Date:	V0 11/09/2023	Tenure:	ML 1731	Projection:	GDA2020/MGA Zone 56 EPSG:7856	Office:	Thornton
Our Ref:	12532_BR_AR2023_Q001_V0_F1	Client:	PGH Bricks & Pavers Pty Ltd	Contour Interval:	Not Applicable		



This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.



Legend

- Cadastral Boundary

Authority Boundary (ML 1731)
- Project Approval Boundary

4 Actions Required from Past Reports

4.1 ANNUAL REVIEW AND ANNUAL REHABILITATION REVIEW 2022

There were no actions required from the previous Annual Review or Annual Rehabilitation Reviews. The report was submitted before the required date through the Major Projects Portal and to the Resources Regulator via email.

4.2 INDEPENDENT ENVIRONMENTAL AUDIT JANUARY 2021

There was one finding from the Independent Environmental Audit in January 2021 (IEA) which was not completed at the end of the previous Annual Report period.

Table 3. Independent Environmental Audit Jan 2021 Non-Compliances

Audit Table Identifier	Condition	Findings	Progress at 30/6/2021	Progress at 30/6/2022	Progress at 30/6/2023
4 26	C2 S2 Terms of consent C4A S3 Noise – operating conditions	<p>The proposed noise bund along Greendale Road described in the EIS and required under C4A S2 and the noise management plan has not been constructed.</p> <p>The client believed construction of the bund was associated with construction of the new access road required under C14 S3 and production of bricks under the new limits in C6 S2.</p> <p>However, there is no such trigger under C4A S2 and all brick production is occurring under SSD_5684, regardless of new production limits.</p>	<p>The noise bund has not been constructed.</p> <p>There have been no noise monitoring exceedances recorded and no noise complaints received.</p> <p>Noise monitoring to be continued.</p>	<p>The noise bund has not been constructed, and mining has not progressed outside of the original footprint into the extended area covered by the SSD.</p> <p>There have been no noise monitoring exceedances recorded and no noise complaints received.</p> <p>Noise monitoring to be continued.</p> <p>Mod 2 to address required changes.</p>	<p>Noise bund has been constructed.</p> <p>Noise monitoring is undertaken quarterly (Appendix I)</p> <p>Non-compliance closed.</p>

5 Approvals

5.1 LOCAL COUNCIL

Development approval for the site authorised by Camden Council in 1979 and modified in 1991 was surrendered on 24th February 2020. Camden Council continues to be consulted regarding road maintenance contributions, traffic and transport management, biodiversity, rehabilitation and final landform, waste and sewerage management, and is represented on the Community Consultation Committee. Liverpool Council is also consulted regarding traffic and transport management.

5.2 DEPARTMENT OF PLANNING AND ENVIRONMENT (DPE)

5.2.1 Development Approvals

The consolidated State Significant approval conditions are included in [Appendix A](#). Development approvals modifications are summarised below.

Table 4. Development Approvals

No.	Date Approved	Expires	Notes
SSD_5684	3/03/2015	01/03/2045	Extraction limit: 200,000 Tpa clay/shale Production limit: 263,500 Tonnes bricks pa Receival limit: 96,000 Tonnes raw materials for brickmaking per annum Depth restriction: RL46 m AHD
SSD_5684 Mod 1	Submitted 05/08/2016	01/03/2045	Receival Limit increased to 321,000 tonnes raw materials for brickmaking per annum Inclusion of noise bund construction
SSD_5684 Mod 2	Not yet approved		Extraction increased to 350,000 Tpa clay/shale Production limit increased to 330,000 Tpa Receival limit increased to 350,000 Tpa Laden trucks leaving site increased to 200 per day Relocation of biodiversity offset area

This report is to comply with Schedule 5, Condition 4 of the SSD_5684 Mod 1 Approval as reproduced in the table below.

Table 5. Annual Review Reporting Conditions

Element of Condition	Where Addressed in this Report
Annual Review By the end of September each year, the Applicant must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must: (a) describe the development (including rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;	Section 6, Section 8
(b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against: <ul style="list-style-type: none"> the relevant statutory requirements, limits or performance measures/criteria; the monitoring results of previous years; and the relevant predictions in the documents in condition 2(a) of Schedule 2; 	Section 7
(c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	Section 3 and Section 7
(d) identify any trends in the monitoring data over the life of the development;	Section 7
(e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	Section 7
(f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.	Section 14

5.3 RESOURCES REGULATOR

The details for Mining Lease 1731 (Act 1992), held in the name PGH Bricks & Pavers Pty Ltd are shown in [Table 6](#). The conditions are included in [Appendix B](#). The Mining Lease area does not cover the entire site, and boundaries are shown on [Figure Two](#). The Regulator holds a rehabilitation security for the current footprint of the site which is reviewed and updated as required.

There have been no incidents or non-compliances recorded against the mine lease conditions during the reporting period.

Table 6. Mining Authorisations

No.	Act	Company	Granted	Expires	Area (Ha)	Minerals
1731	1992	PGH Bricks & Pavers Pty Ltd	9 March 2016	9 March 2037	37.25	Clay/Shale

5.4 ENVIRONMENT PROTECTION AUTHORITY

Environmental Protection Licence Number 1808 has been issued under the Protection of the Environment Operations Act (PoEOA) (included in [Appendix C](#)) and covers works both within the ML boundary and at the Bringelly Brickworks.

The licence requires the monitoring of the discharges to air through kiln stacks and discharges to water. Stack emissions are to be monitored at the kiln for hydrogen fluoride, nitrogen oxide and total solid particles. Water is monitored at Points 1 and Point 5 for oil and grease, pH and turbidity. Only Point 5 requires conductivity to be monitored. These points are shown on [Figure Two](#).

The Pollution Incident Response Management Plan (PIRMP) was not activated during the reporting period. Any relevant monitoring results are made available on the PGH website (<https://www.pghbricks.com.au/-nsw-environmental-reporting>). There were no non-compliant monitoring points during the EPL Annual Return reporting period (year ending May 2023) for the Bringelly Clay Mine, as submitted to the EPA in the Annual Return.

5.5 WATER NSW

Water NSW issued Bore Licence 10BL605770 for four monitoring bores located on the site (see [Appendix D](#)). Results of the groundwater monitoring are discussed in [Section 7.4](#).

There are two unregulated Water Access Licences and one domestic & stock Water Access Licence (see [Appendix E](#)). The use of the water is specific to the work approvals attached to the WALs and benefits Lot 100, DP 1203966. No water has been drawn from the WAL's over the reporting period.

Table 7. Water Approvals and Licences

Approval No	Issue Date	Expiry Date	Work Type	Reference No	WAL No	Units
10BL605770	28/01/2016	Perpetuity	Monitoring Bore	N/A	N/A	N/A
10CA104657	1/7/2011	20/4/2026	Pump	10AL104656	26259	150
10CA104630	1/7/2011	18/6/2025	Pump	10AL104628	26257	6.50
			Dam	10AL104629	25987	152.50

6 Operations to 30th June 2023

6.1 EXPLORATION

An exploration drilling campaign was undertaken in the March 2021 and the results were reported in the Annual Exploration Report for year ending March 2022 through the Regulator portal. A copy of the report is available on request. No exploration activities were undertaken between 1st July 2022 and 30th June 2023.

6.2 CONSTRUCTION

No construction was undertaken during the reporting period.

6.3 HOURS OF OPERATION

The site operates under the consented hours as detailed in Schedule 3 condition 1 are shown below. All movements recorded outside the operating hours listed below were not associated with quarrying operations, deliveries or dispatch of finished bricks or construction activities.

Table 8. Hours of Operation

Activity	Operating Hours	Compliance
Quarrying Operations	6am to 6pm Monday to Friday 6am to 1pm Saturday No activities Sundays or Public Holidays	Compliant
Deliveries Dispatch of finished bricks	6am to 6pm Monday to Friday 6am to 1pm Saturday No activities Sundays or Public Holidays	Compliant All movements recorded outside these hours are for maintenance
Brick making operations	24 hours, 7 days	Compliant
Construction Activities	7am to 6pm Monday to Friday 8am to 1pm Saturday No activities Sundays or Public Holidays	Compliant

There have been truck movements counted by the automated system outside of these hours and the client has attributed them all to fuel, water cart, sweeper and urgent maintenance vehicles.

6.4 MINING OPERATIONS

120,751 tonnes of raw material was mined during the report period from the north and west of the existing extraction area (see [Figure Three](#)). Extraction will continue within the existing footprint and expand into the south east faces. Previously imported clay and shale was stockpiled onto the mining bench in the west. Approximately 54,400 tonnes of raw material for brickmaking has been imported to the site during the reporting period.

The Mine Lease boundary has been surveyed and permanent pegs installed. The DA11/1194 limits of extraction have been pegged and each future approved cell is permanently marked prior to extraction moving into that area.

Stockpile material from previous campaigns and imported material are stored in the stockpile area or pit floor or within the raw material stockpile area within the brick plant portion of the site (off the ML). The stockpiles, limited to 5m in height, and hardstand area are dampened via a water cart as required.

Production data has been reported to the Resources Regulator in an online form in accordance with Schedule 2, condition 18 and a copy is included in [Appendix G](#).

6.5 MINERAL PROCESSING

Processing of clay occurs outside of the ML boundary within the brickworks. All raw materials won from mining on the site or imported into the Bringelly brickworks are placed in stockpiles located as shown on [Figure Two](#).

Table 9. Production During the Report Period

Item	Actual	Production Limits	Compliance
Extract clay/shale	120,751 T	200,000 T	Compliant
Produce Bricks	57,057,032 bricks *3.15kg= 179,730 T	263,500 T	Compliant
Receive raw brick making materials	54,420 T	321,000 T	Compliant
Carry out quarrying operations below 46m AHD	67 m AHD	46 m AHD	Compliant

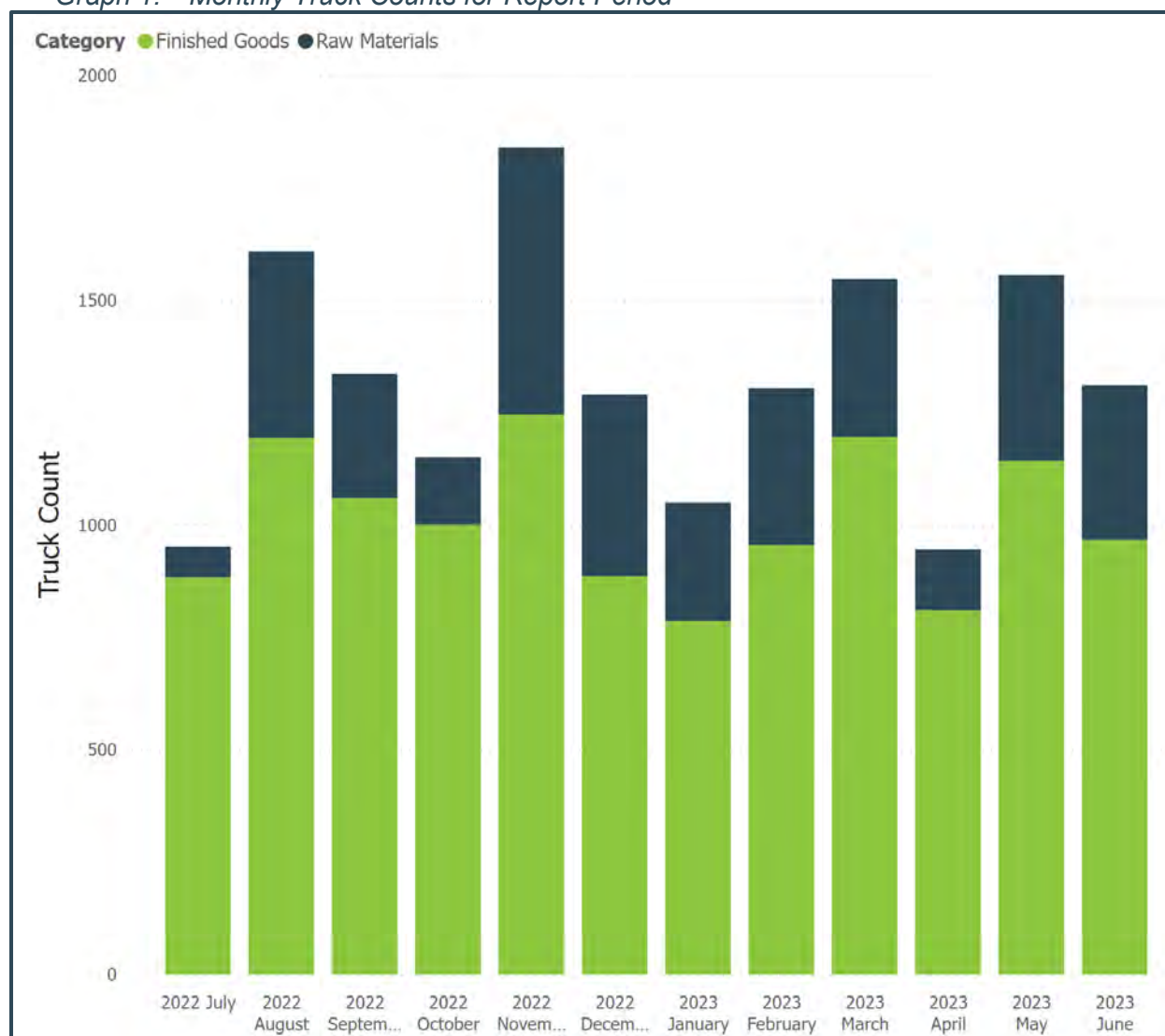
6.6 TRANSPORTATION AND TRAFFIC MANAGEMENT

The Traffic Management Plan was approved on 11/5/2022.

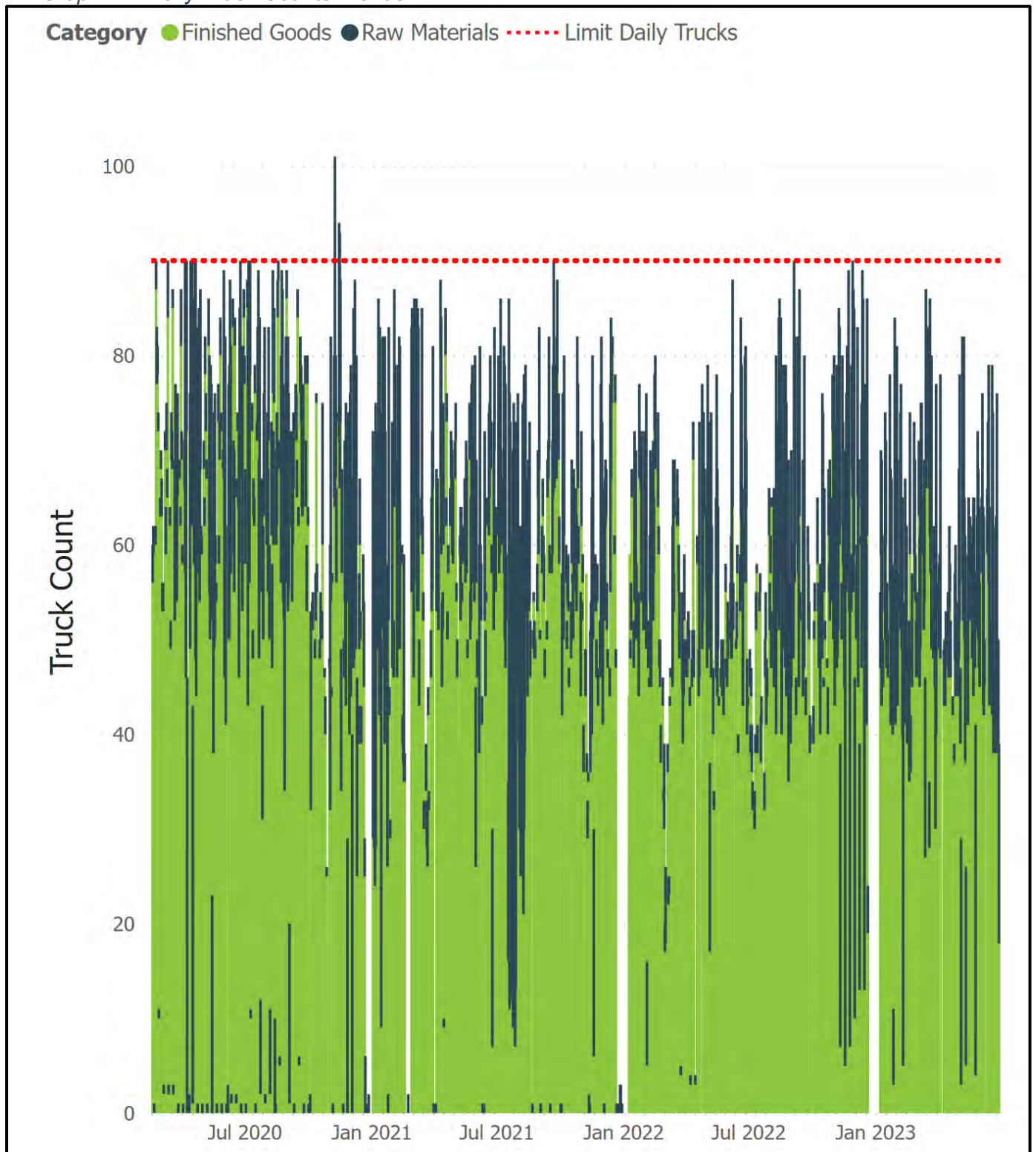
Table 10. Transportation During the Report Period

Item	Period	Actual	Transportation Limits	Compliance
Transport Bricks	1/7/22 to 30/6/2023	182,456 T	263,500 T	Compliant
Receive or dispatch Trucks	Max per day during year	90 on 6/09/2022 and 30/11/2022	90 trucks per day	Compliant
Receive or dispatch Trucks	Max per hour during year	20 on 6/4/2023 at 8am and 21 on 20/3/2023 at 10am. Both times the trucks were counted and sent through without loading to ensure flow of traffic	18 trucks per hour	Compliant

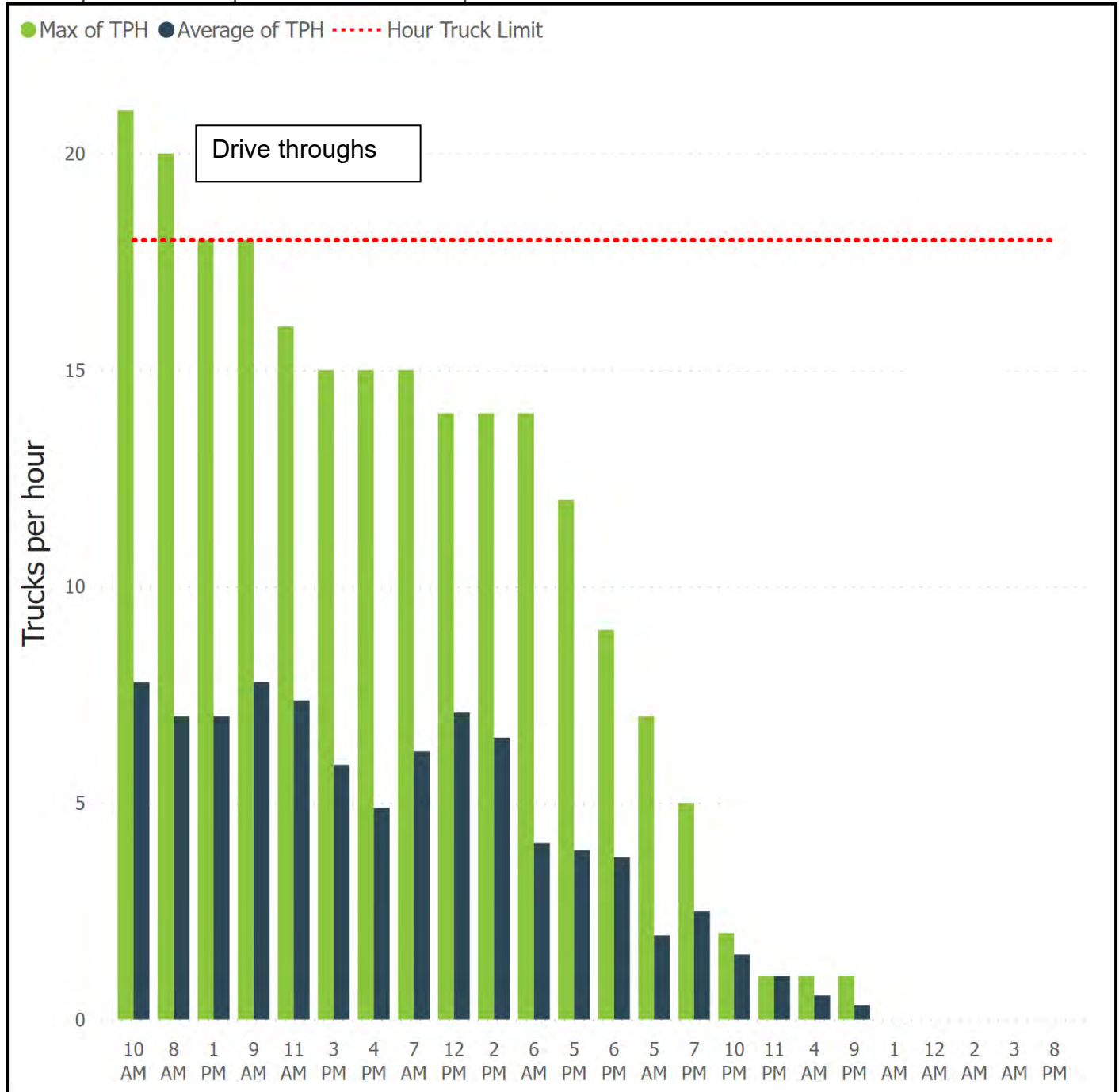
Graph 1. Monthly Truck Counts for Report Period



Graph 2. Daily Truck Counts Trends



Graph 3. Trucks per Hour Trends in Report Period



6.7 CONSTRUCTION WASTE

No construction was undertaken during the AR reporting period.

No changes to the waste management system have occurred during the reporting period.

6.8 OPERATIONAL WASTE

Operational wastes that may be produced on site include cardboard, timber, recycling of metals and oil, brickmaking by-products such as waste bricks. Metal is taken by contractor for recycling; cardboard is stored in two bins and taken from site once week; general waste is stored in six skip bins and taken off-site once a week. In addition, once every 3 months an extra bin is ordered to take extraordinary waste (for example pallets). Oil waste is taken by a contractor and septic waste is taken twice a week by a separate contractor.

Full and broken waste fired bricks are transported offsite to other plants which utilise fired brick in their processes (pers comm. PGH Bricks). Green waste bricks are recycled through the factory.

6.9 DECOMMISSIONING AND DEMOLITION ACTIVITIES

No decommissioning or demolition activities were undertaken during the reporting period.

6.10 TEMPORARY STABILISATION

Areas in the west of the pit where water was flowing in from the next property and causing erosion have been repaired and stabilised, see "Landform Establishment" on [Figure Three](#). To assist in stability and safety, layered stockpiles are kept to a height limit of 4.5 metres.

6.11 WEED MANAGEMENT

African Olives were removed from the area to the north and south of north/west extraction of the biodiversity area. The area has been remediated by recontouring and spreading with shredded mulch. African Olives were shredded and used as mulch on reshaped areas.

6.12 PROGRESSIVE REHABILITATION AND COMPLETION

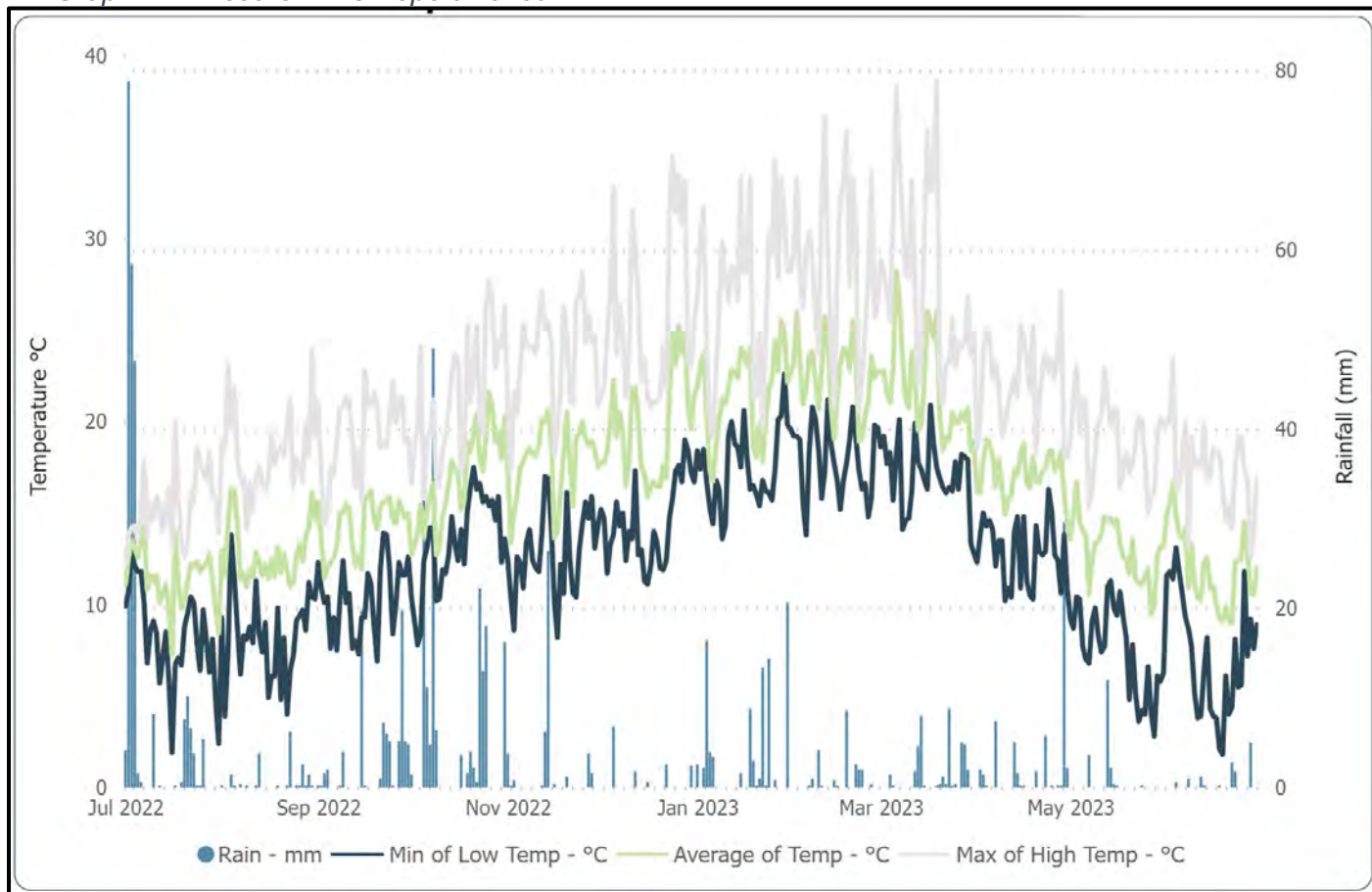
As previously mentioned, areas to the west of the existing pit have been reshaped and stabilised. The bund wall to the west has been repaired, and a northern bund wall built to reduce noise and visual impacts on the northern neighbours. Those areas have been topsoil and mulched, but not yet vegetated.

7 Environmental Monitoring and Management

7.1 CLIMATE SUMMARY

A weather station was installed in early 2017; data for the reporting period is shown below.

Graph 4. Weather This Report Period



Graph 5. Wind Roses this Report Period

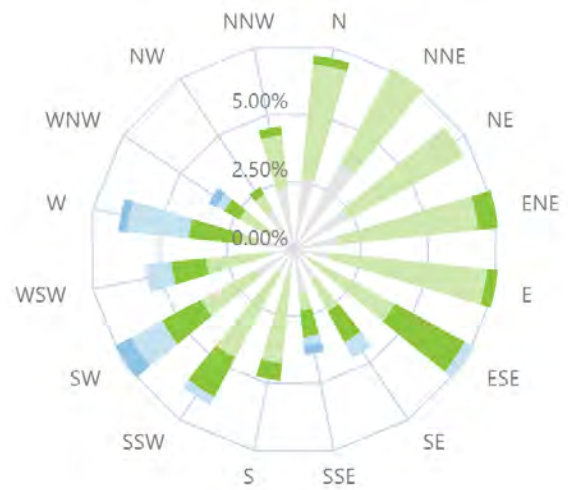
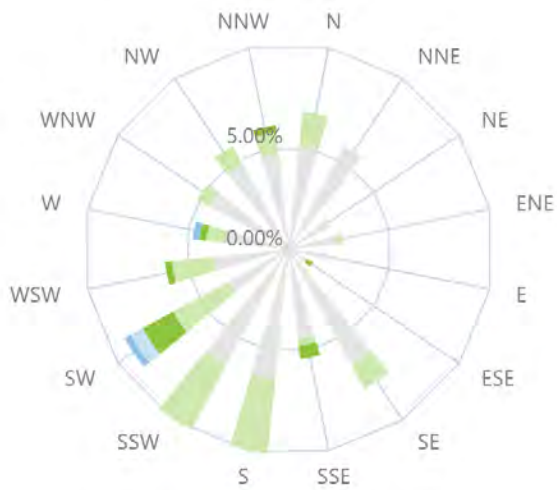
Wind Rose for Calendar Year

9 am

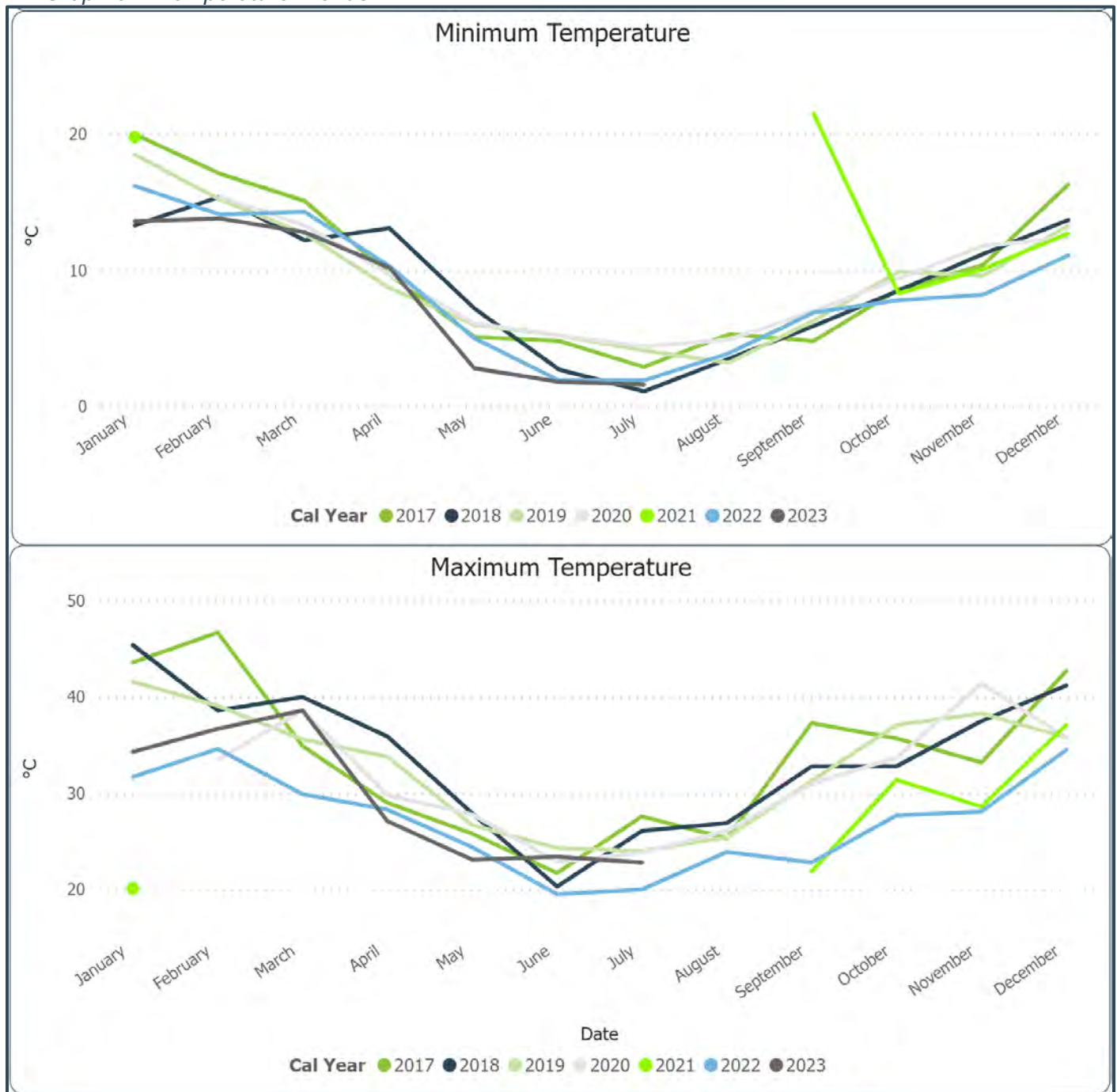
3 pm

Wind Speed Groups

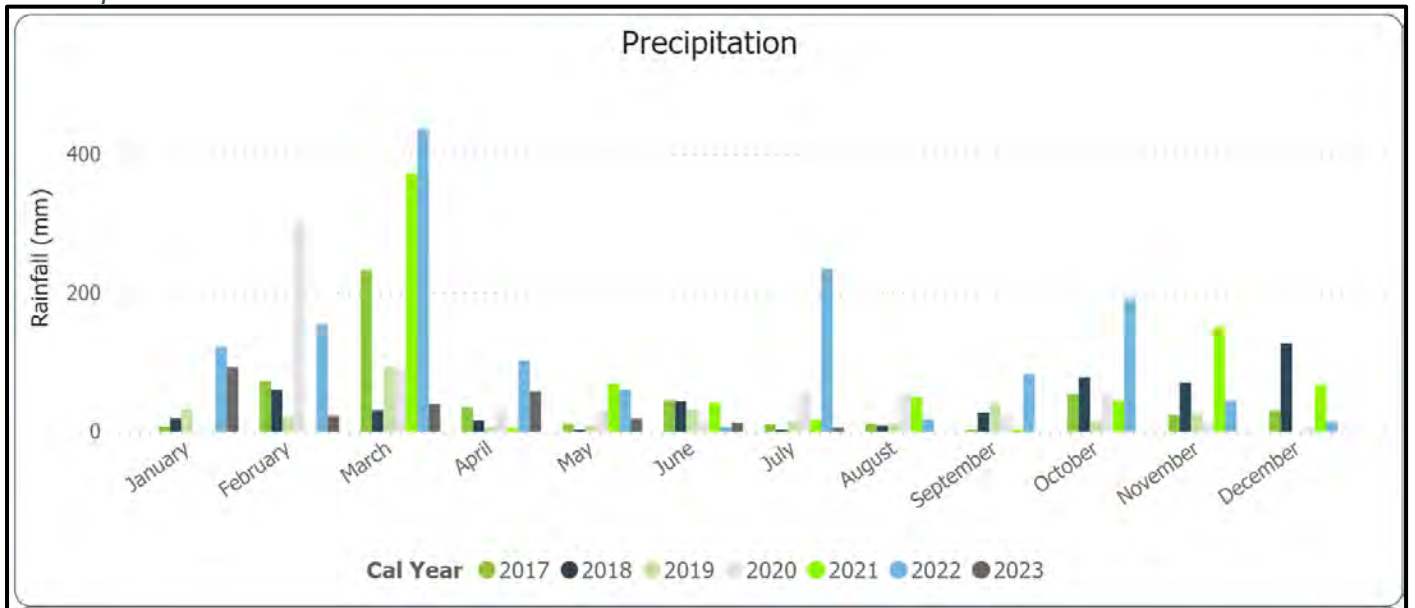
> 0-5 km/h > 5-10 km/h > 10-15 km/h > 15-20 km/h > 20-25 Km/h > 25-30 Km/h > 30+ Km/h



Graph 6. Temperature Trends



Graph 7. Rainfall Trends



7.2 AIR QUALITY

7.2.1 Monitoring Data

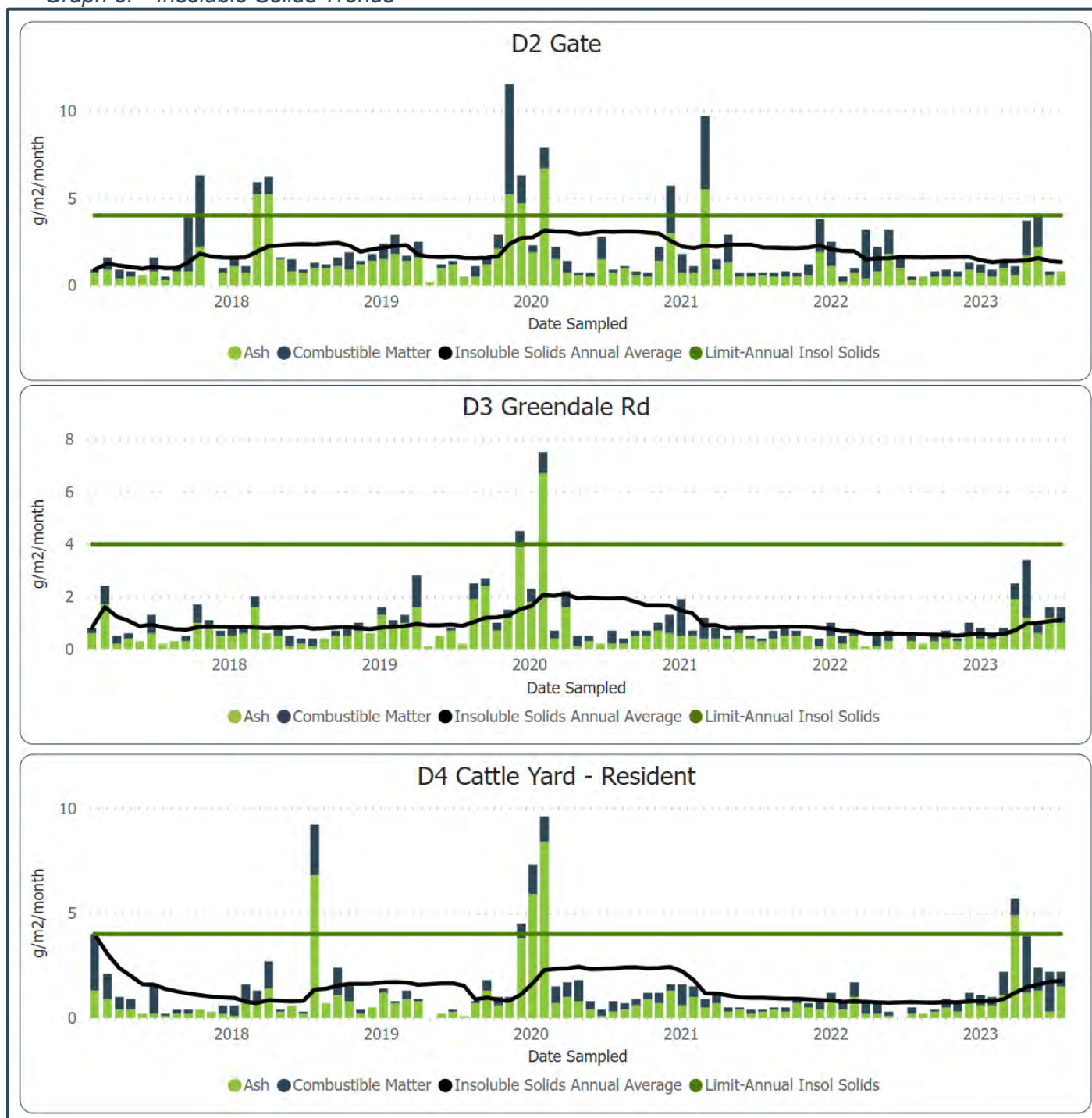
7.2.1.1 Depositional Dust Gauges

Air-borne dust is monitored using static dust gauges. Results for three dust gauges during the reporting period are included below. The dusts were sampled from three locations, as shown on [Figure Two](#).

Table 11. Depositional Dust Results this Report Period

Site	Annual Average Insoluble Solids g/m ² /month	Max Increase over Background	Max Total Limit
D2 Gate	1.4	2	4
D3 Greendale Rd	1.1	2	4
D4 Cattle Yard	1.7	2	4

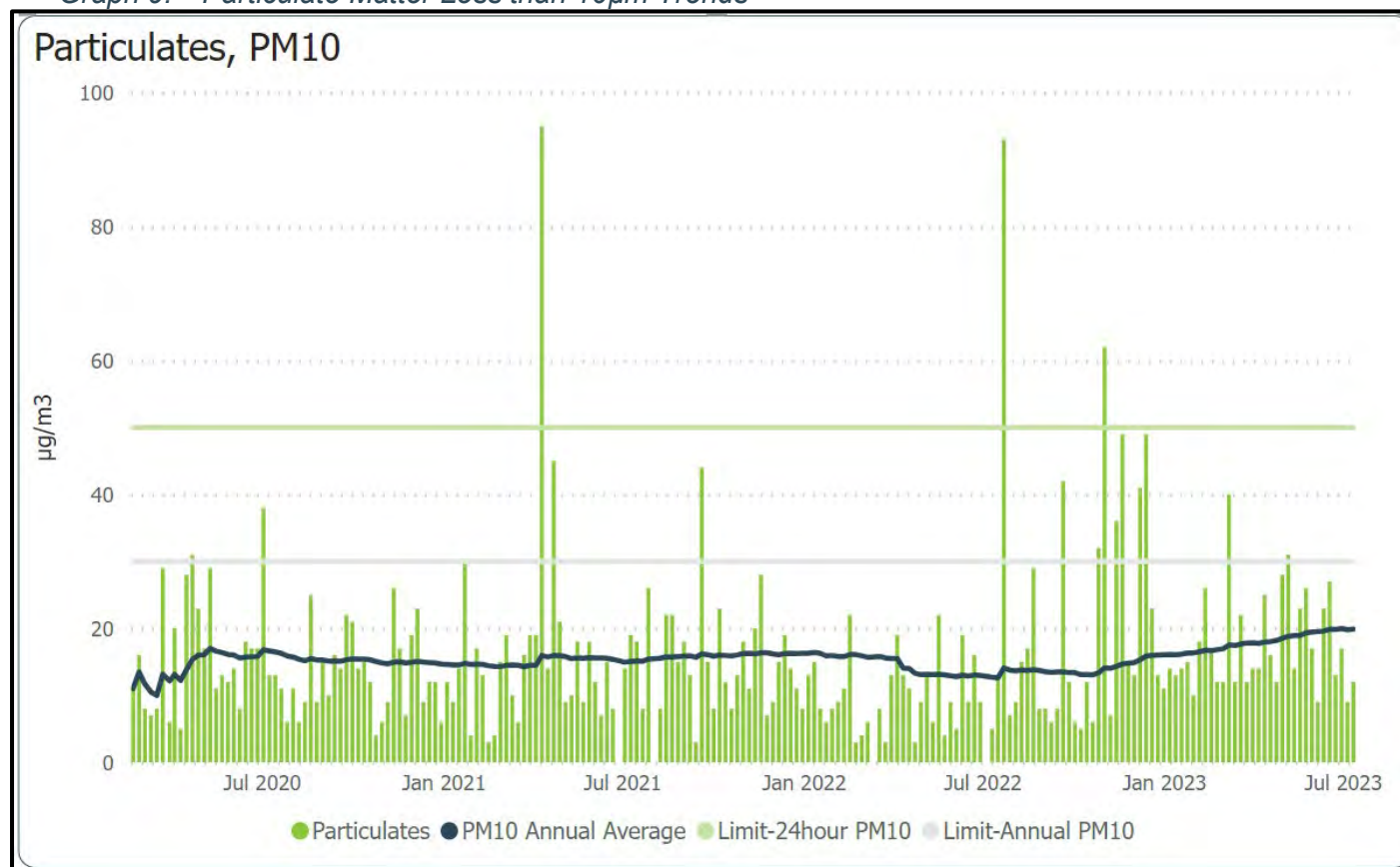
Graph 8. Insoluble Solids Trends



7.2.1.2 High Volume Air Sampling

One high volume air sampler (HVAS) has also been purchased for the site to monitor dust particulates and the results to date are shown below. All site monitoring equipment is maintained and calibrated in accordance with manufacturer's instructions.

Graph 9. Particulate Matter Less than 10µm Trends



Only PM10 measurements have been undertaken to date.

Table 12. Particulate Matter Results for Report Period

Pollutant	Averaging Period	Actual Result	Limit
Total Suspended Particulates (TSP) (ug/m³)	Annual	49 (Calculated from PM10 = 40% of TSP)	90
Particulate Matter <10 um (PM10) (ug/m³)	Annual	19.6	30
Particulate Matter <10 um (PM10) (ug/m³)	24 hour	93 (23/07/2022) 62 (02/11/2022) Max 24 hr averages in Report Period	50

The exceedances were reported to the DPE within 7 days of receiving the results and recorded as SSD-5684-PA-29 (23/7/22) and 35 (2/11/22). No actions have been taken regarding the exceedances.

7.2.1.3 Stack Emissions

Emissions testing of the kiln stack was conducted during the reporting period on the 28/2/2023. The results are summarised below.

Table 13. Stack Emissions Results in the Report Period

Analyte	Result Reported	EPL Limit
Hydrogen Flouride (mg/m3)	8	50
Nitrogen Oxides (mg/m3)	67	2000
Total Solid Particles (mg/m3)	7.2	100

Graph 10. Stack Monitoring Trends

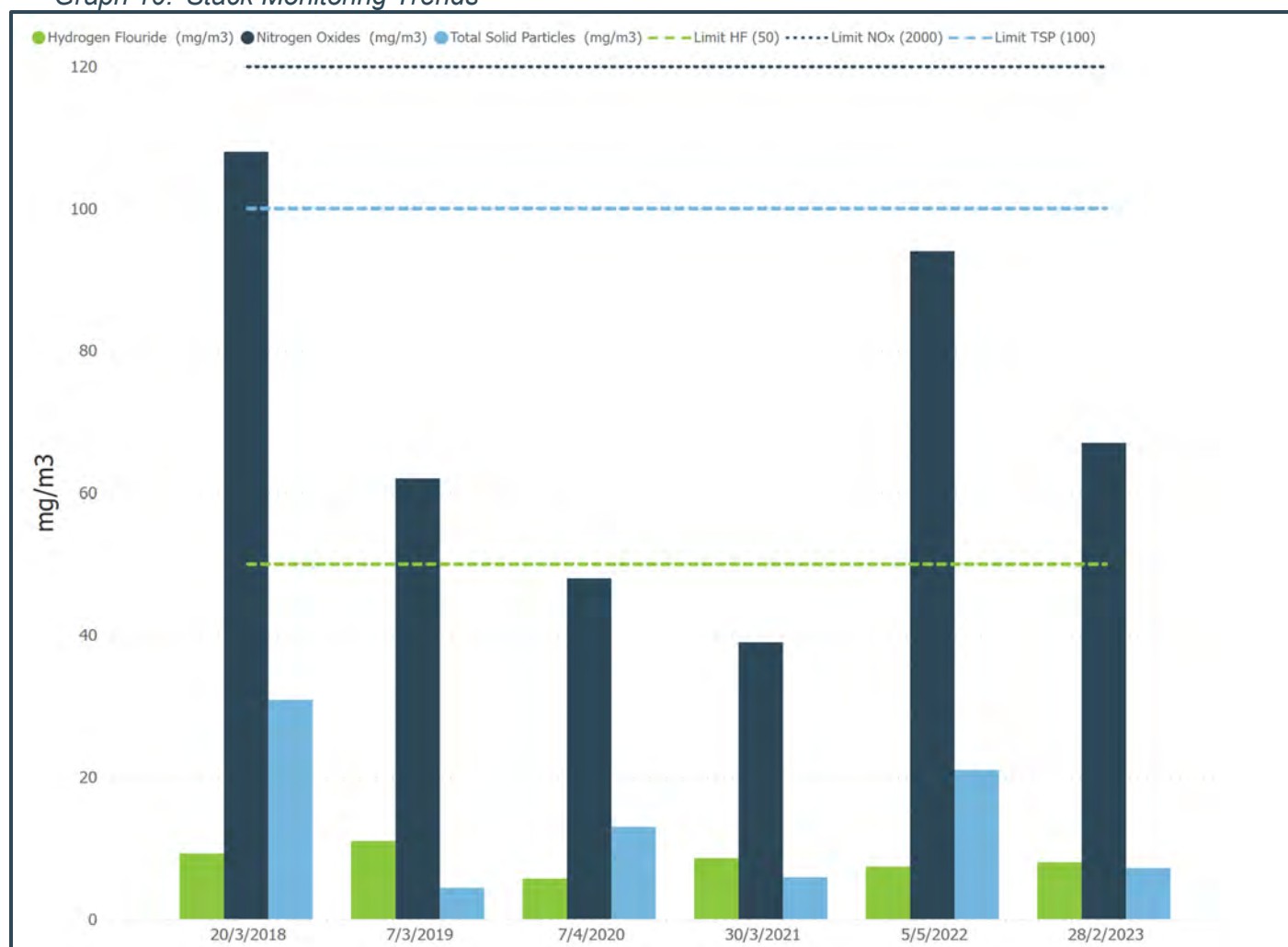


Table 14. Assessable Load for Stack Emissions From 1/6/2022 to 31/5/2023

Assessable Pollutant	Load (kg)*	Load Limit from EPL 1808 (kg)
Sulphur Oxides	26,280	186,500
Nitrogen Oxides	27,857	90,300
Coarse Particulates	1,104	8,400
Fine Particulates	1,945	33,300
Fluorides	3,311	11,700
Nitrogen Oxides - Summer	6,869	No limit

*Sourced from the EPL website.

Stack emissions criteria from the Mod 1 Approval are reproduced below as well as the EPL criteria.

Table 15. Stack Emissions Criteria for Residences

<i>Table 6: Long and Short-Term Stack Emissions</i>		
Pollutant	Averaging period	^d Criterion
Sulphur Dioxide	10-minute	712 µg/m ³
	1-Hour	570 µg/m ³
	24-Hour	228 µg/m ³
	Annual	60 µg/m ³
Nitrogen Dioxide	1-Hour	246 µg/m ³
	Annual	62 µg/m ³
Hydrogen Chloride	1 hour	0.14 mg/m ³

Although ambient air quality monitoring has not been undertaken or modelled for the residences on privately owned land, the stack monitoring results were near or below the inputs used for the air modelling (AUSPLUME) in the EIS.

The results from the stack monitoring are below the EPL 1808 limits. It is therefore unlikely that the residences experienced levels above the criteria during the reporting period.

7.2.2 Non-Compliances

7.2.2.1 Depositional Dust Non- Compliances

The depositional dust monitoring results for the reporting period are all below the annual average criteria. There were no non-compliances.

7.2.2.2 HVAS Non- Compliances

There were 2 non-compliances with the PM₁₀ monitoring 24 hour averages. The Particulate Matter less than 10 micron exceeded the 24 hour average limit on 2 occasions: Saturday 23/7/2022 and Wednesday 2/11/2022. In each case the result was queried with the laboratory and found to be valid. These were reported to the DPE via the Major Projects portal within 7 days of receiving the results. No actions have been taken or required.

7.2.2.3 Stack Emission Non-Compliances

The stack monitoring was within the load base requirements and concentration levels for the EPL reporting year. Comparison to the AUSPLUME modelling input data indicates it is unlikely that the ambient stack emission criteria for residences was exceeded.

7.2.3 Comparison to Predictions

As the mining has not commenced in the extension area comparisons to the predictions in the EIS and SoEE are not able to be made. The results however are consistent with the background pollutant concentrations predicted in the Hyder Consulting EIS.

Table 16. Hyder Consulting EIS Background Air Quality Data Comparison

Air Pollutant	Averaging Period	Background Concentration From EIS (µg/m ³)	Actual Result from Reporting Period
PM ₁₀	Annual	16.0	19.6
	24-hour (maximum)	83.8	93
NO ₂	Annual	9.7	Not applicable
	Monthly (maximum)	41	Not applicable
SO ₂	Annual	3.5	Not applicable
	Monthly (maximum)	4.5	Not applicable
TSP	Annual	40.0 (estimate value)	Not applicable 49 (estimate based on the PM ₁₀ being 40% of the TSP annual average of 13µg/m ³)
Dust Deposition	Annual	1.8 g/m ² /month	D2- 1.4 g/m ² /month D3- 1.1 g/m ² /month D4- 1.7 g/m ² /month

Note: Ambient monitoring of NO₂ and SO₂ at nearby residences is not undertaken (see Section [7.2.1.3](#)).

7.2.4 Trends and Discrepancies Against Predicted and Actual Impacts

Depositional dust results showed a typical increasing seasonal trend during the summer but all annual averages are well below the required criteria. Trends are a little higher than the previous report period due to a drier summer.

HVAS results are variable and no consistent trend was noted.

Stack emissions are also consistent with previous years for EPL recorded results and no significant trends were observed.

7.2.5 Measures to Improve Performance in the Next Reporting Period

There are several sources of airborne dust on the Bringelly Clay Mine site and surrounds. The principal source is earth-moving activities, including ore extraction and stockpiling. Dozers, excavators and haul trucks will produce airborne dust while undertaking clearing, mining and stockpiling activities and by travelling along unsealed internal roads. The use of a water cart during all of these activities will minimise impact on the environment. Pit and stockpile rehabilitation with vegetation established as soon as practicable will assist with prevention of dust generation. Other air pollutants include gases from the kiln and dryers, since the kiln is not being refurbished there is minimal opportunity to reduce these emissions from current levels.

7.3 WATER/SEDIMENT/EROSION

7.3.1 Surface Water

7.3.1.1 Monitoring Data

All discharges during the report period occurred in compliance with the EPL conditions. All site monitoring equipment is maintained and calibrated in accordance with manufacturer's instructions.

The EPL limits for discharged water are outlined below.

Table 17. EPL Discharge Concentration Limits

POINT 1

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Turbidity	nephelometric turbidity units				150

POINT 5

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Conductivity	microsiemens per centimetre				1450
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Turbidity	nephelometric turbidity units				150

Water quality testing has been undertaken of the water held in the dams during the reporting period as shown below. Only results that have been discharged are shown.

Graph 11. Water Quality Monitoring, Discharged from Point 5

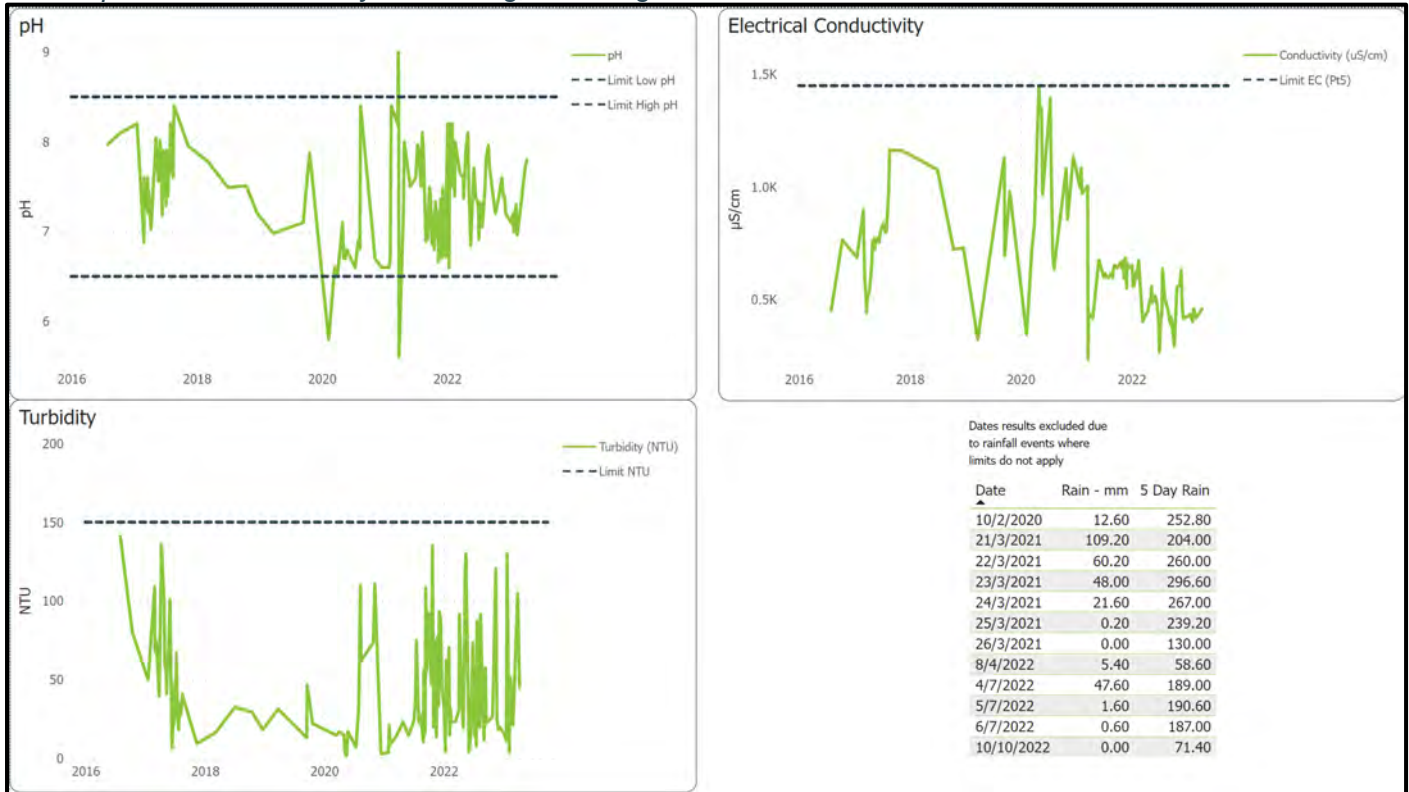


Table 18. Summary of Point 5 Discharged Results During Report Period

Analyte	Minimum	Average	Maximum	EPL Limit
pH	7.0	7.4	8.0	6.5 – 8.5
Electrical Conductivity (uS/cm)	380	463	637	1450
Turbidity (NTU)	3.9	42	130	150
Oil & Grease (mg/L)			<10	10

7.3.1.2 Non-Compliances

There were no surface water non-compliances during the report period.

7.3.1.3 Comparison to Predictions

The EIS states that the adoption of the water management measures described in the EIS and SoEE would ensure that the project meets the required EPL conditions. This has been achieved this report period.

7.3.1.4 Trends and Discrepancies Against Predicted and Actual Impacts

The pH and Conductivity of the dams is variable and no significant trends have been noted. Turbidity is also variable and below the EPL criteria. Oil and Grease has not been detected in Dam 5 during the report period.

No water was discharged from the site that did not meet EPL discharge criteria.

7.3.1.5 Measures to Improve Performance in the Next Reporting Period

The site will continue to monitor surface water as required. The Water Management Plan will be reviewed and updated as required. As more data becomes available, future trends will be identified and compared to predictions.

7.3.2 Erosion and Sediment

7.3.2.1 Monitoring Data

Generally, the site is prone to moderate erosion, but this is limited to the exposed worked areas of the quarry. Erosion over the disturbed area is mitigated as much as possible through the establishment of vegetation, which binds the soil and traps silt. Rainfall that occurs over the active mine site does cause some minor erosion on unfinished surfaces, but the sediments are collected on the floor of the mine within the sediment dams. Eroded soils and sediment captured within the pit sump become a part of the surface water management process.

Slopes are kept moderate where possible in the pit to reduce erosion hazard and benches are present on the site.

The capacity of the dams has been monitored visually during the reporting period.

7.3.2.2 Non-Compliances

There were no non-compliances relating to the erosion and sediment management.

7.3.2.3 Comparison to Predictions

The site erosion and sediment control is performing adequately.

7.3.2.4 Measures to Improve Performance in the Next Reporting Period

The site will monitor sediment and erosion monthly. The Water Management Plan will be reviewed and updated as required. As more data becomes available, trends will be identified and compared to predictions.

7.4 GROUNDWATER

7.4.1 Monitoring Data

Quarrying operations has not proceeded below 46m AHD.

Four groundwater monitoring bores were installed on the site as shown in [Figure Two](#) in 2013. The bores are all registered under Licence 10BL605770 with the NSW Office of Water.

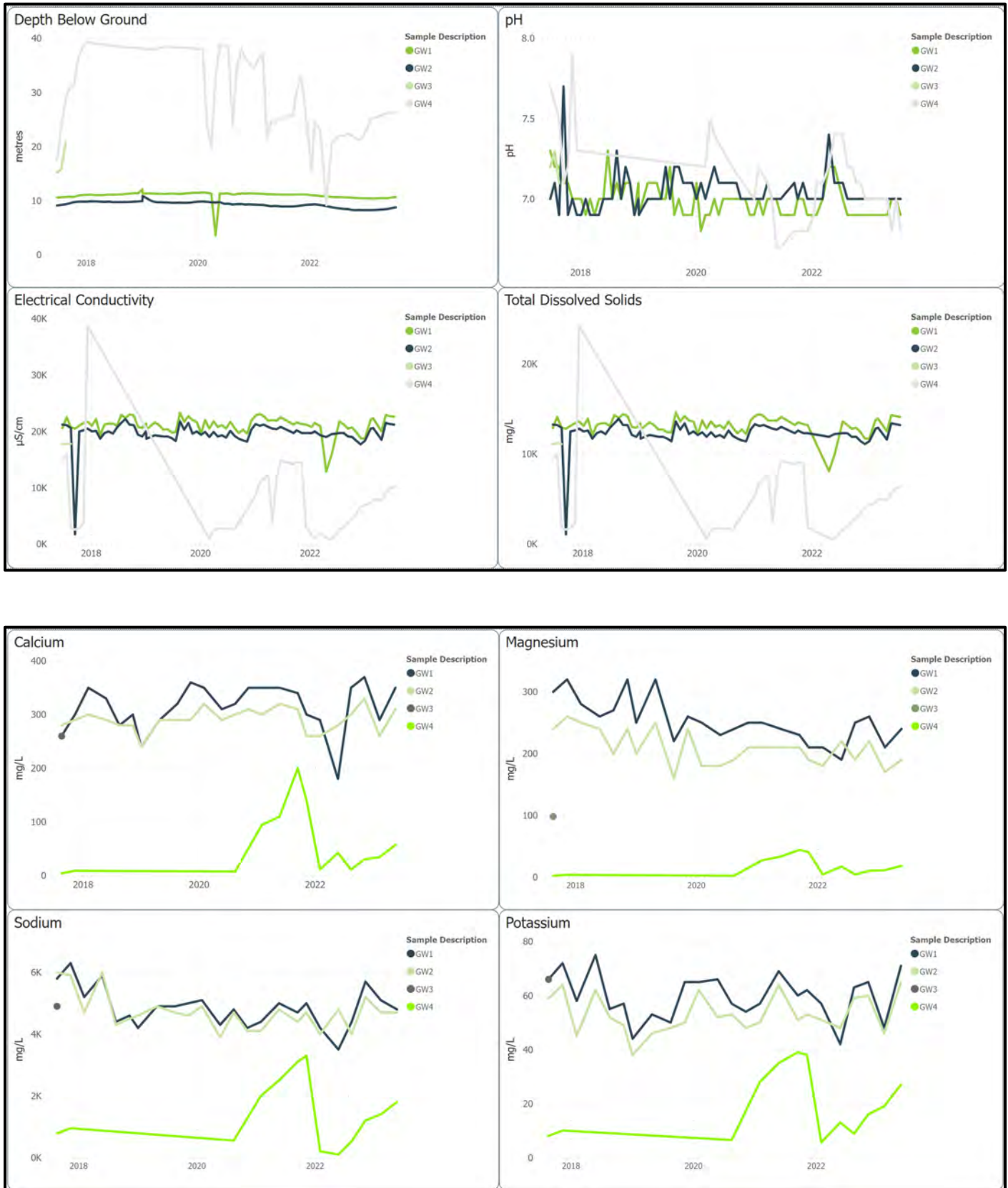
Groundwater sampling commenced mid-2017. GW3 groundwater monitoring bore, located in the stockpile area, was damaged some years ago and cannot be sampled.

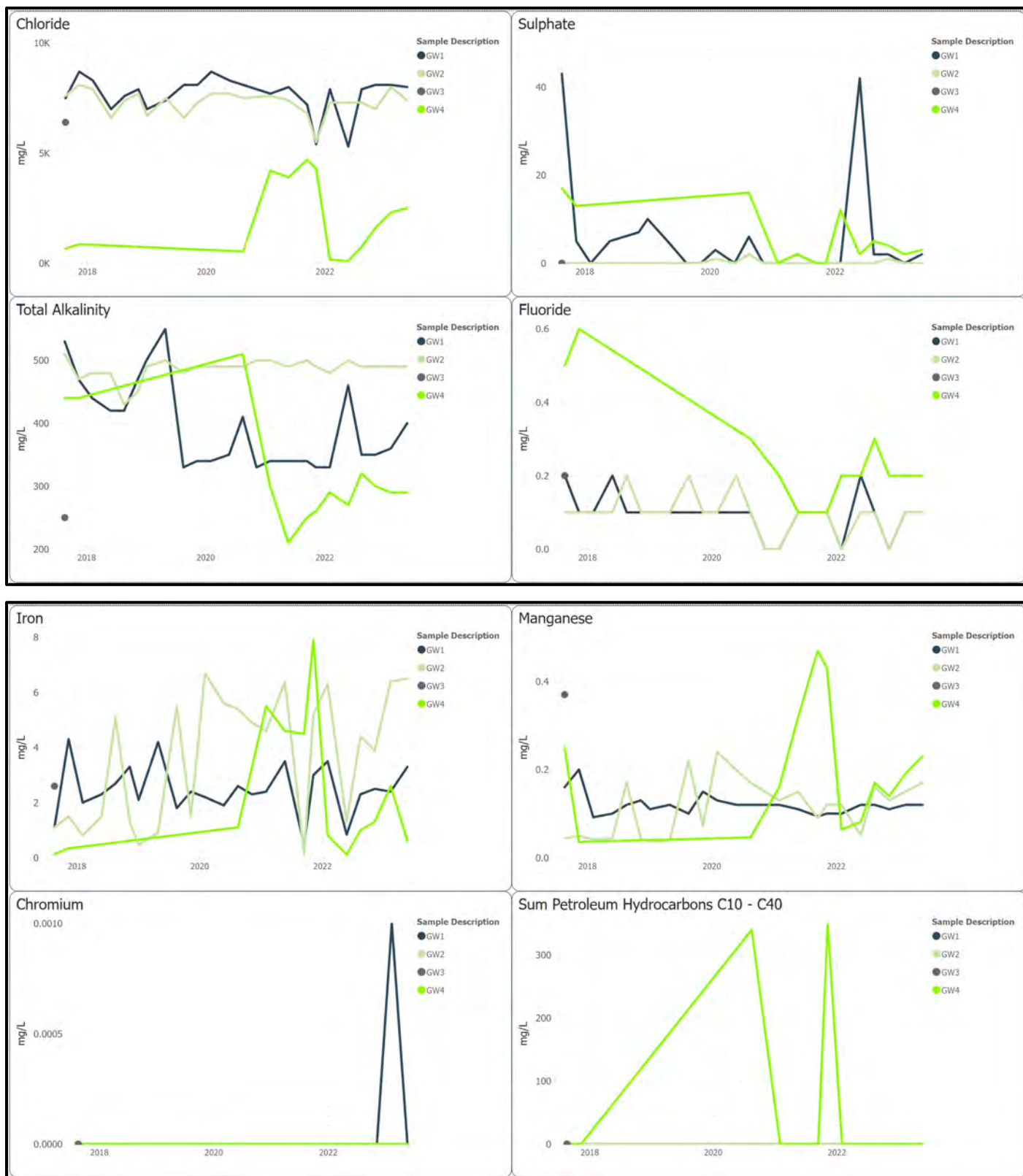
In summary:

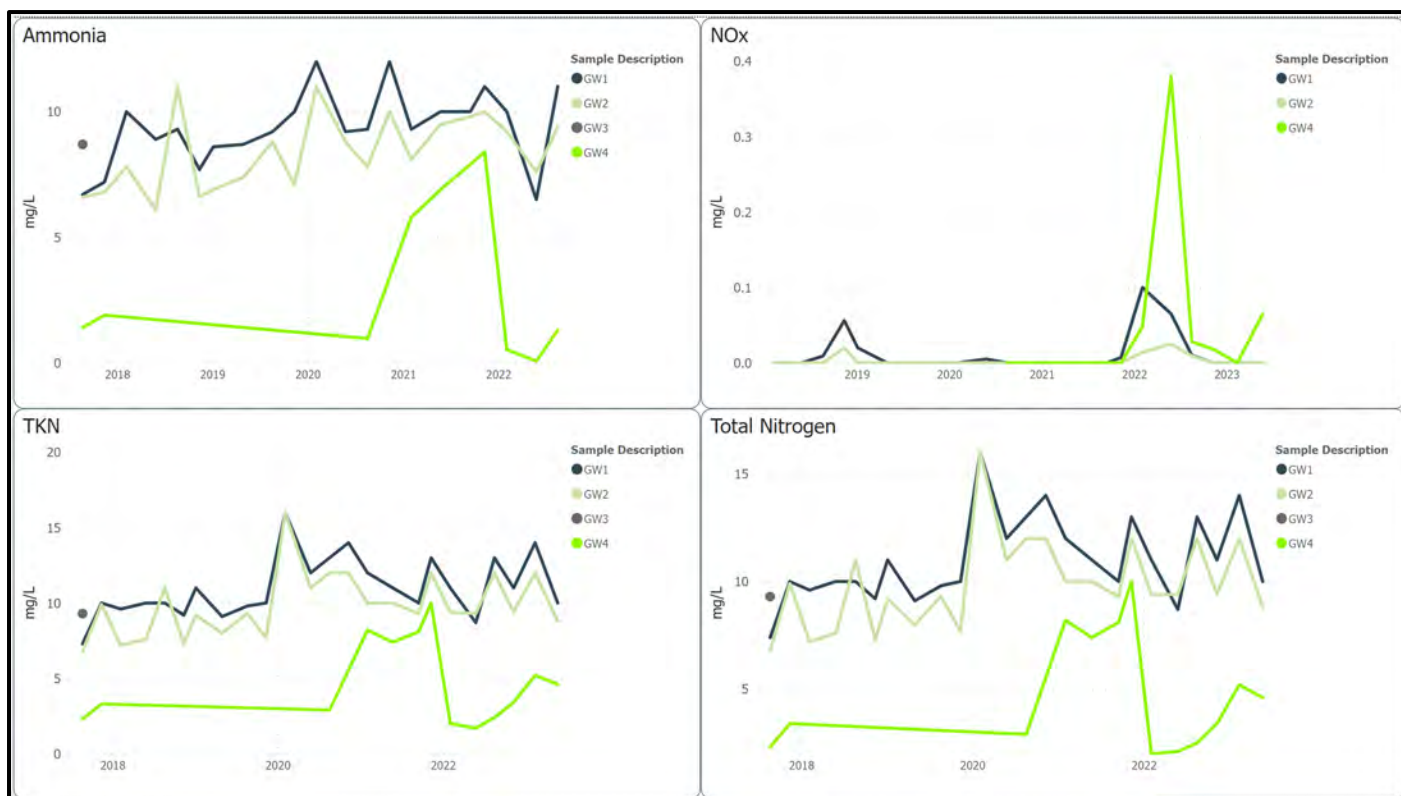
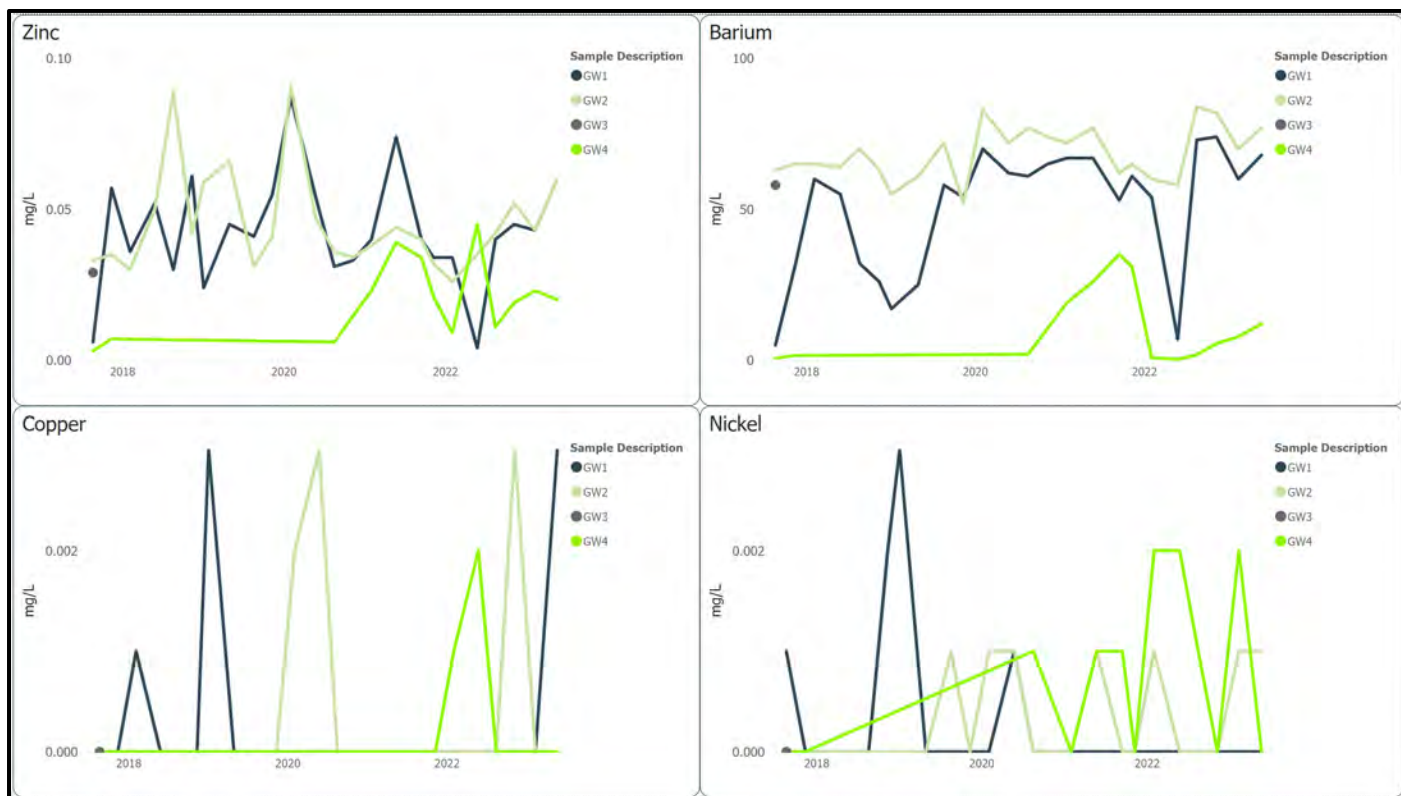
- GW1 and GW2 water levels are fairly stable, however, GW4 is frequently at a low standing water level, with insufficient water volume available to pump and sample. This report period has shown a steady decrease in water amount, and a corresponding increase in conductivity, possibly due to surface water drying out and the bore responding more to the deeper groundwater table.
- The pH's of all GW's are fairly neutral, remaining between the 6.5 to 7.5 range for the report period;
- The conductivity, dissolved solids and chloride of GW1 is consistently higher than GW2 and both respond similarly over time;
- GW4 shows a minor decrease in pH since 2018 and a steady increase in Conductivity since February 2022;
- Anions and Cations for GW1 and GW2 are fairly consistent and similar to each other, with GW4 much lower in cations and chloride, but similar in the minor compounds;
- Iron and Manganese are steady for GW2 and GW4 bores. GW4 has dropped from its spikes last period;
- Zinc, Copper, Nickel and Barium for all bores;
- Hydrocarbons were not detected this report period;
- Nutrients within GW1 and GW2 are similar to each other and GW4 has returned to normal following the spike last report period;

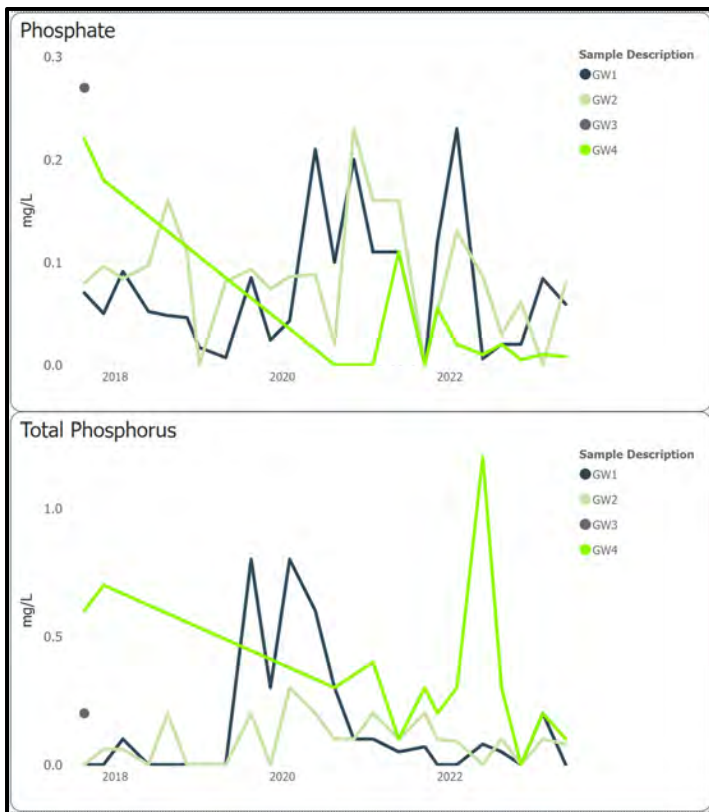
Results are presented in the graphs below. Note, only metals where positive results have been detected are shown.

Table 19. Groundwater Results









7.4.2 Non-Compliances

There were no non-compliances relating to the groundwater management.

7.4.3 Comparison to Predictions

The Groundwater Management Plan (GMP) predicted a negligible change in the groundwater regional flow as a result of the proposed activities.

7.4.4 Trends and Discrepancies Against Predicted and Actual Impacts

To date the groundwater quality and depth levels have remained fairly consistent. Changes in GW4 can be related to surface water influence and a low water volume.

7.4.5 Measures to Improve Performance in the Next Reporting Period

The site will continue to monitor the bores. The Groundwater Management Plan will be reviewed and updated as required. As more data becomes available, trends will be identified and compared to predictions.

7.5 NOISE

7.5.1 Monitoring Data

Approval conditions list the noise limits as follows.

Table 20. SSD Noise Criteria

Noise Criteria				
2. The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.				
Table 2: Noise criteria dB(A)				
Activity	Receiver	Day/Evening/Shoulder	Night	
		L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (max)
Brick making and quarrying	R1, R2	47	Not Applicable	
	R3, R4, R14	48		
	R15, R17	45		
	All other receivers	44		
Brick making	All receivers	44	43	53
Notes:				
<ul style="list-style-type: none"> To locate the receivers referred to in Table 2 refer to Appendix 3. After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this consent prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL. 				
Appendix 5 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.				

Noise monitoring was undertaken during the reporting period in December 2021, March 2022 and June 2022. September 2021 monitoring was not possible due to the Covid lockdown. Noise monitoring results indicated that the site-attributable contributions were estimated to satisfy the relevant noise criteria at all locations during the assessments (see [Appendix I](#)).

Table 21. Noise Results in Report Period

Receiver	Activities Occurring	Date / Time	L _{Aeq} (15min)	Limit	L _{A1} (max)	Limit
R1	Brick making + Quarrying	20/9/22 Day 15/11/22 Day 15/2/23 Day 27/4/23 Day	<34 <33 <30 <31	47	Not measured	N/A
R1	Brick making	20/9/22 Evening 15/11/22 Evening 15/2/23 Evening 27/4/23 Evening	40 34 <37 <33	44	Not measured	N/A
R1	Brick making	20/9/22 Night 15/11/22 Night 15/2/23 Night 27/4/23 Night	38 <32 <33 <35	43	39 <32 <33 <35	53
R3	Brick making + Quarrying	20/9/22 Day 15/11/22 Day 15/2/23 Day 27/4/23 Day	<37 <37 <34 <36	46	Not measured	N/A
R3	Brick making	20/9/22 Evening 15/11/22 Evening	<35 32	44	Not measured	N/A

Receiver	Activities Occurring	Date / Time	L _{Aeq} (15min)	Limit	L _{A1} (max)	Limit
		15/2/23 Evening 27/4/23 Evening	<33 <35			
R3	Brick making	20/9/22 Night 15/11/22 Night 15/2/23 Night 27/4/23 Night	<34 <33 <30 <34	43	<34 <33 <30 <34	53
R14	Brick making + Quarrying	20/9/22 Day 15/11/22 Day 15/2/23 Day 27/4/23 Day	<38 <36 <35 <36	46	Not measured	N/A
R14	Brick making	20/9/22 Evening 15/11/22 Evening 15/2/23 Evening 27/4/23 Evening	<31 <28 <37 <30	44	Not measured	N/A
R14	Brick making	20/9/22 Night 15/11/22 Night 15/2/23 Night 27/4/23 Night	<30 <34 <32 <30	43	<30 <34 <32 <30	53
R20	Brick making + Quarrying	20/9/22 Day 15/11/22 Day 15/2/23 Day 27/4/23 Day	<37 <34 <33 <32	44	Not measured	N/A
R20	Brick making	20/9/22 Evening 15/11/22 Evening 15/2/23 Evening 27/4/23 Evening	<30 <32 <32 <29	44	Not measured	N/A
R20	Brick making	20/9/22 Night 15/11/22 Night 15/2/23 Night 27/4/23 Night	<29 <30 <30 <27	43	<29 <30 <30 <27	53
R35	Brick making + Quarrying	20/9/22 Day 15/11/22 Day 15/2/23 Day 27/4/23 Day	<29 <33 <30 <27	44	Not measured	N/A
R35	Brick making	20/9/22 Evening 15/11/22 Evening 15/2/23 Evening 27/4/23 Evening	<37 <32 <34 <31	44	Not measured	N/A
R35	Brick making	20/9/22 Night 15/11/22 Night 15/2/23 Night 27/4/23 Night	37 <32 <31 <32	43	38 <32 <31 <32	53

7.5.2 Non-Compliances

There were no noise non-compliances recorded during the reporting period. No noise complaints have been received during the reporting period.

7.5.3 Comparison to Predictions

The noise assessment in the EIS considered two operational scenarios:

- 24-hour processing and brick making activities; and
- Daytime quarrying campaigns, with processing and brick making also being carried out.

7.5.3.1 Processing and Brick Making Activities

For about 6 months each year, processing and brick making activities were predicted to be the only operational noise source on site. The assessment indicates that there would be no exceedances of the Project Specific Noise Levels (PSNL) at any receiver under this operational scenario.

The EIS also includes an assessment of the potential for sleep disturbance associated with the night-time processing and brick making activities. The assessment found that the project would not exceed the applicable sleep disturbance criteria at any locations.

None of the results in this report contradict the predictions.

7.5.3.2 Quarrying Campaigns

No comparison to the predictions can be made as mining in the extension area has not commenced.

7.5.3.3 Construction Noise

During construction of the new site access road and the noise bund adjacent to Greendale Road, the EIS assessment predicts exceedances of the applicable ICNG criteria of 49 dB(A) (i.e. 10 dB above the background noise level) at receivers 3 and 4, which would exceed the criteria by 2 and 17 dB(A), respectively. No other exceedances are predicted to occur.

No construction has been undertaken during the reporting period therefore comparisons to the predictions in the EIS are not relevant.

7.5.4 Trends and Discrepancies Against Predicted and Actual Impacts

No trends or discrepancies have been identified to date.

7.5.5 Measures to Improve Performance in the Next Reporting Period

The site will continue to monitor noise in the next reporting period. The Noise Management Plan will be reviewed and updated as required. As more data becomes available, trends will be identified and compared to predictions.

7.6 BIODIVERSITY

7.6.1 Monitoring Data

No monitoring or maintenance of the Biodiversity Offset Area has been undertaken as yet.

7.6.2 Non-Compliances

There were no biodiversity non-compliances recorded during the reporting period.

7.6.3 Comparison to Predictions

No comparison to the predictions has been made.

7.6.4 Trends and Discrepancies Against Predicted and Actual Impacts

No trends or discrepancies have been identified.

7.6.5 Measures to Improve Performance in the Next Reporting Period

The monitoring program will commence in the next report period.

7.7 HERITAGE

7.7.1 Monitoring Data

No monitoring for heritage items has been undertaken during the report period.

7.7.2 Non-Compliances

There were no non-compliances recorded during the reporting period.

7.7.3 Measures to Improve Performance in the Next Reporting Period

The Heritage Management Plan will be reviewed and updated as required.

7.8 VISUAL

7.8.1 Monitoring Data

The site is required to minimise the visible impact of the development, in accordance with Schedule 3 Conditions 28 and 29. Overall the site has very little impact to the visual amenity of neighbouring properties and road users.

Under the Approval conditions the monitoring of a vegetation screen to be established on noise bunds must be undertaken. The noise bunds have not been constructed as works in the extension area has not commenced therefore there is no monitoring of the vegetation screen.

The quarry does not utilise lighting and operates during daylight hours. The factory is lit for security purposes at night but is sufficient distance from residents for the impact to be minimal.

7.8.2 Non-Compliances

There are no non-compliances with regards to visual impacts and no complaints have been received.

7.8.3 Comparison to Predictions

The EIS predicted that the overall visual character of the project would remain largely unchanged. The site would be generally unobtrusive when viewed from surrounding properties and public roads. To date the site is unchanged visually as predicted.

7.8.4 Measures to Improve Performance in the Next Reporting Period

Visual monitoring will continue annually.

Plan of:	Bringelly Annual Report Year Ending 30/06/2023 - Photoplate 1 Visual Monitoring	Location:	Bringelly Clay Mine, Off Greendale Road, Bringelly, NSW	Our Ref:	12532_BR_AR2023_C001_V0_P1
Photoplate:	ONE	Council:	Camden Council	Plan By:	JD
Sheet:	1 of 1	Client:	PGH Bricks & Pavers Pty Ltd	Project Manager:	LT
Version/Date:	V0 11/09/2023	Source:	VGT	Office:	Thornton

This figure may be based on third party data which has not been verified by vgt and may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and vgt does not warrant its accuracy.



Photoplate 1: View of Site Entrance & Quarry from Greendale Road, 2021.



Photoplate 2: View of Site Entrance & Quarry from Greendale Road, 2022.



Photoplate 3: View of Site Entrance & Quarry from Greendale Road, 2023.



Photoplate 4: View of North Western Bundwalls from Greendale Road, 2021.



Photoplate 5: View of North Western Bundwalls from Greendale Road, 2022.



Photoplate 6: View of North Western Bundwalls from Greendale Road, 2023.



Photoplate 7: View of Quarry from Residence to the West, 2021.



Photoplate 8: View of Quarry from Residence to the West, 2022.



Photoplate 9: View of Quarry from Residence to the West, 2023.



Photoplate 10: View of Site from Residents in the South East, 2021.



Photoplate 11: View of Site from Residents in the South East, 2022.



Photoplate 12: View of Site from Residents in the South East, 2023.



Photoplate 13: View of Site from Residents in the East, 2021.



Photoplate 14: View of Site from Residents in the East, 2022.



Photoplate 15: View of Site from Residents in the East, 2023.

7.9 WASTE

7.9.1 Monitoring Data

The mine generates minimal overburden which is reused in rehabilitation. Waste generated by the brickworks is stored in the appropriate containers and removed by licenced waste contractors. Site waste streams data is collated and monitored internally. PGH reviews its purchasing and waste policies and procedures regularly to improve processes as required.

7.9.2 Non-Compliances

There have been no non-compliances related to the on-site sewerage treatment and disposal in the last 12 months. No waste has been imported to the site. Spill kits are available on site and by mining contractors and all fuel is stored in bunded areas.

7.9.3 Comparison to Predictions

The EIS predicted that the continuation and expansion of the operations on the site would result in the generation of the same types and quantities of wastes generated under existing operations. As the extension areas works have not commenced, comparison of overburden waste is not possible as no overburden was produced. Wastes generated by the brickworks is similar to previous years.

7.9.4 Trends and Discrepancies Against Predicted and Actual Impacts

No trends of discrepancies have been identified.

7.9.5 Measures to Improve Performance in the Next Reporting Period

The waste management and minimisation measure will be reviewed in the next reporting period. A program of monitoring and characterising materials to be re-used in rehabilitation has been included in the Rehabilitation Risk Assessment and incorporated into the updated Rehabilitation Management Plan.

7.10 BUSHFIRE

7.10.1 Control Measures

The site maintains a Site Emergency Response Procedure which includes bushfire management measures. Slashing of fire breaks is undertaken as required to remove potential fuel material. PGH maintains fencing around the site to discourage trespassing and the risk of deliberately lit fires. Procedures and training exist for PGH personnel and contractors, within site Emergency Response Procedures for minimising fire risk and dealing with fires.

PGH bushfire policy does not permit staff to engage in firefighting activities or bushfire management. All firefighting is undertaken by the RFS. Hazard reduction is based on RFS advice and not undertaken by PGH. PGH ensure that the facility is suitably equipped and access available to fight fires on site.

Site management will liaise with RFS to minimise fire risk as advised and is responsible for managing fire risk within policy guidelines.

PGH commits to work with RFS on any reasonable request to improve property risk profile. The site has suitable access and ongoing dialogue with RFS will ensure that the facility is accessible for fighting fires. In addition, dams on site will be made available for RFS as required in the event of fire.

In the event of a fire, on site or in the surrounding area, PGH will work as much as practical in co-operation with RFS, emergency services and National Parks and Wildlife Service. The presence of a bushfire in the area will activate the PIRMP.

7.10.2 Non-Compliances

There are no non-compliances relating to bushfire management.

7.10.3 Comparison to Predictions

The proposed expansion to the quarry extraction areas and consequent vegetation clearing was predicted to not enhance any risks to adjoining land, nor make the facilities any more likely to be subject to bushfire hazard. There have been no bushfires within the site during the reporting period.

7.10.4 Trends and Discrepancies Against Predicted and Actual Impacts

The site bushfire management is appropriate and there were no adverse impacts due to bushfire.

7.10.5 Measures to Improve Performance in the Next Reporting Period

Maintenance of fire breaks will continue over the next reporting period. The Bushfire Management Plan will be reviewed and updated as required.

7.11 PUBLIC SAFETY

7.11.1 Monitoring Data

In the interest of public safety and reducing the incidence of trespassers, fences and signage have been maintained along the perimeter of the mine site throughout the reporting period. There have been no incidents involving public safety and no incidences of trespassing. All visitors to the site must report to the gate office to sign in.

7.11.2 Measures to Improve Performance in the Next Reporting Period

Fences and signage will continue to be maintained and monitored during the next reporting period and repairs completed as required.

8 Rehabilitation

A Rehabilitation Management Plan Revision 2 dated 28/6/22 that meets the consent conditions is available on the website (<https://www.pghbricks.com.au/-nsw-environmental-reporting>) and was approved by the DPE on 2/12/2022. There is also a Rehabilitation Management Plan that has been prepared in accordance with the Resources Regulator Form and Way requirements and is also available on the website. This document requires no approval.

8.1 MONITORING DATA

The Plant Manager (or delegate), in consultation with a qualified ecologist or bush regenerator, will undertake at least quarterly inspections of the site in accordance with the Rehabilitation Management Plan and the EMS to ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in the Approval. During these inspections, the facility's condition, and environmental controls, will be observed and recorded. More specifically, observations and inspections of the implementation measures and objectives of the RMP are to be undertaken. Records will include details of any maintenance of controls required and an implementation priority. Site assessments will continue until such time as the completion criteria have been achieved.

8.2 NON-COMPLIANCES

There are no non-compliances that relate to rehabilitation.

8.3 COMPARISON TO PREDICTIONS

Rehabilitation to date has been reviewed in the Annual Review and Annual Rehabilitation Review submitted to the Resources Regulator. Rehabilitation to date has been consistent with the Rehabilitation Objectives.

8.4 MEASURES TO IMPROVE PERFORMANCE IN THE NEXT REPORTING PERIOD

Monitoring will continue as required.

8.5 FURTHER DEVELOPMENT OF THE FINAL REHABILITATION PLAN

The Final Landuse Options Plan was submitted to the DPE on 23/2/22 and approved on 3/6/22.

9 Completion Criteria

Completion Criteria and Rehabilitation Objectives have been submitted to the Resources Regulator portal in accordance with new requirements. These are yet to be approved, however they align with the consent requirements. Further development of these will continue next report period.

10 Calculation of Security Deposit

A security deposit calculation was calculated in 2015 to accompany the Mine Lease Application (MLA) submission, calculations can be provided upon request. This security was estimated to be \$776,441.88. The estimate was made on the current footprint of the mine, which is yet to expand beyond the previous consent boundaries. Updates to the security calculation will be undertaken in accordance with the new standard conditions.

11 Community Consultation

A meeting of the Community Consultation Committee for the PGH Bringelly site was held in the Bringelly Community Hall on 28th July 2022. Participants were presented an update on activities and project modification status since the previous meeting. Minutes are included in [Appendix I](#).

12 Complaints

No complaints were received during the reporting period.

13 Incidents and Non-Compliances

The air quality non-compliances have been reported to the DPE through the Major Projects Portal. No actions have been required. Details can be found in section [7.2](#).

13.1 PARTICULATE MATTER LESS THAN 10 MICRON

There were 2 non-compliances with the PM10 monitoring 24 hour averages. The Particulate Matter less than 10 micron exceeded the 24 hour average limit on 2 occasions: Saturday 23/7/2022 and Wednesday 2/11/2022. In each case the result was queried with the laboratory and found to be valid. These were reported to the DPE via the Major Projects portal within 7 days of receiving the results and recorded as SSD-5684-PA-29 (23/7/22) and 35 (2/11/22). No actions have been taken or required.

14 Improvement Measures

Table 22. *Improvement Measures*

Item	Due
Following submission of Annual Review all plans, strategies and programs will be reviewed	December 31st
Provide annual quarry production data to RR using the online portal.	By 31st October 2023 for year ending 30th of June
Establish a vegetation screen on noise bunds, as soon as practicable after construction of the bunds.	As soon as practicable after construction of the bunds
Continue liaison with Community Consultative Committee	Annually
Continue Environmental Monitoring and compare with relevant limits and undertake measures to maintain compliance with criteria.	As required
Commission and undertake Independent Environmental Audit	2024

Appendix A

SSD_5684 Approval Conditions Mod 1

Appendix B

Mine Lease 1731

Conditions

Instrument of Variation

Mining Lease 1731 (1992)

I, **JAMIE TRIPODI, Executive Director Assessments & Systems**, Mining Exploration and Geoscience in the Department of Regional NSW, with the delegated authority of the Minister under section 261B and clause 12 of Schedule 1B of the *Mining Act 1992* (the Act), **vary** the conditions of mining lease **ML 1731 (1992)** as described in Schedule A.

The conditions of **ML 1731 (1992)**, as varied, are set out in Schedule B.

The variation takes effect on 17 October 2022.



JAMIE TRIPODI

Executive Director Assessments & Systems

As delegate for the Minister administering the *Mining Act 1992*

Delegation date: 14 May 2018

Dated: 14 August 2022

Schedule A

Condition		Variation	New Condition
	Definitions	Definitions of 'Department', 'Environment' 'Environmental incident notifications and reports' and 'Harm to the environment' omitted as no longer used.	N/A
1	Notice to Landholders	Wording amended to modernise the condition	1. Notice to Landholders – see Schedule B
2	Rehabilitation	Condition omitted	N/A
3	Mining Operations Plan and Annual Rehabilitation Report	Condition omitted	N/A
4	Non-Compliance Reporting	Condition omitted	N/A
5	Environmental Incident Report	Condition omitted	N/A
7	Resource Recovery	Condition omitted	N/A
8	Security	Condition amended to modernise the wording. Condition has been re-numbered due to omission of other conditions.	2. Security– see Schedule B
9	Cooperation Agreement	Condition amended to modernise the wording. Condition has been re-numbered due to omission of other conditions.	3. Cooperation Agreement – see Schedule B
N/A		New condition attached	4. Assessable Prospecting Operations– see Schedule B
<u>SPECIAL CONDITIONS</u>			

Nil

Schedule B

Mining Lease Conditions

(Version as at February 2022)

Definitions

Words used in this mining lease have the same meaning as defined in the *Mining Act 1992* except where otherwise defined below:

Term	Definition
Act	means the <i>Mining Act 1992</i> .
Landholder	for the purposes of these conditions: <ul style="list-style-type: none">• does not include a secondary landholder• includes, in the case of exempted areas, the controlling body for the exempted area.
Minister	means the Minister administering the Act.

Note:

1. The rights and duties of the Lease Holder(s) are those prescribed by the *Mining Act 1992* and the Mining Regulation 2016, subject to the terms and conditions of this mining lease.
2. This mining lease does not override any obligation on the lease holder(s) to comply with the requirements of other legislation and regulatory instruments which may apply (including all relevant development approvals) unless specifically provided under the *Mining Act 1992* or other legislation or regulatory instruments.

MINING LEASE CONDITIONS

Standard conditions

See Mining Regulation 2016, Schedule 8A, Part 2.

NOTE TO HOLDERS: The prescribed standard conditions in the Mining Regulation 2016, Schedule 8A, Part 2 apply in addition to the conditions in this Schedule 2 (but have not been replicated in this mining lease). The conditions imposed by the Mining Regulation 2016 prevail to the extent of any inconsistency with the conditions in this Schedule 2.

General conditions

1. Notice to Landholders

- (a) Within 90 days from the date of grant or renewal of this mining lease, the lease holder must give each landholder notice in writing:

- (i) that this mining lease has been granted or renewed; and
- (ii) whether the lease includes the surface.

The notice must include a plan identifying the lease area and each landholder and individual land parcel within the lease area.

- (b) If there are ten or more landholders to which notice must be given, the lease holder will be taken to have complied with condition 1(a) if a notice complying with condition 1(a) is published in a newspaper circulating in the region where the lease area is situated.

2. Security

The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations under the mining lease, including obligations under the mining lease that may arise in the future.

The amount of the security deposit to be provided has been assessed at **\$776,000**.

3. Cooperation Agreement

The lease holder must make every reasonable attempt, and be able to demonstrate its attempts to the satisfaction of the Secretary, to enter into a cooperation agreement with the holder(s) of any overlapping authorisations issued under the *Mining Act 1992* and petroleum titles issued under the *Petroleum (Onshore) Act 1991*. The cooperation agreement should address but not be limited to:

- access arrangements
- operational interaction procedures
- dispute resolution
- information exchange
- well location
- timing of drilling

Mining Lease Conditions 2021	Version Date: February 2022
Mining Lease 1731 (Act 1992)	Page 4 of 5

- potential resource extraction conflicts; and
- rehabilitation issues.

4. Assessable Prospecting Operations

- (a) The lease holder must not carry out any assessable prospecting operation on land over which this lease has been granted unless:
 - (i) it is carried out in accordance with any necessary development consent; or
 - (ii) if development consent is not required, the prior written approval of the Minister has been obtained.
- (b) The Minister may require the lease holder to provide such information as required to assist the Minister to consider an application for approval.
- (c) An approval granted by the Minister under this condition may be granted subject to terms.
- (d) The lease holder must comply with the approval granted to the holder under this condition.

Special conditions

Nil

Exploration Reporting

Note: Exploration Reports (Geological and Geophysical)

The lease holder must lodge reports in accordance with the requirements in section 163C of the Mining Act 1992 and clauses 59, 60 and 61 of the Mining Regulation 2016 as well as any further requirements issued by the Secretary under clause 62 of the Mining Regulation.

Guidelines for the structure, content and data format requirements for reports are set out in the Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales.

Appendix C

EPA Licence 1808

Conditions

Appendix D

Bore Licences

Appendix E

Surface Water Licences

Appendix F

Conditions

Compliance

Worksheet

Bringelly Brickworks Extension Project
Applicable Period: 1 July 2022 to 30 June 2023
SSD Conditions: SSD_5684 Mod 1

Compliant
Non Compliant
Not Triggered

A requirement has an activation or timing trigger that has not been met at the phase of the development when the compliance assessment is undertaken, therefore an assessment of compliance is not relevant.

Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
2		ADMINISTRATIVE CONDITIONS					
2	1	OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT In addition to meeting the specific performance criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.	At all times	Annual review of performance including	Annual Review	Compliant	
2		TERMS OF CONSENT					
2	2	The Applicant must: (a) carry out the development generally in accordance with the EIS and SEE (Mod 1); and (b) the conditions of this consent.	At all times	Annual review of performance including	Annual Review, EMS, Management Plans, MOP and	Non- Compliant	PM10 limit exceeded on two occasions.
2	3	If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.	At all times	Not applicable	Not applicable	Compliant	
2	4	The Applicant must comply with any reasonable requirement/s of the Secretary arising the Department's assessment of: (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent; (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or (c) the implementation of any actions or measures contained in these documents.	At all times	Annual review of performance including management policies, strategys and plans	Annual Review	Compliant	All comments from DPIE have been addressed
2		LIMITS ON CONSENT					
2		Quarrying and Brick Making Operations					
2	5	The Applicant may carry out quarrying operations and brick making operations from the date of commencement of development under this consent until 1 March 2045. Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.	At all times	Not applicable	Not applicable	Compliant	Operations on the site are currently being undertaken.
2		Production Limits					
2	6	The Applicant must not: (a) extract more than 200,000 tonnes of clay/shale from the site in any calendar year; (b) produce more than 263,500 tonnes of bricks at the site in any calendar year; (c) carry out quarrying operations beyond 46 m AHD; and (d) receive more than 321,000 tonnes of raw materials required for brick making to the site in any calendar year	Calendar year	Review weighbridge records, sales records, mining records	Weighbridge records, sales records, mining records and survey data	Compliant	
2		Transportation Limits					
2	7	The Applicant must not: (a) transport more than 263,500 tonnes of bricks from the site in a calendar year; (b) receive more than 90 trucks to the site per day or more than 18 trucks per hour; and (c) dispatch more than 90 trucks from the site per day or more than 18 trucks per hour.	Calendar year	Review weighbridge records, sales records.	Weighbridge records, sales records.	Compliant	
2		NOTIFICATION OF COMMENCEMENT					
2	8	Prior to commencing development under this consent, the Applicant must notify the Department in writing of the date on which it will commence development permitted under this consent.	Prior to undertaking quarrying	Correspondence	Correspondence	Compliant	Correspondence sent to DPIE. Date of commencement is 24/2/2020.
2		SURRENDER OF EXISTING DEVELOPMENT CONSENT					
2	9	Within 4 months of commencing development under this consent, the Applicant must surrender the development consent (DA 91/1194) for existing operations on the site in accordance with Section 104A of the EP&A Act. Following the commencement of development under this consent, the conditions of this consent (including any notes) shall prevail to the extent of any inconsistency with the conditions of the existing development consent (DA 91/1194).	Within 4 months of commencing development	Correspondence	Correspondence	Compliant	Correspondence dated 28/7/2020 sent to DPIE.
2		STRUCTURAL ADEQUACY					
2	10	The Applicant must ensure that any new buildings and structures, and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: - Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. - Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.	Prior to occupation	Review certificates of construction and occupation	Certificates of construction and occupation	Compliant	No construction or alterations have been undertaken.
2		DEMOLITION					
2	11	The Applicant must ensure that all demolition work on site is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.	As required	Review of demolition	Demolition documentation	Compliant	No demolition has been undertaken on the site.
2		PROTECTION OF PUBLIC INFRASTRUCTURE					

Bringelly Brickworks Extension Project
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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments														
2	12	The Applicant must: (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development. Note: This condition does not apply to any damage to roads caused as a result of general road usage.	As required	Not applicable	Not applicable	Compliant	Not required														
		OPERATION OF PLANT AND EQUIPMENT																			
2	13	The Applicant must ensure that all plant and equipment used on site or any monitoring equipment used off site for monitoring the performance of the development is: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	As required	As per individual management plans and equipment	As per individual management plans, calibration reports, equipment	Compliant	Plant and Equipment on-site is regularly serviced. Monitoring equipment off-site (noise) is maintained by contractors and calibration certificates are supplied with reports.														
2		UPDATING AND STAGING STRATEGIES, PLANS OR PROGRAMS																			
2	14	With the approval of the Secretary, the Applicant may submit any strategies, plans or programs required by this consent on a progressive basis. To ensure the strategies, plans or programs under the conditions of this consent are updated on a regular basis, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval. With the agreement of the Secretary, the Applicant may prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent. Notes: - While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times. - If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.	As required	Assess if any revision of strategies, plans or programs have been undertaken	Approval correspondence from the Secretary.	Compliant															
2	15	Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant must implement the existing strategies, plans or programs for the site that have been approved under DA 91/1194.	Until Mod 1 has commenced	As per DA91/1194 strategies, plans or	ARR	Compliant															
2		IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION																			
2	16	Prior to undertaking quarrying operations in the extension area, the Applicant must: (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.	Prior to undertaking quarrying operations in the extension	Survey	Survey plans with co-ordinates have been supplied to DPIE in the EMS submitted for	Compliant	Mine lease survey plan has been undertaken for the mine lease. The ML boundarys are pegged. The all DA extraction limits have been														
2	17	While quarrying operations are being carried out, the Applicant must ensure that these boundaries are clearly marked at all times to allow operating staff and inspecting officers to clearly identify the approved limits of extraction.	At all times	Visual observation	Photography and site inspection records	Compliant	Mine lease survey plan has been undertaken for the mine lease. The ML boundarys are pegged.														
2		PRODUCTION DATA																			
2	18	The Applicant must: (a) provide annual quarry production data to DRE using the standard form for that purpose; and (b) include a copy of this data in the Annual Review (see condition 4 of schedule 5).	By 31st October each year for year	Maintenance of mining records	Mining records and DRE standard form	Compliant	Production data included in this report and results submitted to DRE each year.														
2		DEVELOPER CONTRIBUTIONS																			
2	19	The Applicant must pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to CPI. Each payment must be: (a) paid to Council at the end of each calendar year; and (b) based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site. Note: If the parties are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.	by 31st December each year.	Council reciepts	Council reciepts	Compliant	Invoices from Camden Council received and paid.														
3		ENVIRONMENTAL PERFORMANCE CONDITIONS																			
3		Hours of Operation																			
3	1	The Applicant must comply with the operating hours set out in Table 1.	Daily	Site inductions, employee hours	Employee hours logged in kronus system	Compliant															
		<table><tr><th colspan="2">Table 1: Operating Hours</th></tr><tr><th>Activity</th><th>Operating Hours</th></tr><tr><td>• Quarrying operations</td><td>6am to 6pm, Monday to Friday</td></tr><tr><td>• Deliveries</td><td>6am to 1pm, Saturday</td></tr><tr><td>• Dispatch of finished bricks</td><td>No activities on Sundays or Public Holidays</td></tr><tr><td>Brick making operations (except dispatch of finished bricks)</td><td>24 hours a day, 7 days a week</td></tr><tr><td>Construction activities</td><td>7am to 6pm, Monday to Friday 8am to 1pm, Saturday No construction to be undertaken on Sundays or Public Holidays</td></tr></table>	Table 1: Operating Hours		Activity	Operating Hours	• Quarrying operations	6am to 6pm, Monday to Friday	• Deliveries	6am to 1pm, Saturday	• Dispatch of finished bricks	No activities on Sundays or Public Holidays	Brick making operations (except dispatch of finished bricks)	24 hours a day, 7 days a week	Construction activities	7am to 6pm, Monday to Friday 8am to 1pm, Saturday No construction to be undertaken on Sundays or Public Holidays					
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3		NOISE																			

Bringelly Brickworks Extension Project
Applicable Period: 1 July 2022 to 30 June 2023
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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments																		
3		Noise Criteria																							
3	2	<p>The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.</p> <p>Notes:</p> <ul style="list-style-type: none">- To locate the receivers referred to in Table 2 refer to Appendix 3.- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this consent prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL. Appendix 5 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria. <p>However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Quarterly for the first 2 years then reviewed	NSW Industrial Noise Policy	Noise monitoring results	Compliant																			
	<table><caption>Table 2: Noise criteria dB(A)</caption><thead><tr><th rowspan="2">Activity</th><th rowspan="2">Receiver</th><th>Day/Evening/Shoulder</th><th colspan="2">Night</th></tr><tr><th>L_{Aeq}(15 min)</th><th>L_{Aeq}(15 min)</th><th>L_{A1}(max)</th></tr></thead><tbody><tr><td rowspan="4">Brick making and quarrying</td><td>R1, R2</td><td>47</td><td colspan="2" rowspan="4">Not Applicable</td></tr><tr><td>R3, R4, R14</td><td>46</td></tr><tr><td>R15, R17</td><td>45</td></tr><tr><td>All other receivers</td><td>44</td></tr><tr><td>Brick making</td><td>All receivers</td><td>44</td><td>43</td><td>53</td></tr></tbody></table>	Activity						Receiver	Day/Evening/Shoulder	Night		L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (max)	Brick making and quarrying	R1, R2	47	Not Applicable		R3, R4, R14	46	R15, R17	45	All other receivers	44
Activity	Receiver		Day/Evening/Shoulder	Night																					
		L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{A1} (max)																					
Brick making and quarrying	R1, R2	47	Not Applicable																						
	R3, R4, R14	46																							
	R15, R17	45																							
	All other receivers	44																							
Brick making	All receivers	44	43	53																					
3		Construction Noise																							
3	3	<p>The Applicant must manage noise generated during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road, in accordance with the guidelines specified in Table 2 of the Interim Construction Noise Guideline.</p> <p>Note: Management guidelines are applicable to receivers 3 and 4, shown in Appendix 3.</p>	During Construction	Interim Construction Noise Guideline	Noise monitoring results	Compliant																			
3		Noise Bunds																							
3	4	<p>The Applicant must ensure that the noise bund adjacent to the northern boundary of the extraction area is constructed prior to the commencement of quarrying operations in the extension area.</p>	Prior to undertaking quarrying	NSW Road Noise Policy	Visual observation and photographic evidence	Compliant																			
3	4a	<p>The Applicant must ensure that the noise bund adjacent to Greendale Road is constructed prior to the commencement of brick making operations.</p>	Prior to commencement of	NSW Road Noise Policy	Visual observation and photographic evidence	Not Triggered																			
3		Operating Conditions																							
3	5	<p>The Applicant must:</p> <p>(a) implement all reasonable and feasible mitigation measures to minimise construction, operational and road noise of the development;</p>	At all times	Deploy Noise Management Plan. Scheduled	Annual review, equipment service records and noise monitoring results	Compliant																			
		<p>(b) implement periods of respite during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road;</p>	During Construction	Interim Construction Noise	Noise monitoring results.	Not Triggered																			
		<p>(c) regularly assess noise monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the noise criteria in this consent;</p>	Quarterly and as required	NSW Industrial Noise Policy	Noise monitoring results. Annual Review. Absence of	Compliant																			
		<p>(d) maintain the effectiveness of noise suppression equipment on plant and equipment on site;</p>	At all times	Deploy Noise Management Plan. Scheduled equipment inspections	Annual review, equipment service records and noise monitoring results. Absence of complaints.	Compliant																			
		<p>(e) minimise the noise impacts of the development during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 5); and</p>	During the applicable periods of meteorological conditions	NSW Industrial Noise Policy Meteorological monitoring	Noise monitoring results. Meteorological data. Absence of	Compliant																			
		<p>(f) carry out regular noise monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.</p>	Quarterly	NSW Industrial Noise Policy	Noise monitoring results	Compliant																			
3		Noise Management Plan																							
3	6	<p>The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with the EPA;</p>	Prior to undertaking quarrying operations in	Correspondence	Correspondence	Compliant																			

Bringelly Brickworks Extension Project
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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments																																											
		(b) be submitted to the Secretary for approval prior to the commencement of development under this consent, unless the Secretary agrees otherwise;	Prior to undertaking quarrying	Correspondence	Correspondence	Compliant																																												
		(c) describe the reasonable and feasible mitigation measures that would be implemented to ensure: - construction noise is minimise; - compliance with the relevant noise criteria and operating conditions in this consent; - best management practice is being employed; and - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply;	Prior to undertaking quarrying operations in the extension area	Not applicable	Noise Management Plan	Compliant																																												
		(d) describe the proposed noise management system on site; and	Prior to undertaking quarrying	Not applicable	Noise Management Plan	Compliant																																												
		(e) include a quarterly (or as otherwise agreed with the Secretary) noise monitoring program that: - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent; - evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.	Prior to undertaking quarrying operations in the extension area	Not applicable	Noise Management Plan	Compliant																																												
		The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Prior to undertaking quarrying	Not applicable	Noise Management Plan.	Compliant																																												
3		AIR QUALITY																																																
3		Air Quality Criteria																																																
3	7	<p>The Applicant must implement all reasonable and feasible avoidance and mitigation measures so that particulate matter emissions generated by the development do not exceed the criteria in Tables 3 to 6 at any residence on privately-owned land.</p> <div><p><i>Table 3: Long-Term Criteria for Particulate Matter</i></p><table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><tr><td>Total suspended particulates (TSP)</td><td>Annual</td><td>^a 90 µg/m³</td></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>Annual</td><td>^a 30 µg/m³</td></tr></table><p><i>Table 4: Short-Term Criteria for Particulate Matter</i></p><table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><tr><td>Particulate matter < 10 µm (PM₁₀)</td><td>24 hour</td><td>^a 50 µg/m³</td></tr></table><p><i>Table 5: Long-Term Criteria for Deposited Dust</i></p><table><tr><th>Pollutant</th><th>Averaging Period</th><th>Maximum increase in deposited dust level</th><th>Maximum total deposited dust level</th></tr><tr><td>^c Deposited dust</td><td>Annual</td><td>^a 2 g/m²/month</td><td>^a 4 g/m²/month</td></tr></table><p><i>Table 6: Long and Short-Term Stack Emissions</i></p><table><tr><th>Pollutant</th><th>Averaging period</th><th>^d Criterion</th></tr><tr><td rowspan="4">Sulphur Dioxide</td><td>10-minute</td><td>712 µg/m³</td></tr><tr><td>1-Hour</td><td>570 µg/m³</td></tr><tr><td>24-Hour</td><td>228 µg/m³</td></tr><tr><td>Annual</td><td>60 µg/m³</td></tr><tr><td rowspan="2">Nitrogen Dioxide</td><td>1-Hour</td><td>246 µg/m³</td></tr><tr><td>Annual</td><td>62 µg/m³</td></tr><tr><td>Hydrogen Chloride</td><td>1 hour</td><td>0.14 mg/m³</td></tr></table><p><i>Notes to Tables 3-6:</i></p><ul style="list-style-type: none">^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.</div>	Pollutant	Averaging period	^d Criterion	Total suspended particulates (TSP)	Annual	^a 90 µg/m ³	Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³	Pollutant	Averaging period	^d Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	^c Deposited dust	Annual	^a 2 g/m ² /month	^a 4 g/m ² /month	Pollutant	Averaging period	^d Criterion	Sulphur Dioxide	10-minute	712 µg/m ³	1-Hour	570 µg/m ³	24-Hour	228 µg/m ³	Annual	60 µg/m ³	Nitrogen Dioxide	1-Hour	246 µg/m ³	Annual	62 µg/m ³	Hydrogen Chloride	1 hour	0.14 mg/m ³	At all times	EPA Approved methods for the Sampling and Analysis of Air Pollutants in NSW	Air quality monitoring results	Non-Compliant	There were 2 non-compliances with the PM10 monitoring 24 hour averages. The Particulate Matter less than 10 micron exceeded the 24 hour average limit on 2 occasions: Saturday 23/7/2022 and Wednesday 2/11/2022. In each case the result was queried with the laboratory and found to be valid. These were reported to the DPE via the Major Projects portal within 7 days of receiving the results. No actions have been taken or required
Pollutant	Averaging period	^d Criterion																																																
Total suspended particulates (TSP)	Annual	^a 90 µg/m ³																																																
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³																																																
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3		Operating Conditions																																																
3	8	<p>The Applicant must:</p> <p>(a) implement all reasonable and feasible measures to minimise the stack and dust emissions of the development;</p> <p>(b) minimise surface disturbance and maximise progressive rehabilitation;</p>	At all times	Not applicable	Air quality monitoring results	Compliant																																												
			At all times	Visual observat	ARR Annual Review Photographic evidence	Compliant																																												

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Compliant

Non Compliant

Not Triggered

A requirement has an activation or timing trigger that has not been met at thephase of the development when the compliance assessment is undertaken,therefore an assessment of compliance is not relevant.

Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
		(c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note (d) to Tables 3-6 above); and	During adverse meteorological conditions	Meterological data. Visual	Air quality monitoring results. Absence of	Compliant	
		(d) monitor and report on compliance with the relevant air quality conditions in this consent; to the satisfaction of the Secretary.	Quarterly	EPA Approved methods for the Sampling and Analysis	Air quality monitoring results. Absence of complaints.	Compliant	
3		Air Quality Management Plan					
3	9	The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with the EPA;	Prior to undertaking quarrying	Correspondence	Correspondence	Compliant	
		(b) be submitted to the Secretary for approval prior to the commencement of development under this consent, unless the Secretary agrees otherwise;	Prior to undertaking quarrying	Correspondence	Correspondence	Compliant	
		(c) describe the measures that would be implemented to ensure: - compliance with the air quality criteria and operating conditions under this consent; - best practice management is being employed; and - the air quality impacts of the development are minimised during adverse meteorological conditions;	Prior to undertaking quarrying operations in the extension	Not applicable	Air Quality Management Plan	Compliant	
		(d) describe the air quality management system; and	Prior to undertaking quarrying	Not applicable	Air Quality Management Plan	Compliant	
		(e) include an air quality monitoring program that: - evaluates and reports on: -- the effectiveness of the air quality management system; and -- compliance with the air quality criteria and operating conditions; and - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.	Prior to undertaking quarrying operations in the extension area	Not applicable	Air Quality Management Plan	Compliant	
		The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Prior to undertaking quarrying	Not applicable	Air Quality Management Plan	Compliant	
3		METEOROLOGICAL MONITORING					
3	10	For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous measurement of stability class, in accordance with the NSW Industrial Noise Policy, or as otherwise approved by EPA.	Prior to undertaking quarrying operations in the extension area	EPA Approved methods for the Sampling and Analysis of Air Pollutants in NSW - USEPA (2000) EPA 454/R-99-005	Meteorological monitoring results.	Compliant	
3		TRANSPORT					
		Monitoring of Product Transport					
3	11	The Applicant must keep accurate records of the: (a) tonnage of bricks transported from the site (monthly and annually); (b) amount of raw material imported to the site (monthly and annually); and (c) tonnage of each type of raw materials imported to the site (monthly and annually); and provide the Secretary with a summary of this information upon request.	By 31st December each year.	Review of weighbridge records.	Weighbridge records	Compliant	
		Parking					
3	12	The Applicant must provide sufficient parking on-site for all development-related traffic, in accordance with Camden Council's parking codes, to the satisfaction of the Secretary.	Prior to undertaking quarrying operations in Camden	Visual observation.	Site inspection records	Compliant	
3		Operating Conditions					
3	13	The Applicant must ensure that: (a) all development-related heavy vehicles enter and exit the site in a forward direction;	At all times	Transport Management Plan	Weighbridge operator/staff observations	Compliant	Pers comm staff indicate vehicles enter and exit in a forward direction. The traffic flow direction is signposted to assist.
		(b) all laden vehicles entering or exiting the site have their loads covered (with the exception of vehicles carrying bricks);	At all times	Transport Management Plan	Weighbridge operator/staff observations	Compliant	Pers Comm staff indicate all loads are covered exporting finished bricks.
		(c) all laden vehicles that have accessed the extraction and/or stockpile areas are cleaned of sand and other material that may fall on the road, before leaving the site;	At all times	Transport Management Plan	Weighbridge operator/staff observations	Compliant	Pers comm staff inspect vehicles prior to leaving the site and a pressurised washer is used to clean vehicles if required,.

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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
		(d) all heavy vehicles exiting the site travel east of the site along Greendale Road to The Northern Road and/or Bringelly Road;	At all times	Transport Management Plan	Weighbridge operator/staff observations	Compliant	Pers comm staff indicate all heavy vehicles turn right onto Greendale road when exiting the site.
		(e) the dispatch of laden trucks is avoided during the peak drop-off and pick-up times at the Bringelly Public School to the greatest extent practicable, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS; and	At all times	Transport Management Plan	Weighbridge operator/staff observations	Compliant	
		(f) no trucks queue at the entrance to the site before 6am.	At all times	Transport Management Plan	Weighbridge operator/staff observations	Compliant	Pers Comm staff indicates no trucks are permitted to queue at the entrance prior to 6am.
		Access Road Intersection Construction					
3	14	Within 12 months of commencing development under this consent, unless otherwise agreed with the Secretary, the Applicant must design and construct the new site access road intersection with Greendale Road in accordance with applicable AUSTROADS standards, to the satisfaction of Camden Council. The Applicant must notify the Secretary in writing within 30 days of obtaining Council approval. Within 7 days of completing construction and the new site access road being operational, the existing site access road must be permanently closed.	Within 12 month of commencing development	Visual observation	Correspondence	Not Triggered	The new access road intersection has not been constructed.
3		Transport Management Plan					
3	15	The Applicant must prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School, and be submitted to the Secretary for approval prior to the commencement of development under this consent, unless the Secretary agrees otherwise;	Prior to undertaking quarrying operations in the extension	Not applicable	Transport Management Plan	Compliant	
		(b) describe the measures that would be implemented to ensure compliance with the transport operating conditions under this consent, including specific measures to avoid the arrival and dispatch of laden trucks from the site during the peak drop-off and pick-up times at the Bringelly Public School;	Prior to undertaking quarrying operations in	Not applicable	Transport Management Plan	Compliant	
		(c) include a Code of Conduct for heavy vehicle drivers that addresses: - travelling speeds; - procedures to minimise noise including a regular Truck Noise Auditing Program; - procedures to minimise diesel exhaust emissions; - instructions to avoid grouping or convoying of trucks; - procedures to ensure that drivers adhere to the designated haulage routes and the haulage hours permitted under this consent; - instructions to drivers not to overtake each other on the haulage route, as far as practicable, and to maintain appropriate distances between vehicles; and - instruction to drivers to be properly safety conscious and to strictly obey all traffic regulations, particularly in relation to school zones along Greendale Road; and	Prior to undertaking quarrying operations in the extension area	Not applicable	Transport Management Plan	Compliant	
		(d) describe the measures that would be put in place to ensure compliance with the drivers' Code of Conduct and include a program to monitor the effectiveness of the implementation of these measures.	Prior to undertaking quarrying	Not applicable	Transport Management Plan	Compliant	
		The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Prior to undertaking quarrying	Not applicable	Transport Management Plan	Compliant	
3		SOIL AND WATER					
		Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development, including in respect of the extraction and/or interception of groundwater.	Prior to extraction or interception of groundwater	Review of water licences held	Surface Water Licences WAL26259 (150ML), WAL26257 (6.5ML) and WAL25987 (152.5ML) are current. Monitoring Bore licence	Compliant	
		Water Supply					
3	16	The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply to the satisfaction of the Secretary.	At all times	Annual water balance review	Water Balance	Compliant	Water balance in approved WMP
3		Water Discharges					

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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
3	17	The Applicant must comply with the discharge limits in any EPL or with Section 120 of the POEO Act.	On discharge	EPL approved water sampling and analysis methods.	EPL return. Annual Review. Annual Rehabilitation	Compliant	
3		Water Management Plan					
3	18	The Applicant must prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared by suitably qualified person/s approved by the Secretary;	Prior to undertaking quarrying operations in	Correspondence	Correspondence	Compliant	
		(b) be prepared in consultation with the EPA and DPI Water;	Prior to undertaking quarrying	Correspondence	Correspondence	Compliant	
		(c) be submitted to the Secretary for approval prior to the commencement of development under this consent, unless the Secretary agrees otherwise;	Prior to undertaking quarrying	Correspondence	Correspondence	Compliant	
		(d) include a Site Water Balance that: - includes details of: -- quantity of water required to support operations; -- sources and security of water supply; -- water use and management on site; -- reporting procedures; and -- measures to be implemented to minimise potable water use on site;	Prior to undertaking quarrying operations in the extension area	Not applicable	Not applicable	Compliant	
		(e) include a Surface Water Management Plan, that includes: - baseline data on surface water flows and quality in the watercourses that could be affected by the development; - a description of the surface water management system on site, including: -- clean water diversions; -- erosion and sediment controls; -- the dirty water management system; and -- water storages (addressing maximum harvestable rights if applicable); - performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts; - a program to monitor and report on: -- any surface water discharges; -- the effectiveness of the water management system; and -- surface water flows and quality in local watercourses; - a plan to respond to any exceedances of the performance criteria.	Prior to undertaking quarrying operations in the extension area	Not applicable	Not applicable	Compliant	
		(f) a Groundwater Management Plan, which includes: - baseline data on groundwater levels, yield and quality in surrounding aquifers; - groundwater assessment and performance criteria, including trigger levels for investigating potentially adverse groundwater impacts; - a program to monitor: -- groundwater inflows to the quarry pit; and -- impacts of the development on surrounding aquifers; - an analysis of the monitoring results to determine long-term water levels within the quarry void; and - a plan to respond to any exceedances of the performance criteria.	Prior to undertaking quarrying operations in the extension area	Not applicable	Not applicable	Compliant	
		The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Prior to undertaking quarrying	Not applicable	Water Management Plan	Compliant	
		BIODIVERSITY					
		Biodiversity Offset Strategy					
3	19	The Applicant must implement the Biodiversity Offset Strategy described in the EIS, as summarised in Table 7 and shown conceptually in Appendix 4, to the satisfaction of the Secretary.	On commencement	Visual observations	Photographic evidence	Compliant	
		<div><div>Table 7: Summary of the Biodiversity Offsets</div><table><tr><th>Area</th><th>Offset Criteria</th><th>Size (Ha)</th></tr><tr><td>On-site offset</td><td>Existing vegetation to be enhanced to establish an area of native woodland comprising species associated with Cumberland Plain Woodland.</td><td>1.93</td></tr></table></div>			Area		
Area	Offset Criteria	Size (Ha)					
On-site offset	Existing vegetation to be enhanced to establish an area of native woodland comprising species associated with Cumberland Plain Woodland.	1.93					
3		Security of Offsets					

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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
3	20	Within 2 years of notifying the Department of commencement of development (see condition 8 of Schedule 2), unless otherwise agreed with the Secretary, the Applicant must make suitable arrangements to provide appropriate long-term security for the offset area, to the satisfaction of the Secretary. Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.	Within 2 years of notifying the Department of commencement of development	Correspondence	Correspondence	Compliant	
3		Biodiversity Management Plan					
3	21	The Applicant must prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with the OEH and Camden Council;	Prior to undertaking quarrying operations in	Not applicable	Biodiversity Management Plan	Compliant	
		(b) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;	Prior to undertaking quarrying	Not applicable	Biodiversity Management Plan	Compliant	
		(c) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;	Prior to undertaking quarrying	Not applicable	Biodiversity Management Plan	Compliant	
		(d) describe the short, medium, and long term measures that would be implemented to: <input type="checkbox"/> manage the remnant vegetation and habitat on the site and in the offset area and; <input type="checkbox"/> implement the biodiversity offset strategy, including detailed performance and completion criteria;	Prior to undertaking quarrying operations in	Not applicable	Biodiversity Management Plan	Compliant	
		(e) include performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);	Prior to undertaking quarrying	Not applicable	Biodiversity Management Plan	Compliant	
		(f) include a description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for: <input type="checkbox"/> maximising the salvage of resources within the approved disturbance area - including vegetative, soil and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area; <input type="checkbox"/> minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings; <input type="checkbox"/> controlling weeds and feral pests; <input type="checkbox"/> controlling erosion; <input type="checkbox"/> controlling access; and <input type="checkbox"/> bushfire management;	Prior to undertaking quarrying operations in the extension area	Not applicable	Biodiversity Management Plan	Compliant	
		(g) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and	Prior to undertaking quarrying	Not applicable	Biodiversity Management Plan	Compliant	
		(h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.	Prior to undertaking quarrying	Not applicable	Biodiversity Management Plan	Compliant	
		The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Prior to undertaking quarrying	Not applicable	Biodiversity Management Plan	Compliant	
3		Conservation Bond					

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Compliant															
Non Compliant															
Not Triggered		A requirement has an activation or timing trigger that has not been met at thephase of the development when the compliance assessment is undertaken,therefore an assessment of compliance is not relevant.													
Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments								
3	22	Within 6 months of the approval of the Biodiversity Management Plan, the Applicant must lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan. The sum of the bond must be determined by: a. calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and b. employing a suitably qualified quantity surveyor to verify the calculated costs, c. to the satisfaction of the Secretary. The calculation of the conservation bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond. If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond. If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works. Notes: <input type="checkbox"/> Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation bond. <input type="checkbox"/> The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.	Within 6 months of the approval of the Biodiversity Management Plan.	Correspondence	Correspondence	Compliant	Conservation bond within 6 months of commencement.								
3		REHABILITATION BOND													
3		Rehabilitation Objectives													
3	23	The Applicant must rehabilitate the site to the satisfaction of the Secretary. Rehabilitation must: a. comply with the objectives in Table 8; and	During rehabilitation	Visual observations.	Photographic evidence	Compliant									
		<table><tr><td>Surface infrastructure</td><td><ul style="list-style-type: none">To be decommissioned and removed (unless the Secretary agrees otherwise)</td></tr><tr><td>Final void</td><td><ul style="list-style-type: none">Minimise the size, depth and slope of the batters of the final voidMinimise the drainage catchment of the final void</td></tr><tr><td>Quarry pit floor</td><td><ul style="list-style-type: none">Landscaped and revegetated using native flora species, above the anticipated final void water level</td></tr><tr><td>Community</td><td><ul style="list-style-type: none">Ensure public safety</td></tr></table>	Surface infrastructure	<ul style="list-style-type: none">To be decommissioned and removed (unless the Secretary agrees otherwise)	Final void	<ul style="list-style-type: none">Minimise the size, depth and slope of the batters of the final voidMinimise the drainage catchment of the final void	Quarry pit floor	<ul style="list-style-type: none">Landscaped and revegetated using native flora species, above the anticipated final void water level	Community	<ul style="list-style-type: none">Ensure public safety	During rehabilitation	Visual observations. Review of Rehabilitation Management Plan, Environmental Management Strategy, Final Land Use	Photographic evidence Annual review Annual Rehabilitation Report	Compliant	Rehabilitation to date has been reviewed in the ARR submitted to the DPE annually and approved. Rehabilitation to date has been consistent with the Objectives.
Surface infrastructure	<ul style="list-style-type: none">To be decommissioned and removed (unless the Secretary agrees otherwise)														
Final void	<ul style="list-style-type: none">Minimise the size, depth and slope of the batters of the final voidMinimise the drainage catchment of the final void														
Quarry pit floor	<ul style="list-style-type: none">Landscaped and revegetated using native flora species, above the anticipated final void water level														
Community	<ul style="list-style-type: none">Ensure public safety														
		Progressive Rehabilitation													
3	24	The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.	During rehabilitation	Visual observations. Review of Rehabilitation Management Plan, Environmental Management Strategy, Final Land Use	Photographic evidence Annual review Annual Rehabilitation Report	Compliant									
3		Final Land Use Options Plan													
3	25	The Applicant must prepare a Final Land Use Options Plan for the site to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with DRE and Camden Council;	within 2 years of the date of notifying the Department of commencement	Correspondence	Correspondence	Compliant									
		(b) be submitted to the Secretary for approval within 2 years of the date of notifying the Department of commencement of development (see condition 8 of Schedule 2), unless the Secretary agrees otherwise;	within 2 years of the date of notifying the Department of commencement	Correspondence	Correspondence	Compliant									

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		(c) provide details of the conceptual final landform and associated final land uses for the site;	within 2 years of the date of notifying the Department of commenceme	Review of Final Land Use Options Plan	Final Land Use Options Plan	Compliant	
		(d) ensure that the conceptual final land form is compatible with surrounding land uses, and is consistent with the rehabilitation objectives in Table 8 and the objectives of the Growth Centres SEPP for the South West Growth Centre;	within 2 years of the date of notifying the Department of commenceme	Review of Final Land Use Options Plan	Final Land Use Options Plan	Compliant	
		(e) inform the Rehabilitation Management Plan (prepared in accordance with condition 26 of this consent); and	within 2 years of the date of notifying the Department of commenceme	Review of Rehabilitation Management Plan	Rehabilitation Management Plan	Compliant	
		(f) be reviewed every 7 years to account for applicable land use priorities, and if necessary updated.	Every 7 years	Review of Final Land	Final Land Use Options Plan	Compliant	
3		Rehabilitation Management Plan					
3	26	The Applicant must prepare a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must: (a) be prepared in consultation with OEH, DRE, DPI Water and Camden Council;	Prior to undertaking quarrying operations in	Correspon den ce	Correspondence	Compliant	
		(b) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;	Prior to undertaking quarrying	Correspon den ce	Correspondence	Compliant	
		(c) provide details of the conceptual final landform and associated land uses for the site (which must be consistent with the Final Land Use Options Plan under condition 25 of this consent);	Prior to undertaking quarrying	Review of Rehabilitation Management	Rehabilitation Management Plan	Compliant	
		(d) describe the short, medium and long term measures that would be implemented to: <input type="checkbox"/> manage remnant vegetation and habitat on site; and <input type="checkbox"/> ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;	Prior to undertaking quarrying operations in	Review of Rehabilitation Management Plan	Rehabilitation Management Plan	Compliant	
		(e) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any necessary remedial action;	Prior to undertaking quarrying	Review of Rehabilitation Management	Rehabilitation Management Plan	Compliant	
		(f) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; and	Prior to undertaking quarrying	Review of Rehabilitation Management	Rehabilitation Management Plan	Compliant	
		(g) include details of who would be responsible for monitoring, reviewing, and implementing the plan.	Prior to undertaking quarrying	Review of Rehabilitation Management	Rehabilitation Management Plan	Compliant	
		The Applicant must implement the approved management plan as approved from time to time by the Secretary. Note: The Rehabilitation Management Plan must be reviewed, and if necessary updated, following any update of the Final Land Use Options Plan.	Prior to undertaking quarrying	Not applicable	Rehabilitation Management Plan	Compliant	
		HERITAGE					
3		Heritage Management Plan					
3	27	The Applicant must prepare a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must: a. be prepared in consultation with OEH;	Prior to undertaking quarrying operations in	Correspon den ce	Correspondence	Compliant	
		(a) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;	Prior to undertaking	Correspon den ce	Correspondence	Compliant	
		b. describe the measures that would be implemented to: <input type="checkbox"/> manage identified heritage objects, previously unidentified heritage objects or the discovery of any human remains on site; <input type="checkbox"/> ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site; and <input type="checkbox"/> protect sites identified adjacent to the development.	Prior to undertaking quarrying operations in the extension area	Not applicable	Heritage Management Plan	Compliant	
		The Applicant must implement the approved management plan as approved from time to time by the Secretary.	As required	Not applicable	Heritage Management Plan	Compliant	
		VISUAL					

Bringelly Brickworks Extension Project
Applicable Period: 1 July 2022 to 30 June 2023
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Compliant
Non Compliant
Not Triggered

A requirement has an activation or timing trigger that has not been met at the phase of the development when the compliance assessment is undertaken, therefore an assessment of compliance is not relevant.

Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
3	28	The Applicant must establish a vegetation screen on both noise bunds, as soon as practicable after construction of the bunds, to minimise visibility of site infrastructure from outside the development area. Following establishment, the Applicant must maintain the vegetation screen, to the satisfaction of the Secretary.	As soon as practicable after construction of the bunds	Visual observations	Photographic evidence Annual review Annual Rehabilitation Plan	Compliant	
3	29	The Applicant must; a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development; and b) ensure that all external lighting associated with the development complies with Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting, or its latest version.	At all times	Visual observations	Absence of complaints.	Compliant	The quarry does not utilise lighting and operates during daylight hours. The factory is lit for security purposes at night but is sufficient distance from residents for the impact to be minimal.
		BUSHFIRE MANAGEMENT					
3	30	The Applicant must: a) ensure that the development is suitably equipped to respond to any fires on site; and b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as practicable if there is a fire in the surrounding area.	At all times	Site audit for suitable equipment	Annual Review	Compliant	The site maintains appropriate fire fighting equipment for the brickplant and offices. Any bushfire in the vegetation around the mine is dealt with by the RFS. The site maintains a Site Emergency Response Procedure.
		WASTE					
3	31	Prior to importing onto the site any material that may be classified as a waste under the EPA Waste Classification Guidelines 2009 (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department. Note: This condition does not apply to routine deliveries to the site.	Prior to importation of waste	Correspondence	Correspondence	Compliant	No waste has been imported onto the site.
3	32	The Applicant must: a) manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Camden Council; and b) pump all sewage generated and stored on-site to a sewage treatment facility, unless otherwise agreed with the Secretary.	At all times	Review of EPL returns and site documents	EPL return.	Compliant	There have been no EPL non-compliances related to the on-site sewerage treatment and disposal in the last 12 months.
3	33	The Applicant must: a) minimise the waste generated by the development;	At all times	Visual observations Review of waste management plans or	Visual observations Waste management plans or policies or procedures	Compliant	The quarry generates minimal waste (overburden) which is reused in rehabilitation. Waste generated by the brickworks is stored in the appropriate containers and removed by licenced waste contractors. PGH reviews its purchasing and waste policies and procedures regularly to improve processes as
		b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and	At all times	Visual observations Review of waste	Visual observations Waste management	Compliant	The quarry generates minimal waste (overburden) which is reused in rehabilitation. Waste generated by the brickworks is stored in the appropriate containers and removed by licenced waste contractors.
		c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.	Annually	Visual observations Review of waste management plans or	Visual observations Waste management plans or policies or procedures	Compliant	
4		ADDITIONAL PROCEDURES					
4		NOTIFICATION OF LANDOWNERS					
4	1	As soon as practicable after obtaining monitoring results showing an exceedance of any relevant criteria in schedule 3, the Applicant must notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria.	As soon as practicable after obtaining monitoring	Correspondence	Correspondence	Compliant	
4		INDEPENDENT REVIEW					

Bringelly Brickworks Extension Project
Applicable Period: 1 July 2022 to 30 June 2023
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Compliant
 Non Compliant
 Not Triggered

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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
4	2	If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land. If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant must: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to: <input type="checkbox"/> consult with the landowner to determine his/her concerns; <input type="checkbox"/> conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3; <input type="checkbox"/> if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and (b) give the Secretary and landowner a copy of the independent review.	Within 2 months of the Secretary's decision	Independent Review	Independent Review	Not Triggered	
5		ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING					
5		ENVIRONMENTAL MANAGEMENT					
5		Environmental Management Strategy					
5	1	If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;	Within 6 months of the Secretary requiring preparation of	Correspondence	Correspondence	Compliant	
		(b) provide the strategic framework for environmental management of the development;	Within 6 months of the Secretary requiring	Not applicable	Environmental Management Strategy	Compliant	
		(c) identify the statutory approvals that apply to the development;	Within 6 months of the Secretary requiring	Not applicable	Environmental Management Strategy	Compliant	
		(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;	Within 6 months of the Secretary requiring	Not applicable	Environmental Management Strategy	Compliant	
		(e) describe the procedures that would be implemented to: <input type="checkbox"/> keep the local community and relevant agencies informed about the operation and environmental performance of the development; <input type="checkbox"/> receive, handle, respond to, and record complaints; <input type="checkbox"/> resolve any disputes that may arise during the course of the development; <input type="checkbox"/> respond to any non-compliance; <input type="checkbox"/> respond to emergencies; and	Within 6 months of the Secretary requiring preparation of the strategy	Not applicable	Environmental Management Strategy	Compliant	
		(f) include: <input type="checkbox"/> copies of any strategies, plans and programs approved under the conditions of this consent; and <input type="checkbox"/> a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.	Within 6 months of the Secretary requiring	Not applicable	Environmental Management Strategy	Compliant	
		The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.	As required	Not applicable	Environmental Management	Compliant	
5		Adaptive Management					
5	2	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity: (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur; (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.	When exceedance of criteria in Schedule 3 occurs.	Review of each monitoring data set.	Annual Review Reports of exceedances and any management plans developed as a result of the exceedances.	Compliant	
5		Management Plan Requirements					

Bringelly Brickworks Extension Project
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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
5	3	The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: <input type="checkbox"/> the relevant statutory requirements (including any relevant approval, licence or lease conditions); <input type="checkbox"/> any relevant limits or performance measures/criteria; and <input type="checkbox"/> the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; (d) a program to monitor and report on the: impacts and environmental performance of the development; and <input type="checkbox"/> effectiveness of any management measures (see (c) above); (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the development over time; (g) a protocol for managing and reporting any: <input type="checkbox"/> incidents; <input type="checkbox"/> complaints; <input type="checkbox"/> non-compliances with statutory requirements; and <input type="checkbox"/> exceedances of the impact assessment criteria and/or performance criteria; and (h) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	As required	Review of relevant Management Plans	Relevant Management Plans	Compliant	
		Annual Review					
5	4	By the end of September each year, the Applicant must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must: (a) describe the development (including rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year; (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against: <input type="checkbox"/> the relevant statutory requirements, limits or performance measures/criteria; <input type="checkbox"/> the monitoring results of previous years; and <input type="checkbox"/> the relevant predictions in the documents in condition 2(a) of Schedule 2; (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the development; (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.	End of September each year.	Review of all data and plans for site for the financial year	Monitoring data	Compliant	
5		Revision of Strategies, Plans & Programs					
5	5	Within 3 months of the submission of an: (a) Annual Review under condition 4 above; (b) incident report under condition 7 below; (c) audit report under condition 9 below; and (d) any modifications to this consent, the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary. Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.	Within 3 months of described conditions	Not applicable	Correspondence	Compliant	
5		Community Consultative Committee					

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Compliant
Non Compliant
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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
5	6	The Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments (Department of Planning, 2007, or its latest version), and be operating prior to the commencement of development under this consent. Notes: <input type="checkbox"/> The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent. <input type="checkbox"/> In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Camden Council and the local community.	Prior to undertaking quarrying operations in the extension area	Correspondence	Correspondence	Compliant	The CCC has been established.
		REPORTING					
5		Incident Reporting					
5	7	The Applicant must immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Immediately notify after any incident and	Not applicable	Correspondence	Compliant	PM10 exceedances reported to the DPE with no actions required.
		Regular Reporting					
5	8	The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	As required	Review of website	Website	Compliant	
5		INDEPENDENT ENVIRONMENTAL AUDIT					
5	9	Within a year of commencing development under this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must: (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals); (d) review the adequacy of any approved strategy, plan or program required under these approvals; (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; and be conducted and reported to the satisfaction of the Secretary. Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.	Within a year of commencing development under this consent, and every 3 years thereafter,	Review of all data, documents, correspondence, reports and plans for site.	Audit report	Compliant	Independent Audit was undertaken by Element Environment Pty Ltd in January 2021. The next Audit will be due in 2024.
5	10	Within 12 weeks of commencing this audit, unless the Secretary agrees otherwise, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented. Within 7 days of commencing the audit, the Applicant must notify the Department in writing of the commencement of the audit.	Audit report to be supplied to Secretary within 12 weeks of commencing audit.	Correspondence	Correspondence	Compliant	
5		ACCESS TO INFORMATION					
5	11	Within 6 months of commencing development under this consent, the Applicant must: (a) make copies of the following publicly available on its website: <input type="checkbox"/> the documents in condition 2(a) of Schedule 2; <input type="checkbox"/> current statutory approvals for the development; <input type="checkbox"/> approved strategies, plans and programs required under the conditions of this consent; <input type="checkbox"/> a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs; <input type="checkbox"/> a complaints register, which is to be updated monthly; <input type="checkbox"/> minutes of CCC meetings; <input type="checkbox"/> the annual reviews of the development (for the last 5 years); <input type="checkbox"/> any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit; <input type="checkbox"/> any other matter required by the Secretary; and keep this information up-to-date, to the satisfaction of the Secretary. (b)	Within 6 months of commencing development under this consent.	Review of website	Website	Compliant	The approved Plans and Strategies have been uploaded to the website.
Appendix 5		NOISE COMPLIANCE ASSESSMENT					
		Applicable Metrological Conditions					

Bringelly Brickworks Extension Project
Applicable Period: 1 July 2022 to 30 June 2023
SSD Conditions: SSD_5684 Mod 1

Compliant
Non Compliant
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Schedule	Condition	Condition Text	Timing for Compliance	Monitoring Methodology	Evidence	Details of compliance status	Comments
	1	The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following: (a) wind speeds greater than 3 m/s at 10 m above ground level; or (b) temperature inversion conditions between 1.5 °C and 3°C/100 m and wind speeds greater than 2 m/s at 10 m above ground level; or (c) temperature inversion conditions greater than 3°C/100 m.	When meteorological conditions apply	NSW Industrial Noise Policy Meteorological monitoring	Noise monitoring results. Meteorological data	Compliant	A weather station has been installed in early 2017. Generally the site does not operate during inversion conditions as these are commonly experienced outside of operating hours. No complaints have been received during the report period.
		Determination of Meteorological Conditions					
	2	Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station on or in the vicinity of the site.	During meteorological monitoring	On-site meteorological station.	Meteorological data.	Compliant	A weather station has been installed in early 2017.
		Compliance Monitoring					
	3	Unless directed otherwise by the Secretary, quarterly attended monitoring is to be used to evaluate compliance with the relevant conditions of consent. Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.	Quarterly	NSW Industrial Noise Policy	Noise monitoring results.	Compliant	Current management measures have been satisfactory to date and no complaints have been received the the last 12 months.
	4	Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the NSW Industrial Noise Policy (as amended from time to time), in particular the requirements relating to: (a) monitoring locations for the collection of representative noise data; (b) meteorological conditions during which collection of noise data is not appropriate; (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.	Quarterly	NSW Industrial Noise Policy	Noise monitoring results.	Compliant	Monitoring has been undertaken as required by consent conditions.

Bringelly Brickworks Extension Project

EPL1808

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments															
1	Administrative Conditions																	
A1.1	<p>What the licence authorises and regulates</p> <p>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.</p> <p>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.</p> <table><thead><tr><th>Scheduled Activity</th><th>Fee Based Activity</th><th>Scale</th></tr></thead><tbody><tr><td>Ceramic Works produced</td><td>Ceramics production</td><td>> 50000 - 200000 T</td></tr><tr><td>Crushing, grinding or separating</td><td>Crushing, Grinding or Separating</td><td>> 100000 - 500000 T processed</td></tr><tr><td>Extractive Activities processed or stored</td><td>Land-based extractive activity</td><td>> 100000 - 500000 T extracted,</td></tr><tr><td>Mining for minerals</td><td>Mining for Minerals</td><td>> 100000 - 500000 T produced</td></tr></tbody></table>	Scheduled Activity	Fee Based Activity	Scale	Ceramic Works produced	Ceramics production	> 50000 - 200000 T	Crushing, grinding or separating	Crushing, Grinding or Separating	> 100000 - 500000 T processed	Extractive Activities processed or stored	Land-based extractive activity	> 100000 - 500000 T extracted,	Mining for minerals	Mining for Minerals	> 100000 - 500000 T produced	Compliant	
Scheduled Activity	Fee Based Activity	Scale																
Ceramic Works produced	Ceramics production	> 50000 - 200000 T																
Crushing, grinding or separating	Crushing, Grinding or Separating	> 100000 - 500000 T processed																
Extractive Activities processed or stored	Land-based extractive activity	> 100000 - 500000 T extracted,																
Mining for minerals	Mining for Minerals	> 100000 - 500000 T produced																
A2.1	<p>The licence applies to the following premises:</p> <p>Premises Details BRINGELLY LOT 2 GREENDALE ROAD BRINGELLY NSW 2556 LOT 11 DP 1125892</p>	Compliant																
A3.1	<p>Information supplied to the EPA</p> <p>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.</p> <p>In this condition the reference to "the licence application" includes a reference to:</p> <p>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</p> <p>b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	Compliant																
2	Discharges to Air and Water and Applications to Land																	
P1.1	<p>Location of monitoring/discharge points and areas The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.</p> <table><thead><tr><th colspan="4">Air</th></tr><tr><th>EPA identi- fication no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr></thead><tbody><tr><td>2</td><td>Discharge to Air; Air Emissions Monitoring</td><td>Discharge to Air; Air Emissions Monitoring</td><td>Kiln exhaust stack as marked on map showing locations of discharge points submitted to the EPA with Licence Information Form dated 9/05/00.</td></tr></tbody></table>	Air				EPA identi- fication no.	Type of Monitoring Point	Type of Discharge Point	Location Description	2	Discharge to Air; Air Emissions Monitoring	Discharge to Air; Air Emissions Monitoring	Kiln exhaust stack as marked on map showing locations of discharge points submitted to the EPA with Licence Information Form dated 9/05/00.	Compliant				
Air																		
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Bringelly Brickworks Extension Project

EPL1808

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Condition	Commitment	Details of compliance status	Comments																
P1.2	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.	Compliant																	
P1.3	<p>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.</p> <table><tr><th colspan="4">Water and land</th></tr><tr><th>EPA Identification no.</th><th>Type of Monitoring Point</th><th>Type of Discharge Point</th><th>Location Description</th></tr><tr><td>1</td><td>Discharge and Monitoring; Discharge to waters</td><td>Discharge and Monitoring; Discharge to waters</td><td>Outlet from Dam 1 on map labelled: Site Layout Plan, Figure 2, Water Management Plan dated 10.11.15 (EPA DOC15/464889-02). Discharge point is located on the NE corner of Dam 1.</td></tr><tr><td>5</td><td>Discharge and Monitoring; Discharge to waters</td><td>Discharge and Monitoring; Discharge to waters</td><td>Discharge from Dam 5 on map labelled: Site Layout Plan, Figure 2, Water Management Plan dated 10.11.15 (EPA DOC15/464889-02). Discharge point is located on the NW corner of Dam 5.</td></tr></table>	Water and land				EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	1	Discharge and Monitoring; Discharge to waters	Discharge and Monitoring; Discharge to waters	Outlet from Dam 1 on map labelled: Site Layout Plan, Figure 2, Water Management Plan dated 10.11.15 (EPA DOC15/464889-02). Discharge point is located on the NE corner of Dam 1.	5	Discharge and Monitoring; Discharge to waters	Discharge and Monitoring; Discharge to waters	Discharge from Dam 5 on map labelled: Site Layout Plan, Figure 2, Water Management Plan dated 10.11.15 (EPA DOC15/464889-02). Discharge point is located on the NW corner of Dam 5.	Compliant	
Water and land																			
EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																
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5	Discharge and Monitoring; Discharge to waters	Discharge and Monitoring; Discharge to waters	Discharge from Dam 5 on map labelled: Site Layout Plan, Figure 2, Water Management Plan dated 10.11.15 (EPA DOC15/464889-02). Discharge point is located on the NW corner of Dam 5.																
3	Limit Conditions																		
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.	Compliant																	
L2.1	<p>Load limits</p> <p>The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.</p>	Compliant																	
L2.2	<p>The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.</p> <table><tr><th>Assessable Pollutant</th><th>Load limit (kg)</th></tr><tr><td>Coarse Particulates (Air)</td><td>8400.00</td></tr><tr><td>Fine Particulates (Air)</td><td>33300.00</td></tr><tr><td>Fluoride (Air)</td><td>11700.00</td></tr><tr><td>Nitrogen Oxides - Summer (Air)</td><td></td></tr><tr><td>Nitrogen Oxides (Air)</td><td>90300.00</td></tr><tr><td>Sulfur Oxides (Air)</td><td>186500.00</td></tr></table> <p>Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.</p>	Assessable Pollutant	Load limit (kg)	Coarse Particulates (Air)	8400.00	Fine Particulates (Air)	33300.00	Fluoride (Air)	11700.00	Nitrogen Oxides - Summer (Air)		Nitrogen Oxides (Air)	90300.00	Sulfur Oxides (Air)	186500.00	Compliant			
Assessable Pollutant	Load limit (kg)																		
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Sulfur Oxides (Air)	186500.00																		
L3.1	<p>Concentration limits</p> <p>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.</p>	Compliant																	
L3.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Compliant																	

Bringelly Brickworks Extension Project

EPL1808

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments																																																						
L3.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the tablels.	Compliant																																																							
L3.4	Air Concentration Limits POINT 2 <table><tr><th>Pollutant</th><th>Units of measure</th><th>100 percentile concentration limit</th><th>Reference conditions</th><th>Oxygen correction</th><th>Averaging period</th></tr><tr><td>Total Solid Particles</td><td>milligrams per cubic metre</td><td>100</td><td></td><td></td><td></td></tr><tr><td>Hydrogen fluoride</td><td>milligrams per cubic metre</td><td>50</td><td></td><td></td><td></td></tr><tr><td>Nitrogen Oxides</td><td>milligrams per cubic metre</td><td>2000</td><td></td><td></td><td></td></tr></table>	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period	Total Solid Particles	milligrams per cubic metre	100				Hydrogen fluoride	milligrams per cubic metre	50				Nitrogen Oxides	milligrams per cubic metre	2000				Compliant																															
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L3.5	Water and/or Land Concentration Limits POINT 1 <table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>3DGM concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td></td><td></td><td></td><td>10</td></tr><tr><td>pH</td><td>pH</td><td></td><td></td><td></td><td>6.5-8.5</td></tr><tr><td>Turbidity</td><td>nephelometric turbidity units</td><td></td><td></td><td></td><td>150</td></tr></table> POINT 5 <table><tr><th>Pollutant</th><th>Units of Measure</th><th>50 percentile concentration limit</th><th>90 percentile concentration limit</th><th>3DGM concentration limit</th><th>100 percentile concentration limit</th></tr><tr><td>Conductivity</td><td>microsiemens per centimetre</td><td></td><td></td><td></td><td>1450</td></tr><tr><td>Oil and Grease</td><td>milligrams per litre</td><td></td><td></td><td></td><td>10</td></tr><tr><td>pH</td><td>pH</td><td></td><td></td><td></td><td>6.5-8.5</td></tr><tr><td>Turbidity</td><td>nephelometric turbidity units</td><td></td><td></td><td></td><td>150</td></tr></table>	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Turbidity	nephelometric turbidity units				150	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Conductivity	microsiemens per centimetre				1450	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Turbidity	nephelometric turbidity units				150	Compliant	
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L3.6	Exceedance of a quality limit specified in this Licence for the discharge of total suspended solids or turbidity from Point 1 or Point 5 is only permitted if the discharge from Point 1 or Point 5 occurs solely as a result of rainfall. The rainfall must be equal to, or greater than, a 90th percentile 5-day rain event.	Compliant																																																							

Bringelly Brickworks Extension Project

EPL1808

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
L3.7	For the purposes of Condition L3.6, a 90th percentile 5-day rain event equates to rainfall of 50 millimetres over a 5 day period.	Compliant	
L3.8	For the purposes of the condition(s) above, rainfall data recorded by the meteorological station identified as the Bureau of Meteorology (BoM) Badgerys Creek Weather Station must be used to determine the rain event.	Compliant	
L4.1	Noise from the mobile plant must not exceed an LA10 (15 minute) noise emission criterion of 35 dB(A) at all times. except as expressly provided by this licence.	Compliant	
L4.2	Noise from the premises must not exceed an LA10 (15 minute) noise emission criterion of 35 dB(A) at all times. except as expressly provided by this licence.	Compliant	
L4.3	Noise from the premises is to be measured or computed at any point within 30 metres of the most affected residence to determine compliance with condition L4.1 and L4.2. 5dB(A) must be added if the noise is tonal or impulsive in character.	Compliant	
4	Operating Conditions		
O1.1	Activities must be carried out in a competent manner 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.	Compliant	
O2.1	Maintenance of plant and equipment 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.	Compliant	
O3.1	Dust The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Compliant	
5	Monitoring and Recording Conditions		
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.	Compliant	Records are kept of all monitoring and reported in the EPL Annual Return, the ARR and this Annual Review.
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.	Compliant	Records are kept of all monitoring and reported in the EPL Annual Return, the ARR and this Annual Review.

Bringelly Brickworks Extension Project

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Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments																																				
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.	Compliant	Contractors or PGH sampling staff maintain these records.																																				
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:	Compliant																																					
M2.2	Air Monitoring Requirements POINT 2 <table><tr><th>Pollutant</th><th>Units of measure</th><th>Frequency</th><th>Sampling Method</th></tr><tr><td>Hydrogen fluoride</td><td>milligrams per cubic metre</td><td>Yearly</td><td>TM-9</td></tr><tr><td>Nitrogen Oxides</td><td>milligrams per cubic metre</td><td>Yearly</td><td>TM-11</td></tr><tr><td>Total Solid Particles</td><td>milligrams per cubic metre</td><td>Yearly</td><td>TM-15</td></tr></table>	Pollutant	Units of measure	Frequency	Sampling Method	Hydrogen fluoride	milligrams per cubic metre	Yearly	TM-9	Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11	Total Solid Particles	milligrams per cubic metre	Yearly	TM-15	Compliant																					
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Pollutant	Units of measure	Frequency	Sampling Method																																				
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Bringelly Brickworks Extension Project

EPL1808

Compliant

Non Compliant

Not Triggered

Condition	Commitment	Details of compliance status	Comments
M3.1	<p>Testing methods - concentration limits</p> <p>Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence the pollutant; or</p> <p>b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or</p> <p>c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.</p> <p>must be done in accordance with:</p> <p>a) any methodology which is required by or under the Act to be used for the testing of the concentration of</p> <p>Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".</p>	Compliant	
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.	Compliant	
M4	<p>Testing methods - load limits</p> <p>Note: Division 3 of the Protection of the Environment Operations (General) Regulation 2009 requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the relevant load calculation protocol set out for the fee-based activity classification listed in the Administrative Conditions of this licence.</p>	Compliant	
M5.1	<p>Recording of pollution complaints</p> <p>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.</p>	Compliant	There have been no complaints in the last 12 months.
M5.2	<p>The record must include details of the following:</p> <p>a) the date and time of the complaint;</p> <p>b) the method by which the complaint was made;</p> <p>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;</p> <p>d) the nature of the complaint;</p> <p>e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and</p> <p>f) if no action was taken by the licensee, the reasons why no action was taken.</p>	Compliant	There have been no complaints in the last 12 months.
M5.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Compliant	There have been no complaints in the last 12 months.
M5.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Compliant	There have been no request for complaints records to date.

Bringelly Brickworks Extension Project

EPL1808

Compliant

Non Compliant

Not Triggered

Condition	Commitment	Details of compliance status	Comments
M6.1	Telephone complaints line 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	Compliant	A phone line is operated and the number is signposted at the entrance to the site.
M6.2	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.	Compliant	A phone line is operated and the number is signposted at the entrance to the site.
M6.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.	Compliant	
6	Reporting Conditions		
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data, 7. a Statement of Compliance - Environmental Management Systems and Practices; and 8. a Statement of Compliance - Environmental Improvement Works. At 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.	Compliant	An Annual Return has been submitted each year.
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.	Compliant	
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.	Compliant	
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.	Compliant	
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').	Compliant	An Annual Return has been submitted each year.

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Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
R1.6	Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify: a) the assessable pollutants for which the actual load could not be calculated; and b) the relevant circumstances that were beyond the control of the licensee.	Compliant	
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.	Compliant	
R1.8	Within the Annual Return, the Statements 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.	Compliant	
R2.1	Notification of environmental harm Notifications must be made by telephoning the Environment Line service on 131 555.	Compliant	
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. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Compliant	
R3.1	Written report 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.	Compliant	
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.	Compliant	
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 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.	Compliant	

Bringelly Brickworks Extension Project

EPL1808

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments												
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.	Compliant													
7	General Conditions														
G1.1	Copy of licence kept at the premises or plant A copy of this licence must be kept at the premises to which the licence applies.	Compliant													
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Compliant													
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Compliant													
G2.1	Completed Programs <table><tr><th>PRP</th><th>Description</th><th>Completed Date</th></tr><tr><td>PRP 1 - WATER MONITORING PROGRAM</td><td>Water monitoring program for conductivity in discharges into Thompsons Creek from Licensed Discharge Point 4.</td><td>30-May-2014</td></tr><tr><td>PRP 2 - WATER MANAGEMENT PLAN</td><td>Protect and reduce the impact on Thompsons Creek by preparing a Water Management Plan (WMP) which outlines options to improve on site water management and reduce pollutant loads discharged from the site to Thompsons Creek.</td><td>13-November-2015</td></tr></table>	PRP	Description	Completed Date	PRP 1 - WATER MONITORING PROGRAM	Water monitoring program for conductivity in discharges into Thompsons Creek from Licensed Discharge Point 4.	30-May-2014	PRP 2 - WATER MANAGEMENT PLAN	Protect and reduce the impact on Thompsons Creek by preparing a Water Management Plan (WMP) which outlines options to improve on site water management and reduce pollutant loads discharged from the site to Thompsons Creek.	13-November-2015	Compliant				
PRP	Description	Completed Date													
PRP 1 - WATER MONITORING PROGRAM	Water monitoring program for conductivity in discharges into Thompsons Creek from Licensed Discharge Point 4.	30-May-2014													
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8	Special Conditions														
E1.1	Summary Table of Special Conditions Completed <table><tr><th>No.</th><th>Special Condition</th><th>Description</th><th>Completed Date</th></tr><tr><td>1</td><td>Water Quality</td><td>To submit a report confirming details of all surface water, process water and effluent management systems; all existing sedimentation controls; modifications required; and timetable for implementation.</td><td>1 Nov 2002</td></tr><tr><td>2</td><td>Surface water management options</td><td>To submit a report on the best utilisation of water from dams 5 & 6.</td><td>1 Mar 2005</td></tr></table>	No.	Special Condition	Description	Completed Date	1	Water Quality	To submit a report confirming details of all surface water, process water and effluent management systems; all existing sedimentation controls; modifications required; and timetable for implementation.	1 Nov 2002	2	Surface water management options	To submit a report on the best utilisation of water from dams 5 & 6.	1 Mar 2005	Compliant	
No.	Special Condition	Description	Completed Date												
1	Water Quality	To submit a report confirming details of all surface water, process water and effluent management systems; all existing sedimentation controls; modifications required; and timetable for implementation.	1 Nov 2002												
2	Surface water management options	To submit a report on the best utilisation of water from dams 5 & 6.	1 Mar 2005												

Bringelly Brickworks Extension Project

ML1731 (Act 1992) and Variation from 1/5/2017

Compliant
Non Compliant
Not Triggered

Number	Condition	Details of compliance status	Comments
1 a)	Within 90 days from the date of grant or renewal of this mining lease, the lease holder must give each landholder notice in writing: (i) that this mining lease has been granted or renewed; and (ii) whether the lease includes the surface. The notice must include a plan identifying the lease area and each landholder and individual land parcel within the lease area.	Compliant	PGH are the landholder.
1 b)	If there are ten or more landholders to which notice must be given, the lease holder will be taken to have complied with condition 1(a) if a notice complying with condition 1(a) is published in a newspaper circulating in the region where the lease area is situated.	Compliant	PGH are the landholder.
2	Security The lease holder is required to provide and maintain a security deposit to secure funding for the fulfilment of obligations under the mining lease, including obligations under the mining lease that may arise in the future. The amount of the security deposit to be provided has been assessed at \$776,000.	Compliant	
3	Cooperation Agreement The lease holder must make every reasonable attempt, and be able to demonstrate its attempts to the satisfaction of the Secretary, to enter into a cooperation agreement with the holder(s) of any overlapping authorisations issued under the Mining Act 1992 and petroleum titles issued under the Petroleum (Onshore) Act 1991. The cooperation agreement should address but not be limited to: <ul style="list-style-type: none">• access arrangements• operational interaction procedures• dispute resolution• information exchange• well location• timing of drilling• potential resource extraction conflicts; and• rehabilitation issues.	Compliant	
4	Assessable Prospecting Operations (a) The lease holder must not carry out any assessable prospecting operation on land over which this lease has been granted unless: (i) it is carried out in accordance with any necessary development consent; or (ii) if development consent is not required, the prior written approval of the Minister has been obtained. (b) The Minister may require the lease holder to provide such information as required to assist the Minister to consider an application for approval. (c) An approval granted by the Minister under this condition may be granted subject to terms. (d) The lease holder must comply with the approval granted to the holder under this condition.	Compliant	
	Exploration Reporting Note: Exploration Reports (Geological and Geophysical) The lease holder must lodge reports in accordance with the requirements in section 163C of the Mining Act 1992 and clauses 59, 60 and 61 of the Mining Regulation 2016 as well as any further requirements issued by the Secretary under clause 62 of the Mining Regulation. Guidelines for the structure, content and data format requirements for reports are set out in the Exploration Reporting: A guide for reporting on exploration and prospecting in New South Wales	Compliant	An exploration report is submitted annually

Bringelly Brickworks Extension Project

Water Licence 10BL605770 for monitoring bores

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
1	The licence shall lapse if the work is not commenced and completed within 3 years of the date of the issue of the licence.	Compliant	The bores have been installed.
2	The licensee shall within 2 months of completion or after the issue of the licence of the work is existing, furnish to NSW Office of Water: a) details of the work set out in the attached Form "A" (completed by a driller). b) A plan showing accurately the location of the work, in relation to portion and property boundaries. c) A one litre water sample for all licences other than those for stock, domestic, test bores and farming purposes. d) details of any water analysis and/or pumping tests.	Compliant	The Form A, location plan and analysis details have been provided to DPI Water in 2015 with the application for the bore licence.
3	The licensee shall allow NSW Office of Water or any person authorised by it, full and free access to the works, either during or after construction, for the purpose of carrying out inspection or test of the works and its fittings and shall carry out any work or alterations deemed necessary by the department for the protection and proper maintenance of the works, or the control of the water extracted and for the protection of the quality and the prevention from pollution or contamination of sub-surface water.	Compliant	Not required to date.
4	If during the construction of the work, saline ot polluted water is encountered above the producing aquifer, such water shall be sealed offby: a) inserting the appropriate length of casing to a depth sufficient to exclude the saline or polluted water from the work b) cementing between the casing(s) and the walls of the bore hole from the bottom of the casing to ground level. Any departure from these procedures must be approved by the Department before undertaking the work.	Compliant	Not required to date.
5	a) the licensee shall notify NSW Office of Water if a flowing supply of water is obtained. The bore shall then be lined with casing and cemented and a suitable closing gear shall be attached to the bore head as specified by NSW Office of Water. B) if a flowing supply of water is obtained from the work, the licensee shall only distribute water from the bore head by a system of pipelines and shall not distribute it in drains, natural or artificial channels or depressions.	Compliant	Not required to date.
6	If a work is abandoned at any time the licensee shall notify NSW Office of Water that the work has been abandoned and seal off the aquifer by: a) backfilling the work to the ground level with clay or cement after withdrawing the casing (lining); or b) Such methods as agreed to or directed by NSW Office of Water.	Compliant	Not required to date.
7	The licensee shall not allow any tailwater/drainage to discharge into or onto: any adjoining public or crown road; any other persons land; any Crown land; any river, creek or watercourse; any native vegetation as described under the native Vegetation Conservation Act 1997; Any wetlands of environmental significance.	Compliant	There is no discharge from the monitoring bores.
8	Works used for the purpose of conveying, distributing or storing water taken by means of the licenced work shall not be costructed or installed so as to obstruct the reasonable passage of flood waters flowing into or from a river.	Compliant	Not required to date.
9	If the bore authorised by this licence is lines with steel or plastic casing the inside diameter of that casing shall not exceed 220mm.	Compliant	bore diameters are approxiamtely 60mm.
10	Water shall not be pumped from the bore authorised by this licence from any purpose other than groundwater investigation.	Compliant	
11	Subject to condition (12) the licensee shall within 2 months of the date of completion of the bore authorised by the licence, 1) backfill it with clay or cement to ground level after withdrawing any casing (lining) or: 2) render it ineffective by any other means acceptable to the Department.	Compliant	Not required to date.
12	Condition 11 shall have no force or effect if: 1) at the relevant time there is withj NSW Office of Water, an application in respect of which the Department has not made a decision to convert the groundwater investigation bore into a production bore; or 2) The licensee has completed the bore for the purpose of measuring water levels or water quality by the addition of casing with a diameter not exceeding 220mm.	Compliant	Not required to date.

Bringelly Brickworks Extension Project

Water Licence WAL26259- Surface Water

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
	Unregulated River; Hawkesbury and Lower Nepean Rivers Water Source; Upper South Creek Management Zone; Share components 150.0		
MW0112-00001	The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is: A. a volume equal to 100 % of the share component of the licence, or B. 1 ML/unit share of the share component of the licence.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0036-00002	The volume of water taken in any three (3) consecutive water years from 1 July 2012 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken. This restriction does not apply if water is to be taken: A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0080-00012	From 1 July 2011, water must not be taken from the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source when flows are in the Very Low Flow Class, which means that the flow is 0.2 ML/day or less at South Creek at the Great Western Highway gauge [No. 212048]. This restriction does not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0078-00004	In the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source, if the flow is less than 0.2 ML/day at South Creek at the Great Western Highway gauge [No. 212048] for a period of 24 or more consecutive hours, then there must be a minimum flow of 0.2 ML/day at that gauge for at least 24 hours before water can be taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0004-00002	From 1 July 2012, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the second year in those 3 consecutive water years, plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	Compliant	No water has been drawn from the WALs over the reporting period.

Bringelly Brickworks Extension Project

Water Licence WAL26257- Surface Water

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
	Domestic and Stock; Hawkesbury and Lower Nepean Rivers Water Source; Upper South Creek Management Zone; Share components 6.50		
MW0112-00001	The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is: A. a volume equal to 100 % of the share component of the licence, or B. 1 ML/unit share of the share component of the licence.	Compliant	No water has been drawn from the WALs over the reporting period.
MW4215-00001	Water may be taken for domestic consumption not exceeding 1 kL/house per day: A. when flows in the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source are in the Very Low Flow Class which means that the flow is 0.2 ML/day or less at the South Creek Great Western Highway gauge [No. 212048], or B. when there is no visible flow at the location at which the water proposed to be taken, or C. if water is taken from an in-river, off-river pool, natural pool, lake or lagoon, when the volume of water in that pool lake or lagoon is less than at full capacity.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0036-00002	The volume of water taken in any three (3) consecutive water years from 1 July 2012 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken. This restriction does not apply if water is to be taken: A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.	Compliant	No water has been drawn from the WALs over the reporting period.
MW4251-00001	Water must not be taken for stock watering: A. when flows in the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source are in the Very Low Flow Class, which means that the flow is 0.2 ML/day or less at the South Creek Great Western Highway gauge [No. 212048], or B. when there is no visible flow in the water source at the location where water is to be taken. These restrictions do not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0004-00002	From 1 July 2012, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the second year in those 3 consecutive water years, plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.	Compliant	No water has been drawn from the WALs over the reporting period.
MA2455-00012	Water must be used for the purpose of domestic consumption and stock watering.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	Compliant	No water has been drawn from the WALs over the reporting period.

Bringelly Brickworks Extension Project

Water Licence WAL25987- Surface Water

Compliant
Non Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
	Unregulated River; Hawkesbury and Lower Nepean Rivers Water Source; Upper South Creek Management Zone; Share components 152.5		
MW0112-00001	The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is: A. a volume equal to 100 % of the share component of the licence, or B. 1 ML/unit share of the share component of the licence.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0036-00002	The volume of water taken in any three (3) consecutive water years from 1 July 2012 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0605-00001	Water must be taken in compliance with the conditions of the approval for the nominated work on this access licence through which water is to be taken. This restriction does not apply if water is to be taken: A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0080-00012	From 1 July 2011, water must not be taken from the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source when flows are in the Very Low Flow Class, which means that the flow is 0.2 ML/day or less at South Creek at the Great Western Highway gauge [No. 212048]. This restriction does not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0670-00001	Water must only be taken if there is visible flow in the water source at the location where water is to be taken. This restriction does not apply if water is to be taken: A. from an off-river pool, an in-river pool, a runoff harvesting dam or an in-river dam pool, or B. from the following Weirs: Maldon, Douglas Park, Menangle, Camden, Sharpes, Cobbity, Mount Hunter Rivulet, Brownlow Hill, Theresa Park and Wallacia.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0078-00004	In the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source, if the flow is less than 0.2 ML/day at South Creek at the Great Western Highway gauge [No. 212048] for a period of 24 or more consecutive hours, then there must be a minimum flow of 0.2 ML/day at that gauge for at least 24 hours before water can be taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0004-00002	From 1 July 2012, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the second year in those 3 consecutive water years, plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0051-00002	Once the licence holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	Compliant	No water has been drawn from the WALs over the reporting period.

Bringelly Brickworks Extension Project

Water Approval 10CA104657 for WAL26259

Compliant
Non-Compliant
Not Triggered

Condition	Commitment	Details of compliance status	Comments
	Water supply works and water use, expiry 20/4/2026; Hawkesbury and Lower Nepean Rivers Water Source; Diversion works - pumps; 80mm centrifugal pump; irrigation purpose		
MW0655-00001	Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0911-00001	Before water is taken through the water supply work authorised by this approval, visible flow in the water source at the location at which water is proposed to be taken must be confirmed. If a logbook is required to be kept: A. confirmation that water may be taken, and B. the method of confirmation, such as visual inspection, internet search must be recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2435-00001	Water must be taken through the approved metering equipment installed on the water supply work authorised by this approval.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0080-00012	From 1 July 2011, water must not be taken from the Upper South Creek Management Zone of the Hawkesbury and Lower Nepean Rivers Water Source when flows are in the Very Low Flow Class, which means that the flow is 0.2 ML/day or less at South Creek at the Great Western Highway gauge [No. 212048]. This restriction does not apply if water is to be taken from a runoff harvesting dam or an in-river dam pool.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2336-00001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0482-00001	Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0051-00001	Once the approval holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	Compliant	No water has been drawn from the WALs over the reporting period.
MW3860-00001	A. When a water supply work authorised by this approval is no longer to be used permanently, the approval holder must: i. notify the relevant licensor in writing of the intention to decommission the work at least 90 days before the start of decommissioning, and ii. decommission the work, unless the approval holder receives notice in writing from the Minister within 60 days of notifying DPI Water requiring that the work is not to be decommissioned or be decommissioned in accordance with specific requirements. B. Within 60 days of the work being decommissioned, the approval holder must notify the relevant licensor in writing that the work has been decommissioned.	Compliant	No water has been drawn from the WALs over the reporting period.
DK0888-00001	Any water supply work authorised by this approval used for the purpose of conveying, diverting or storing water must be constructed or installed to allow free passage of floodwaters flowing into or from a river or lake.	Compliant	No water has been drawn from the WALs over the reporting period.
DK0878-00001	A. The construction, installation or use of the water supply work authorised by this approval must not cause or increase erosion to the channel or bank of the watercourse. B. If erosion is observed, the area must be stabilised with grass cover, stone pitching or any other material that will prevent any further occurrence of erosion.	Compliant	No water has been drawn from the WALs over the reporting period.
DS2349-00001	The approval holder must make all reasonable efforts not to allow any used water to discharge, by any means including surface or subsurface drains or pipes, into or onto: - any adjoining public or crown road; - any other person's land; - any Crown land; - any river, creek or watercourse or aquifer.	Compliant	No water has been drawn from the WALs over the reporting period.

Bringelly Brickworks Extension Project

Water Approval 10CA104630 for WAL26257 & WAL25987

Compliant

Non Compliant

Not Triggered

Condition	Commitment	Details of compliance status	Comments
	Water supply works and water use, expiry 18/6/2025; Hawkesbury and Lower Nepean Rivers Water Source; Diversion works - pumps and Storages; 80mm centrifugal pump and Bywash Dam; irrigation purpose		
MW0655-00001	Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0911-00001	Before water is taken through the water supply work authorised by this approval, visible flow in the water source at the location at which water is proposed to be taken must be confirmed. If a logbook is required to be kept: A. confirmation that water may be taken, and B. the method of confirmation, such as visual inspection, internet search must be recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2338-00001	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2336-00001	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2337-00001	The following information must be recorded in the logbook for each period of time that water is taken: A. date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and B. the access licence number under which the water is taken, and C. the approval number under which the water is taken, and D. the volume of water taken for domestic consumption and/or stock watering.	Compliant	No water has been drawn from the WALs over the reporting period.
MW2339-00001	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor.	Compliant	No water has been drawn from the WALs over the reporting period.
MW0482-00001	Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.	Compliant	No water has been drawn from the WALs over the reporting period.

MW0051-00001	Once the approval holder becomes aware of a breach of any condition on this access licence, the licence holder must notify the Minister as soon as practicable. The Minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au , or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call.	Compliant	No water has been drawn from the WALs over the reporting period.
MW3860-00001	A. When a water supply work authorised by this approval is no longer to be used permanently, the approval holder must: i. notify the relevant licensor in writing of the intention to decommission the work at least 90 days before the start of decommissioning, and ii. decommission the work, unless the approval holder receives notice in writing from the Minister within 60 days of notifying DPI Water requiring that the work is not to be decommissioned or be decommissioned in accordance with specific requirements. B. Within 60 days of the work being decommissioned, the approval holder must notify the relevant licensor in writing that the work has been decommissioned.	Compliant	No water has been drawn from the WALs over the reporting period.
DK0888-00001	Any water supply work authorised by this approval used for the purpose of conveying, diverting or storing water must be constructed or installed to allow free passage of floodwaters flowing into or from a river or lake.	Compliant	No water has been drawn from the WALs over the reporting period.
DK0871-00001	The water supply work authorised by this approval must be constructed and maintained in a way that will: A. ensure the work's safe construction and operation, and B. prevent the possibility of damage being caused by the work, or resulting from the work, to any public or private interest.	Compliant	No water has been drawn from the WALs over the reporting period.
DK0878-00001	A. The construction, installation or use of the water supply work authorised by this approval must not cause or increase erosion to the channel or bank of the watercourse. B. If erosion is observed, the area must be stabilised with grass cover, stone pitching or any other material that will prevent any further occurrence of erosion.	Compliant	No water has been drawn from the WALs over the reporting period.
DK0233-00078	The level of the crest of the bywash of the dam must be fixed at not higher than 1.99 m below the level of a benchmark established on a box tree on the right bank of the watercourse near the work and particulars of which are retained in the office of the relevant licensor.	Compliant	
DK1217-00001	The location of the dam(s) as shown on a plan retained in the office of the relevant licensor shall not be altered.	Compliant	
DS2349-00001	The approval holder must make all reasonable efforts not to allow any used water to discharge, by any means including surface or subsurface drains or pipes, into or onto: - any adjoining public or crown road; - any other person's land; - any Crown land; - any river, creek or watercourse or aquifer.	Compliant	No water has been drawn from the WALs over the reporting period.

Appendix G

Production Data for DRE

Royalty online services

Welcome Joe Gauci

Logout

Lease details

Lease name:	ML 1731 (1992)
Return type:	Non-coal Mineral Annually (01/07/2022 - 30/06/2023)
Mineral / Extraction:	CLAY SHALE
Royalty regime:	Quantum Royalty
Royalty rate:	\$0.35 per tonne

Royalty

● Production

Ore produced:	Tonnes	0	\$AUD	0.00
Concentrates produced:	Tonnes	0	\$AUD	0.00
Export sales:	Tonnes	0	\$AUD	0.00
Local sales & other disposals:	Tonnes	47,890	\$AUD	199,094.17
Purchases:	Tonnes	0	\$AUD	0.00
Net disposals:	Tonnes	47,890	\$AUD	199,094.17
Closing stock:	Tonnes	84,032	\$AUD	985,832.90
Opening stock:	Tonnes	11,171	\$AUD	25,582.41
Minerals recovered:	Tonnes	120,751	\$AUD	1,159,344.66

Appendix H

Stack Testing Report

PGH Bricks & Pavers Pty Ltd, Bringelly Plant
Annual Emission Testing Report
Report Number R014348

Document Information

Template Version 130223

Client Name: PGH Bricks & Pavers Pty Ltd (Bringelly)
Report Number: R014348
Date of Issue: 31 March 2023
Attention: Janus Arana
Address: Lot 2 Greendale Rd
Bringelly NSW 2556
Testing Laboratory: Ektimo Pty Ltd, ABN 86 600 381 413

Report Authorisation



Rick Peralta
Air Monitoring Consultant



NATA Accredited Laboratory
No. 14601



Aaron Davis
Ektimo Signatory

Accredited for compliance with ISO/IEC 17025 - Testing. NATA is a signatory to the ILAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

This document is confidential and is prepared for the exclusive use of PGH Bricks & Pavers Pty Ltd (Bringelly) and those granted permission by PGH Bricks & Pavers Pty Ltd (Bringelly). The report shall not be reproduced except in full.

Please note that only numerical results pertaining to measurements conducted directly by Ektimo are covered by Ektimo's terms of NATA accreditation as described in the Test Methods table. This does not include calculations that use data supplied by third-parties, comments, conclusions, or recommendations based upon the results. Refer to 'Test Methods' for full details of testing covered by NATA accreditation.

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1 Executive Summary

1.1 Background

Ektimo was engaged by PGH Bricks & Pavers Pty Ltd to perform emission testing at their Bringelly plant. Testing was carried out in accordance with Environment Protection Licence 1808.

1.2 Project Objective & Overview

The objective of the project was to quantify emissions from one (1) discharge point to determine compliance with PGH Bricks & Pavers Pty Ltd's Environmental Licence for their Bringelly plant.

Monitoring was performed as follows:

Location	Test Date	Test Parameters*
EPA 2 – Kiln Stack	28 February 2023	Total solid particles, particulate matter <10µm (PM ₁₀) Coarse particulates Sulfur dioxide (SO ₂), sulfur trioxide and sulfuric acid mist (as SO ₃) Total fluoride (as HF), hydrogen chloride (HCl) Nitrogen oxides (as NO ₂), carbon dioxide (CO ₂), oxygen (O ₂)

* Flow rate, velocity, temperature and moisture were also determined.

All results are reported on a dry basis at STP.

Plant operating conditions have been noted in the report.

1.3 Licence Comparison

The following licence comparison table shows that all analytes highlighted in green are within the licence limit set by the NSW EPA as per licence 1808 (last amended on 11 August 2020).

EPA No.	Location Description	Pollutant	Units	Licence Limit	Concentration (mg/m ³)	Mass Rate (g/min)
					Detected Values 28/02/2023	
2	Kiln Exhaust Stack	Total Solid Particles	mg/m ³	100	7.2	5.8
		Nitrogen Oxides (as NO ₂)	mg/m ³	2000	67	53
		Total Fluoride (as HF)	mg/m ³	50	8	6.3

Please note that the measurement uncertainty associated with the test results was not considered when determining whether the results were compliant or non-compliant.

Refer to the Test Methods table for the measurement uncertainties.

2 Results

2.1 EPA 2 – Kiln Stack

Date	28/02/2023	Client	PGH Bricks and Pavers Pty Ltd
Report	R014348	Stack ID	Kiln
Licence No.	1808	Location	Bringelly
Ektimo Staff	Graham Edwards, James Cullen	State	NSW
Process Conditions	Product: Common Exposure 7/4, Push Rate: 18 Cars/Day, Soak Temperature: 1036C		

23024

Sampling Plane Details	
Sampling plane dimensions	1440 mm
Sampling plane area	1.63 m ²
Sampling port size, number & depth	4" BSP (x2), 125 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Exit 2.5 D
Upstream disturbance	Centrifugal fan 8 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Ideal sampling plane

Stack Parameters	
Moisture content, %v/v	8.1
Gas molecular weight, g/g mole	28.4 (wet) 29.3 (dry)
Gas density at STP, kg/m ³	1.27 (wet) 1.31 (dry)
Gas density at discharge conditions, kg/m ³	0.86
Gas Flow Parameters	
Flow measurement time(s) (hhmm)	1230 & 1430
Temperature, °C	127
Temperature, K	400
Velocity at sampling plane, m/s	13
Volumetric flow rate, actual, m ³ /s	21
Volumetric flow rate (wet STP), m ³ /s	14
Volumetric flow rate (dry STP), m ³ /s	13
Mass flow rate (wet basis), kg/hour	66000

Gas Analyser Results	Sampling time	Average		Minimum		Maximum	
		1249 - 1349		1249 - 1349		1249 - 1349	
Combustion Gases		Concentration	Mass Rate	Concentration	Mass Rate	Concentration	Mass Rate
		mg/m ³	g/min	mg/m ³	g/min	mg/m ³	g/min
	Nitrogen oxides (as NO ₂)	67	53	42	33	71	57
		Concentration		Concentration		Concentration	
		%v/v		%v/v		%v/v	
Carbon dioxide		3.4		1.8		3.7	
Oxygen		16.6		16.2		18.7	

Isokinetic Results	Sampling time	Results	
		1250-1351	1250-1351 (PM10)
		Concentration	Mass Rate
		mg/m ³	g/min
Solid Particles		7.2	5.8
Fine particulates (PM10)		4.6	3.7
Coarse Particulates		2.6	2.1
D50 cut size, 10µm		9.9	
Sulfur dioxide		63	50
Sulfur trioxide and/or Sulfuric acid (as SO3)		0.76	0.6
Isokinetic Sampling Parameters		Isokinetic	PM 10&2.5
Sampling time, min		60	60
Isokinetic rate, %		101	104
Gravimetric analysis date (total particulate)		16-03-2023	
Gravimetric analysis date (PM10)		16-03-2023	

Date	28/02/2023	Client	PGH Bricks and Pavers Pty Ltd
Report	R014348	Stack ID	Kiln
Licence No.	1808	Location	Bringelly
Ektimo Staff	Graham Edwards, James Cullen	State	NSW
Process Conditions	Product: Common Exposure 7/4, Push Rate: 18 Cars/Day, Soak Temperature: 1036C		23024

Sampling Plane Details	
Sampling plane dimensions	1440 mm
Sampling plane area	1.63 m ²
Sampling port size, number & depth	4" BSP (x2), 125 mm
Duct orientation & shape	Vertical Circular
Downstream disturbance	Exit 2.5 D
Upstream disturbance	Centrifugal fan 8 D
No. traverses & points sampled	2 12
Sample plane conformance to AS 4323.1	Ideal sampling plane

Stack Parameters	
Moisture content, %v/v	7.2
Gas molecular weight, g/g mole	28.5 (wet) 29.3 (dry)
Gas density at STP, kg/m ³	1.27 (wet) 1.31 (dry)
Gas density at discharge conditions, kg/m ³	0.86
Gas Flow Parameters	
Flow measurement time(s) (hhmm)	0944 & 1230
Temperature, °C	127
Temperature, K	400
Velocity at sampling plane, m/s	13
Volumetric flow rate, actual, m ³ /s	21
Volumetric flow rate (wet STP), m ³ /s	14
Volumetric flow rate (dry STP), m ³ /s	13
Mass flow rate (wet basis), kg/hour	65000

Non-isokinetics	Sampling time	Results	
		1050-1150	
		Concentration	Mass Rate
		mg/m ³	g/min
Chloride (as HCl)		52	41

Isokinetic Results	Sampling time	Results	
		1037-1138	
		Concentration	Mass Rate
		mg/m ³	g/min
Total fluoride (as HF)		8	6.3
Isokinetic Sampling Parameters			
Sampling time, min		60	
Isokinetic rate, %		101	

3 Plant Operating Conditions

The below plant operating conditions have been supplied by PGH Bricks & Pavers Pty Ltd's personnel.

Sampling date	28 February 2023
Product	Common Exposure 7/4
Push rate	18 Cars/Day
Soak temperature	1,036°C

From information received from the site operator, unless otherwise noted it is our understanding that samples were collected during normal plant operations. Unless otherwise noted all samples were collected in compliance with Ektimo's QA/QC standards.

4 Calibration Records

Equipment Type	Equipment name	ID	Type	Last Calibration Date
Nozzles	SS (PM10) nozzle kit	821	12 Monthly Nozzle Calibrations	3/01/23
Nozzles	Stainless Steel (PTFE coated)	945	12 Monthly Nozzle Calibrations	25/01/23
Analysers	MRU Gas Analyser	1699	6 Monthly Analyser Linearity Checks	25/01/23
Gas Meters	DITGM Gas Meter (ETC4)	913	6 Monthly Gas Meter Calibrations	25/01/23
Gas Meters	DITGM Gas Meter (ETC19)	880	6 Monthly Gas Meter Calibrations	6/01/23
Manometers	Testo DP-440	1618	12 Monthly Manometer Calibrations	9/01/23
Temp Device	Testo DP-440	1618	6 Monthly Temperature Device Checks	9/01/23
Pitot Method 2	Pitot/Thermocouple	1758	6 Monthly Temperature Device Checks and Pitot Tube Calibration	5/01/23

5 Quality Assurance/Quality Control Information

Ektimo is accredited by the National Association of Testing Authorities (NATA) for the sampling and analysis of air pollutants from industrial sources. Unless otherwise stated test methods used are accredited with the National Association of Testing Authorities. For full details, search for Ektimo at NATA's website www.nata.com.au.

Ektimo is accredited by NATA to ISO/IEC 17025 - Testing. ISO/IEC 17025 - Testing requires that a laboratory have adequate equipment to perform the testing, as well as laboratory personnel with the competence to perform the testing. This quality assurance system is administered and maintained by the Quality Director.

NATA is a member of APAC (Asia Pacific Accreditation Co-operation) and of ILAC (International Laboratory Accreditation Co-operation). Through mutual recognition arrangements with these organisations, NATA accreditation is recognised worldwide.

6 Test Methods



All sampling and analysis performed by Ektimo unless otherwise specified. Specific details of the methods are available upon request.

Parameter	Sampling method	Analysis method	Uncertainty*	NATA accredited	
				Sampling	Analysis
Sampling points - Selection	NSW EPA TM-1 (AS 4323.1)	NA	NA	✓	NA
Flow rate, temperature & velocity	NSW EPA TM-2 (USEPA Method 2)	NSW EPA TM-2 (USEPA Method 2)	8%, 2%, 7%	NA	✓
Moisture content	NSW EPA TM-22 (USEPA Method 4)	NSW EPA TM-22 (USEPA Method 4)	8%	✓	✓
Molecular weight	NA	NSW EPA TM-23 (USEPA Method 3)	not specified	NA	✓
Dry gas density	NA	NSW EPA TM-23 (USEPA Method 3)	not specified	NA	✓
Carbon dioxide	NSW EPA TM-24 (USEPA Method 3A)	NSW EPA TM-24 (USEPA Method 3A)	13%	✓	✓
Nitrogen oxides	NSW EPA TM-11 (USEPA Method 7E)	NSW EPA TM-11 (USEPA Method 7E)	12%	✓	✓
Oxygen	NSW EPA TM-25 (USEPA Method 3A)	NSW EPA TM-25 (USEPA Method 3A)	13%	✓	✓
Particulate matter (PM ₁₀ & PM _{2.5})	NSW EPA OM-5 (USEPA Method 201A)	NSW EPA OM-5 (USEPA Method 201A)	6%	✓	✓ ^{††}
Coarse particulates	NSW EPA OM-9	NSW EPA OM-9	not specified	✓	✓ ^{††}
Solid particles (total)	NSW EPA TM-15 (AS 4323.2)	NSW EPA TM-15 (AS 4323.2)	3%	✓	✓ ^{††}
Fluorine & fluorine compounds ¹	NSW EPA TM-9 (USEPA Method 13B)	Ektimo 235	25%	✓	✓ [†]
Hydrogen chloride	NSW EPA TM-8 (USEPA Method 26)	Ektimo 235	14%	✓	✓ ^{†i}
Sulfuric acid mist and/or sulfur trioxide	NSW EPA TM-3 (USEPA Method 8)	Ektimo 235	16%	✓	✓ [†]

230228

* Uncertainties cited in this table are estimated using typical values and are calculated at the 95% confidence level (coverage factor = 2).

† Analysis performed by Ektimo. Results were reported to Ektimo on:

- 17 March 2023 in report LV-004102.
- 20 March 2023 in report LV-004128.

†† Gravimetric analysis conducted at the Ektimo NSW laboratory.

1 Sampling follows USEPA Method 13B and analysis follows Ektimo 235 (ion chromatography which uses the same principle as the NSW EPA approved alternative analysis method USEPA SW-846 Method 9056A).

i Includes analysis of chlorine/chloride by Ektimo 235 which uses the same principle as USEPA Method 26/26A.

6.1 Deviations to Test Methods

TM-9 FLUORINE

Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (NSW EPA) (2022) specifies TM-9 (USEPA 13B) for measurement of total fluoride emissions.

Ektimo conducts sampling according to USEPA Method 13B and analysis follows Ektimo 235 (ion chromatography which uses the same principle as the NSW EPA approved alternative analysis method USEPA SW-846 Method 9056A).

7 Definitions

The following symbols and abbreviations may be used in this test report:

% v/v	Volume to volume ratio, dry or wet basis
~	Approximately
<	Less than
>	Greater than
≥	Greater than or equal to
AS	Australian Standard
CEM/CEMS	Continuous emission monitoring/Continuous emission monitoring system
CTM	Conditional test method
D	Duct diameter or equivalent duct diameter for rectangular ducts
D ₅₀	'Cut size' of a cyclone is defined as the particle diameter at which the cyclone achieves a 50% collection efficiency i.e. half of the particles are retained by the cyclone and half pass through it. The D ₅₀ method simplifies the capture efficiency distribution by assuming that a given cyclone stage captures all of the particles with a diameter equal to or greater than the D ₅₀ of that cyclone and less than the D ₅₀ of the preceding cyclone.
DECC	Department of Environment & Climate Change (NSW)
Disturbance	A flow obstruction or instability in the direction of the flow which may impede accurate flow determination. This includes centrifugal fans, axial fans, partially closed or closed dampers, louvres, bends, connections, junctions, direction changes or changes in pipe diameter.
EPA	Environment Protection Authority
FTIR	Fourier transform infra-red
I-TEQ	International toxic equivalents
Lower bound	When an analyte is not present above the detection limit, the result is assumed to be equal to zero.
Medium bound	When an analyte is not present above the detection limit, the result is assumed to be equal to half of the detection limit.
NA	Not applicable
NATA	National Association of Testing Authorities
NIOSH	National Institute of Occupational Safety and Health
NT	Not tested or results not required
OM	Other approved method
OU	Odour unit. One OU is that concentration of odourant(s) at standard conditions that elicits a physiological response from a panel equivalent to that elicited by one Reference Odour Mass (ROM), evaporated in one cubic metre of neutral gas at standard conditions.
PM ₁₀	Particulate matter having an equivalent aerodynamic diameter less than or equal to 10 microns (µm).
PM _{2.5}	Particulate matter having an equivalent aerodynamic diameter less than or equal to 2.5 microns (µm).
Semi-quantified VOCs	Unknown VOCs (those for which an analytical standard is not available), are identified by matching the mass spectrum of the chromatographic peak to the NIST Standard Reference Database (version 14.0), with a match quality exceeding 70%. An estimated concentration is determined by matching the area of the peak with the nearest suitable compound in the analytical calibration standard mixture.
STP	Standard temperature and pressure. Gas volumes and concentrations are expressed on a dry basis at 0 °C, at discharge oxygen concentration and an absolute pressure of 101.325 kPa.
TM	Test method
TOC	Total organic carbon. This is the sum of all compounds of carbon which contain at least one carbon-to-carbon bond, plus methane and its derivatives.
USEPA	United States Environmental Protection Agency
Velocity difference	The percentage difference between the average of initial flows and after flows.
Vic EPA	Victorian Environment Protection Authority
Upper bound	When an analyte is not present above the detection limit, the result is assumed to be equal to the detection limit.
95% confidence interval	Range of values that contains the true result with 95% certainty. This means there is a 5% risk that the true result is outside this range.

8 Appendices

8.1 *Appendix 1: Site Photo*

8.2 *Appendix 3. Laboratory Results*

8.3 *Appendix 4. Chains of Custody*

Appendix 1: Site Photo



EPA 2 – Kiln Stack

Appendix 2: Laboratory Results

CERTIFICATE OF ANALYSIS

Testing Laboratory: Ektimo
26 Redland Drive
Mitcham, VIC 3132
Report Number: LV-004128
Job Number: R014348
Date of Issue: 20/03/2023
Attention: Ianus Arana
Address: Lot 2 Greendale Rd
Bringelly, NSW 2556

Date samples received: 3/03/2023
Number of samples received: 11
Date samples analysed: 20/03/2023
No of samples analysed: 11

Test method(s) used: Ektimo 235

Comments

QC Acceptance Criteria:	Parameter	Criteria	Pass/Fail
	Standard Curve	$R^2 > 0.99$	Pass
	Range	All samples <110% of highest standard	Pass
	Repeat samples	Between 80% - 120%	Pass
	Method Blanks	All method blanks < PQL	Pass
	QC sample	2 standard deviations of theoretical	Pass
	Chemical Expiry	All chemicals within expiry date	Pass

This report supersedes any previous report(s) with this reference. Sample(s) have been analysed as received.

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Ektimo is accredited by NATA (National Association of Testing Authorities) to ISO/IEC 17025 - Testing. ISO/IEC 17025 - Testing requires that a laboratory have adequate equipment to perform the testing, as well as laboratory personnel with the competence to perform the testing. This quality assurance system is administered and maintained by the Quality Director.

NATA is a member of APAC (Asia Pacific Laboratory Accreditation Co-operation) and of ILAC (International Laboratory Accreditation Co-operation). Through the mutual recognition arrangements with both of these organisations, NATA accreditation is recognised world-wide.

A formal Quality Control program is in place at Ektimo to monitor analyses performed in the laboratory and sampling conducted in the field. The program is designed to check where appropriate; the sampling reproducibility, analytical method, accuracy, precision and the performance of the analyst. The Laboratory Manager is responsible for the administration and maintenance of this program.

REPORT AUTHORISATION

Version 221129



Cappi Tuffery
Laboratory Technician



Daniel Balaam
Senior Laboratory Chemist



NATA Accredited Laboratory 14601

Report No. LV-004128

Job No. R014348

Client Name: PGH Bricks & Pavers Pty Ltd (Bringelly)

Parameter	PQL	Units	N 19328 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Blank-Total F (HF)	N 19329 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Sample Total F	N 19337 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 2 Impingers - Total F	N 19342 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 3 Impingers + Filter	N 19330 PGH Bricks & Pavers Pty Ltd (Bringelly) All HCl- Blank (HCl)	N 19331 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Impinger A - HCl	N 19332 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Impinger B - HCl	N 19338 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 2 Impinger A - HCl
Fluoride	0.1	mg/L	<0.1	27	2.2	0.33	0.15	47	0.66	0.1
Chloride	0.1	mg/L	<0.1	330.00*	46	9.3	<0.1	330.00*	2	0.16

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.

Parameter	PQL	Units	N 19339 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 2 Impinger B - HCl	N 19343 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 3 Sample A - HCl	N 19344 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 3 Sample B - HCl
Fluoride	0.1	mg/L	0.33	1.7	0.14
Chloride	0.1	mg/L	0.18	9	0.17

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.

CERTIFICATE OF ANALYSIS

Testing Laboratory: Ektimo
26 Redland Drive
Mitcham, VIC 3132
Report Number: LV-004102
Job Number: R014348
Date of Issue: 17/03/2023
Attention: Janus Arana
Address: Lot 2 Greendale Rd
Bringelly, NSW 2556

Date samples received: 3/03/2023
Number of samples received: 8
Date samples analysed: 16/03/2023
No of samples analysed: 8

Test method(s) used: Ektimo 235

Comments

QC Acceptance Criteria:	Parameter	Criteria	Pass/Fail
	Standard Curve	$R^2 > 0.99$	Pass
	Range	All samples <110% of highest standard	Pass
	Repeat samples	Between 80% - 120%	Pass
	Method Blanks	All method blanks < PQL	Pass
	QC sample	2 standard deviations of theoretical	Pass
	Chemical Expiry	All chemicals within expiry date	Pass

This report supersedes any previous report(s) with this reference. Sample(s) have been analysed as received.

Ektimo is accredited by the National Association of Testing Authorities (NATA) for the sampling and analysis of air pollutants from industrial sources. Unless otherwise stated test methods used are accredited with the National Association of Testing Authorities. For full details, search for Ektimo at NATA's website www.nata.com.au.

Ektimo is accredited by NATA (National Association of Testing Authorities) to ISO/IEC 17025 - Testing. ISO/IEC 17025 - Testing requires that a laboratory have adequate equipment to perform the testing, as well as laboratory personnel with the competence to perform the testing. This quality assurance system is administered and maintained by the Quality Director.

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A formal Quality Control program is in place at Ektimo to monitor analyses performed in the laboratory and sampling conducted in the field. The program is designed to check where appropriate; the sampling reproducibility, analytical method, accuracy, precision and the performance of the analyst. The Laboratory Manager is responsible for the administration and maintenance of this program.

REPORT AUTHORISATION

Version 221129



Cappi Tuffery
Laboratory Technician



Daniel Balaam
Senior Laboratory Chemist



NATA Accredited Laboratory 14601

Report No. LV-004102

Job No. R014348

Client Name: PGH Bricks & Pavers Pty Ltd (Bringelly)

Parameter	PQL	Units	N 19333 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Blank-SO3 (SO3)	N 19334 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Impingers - SO3	N 19340 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 2 Impingers + Filter - SO3	N 19345 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 3 Impingers + Filter - SO3	N 19335 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Blank-SO2 (SO2)	N 19336 PGH Bricks & Pavers Pty Ltd (Bringelly) Kiln Impingers-SO2	N 19341 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 2 Impingers	N 19346 PGH Bricks & Pavers Pty Ltd (Bringelly) Dryer 3 Impingers - SO2
Sulphate	0.2	mg/L	<0.2	8.1	0.43	0.39	0.57	410.00*	0.72	0.39
Fluoride	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloride	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.

* Results marked with an asterisk are outside the acceptable calibration range of the instrument.

Appendix 3. Chains of Custody

Ektimo		Checked at Ektimo Dispatch by <u>B.S. 02/03/23</u>		Samples received in good order		CIN 3/3/23	
Sample ID	Job No.	Analysis Required	Units Required	Analysed Lab	Purchase Order No.	Ektimo Contact	Notes
N 19328	R014348	Blank - Total F	ug/litre	Ektimo		Graham Edwards	Blank - Total F
N 19329	R014348	Total F	ug/litre	Ektimo		Graham Edwards	Sample Total F
N 19330	R014348	HCl	ug/litre	Ektimo		Graham Edwards	Blank - HCl
N 19331	R014348	HCl	ug/litre	Ektimo		Graham Edwards	Impinger A - HCl
N 19335	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Blank - SO ₂
N 19336	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Impinger - SO ₂
N 19338	R014348	HCl	ug/litre	Ektimo		Graham Edwards	Impinger A - HCl
N 19339	R014348	HCl	ug/litre	Ektimo		Graham Edwards	Impinger B - HCl
N 19340	R014348	Impingers - Filter - SO ₂	ug/litre	Ektimo		Graham Edwards	Impinger - Filter - SO ₂
N 19341	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Impinger - Filter - SO ₂
N 19342	R014348	Total F	ug/litre	Ektimo		Graham Edwards	Impingers - Total F
N 19343	R014348	HCl	ug/litre	Ektimo		Graham Edwards	Sample A - HCl
N 19344	R014348	HCl	ug/litre	Ektimo		Graham Edwards	Sample B - HCl
N 19345	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Impingers - Filter - SO ₂
N 19346	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Impingers - SO ₂
N19332	R014348	1t Cl	ug/litre	Ektimo		Graham Edwards	Impinger B - HCl
N19333	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Blank - HCl
N19334	R014348	SO ₂	ug/litre	Ektimo		Graham Edwards	Impingers - SO ₂
N19337	R014348	Total F	ug/litre	Ektimo		Graham Edwards	Impingers - Total F



Ektimo

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QLD 4170
AUSTRALIA

Appendix I: Noise Monitoring

Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter 3 Ending September 2022



Document Information

Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter 3 Ending September 2022

Prepared for: PGH Bricks & Pavers Pty Ltd

60 Greendale Road

Bringelly NSW 2256



Prepared by: Muller Acoustic Consulting Pty Ltd

PO Box 678, Kotara NSW 2289

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Document ID	Date	Prepared By	Signed	Reviewed By	Signed
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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by PGH Bricks & Pavers Pty Ltd (PGH) to complete a Noise Monitoring Assessment (NMA) for the PGH Bringelly Brickworks (the 'site') at 60 Greendale Road, Bringelly, NSW.

This assessment has been undertaken for the quarterly period ending September 2022, and forms part of the annual noise monitoring program to address conditions outlined in the Development Consent.

The NMA has quantified potential operational and sleep disturbance noise emissions from the operation and has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Bringelly Brickworks Noise Management Plan (NMP ref BRK-BRI-NMP Version 4 dated 12.02.19), 2019;
- Bringelly Brickworks Development Consent, 2015 (SSD_5684); and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

The Bringelly Brickworks NMP outlines the applicable noise criteria for representative residential receivers surrounding the site and are presented in **Table 1**. The site includes the operation of a quarry and brickmaking plant, and as the quarry operates during the daytime, there are separate criteria relating to each period.

Table 1 Noise Criteria ¹				
Activity	Receiver	Day/Evening/Shoulder ^{2,3}	Night ²	
		dB LAeq(15min)	dB LAeq(15min)	dB LA1(max) ³
Brickmaking and quarrying	R1, R2	47	N/A	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brickmaking	All Receivers	44	43	53

Note 1: Noise criteria adopted from the Development Consent.

Note 2: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note 3: Periods and parameters as expressed in the Development Consent

Figure 1 presents the identified receiver locations and representative measurement locations.

Section 4 of the Bringelly Brickworks Development Consent, 2015 (SSD_5684) outlines requirements for Noise Bunds adjacent to the northern boundary of the extraction area and adjacent to Greendale Road. It is noted that the proposed new access road and associated noise bund adjacent to Greendale Road are not in place at the time of the monitoring. Further details on review of noise mitigation measures for the site are contained in a historic report (MAC190946LR1, 29 September 2019).



FIGURE 1
SITE LAYOUT
MAC190946-02
PGH Bringelly Brickworks

KEY

- Monitoring Locations
- Receivers



3 Methodology

3.1 Locality

PGH Bringelly Brickworks is located at 60 Greendale Road, Bringelly, NSW. Receivers in the locality surrounding the site are primarily rural/residential and for consistency the naming conventions for each receiver have been retained from historic noise assessments. The monitoring locations with respect to PGH are presented in the locality plan shown in **Figure 1**.

3.2 Assessment Methodology

The attended noise measurements were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise". Measurements were conducted using a Svantek Type 1, 971 noise analyser. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2019- Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed $\pm 0.5\text{dBA}$.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. Measurements were conducted at five locations (N1, N3, N14, N20, N35) on Tuesday 20 September 2022 during the day, evening, and night periods to satisfy the requirements of the NMP.

Extraneous noise sources were excluded from the analysis to determine the $L_{Aeq}(15\text{min})$ quarry noise contribution for comparison against the relevant criteria. In the event of site attributed noise being above criteria, prevailing meteorological conditions for the monitoring period are analysed in accordance with Fact Sheet D of the NPI to determine the stability category present at the time of each attended measurement.

Where the site is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.

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4 Results

4.1 Assessment Results - Location N1

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N1 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N1						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LA1	LAeq	LA90		
20/09/2022	15:25 (Day)	58	46	44	WD: N WS: 0.1m/s Rain: Nil	Birds 46-58
						Local residential noise 43-50
						Traffic 43-47
						Aircraft 44-54
						Wind in trees 44-45
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<34
20/09/2022	20:28 (Evening)	57	46	43	WD: N WS: 0.1m/s Rain: Nil	Traffic 43-57
						Insects 43-45
						Aircraft 43-49
						PGH site hum 39-41
PGH Site LAeq(15min) Contribution						40
20/09/2022	22:23 (Night)	55	44	43	WD: N WS: 0.1m/s Rain: Nil	Insects <41
						Traffic 42-55
						PGH site hum 37-39
PGH Site LAeq(15min) Contribution						38
PGH Site LA1(max) Contribution						39

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in Table 3.

Table 3 Operator-Attended Noise Survey Results – Location N3

Date	Time (hrs)	Descriptor (dBA re 20 μPa)			Meteorology	Description and SPL, dBA						
		LA1	LAeq	LA90								
20/09/2022	15:47 (Day)	83	64	47	WD: N WS: 1.2m/s Rain: Nil	Traffic 43-83						
						Birds 43-51						
						Wind in trees 44-46						
						Insects 43-44						
						Aircraft 46-62						
						PGH site inaudible						
PGH Site LAeq(15min) Contribution						<37						
20/09/2022	20:49 (Evening)	88	63	45	WD: N WS: 0.1m/s Rain: Nil	Traffic 43-88						
						Insects <42						
						Power station hum 42-45						
						PGH site inaudible						
						PGH Site LAeq(15min) Contribution						<35
						20/09/2022	22:44 (Night)	73	54	44	WD: N WS: 0.1m/s Rain: Nil	Traffic 43-73
Insects 43-45												
Power station hum <44												
Birds 43-59												
Aircraft 45-56												
PGH site inaudible												
PGH Site LAeq(15min) Contribution						<34						
PGH Site LA1(max) Contribution						<34						

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N14

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N14 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N14

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA						
		LA1	LAeq	LA90								
20/09/2022	16:07 (Day)	79	62	48	WD: N WS: 0.7m/s Rain: Nil	Traffic 45-79						
						Birds 49-54						
						Dog bark 48-59						
						Aircraft 45-59						
						Insects 44-46						
						PGH site inaudible						
PGH Site LAeq(15min) Contribution						<38						
20/09/2022	21:12 (Evening)	70	48	41	WD: N WS: 0.1m/s Rain: Nil	Traffic 39-70						
						Insects <39						
						Dog bark 39-46						
						PGH site inaudible						
						PGH Site LAeq(15min) Contribution						<31
						20/09/2022	23:02 (Night)	77	55	40	WD: N WS: 0.1m/s Rain: Nil	Traffic 39-77
Insects <37												
Dog bark 40-49												
Aircraft 39-46												
PGH site inaudible												
PGH Site LAeq(15min) Contribution												<30
PGH Site LA1(max) Contribution						<30						

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N20

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N20 for the NMA are presented in **Table 5**.

Table 5 Operator-Attended Noise Survey Results – Location N20

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA	
		LA1	LAeq	LA90			
20/09/2022	16:28 (Day)	88	70	47	WD: N	Birds 43-64	
					WS: 0.8m/s	Insects <41	
						Rain: Nil	Traffic 42-88
							Aircraft 44-59
							PGH site inaudible
PGH Site LAeq(15min) Contribution						<37	
20/09/2022	21:31 (Evening)	90	63	40	WD: N	Traffic 37-90	
					WS: 0.1m/s	Insects 37-39	
						Rain: Nil	PGH site inaudible
							PGH Site LAeq(15min) Contribution
20/09/2022	23:20 (Night)	86	61	39	WD: N	Traffic 38-86	
					WS: 0.1m/s	Insects 38-40	
						Rain: Nil	Dog bark 39-42
							Aircraft 40-58
							PGH site inaudible
PGH Site LAeq(15min) Contribution						<29	
PGH Site LA1(max) Contribution						<29	

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N35

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N35 for the NMA are presented in **Table 6**.

Table 6 Operator-Attended Noise Survey Results – Location N35

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LA1	LAeq	LA90		
20/09/2022	15:02 (Day)	60	43	39	WD: N	Birds 38-60
					WS: 0.8m/s	Traffic 38-56
					Rain: Nil	Wind in trees 39-44
						Aircraft 38-55
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<29
20/09/2022	19:55 (Evening)	54	42	39	WD: NE	Insects 37-41
					WS: 0.1m/s	Traffic 38-46
					Rain: Nil	Dog bark 39-45
						Aircraft 39-54
						PGH site hum <37
PGH site alarms 37-41 (30 seconds)						
PGH Site LAeq(15min) Contribution						<37
20/09/2022	22:00 (Night)	52	44	41	WD: N	Insects 39-41
					WS: 0.1m/s	Traffic 39-52
					Rain: Nil	PGH site alarms 36-38
						PGH site hum <36
PGH Site LAeq(15min) Contribution						37
PGH Site LA1(max) Contribution						38

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Assessment Results - Location N1

Monitoring on Tuesday 20 September 2022 identified that PGH activities were audible on two occasions at location N1 during the evening and night periods. The estimated site contributions were measured between <34dBA and 40dBA, therefore PGH emissions remained below the relevant noise limit of 47dB LAeq(15min). Extraneous sources such as birds, local residential noise, traffic, aircraft, insects and wind in trees were audible during the measurement period.

5.2 Assessment Results - Location N3

Monitoring on Tuesday 20 September 2022 identified that PGH activities remained inaudible during the measurement period at location N3. The estimated site contributions were measured between <34dBA and <37dBA, therefore PGH emissions remained below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, birds, wind in trees, insects, aircraft and power station hum were audible during the measurement period.

5.3 Assessment Results - Location N14

Monitoring on Tuesday 20 September 2022 identified that PGH activities remained inaudible during the measurement period at location N14. The estimated site contributions were measured between <30dBA and <38dBA, therefore PGH emissions remained below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, birds, dog bark, aircraft and insects were audible during the measurement period.

5.4 Assessment Results - Location N20

Monitoring on Tuesday 20 September 2022 identified that PGH activities remained inaudible during the measurement period at location N20. The estimated site contributions were measured between <29dBA and <37dBA, therefore PGH emissions remained below the relevant noise limits. Extraneous sources such as birds, insects, traffic, aircraft and dog bark were audible during the measurement period.

5.5 Assessment Results - Location N35

Monitoring on Tuesday 20 September 2022 identified that PGH activities were audible on two occasions at location N35 during the evening and night periods. The estimated site contributions were measured between <37dBA and 38dBA, therefore PGH emissions remained below the relevant noise limits. Extraneous sources such as birds, traffic, wind in trees, aircraft, dog bark and insects were audible during the measurement period.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) PGH Bricks & Pavers Pty Ltd (PGH) at the PGH Bringelly Brickworks (the 'site') at 60 Greendale Road Bringelly, NSW. The assessment was completed to assess the site's compliance with the relevant noise criteria during Quarter 3, ending September 2022.

Attended noise monitoring was undertaken on Tuesday 20 September 2022 at five representative receiver locations. The assessment has identified that noise emissions generated by Bringelly Brickworks were audible at two locations, however quarry noise emissions were below the relevant noise criteria throughout the survey period, satisfying the relevant consent conditions

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

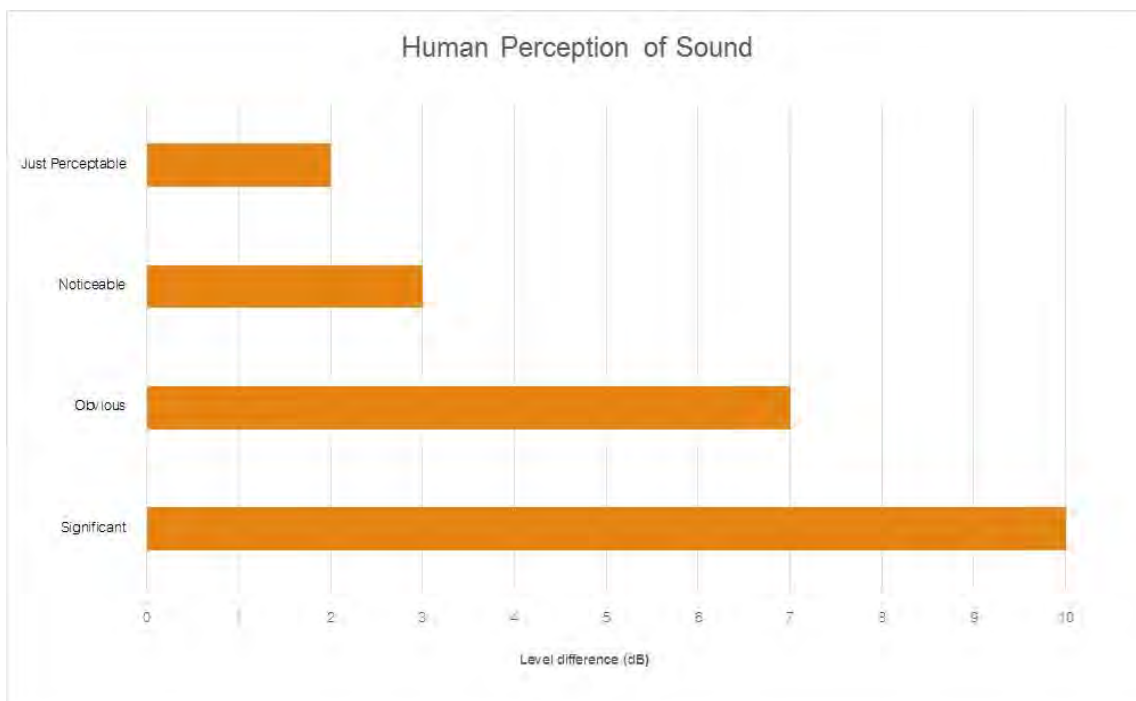
Table A1 Glossary of Acoustical Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmx	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by $10 \cdot \log_{10} (W/W_0)$. Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA

Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Development Consent

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I approve the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

David Kitto
Executive Director
Resource Assessments and Business Systems

Sydney

2015

SCHEDULE 1

Application Number:

SSD_5684

Applicant:

Boral Bricks Pty Ltd

Consent Authority:

Minister for Planning

Land:

[Lot 100 in DP 1203966](#)

Development:

Bringelly Brickworks Extension Project

Modification 1 (October 2016 shown in [blue](#) text)

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DEFINITIONS

AHD	Australian Height Datum
Annual Review	The review required by condition 4 of schedule 5
Applicant	Boral Bricks Pty Ltd, or any other person or persons who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and shown conceptually in Appendix 4
Brick making operations	Includes the receipt, handling, processing, storage and transportation of raw materials on site, brick making on site and transportation of finished bricks on site
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in schedules 1 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
CPI	Australian Bureau of Statistics Consumer Price Index
Date of commencement	The date notified to the Department by the Applicant under condition 8 of Schedule 2
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development described in the documents of condition 2(a) of Schedule 2
Development area	All land to which the development application applies, as listed under "Land" in schedule 1 and shown in Appendix 1
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy, within the NSW Department of Industry
EEC	Endangered Ecological Community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental Impact Statement titled <i>Bringelly Brickworks and Quarry Expansion</i> (2 volumes), dated September 2013, as modified by the Response to Submissions titled, <i>Bringelly Brickworks and Quarry Expansion, Response to Submissions</i> dated February 2014 and the letter entitled <i>Bringelly Brickworks – Biodiversity Offsets</i> , dated 2 June 2014
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Extension area	The area outside of the existing quarry footprint (i.e. cells D, E, F, G, H and I, as shown conceptually in Appendix 2)
Feasible	Feasible relates to engineering considerations and what is practical to build
GDE	Groundwater Dependent Ecosystem
GPS	Global Positioning System
Growth Centres SEPP	<i>State Environmental Planning Policy (Sydney Regional Growth Centres) 2006</i>
Ha	Hectare
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in schedules 3 and 4 of this consent

	where it is defined to mean the whole of a lot, or contiguous lots, owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
m	Metres
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
OEH	NSW Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (or its subsidiary)
Quarrying operations	Includes the removal of overburden and extraction, handling, storage and transportation of extractive materials on site
Raw materials	Raw materials imported for use in brick making including clay/shale and additives (such as manganese and iron oxides)
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition, ensuring that it is safe, stable and non-polluting and appropriately revegetated
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
SEE (Mod 1)	Statement of Environmental Effects titled ' <i>Section 96(1A) Modification Supporting Information</i> ' dated August 2016 and prepared by Element Environment, including the Response to Submissions document dated September 2016
Site	The land listed under "Land" in schedule 1
Shoulder	The period between 6am to 7am on Monday to Saturday
South West Growth Centre	An area of land identified under the Growth Centres SEPP

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this consent, the Applicant **must** implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant **must**:
 - (a) carry out the development generally in accordance with the EIS **and SEE (Mod 1)**; and
 - (b) the conditions of this consent.

Note: The general layout of the development is shown in Appendix 2.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant **must** comply with any reasonable requirement/s of the Secretary arising the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
 - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Quarrying and Brick Making Operations

5. The Applicant may carry out quarrying **operations** and brick making operations from the date of commencement of development under this consent until 1 March 2045.

Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.

Production Limits

6. The Applicant **must** not:
 - (a) extract more than 200,000 tonnes of clay/shale from the site in any calendar year;
 - (b) produce more than 263,500 tonnes of bricks at the site in any calendar year;
 - (c) carry out quarrying operations beyond 46 m AHD; and
 - (d) receive more than **321,000** tonnes of raw materials required for brick making to the site in any calendar year.

Transportation Limits

7. The Applicant **must** not:
 - (a) transport more than 263,500 tonnes of bricks from the site in a calendar year;
 - (b) receive more than 90 trucks to the site per day or more than 18 trucks per hour; and
 - (c) dispatch more than 90 trucks from the site per day or more than 18 trucks per hour.

NOTIFICATION OF COMMENCEMENT

8. **Prior to commencing development under this consent, the Applicant must notify the Department in writing of the date on which it will commence development permitted under this consent.**

SURRENDER OF EXISTING DEVELOPMENT CONSENT

9. Within 4 months of commencing development under this consent, the Applicant must surrender the development consent (DA 91/1194) for existing operations on the site in accordance with Section 104A of the EP&A Act.

Following the commencement of development under this consent, the conditions of this consent (including any notes) shall prevail to the extent of any inconsistency with the conditions of the existing development consent (DA 91/1194).

STRUCTURAL ADEQUACY

10. The Applicant must ensure that any new buildings and structures, and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

DEMOLITION

11. The Applicant must ensure that all demolition work on site is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

12. The Applicant must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

13. The Applicant must ensure that all plant and equipment used on site or any monitoring equipment used off site for monitoring the performance of the development is:
- (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

UPDATING AND STAGING STRATEGIES, PLANS OR PROGRAMS

14. With the approval of the Secretary, the Applicant may submit any strategies, plans or programs required by this consent on a progressive basis.

To ensure the strategies, plans or programs under the conditions of this consent are updated on a regular basis, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval.

With the agreement of the Secretary, the Applicant may prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent.

Notes:

- While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

15. Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant **must** implement the existing strategies, plans or programs for the site that have been approved under DA 91/1194.

IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

16. Prior to undertaking quarrying operations in the extension area, the Applicant **must**:
- (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and
 - (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.
17. While quarrying operations are being carried out, the Applicant **must** ensure that these boundaries are clearly marked at all times to allow operating staff and inspecting officers to clearly identify the approved limits of extraction.

PRODUCTION DATA

18. The Applicant **must**:
- (a) provide annual quarry production data to DRE using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 4 of schedule 5).

DEVELOPER CONTRIBUTIONS

19. The Applicant **must** pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to CPI. Each payment must be:
- (a) paid to Council at the end of each calendar year; and
 - (b) based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site.

Note: If the parties are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

HOURS OF OPERATION

- The Applicant **must** comply with the operating hours set out in Table 1.

Table 1: Operating Hours

Activity	Operating Hours
<ul style="list-style-type: none"> Quarrying operations Deliveries Dispatch of finished bricks 	6am to 6pm, Monday to Friday 6am to 1pm, Saturday No activities on Sundays or Public Holidays
Brick making operations (except dispatch of finished bricks)	24 hours a day, 7 days a week
Construction activities	7am to 6pm, Monday to Friday 8am to 1pm, Saturday No construction to be undertaken on Sundays or Public Holidays

NOISE

Noise Criteria

- The Applicant **must** ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Activity	Receiver	Day/Evening/Shoulder	Night	
		<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{A1}(max)</i>
Brick making and quarrying	R1, R2	47	Not Applicable	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brick making	All receivers	44	43	53

Notes:

- To locate the receivers referred to in Table 2 refer to Appendix 3.
- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this consent prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL.

Appendix 5 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

Construction Noise

- The Applicant **must** manage noise generated during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road, in accordance with the guidelines specified in Table 2 of the *Interim Construction Noise Guideline*.

Note: Management guidelines are applicable to receivers 3 and 4, shown in Appendix 3.

Noise Bunds

4. The Applicant must ensure that the noise bund adjacent to the northern boundary of the extraction area is constructed prior to the commencement of quarrying operations in the extension area.
- 4A. The Applicant must ensure that the noise bund adjacent to Greendale Road is constructed prior to the commencement of brick making operations.

Operating Conditions

5. The Applicant **must**:
 - (a) implement all reasonable and feasible mitigation measures to minimise construction, operational and road noise of the development;
 - (b) implement periods of respite during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road;
 - (c) regularly assess noise monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the noise criteria in this consent;
 - (d) maintain the effectiveness of noise suppression equipment on plant and equipment on site;
 - (e) minimise the noise impacts of the development during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 5); and
 - (f) carry out regular noise monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

Noise Management Plan

6. The Applicant **must** prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the reasonable and feasible mitigation measures that would be implemented to ensure:
 - construction noise is minimise;
 - compliance with the relevant noise criteria and operating conditions in this consent;
 - best management practice is being employed; and
 - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply;
 - (d) describe the proposed noise management system on site; and
 - (e) include a quarterly (or as otherwise agreed with the Secretary) noise monitoring program that:
 - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent;
 - evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Criteria

7. The Applicant **must** implement all reasonable and feasible avoidance and mitigation measures so that particulate matter emissions generated by the development do not exceed the criteria in Tables 3 to 6 at any residence on privately-owned land.

Table 3: Long-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Total suspended particulates (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 4: Short-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 5: Long-Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Table 6: Long and Short-Term Stack Emissions

Pollutant	Averaging period	^d Criterion
Sulphur Dioxide	10-minute	712 µg/m ³
	1-Hour	570 µg/m ³
	24-Hour	228 µg/m ³
	Annual	60 µg/m ³
Nitrogen Dioxide	1-Hour	246 µg/m ³
	Annual	62 µg/m ³
Hydrogen Chloride	1 hour	0.14 mg/m ³

Notes to Tables 3-6:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

Operating Conditions

8. The Applicant **must**:
 - (a) implement all reasonable and feasible measures to minimise the stack and dust emissions of the development;
 - (b) minimise surface disturbance and maximise progressive rehabilitation;
 - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note (d) to Tables 3-6 above); and
 - (d) monitor and report on compliance with the relevant air quality conditions in this consent; to the satisfaction of the Secretary.

Air Quality Management Plan

9. The Applicant **must** prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the measures that would be implemented to ensure:
 - compliance with the air quality criteria and operating conditions under this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions;
 - (d) describe the air quality management system; and
 - (e) include an air quality monitoring program that:
 - evaluates and reports on:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality criteria and operating conditions; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

METEOROLOGICAL MONITORING

10. For the life of the development, the Applicant **must** ensure that there is a suitable meteorological station operating in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuous measurement of stability class, in accordance with the *NSW Industrial Noise Policy*, or as otherwise approved by EPA.

TRANSPORT

Monitoring of Product Transport

11. The Applicant **must** keep accurate records of the:
- (a) **tonnage** of bricks transported from the site (monthly and annually);
 - (b) amount of raw material imported to the site (monthly and annually); and
 - (c) **tonnage of each type of raw materials imported to the site (monthly and annually);** and provide the Secretary with a summary of this information upon request.

Parking

12. The Applicant **must** provide sufficient parking on-site for all development-related traffic, in accordance with Camden Council's parking codes, to the satisfaction of the Secretary.

Operating Conditions

13. The Applicant **must** ensure that:
- (a) all development-related heavy vehicles enter and exit the site in a forward direction;
 - (b) all laden vehicles entering or exiting the site have their loads covered (with the exception of vehicles carrying bricks);
 - (c) all laden vehicles that have accessed the extraction and/or stockpile areas are cleaned of sand and other material that may fall on the road, before leaving the site;
 - (d) all heavy vehicles exiting the site travel east of the site along Greendale Road to The Northern Road and/or Bringelly Road;
 - (e) the dispatch of laden trucks is avoided during the peak drop-off and pick-up times at the Bringelly Public School to the greatest extent practicable, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS; and
 - (f) no trucks queue at the entrance to the site before 6am.

Access Road Intersection Construction

14. Within 12 months of commencing development under this consent, unless otherwise agreed with the Secretary, the Applicant must design and construct the new site access road intersection with Greendale Road in accordance with applicable AUSTROADS standards, to the satisfaction of Camden Council. The Applicant must notify the Secretary in writing within 30 days of obtaining Council approval.

Within 7 days of completing construction and the new site access road being operational, the existing site access road must be permanently closed.

Transport Management Plan

15. The Applicant **must** prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School, and be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (b) describe the measures that would be implemented to ensure compliance with the transport operating conditions under this consent, including specific measures to avoid **the arrival and**

- dispatch of laden trucks from the site during the peak drop-off and pick-up times at the Bringelly Public School;
- (c) include a Code of Conduct for heavy vehicle drivers that addresses:
- travelling speeds;
 - procedures to minimise noise including a regular Truck Noise Auditing Program;
 - procedures to minimise diesel exhaust emissions;
 - instructions to avoid grouping or convoying of trucks;
 - procedures to ensure that drivers adhere to the designated haulage routes and the haulage hours permitted under this consent;
 - instructions to drivers not to overtake each other on the haulage route, as far as practicable, and to maintain appropriate distances between vehicles; and
 - instruction to drivers to be properly safety conscious and to strictly obey all traffic regulations, particularly in relation to school zones along Greendale Road; and
- (d) describe the measures that would be put in place to ensure compliance with the drivers' Code of Conduct and include a program to monitor the effectiveness of the implementation of these measures.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

SOIL AND WATER

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development, including in respect of the extraction and/or interception of groundwater.

Water Supply

16. The Applicant **must** ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply to the satisfaction of the Secretary.

Water Discharges

17. The Applicant **must** comply with the discharge limits in any EPL or with Section 120 of the POEO Act.

Water Management Plan

18. The Applicant **must** prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified person/s approved by the Secretary;
 - (b) be prepared in consultation with the EPA and [DPI Water](#);
 - (c) be submitted to the Secretary for approval [prior to the commencement of development under this consent](#), unless the Secretary agrees otherwise;
 - (d) include a Site Water Balance that:
 - includes details of:
 - quantity of water required to support operations;
 - sources and security of water supply;
 - water use and management on site;
 - reporting procedures; and
 - measures to be implemented to minimise potable water use on site;
 - (e) include a Surface Water Management Plan, that includes:
 - baseline data on surface water flows and quality in the watercourses that could be affected by the development;
 - a description of the surface water management system on site, including:
 - clean water diversions;
 - erosion and sediment controls;
 - the dirty water management system; and
 - water storages (addressing maximum harvestable rights if applicable);
 - performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts;
 - a program to monitor and report on:
 - any surface water discharges;

- the effectiveness of the water management system; and
 - surface water flows and quality in local watercourses;
 - a plan to respond to any exceedances of the performance criteria.
- (f) a Groundwater Management Plan, which includes:
- baseline data on groundwater levels, yield and quality in surrounding aquifers;
 - groundwater assessment and performance criteria, including trigger levels for investigating potentially adverse groundwater impacts;
 - a program to monitor:
 - groundwater inflows to the quarry pit; and
 - impacts of the development on surrounding aquifers;
 - an analysis of the monitoring results to determine long-term water levels within the quarry void; and
 - a plan to respond to any exceedances of the performance criteria.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

BIODIVERSITY

Biodiversity Offset Strategy

19. The Applicant **must** implement the Biodiversity Offset Strategy described in the EIS, as summarised in Table 7 and shown conceptually in Appendix 4, to the satisfaction of the Secretary.

Table 7: Summary of the Biodiversity Offsets

Area	Offset Criteria	Size (Ha)
On-site offset	Existing vegetation to be enhanced to establish an area of native woodland comprising species associated with Cumberland Plain Woodland.	1.93

Security of Offsets

20. Within 2 years of **notifying the Department of commencement of development (see condition 8 of Schedule 2)**, unless otherwise agreed with the Secretary, the Applicant **must** make suitable arrangements to provide appropriate long-term security for the offset area, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Biodiversity Management Plan

21. The Applicant **must** prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the OEH and Camden Council;
 - (b) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - (c) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;
 - (d) describe the short, medium, and long term measures that would be implemented to:
 - manage the remnant vegetation and habitat on the site and in the offset area and;
 - implement the biodiversity offset strategy, including detailed performance and completion criteria;
 - (e) include performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);
 - (f) include a description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - maximising the salvage of resources within the approved disturbance area - including vegetative, soil and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area;

- minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings;
 - controlling weeds and feral pests;
 - controlling erosion;
 - controlling access; and
 - bushfire management;
- (g) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and
- (h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

Conservation Bond

22. Within 6 months of the approval of the Biodiversity Management Plan, the Applicant **must** lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan.

The sum of the bond **must** be determined by:

- a. calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and
- b. employing a suitably qualified quantity surveyor to verify the calculated costs,
- c. to the satisfaction of the Secretary.

The calculation of the conservation bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond.

If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.

Notes:

- *Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation bond.*
- *The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.*

REHABILITATION

Rehabilitation Objectives

23. The Applicant **must** rehabilitate the site to the satisfaction of the Secretary. Rehabilitation must:
- a. comply with the objectives in Table 8; and
 - b. be generally consistent with the proposed rehabilitation strategy in the EIS, and the final land form shown conceptually in Appendix 4 (unless modified by the Final Land Use Options Plan, prepared in accordance with condition 25 of this consent).

Table 8: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	<ul style="list-style-type: none"> • Safe, stable and non-polluting • Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native species and habitat

Surface infrastructure	<ul style="list-style-type: none"> To be decommissioned and removed (unless the Secretary agrees otherwise)
Final void	<ul style="list-style-type: none"> Minimise the size, depth and slope of the batters of the final void Minimise the drainage catchment of the final void
Quarry pit floor	<ul style="list-style-type: none"> Landscaped and revegetated using native flora species, above the anticipated final void water level
Community	<ul style="list-style-type: none"> Ensure public safety

Progressive Rehabilitation

24. The Applicant **must** rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

Final Land Use Options Plan

25. The Applicant **must** prepare a Final Land Use Options Plan for the site to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with DRE and Camden Council;
 - be submitted to the Secretary for approval within 2 years of the date of [notifying the Department of commencement of development \(see condition 8 of Schedule 2\)](#), unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated final land uses for the site;
 - ensure that the conceptual final land form is compatible with surrounding land uses, and is consistent with the rehabilitation objectives in Table 8 and the objectives of the Growth Centres SEPP for the South West Growth Centre;
 - inform the Rehabilitation Management Plan (prepared in accordance with condition 26 of this consent); and
 - be reviewed every 7 years to account for applicable land use priorities, and if necessary updated.

Rehabilitation Management Plan

26. The Applicant **must** prepare a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH, DRE, [DPI Water](#) and Camden Council;
 - be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated land uses for the site (which must be consistent with the Final Land Use Options Plan under condition 25 of this consent);
 - describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
 - include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any necessary remedial action;
 - include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; and
 - include details of who would be responsible for monitoring, reviewing, and implementing the plan.

[The Applicant must implement the approved management plan as approved from time to time by the Secretary.](#)

Note: The Rehabilitation Management Plan must be reviewed, and if necessary updated, following any update of the Final Land Use Options Plan.

HERITAGE

Heritage Management Plan

27. The Applicant **must** prepare a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH;
 - (a) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - b. describe the measures that would be implemented to:
 - manage identified heritage objects, previously unidentified heritage objects or the discovery of any human remains on site;
 - ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site; and
 - protect sites identified adjacent to the development.

The Applicant **must** implement the approved management plan as approved from time to time by the Secretary.

VISUAL

28. The Applicant **must** establish a vegetation screen on both noise bunds, as soon as practicable after construction of the bunds, to minimise visibility of site infrastructure from outside the development area. Following establishment, the Applicant **must** maintain the vegetation screen, to the satisfaction of the Secretary.
29. The Applicant **must**:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development; and
 - b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version.

BUSHFIRE MANAGEMENT

30. The Applicant **must**:
- ensure that the development is suitably equipped to respond to any fires on site; and
 - b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as practicable if there is a fire in the surrounding area.

WASTE

31. Prior to importing onto the site any material that may be classified as a waste under the EPA *Waste Classification Guidelines 2009* (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department.

Note: This condition does not apply to routine deliveries to the site.

32. The Applicant **must**:
- manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Camden Council; and
 - b) pump all sewage generated and stored on-site to a sewage treatment facility, unless otherwise agreed with the Secretary.
33. The Applicant **must**:
- minimise the waste generated by the development;
 - b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing an exceedance of any relevant criteria in schedule 3, the Applicant **must** notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria.

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant **must**:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3;
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Adaptive Management

2. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.

Management Plan Requirements

3. The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:

- impacts and environmental performance of the development; and
- effectiveness of any management measures (see (c) above);
- (e) a contingency plan to manage any unpredicted impacts and their consequences;
- (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
- (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

4. By the end of September each year, the Applicant [must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary](#). This review must:
 - (a) describe the development (including rehabilitation) that was carried out in the previous [financial](#) year, and the development that is proposed to be carried out over the current [financial](#) year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous [financial](#) year, which includes a comparison of these results against:
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the [documents in condition 2\(a\) of Schedule 2](#);
 - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current [financial](#) year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

5. [Within 3 months of the submission of an:](#)
 - (a) [Annual Review under condition 4 above;](#)
 - (b) [incident report under condition 7 below;](#)
 - (c) [audit report under condition 9 below; and](#)
 - (d) [any modifications to this consent,](#)
 the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Community Consultative Committee

6. The Applicant [must](#) establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the [Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments](#) (Department of Planning, 2007, or its latest version), and be operating [prior to the commencement of development under this consent](#).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*

- In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Camden Council and the local community.

REPORTING

Incident Reporting

7. The Applicant **must** immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant **must** provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Applicant **must** provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within a year of **commencing development under this consent**, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant **must** commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any approved strategy, plan or program required under these approvals;
 - (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; **and be conducted and reported to the satisfaction of the Secretary.**

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

10. Within **12 weeks of commencing** this audit, unless the Secretary agrees otherwise, the Applicant **must** submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

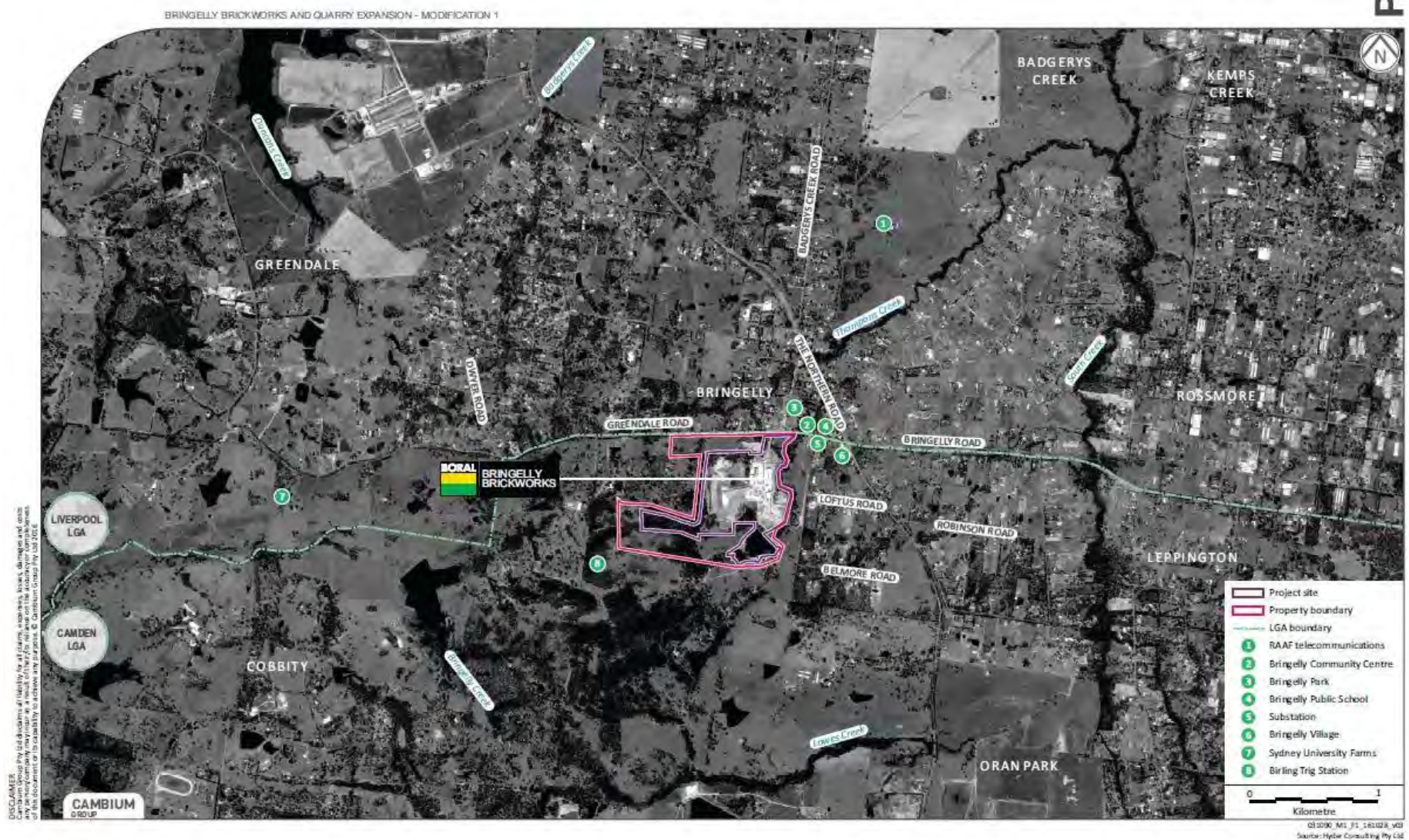
Within 7 days of commencing the audit, the Applicant must notify the Department in writing of the commencement of the audit.

ACCESS TO INFORMATION

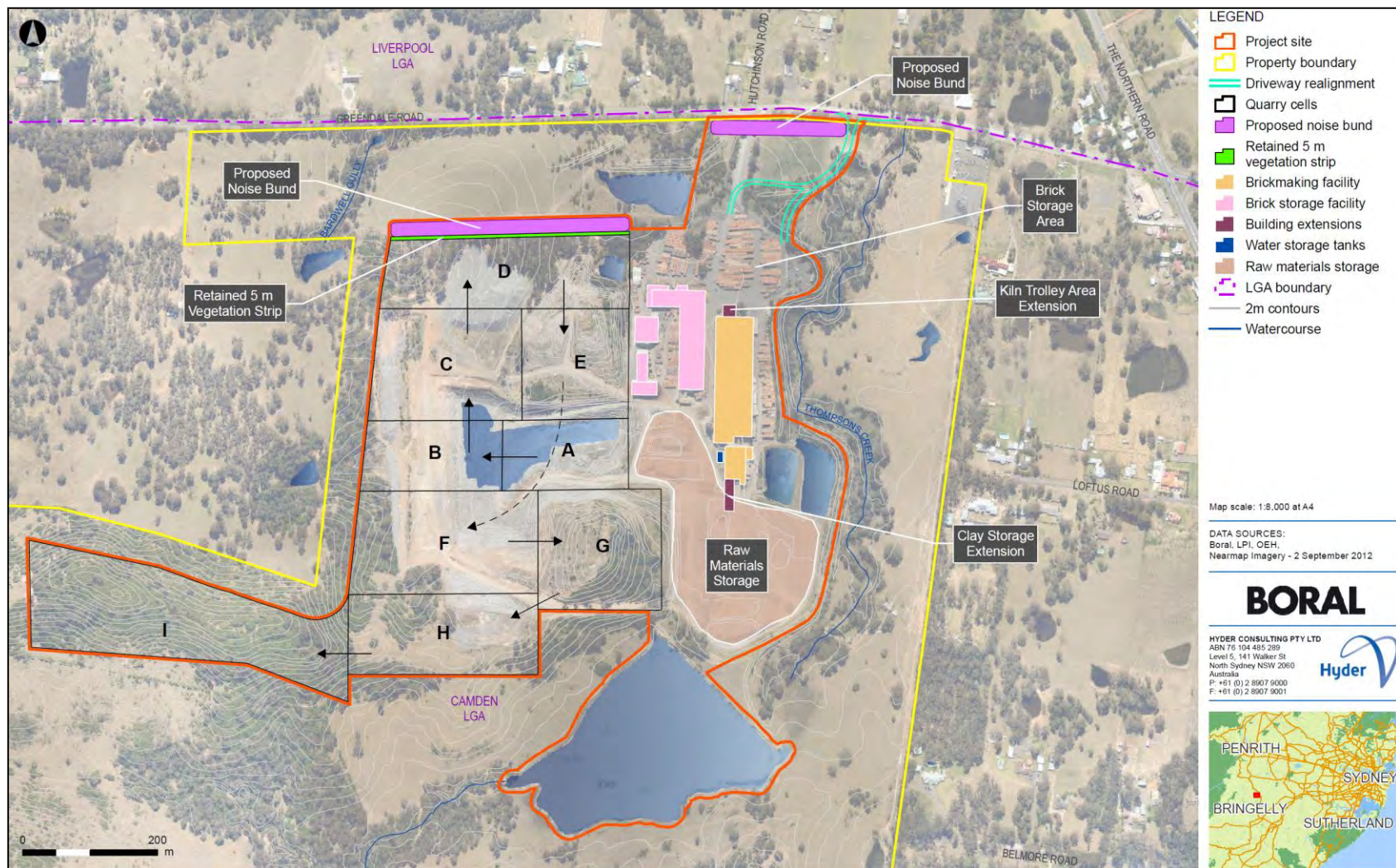
11. Within 6 months of **commencing development under this consent**, the Applicant **must**:
 - (a) make copies of the following publicly available on its website:
 - the documents in **condition 2(a) of Schedule 2**;
 - current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, which is to be updated monthly;
 - minutes of CCC meetings;
 - the annual reviews of the development (for the last 5 years);
 - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Secretary; and

(b) keep this information up-to-date,
to the satisfaction of the Secretary.

APPENDIX 1 DEVELOPMENT AREA



APPENDIX 2 DEVELOPMENT LAYOUT



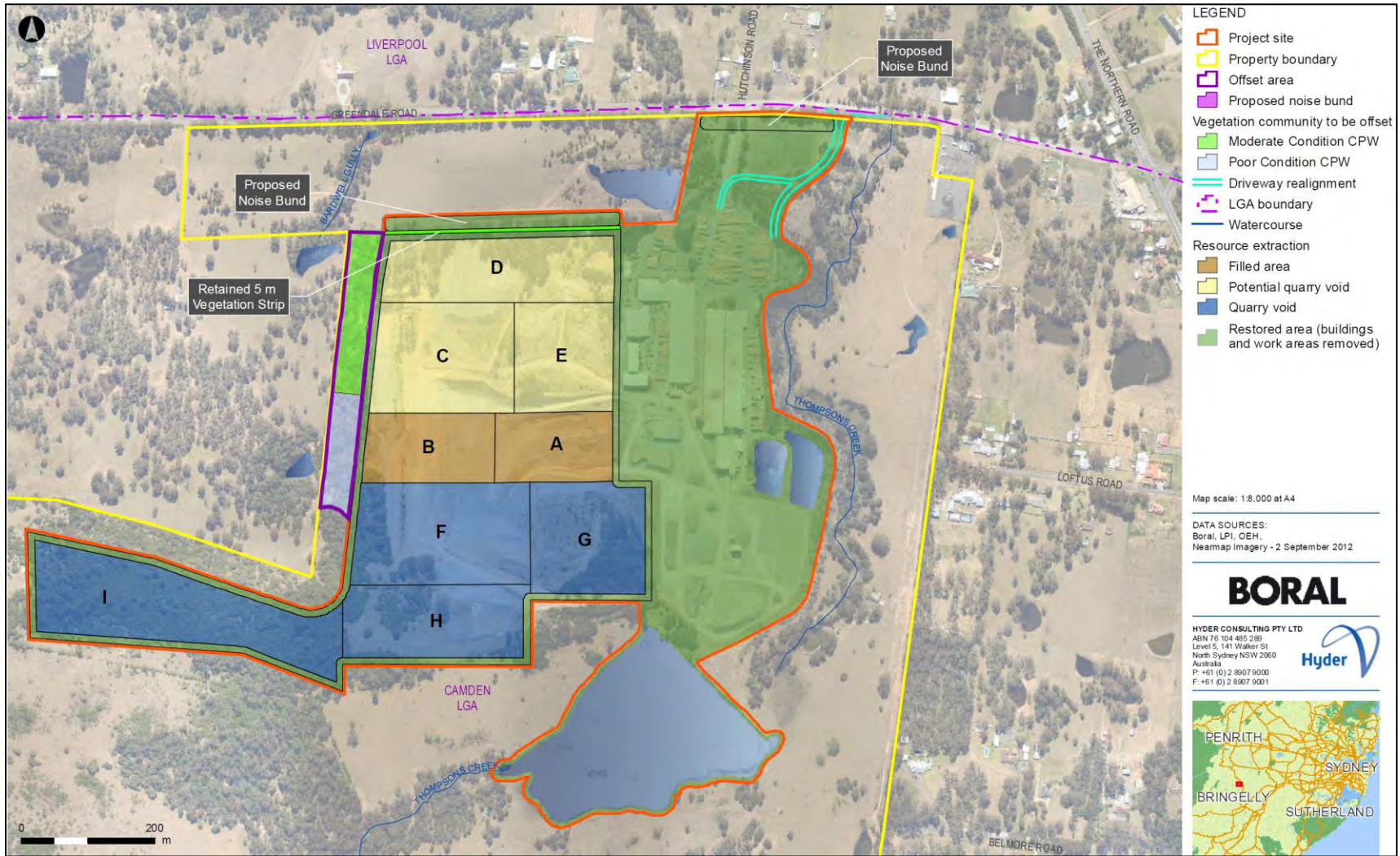
APPENDIX 3 RECEIVER LOCATIONS



Receiver number	Receiver address
1	55 Loftus Road
2	54 Loftus Road
3	20 Greendale Road
4	9 Greendale Road
5	5 Greendale Road (Bringelly Community Centre)
6	46 Loftus Road
7	36 Loftus Road
8	47 Loftus Road
9	37 Loftus Road
10	27 Loftus Road
11	26 Loftus Road
12	15 Loftus Road
13	5 Loftus Road
14	23 Greendale Road
15	27 Greendale Road
16	29 Greendale Road
17	25 Greendale Road
18	31 Greendale Road
19	35 Greendale Road
20	170 Tyson Road
21	196 Greendale Road
22	46 Belmore Road
23	55 Belmore Road
24	63 Belmore Road
25	67 Belmore Road
26	73 Belmore Road
27	83-85 Belmore Road
28	76 Belmore Road
29	86 Belmore Road
30	87 Belmore Road
31	93 Belmore Road
32	95-97 Belmore Road
33	107 Belmore Road
34	96 Belmore Road
35	108 Belmore Road
36	1037 Northern Road
37	10 Greendale Road
38	Bringelly Public School

APPENDIX 4

CONCEPTUAL FINAL LANDFORM AND BIODIVERSITY OFFSET STRATEGY



APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following:
 - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - (b) temperature inversion conditions between 1.5 °C and 3°C/100 m and wind speeds greater than 2 m/s at 10 m above ground level; or
 - (c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions **must** be that recorded by the meteorological station on or in the vicinity of the site.

Compliance Monitoring

3. Unless directed otherwise by the Secretary, quarterly attended monitoring is to be used to evaluate compliance with the relevant conditions of consent.

Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.

4. Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

Muller Acoustic Consulting Pty Ltd

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Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter 4 Ending December 2022



Document Information

Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter 4 Ending December 2022

Prepared for: PGH Bricks & Pavers Pty Ltd

60 Greendale Road

Bringelly NSW 2256



Prepared by: Muller Acoustic Consulting Pty Ltd

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Document ID	Date	Prepared By	Signed	Reviewed By	Signed
MAC190946-02RP8	25 November 2022	Nicholas Shipman		Oliver Muller	

DISCLAIMER

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by PGH Bricks & Pavers Pty Ltd (PGH) to complete a Noise Monitoring Assessment (NMA) for the PGH Bringelly Brickworks (the 'site') at 60 Greendale Road, Bringelly, NSW.

This assessment has been undertaken for the quarterly period ending December 2022, and forms part of the annual noise monitoring program to address conditions outlined in the Development Consent.

The NMA has quantified potential operational and sleep disturbance noise emissions from the operation and has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA's), Approved methods for the measurement and analysis of environmental noise in NSW, 2022;
- Bringelly Brickworks Noise Management Plan (NMP ref BRK-BRI-NMP Version 4 dated 12.02.19), 2019;
- Bringelly Brickworks Development Consent, 2015 (SSD_5684); and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

The Bringelly Brickworks NMP outlines the applicable noise criteria for representative residential receivers surrounding the site and are presented in **Table 1**. The site includes the operation of a quarry and brickmaking plant, and as the quarry operates during the daytime, there are separate criteria relating to each period.

Table 1 Noise Criteria ¹				
Activity	Receiver	Day/Evening/Shoulder ^{2,3}	Night ²	
		dB LAeq(15min)	dB LAeq(15min)	dB LA1(max) ³
Brickmaking and quarrying	R1, R2	47	N/A	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brickmaking	All Receivers	44	43	53

Note 1: Noise criteria adopted from the Development Consent.

Note 2: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note 3: Periods and parameters as expressed in the Development Consent.

Figure 1 presents the identified receiver locations and representative measurement locations.

Section 4 of the Bringelly Brickworks Development Consent, 2015 (SSD_5684, see **Appendix B**) outlines requirements for Noise Bunds adjacent to the northern boundary of the extraction area and adjacent to Greendale Road. It is noted that the proposed new access road and associated noise bund adjacent to Greendale Road are not in place at the time of the monitoring. Further details on review of noise mitigation measures for the site are contained in a historic report (MAC190946LR1, 29 September 2019).



FIGURE 1
SITE LAYOUT
MAC190946-02
PGH Bringelly Brickworks

KEY

- Monitoring Locations
- Receivers



3 Methodology

3.1 Locality

PGH Bringelly Brickworks is located at 60 Greendale Road, Bringelly, NSW. Receivers in the locality surrounding the site are primarily rural/residential and for consistency the naming conventions for each receiver have been retained from historic noise assessments. The monitoring locations with respect to PGH are presented in the locality plan shown in **Figure 1**.

3.2 Assessment Methodology

The attended noise measurements were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise". Measurements were conducted using a Svantek Type 1, 971 noise analyser. The acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed $\pm 0.5\text{dBA}$.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. Measurements were conducted at five locations (N1, N3, N14, N20, N35) on Tuesday 15 November 2022 during the day, evening, and night periods to satisfy the requirements of the NMP.

Extraneous noise sources were excluded from the analysis to determine the $\text{LA}_{\text{eq}}(15\text{min})$ quarry noise contribution for comparison against the relevant criteria. In the event of site attributed noise being above criteria, prevailing meteorological conditions for the monitoring period are analysed in accordance with Fact Sheet D of the NPI to determine the stability category present at the time of each attended measurement.

Where the site is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.

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4 Results

4.1 Assessment Results - Location N1

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N1 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N1

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LA1	LAeq	LA90		
15/11/2022	15:33 (Day)	75	52	43	WD: W WS: 1.6m/s Rain: Nil	Dog bark 46-62
						Birds 45-51
						Insects 40-43
						Wind in trees 40-54
						Traffic 42-75
						Local residential noise 46-65
						Aircraft 47-54
						PGH site inaudible
						PGH Site LAeq(15min) Contribution
						<33
15/11/2022	20:19 (Evening)	78	54	41	WD: W WS: 0.1m/s Rain: Nil	Dog bark 46-54
						Insects 40-43
						Aircraft 41-56
						Traffic 44-78
						PGH site hum 32-37
						PGH Site LAeq(15min) Contribution
						34
						Insects 41-44
						WD: W
						Wind in trees 42-46
15/11/2022	22:29 (Night)	81	56	42	WS: 0.8m/s Rain: Nil	Dog bark 40-81
						Aircraft 40-56
						PGH site inaudible
						PGH Site LAeq(15min) Contribution
						<32
						PGH Site LA1(max) Contribution
						<32

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in Table 3.

Table 3 Operator-Attended Noise Survey Results – Location N3

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LA1	LAeq	LA90		
15/11/2022	15:53 (Day)	77	62	47	WD: W	Traffic 49-77
					WS: 1.8m/s	Aircraft 48-54
					Rain: Nil	Birds 47-58
						Wind in trees 48-54
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<37
15/11/2022	20:38 (Evening)	80	58	43	WD: W	Traffic 42-80
					WS: 0.1m/s	Insects 41-43
					Rain: Nil	Aircraft 45-56
						Wind in trees 41-46
						PGH site hum 28-36
PGH Site LAeq(15min) Contribution						32
15/11/2022	22:48 (Night)	78	56	43	WD: W	Wind in trees 42-46
					WS: 1.8m/s	Insects 41-44
					Rain: Nil	Traffic 41-78
						Aircraft 42-48
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<33
PGH Site LA1(max) Contribution						<33

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N14

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N14 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N14

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA						
		LA1	LAeq	LA90								
15/11/2022	16:12 (Day)	98	71	46	WD: W WS: 1.8m/s Rain: Nil	Traffic 44-98						
						Birds 46-54						
						Wind in trees 44-51						
						Aircraft 46-60						
						Dog bark 52-64						
						PGH site inaudible						
PGH Site LAeq(15min) Contribution						<36						
15/11/2022	20:56 (Evening)	73	53	38	WD: W WS: 1.4m/s Rain: Nil	Insects 36-39						
						Traffic 37-73						
						Wind in trees 36-45						
						Aircraft 38-58						
						PGH site inaudible						
						PGH Site LAeq(15min) Contribution						<28
15/11/2022	23:09 (Night)	72	49	44	WD: W WS: 1.2m/s Rain: Nil	Traffic 41-72						
						Insects 42-44						
						PGH site inaudible						
						PGH Site LAeq(15min) Contribution						<34
						PGH Site LA1(max) Contribution						<34

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N20

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N20 for the NMA are presented in **Table 5**.

Table 5 Operator-Attended Noise Survey Results – Location N20

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LA1	LAeq	LA90		
15/11/2022	16:31 (Day)	90	68	44	WD: W	Traffic 39-90
					WS: 0.6m/s	Birds 44-56
					Rain: Nil	Wind in trees 41-48
						Insects 39-42
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<34
15/11/2022	21:15 (Evening)	90	63	42	WD: W	Traffic 40-90
					WS: 0.1m/s	Insects 39-43
					Rain: Nil	Wind in trees 41-46
						PGH site inaudible
					PGH Site LAeq(15min) Contribution	
15/11/2022	23:29 (Night)	86	60	40	WD: W	Traffic 40-86
					WS: 1.6m/s	Insects 39-44
					Rain: Nil	Wind in trees 39-47
						Aircraft 39-49
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<30
PGH Site LA1(max) Contribution						<30

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N35

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N35 for the NMA are presented in **Table 6**.

Table 6 Operator-Attended Noise Survey Results – Location N35

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		LA1	LAeq	LA90		
15/11/2022	15:11 (Day)	68	49	43	WD: W WS: 1.2m/s Rain: Nil	Insects 40-43
						Wind in trees 41-48
						Birds 43-68
						Aircraft 44-49
						Traffic 45-52
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<33
15/11/2022	19:56 (Evening)	70	50	42	WD: W WS: 0.1m/s Rain: Nil	Dog bark 44-52
						Traffic 40-48
						Livestock 46-50
						Insects 40-43
						Aircraft 46-60
						Birds 43-70
PGH site inaudible						
PGH Site LAeq(15min) Contribution						<32
15/11/2022	22:00 (Night)	53	44	42	WD: W WS: 0.1m/s Rain: Nil	Dog bark 40-53
						Insects 41-44
						Traffic 40-45
						PGH site inaudible
PGH Site LAeq(15min) Contribution						<32
PGH Site LA1(max) Contribution						<32

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Assessment Results - Location N1

Monitoring on Tuesday 15 November 2022 identified that PGH activities were audible on one occasion at location N1 during the evening period. The estimated site contributions were measured at 34dBA, therefore PGH emissions remained below the relevant noise limit of 47dB LAeq(15min). Extraneous sources such as dogs barking, birds, insects, wind in trees, traffic, local residential noise and aircraft were audible during the measurement period.

5.2 Assessment Results - Location N3

Monitoring on Tuesday 15 November 2022 identified that PGH activities were audible on one occasion at location N3 during the evening period. The estimated site contributions were measured at 32dBA, therefore PGH emissions remained below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, aircraft, birds, wind in trees and insects were audible during the measurement period.

5.3 Assessment Results - Location N14

Monitoring on Tuesday 15 November 2022 identified that PGH activities remained inaudible during the measurement period at location N14. The estimated site contributions were measured between <28dBA and <36dBA, therefore PGH emissions remained below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, birds, wind in trees, aircraft, dogs barking and insects were audible during the measurement period.

5.4 Assessment Results - Location N20

Monitoring on Tuesday 15 November 2022 identified that PGH activities remained inaudible during the measurement period at location N20. The estimated site contributions were measured between <30dBA and <34dBA, therefore PGH emissions remained below the relevant noise limits. Extraneous sources such as traffic, birds, wind in trees, insects and aircraft were audible during the measurement period.

5.5 Assessment Results - Location N35

Monitoring on Tuesday 15 November 2022 identified that PGH activities remained inaudible during the measurement period at location N35. The estimated site contributions were measured between <32dBA and <33dBA, therefore PGH emissions remained below the relevant noise limits. Extraneous sources such as insects, wind in trees, birds, aircraft, traffic, livestock and dogs barking were audible during the measurement period.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) PGH Bricks & Pavers Pty Ltd (PGH) at the PGH Bringelly Brickworks (the 'site') at 60 Greendale Road Bringelly, NSW. The assessment was completed to assess the site's compliance with the relevant noise criteria during Quarter 4, ending December 2022.

Attended noise monitoring was undertaken on Tuesday 15 November 2022 at five representative receiver locations. The assessment has identified that noise emissions generated by Bringelly Brickworks were audible at two locations, however quarry noise emissions were below the relevant noise criteria throughout the survey period, satisfying the relevant consent conditions

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

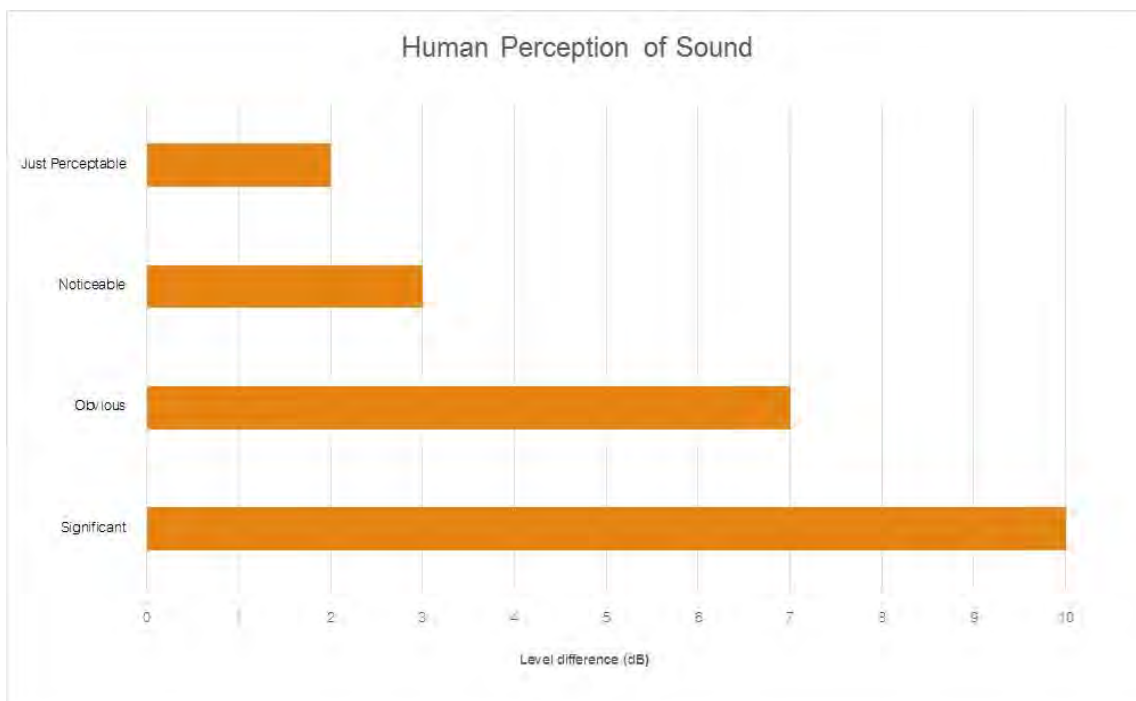
Table A1 Glossary of Acoustical Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmx	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by $10 \cdot \log_{10} (W/W_0)$. Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA

Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Development Consent

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I approve the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

David Kitto
Executive Director
Resource Assessments and Business Systems

Sydney

2015

SCHEDULE 1

Application Number:

SSD_5684

Applicant:

Boral Bricks Pty Ltd

Consent Authority:

Minister for Planning

Land:

[Lot 100 in DP 1203966](#)

Development:

Bringelly Brickworks Extension Project

Modification 1 (October 2016 shown in [blue](#) text)

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DEFINITIONS

AHD	Australian Height Datum
Annual Review	The review required by condition 4 of schedule 5
Applicant	Boral Bricks Pty Ltd, or any other person or persons who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and shown conceptually in Appendix 4
Brick making operations	Includes the receipt, handling, processing, storage and transportation of raw materials on site, brick making on site and transportation of finished bricks on site
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in schedules 1 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
CPI	Australian Bureau of Statistics Consumer Price Index
Date of commencement	The date notified to the Department by the Applicant under condition 8 of Schedule 2
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development described in the documents of condition 2(a) of Schedule 2
Development area	All land to which the development application applies, as listed under "Land" in schedule 1 and shown in Appendix 1
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy, within the NSW Department of Industry
EEC	Endangered Ecological Community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental Impact Statement titled <i>Bringelly Brickworks and Quarry Expansion</i> (2 volumes), dated September 2013, as modified by the Response to Submissions titled, <i>Bringelly Brickworks and Quarry Expansion, Response to Submissions</i> dated February 2014 and the letter entitled <i>Bringelly Brickworks – Biodiversity Offsets</i> , dated 2 June 2014
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Extension area	The area outside of the existing quarry footprint (i.e. cells D, E, F, G, H and I, as shown conceptually in Appendix 2)
Feasible	Feasible relates to engineering considerations and what is practical to build
GDE	Groundwater Dependent Ecosystem
GPS	Global Positioning System
Growth Centres SEPP	<i>State Environmental Planning Policy (Sydney Regional Growth Centres) 2006</i>
Ha	Hectare
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in schedules 3 and 4 of this consent

	where it is defined to mean the whole of a lot, or contiguous lots, owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
m	Metres
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
OEH	NSW Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (or its subsidiary)
Quarrying operations	Includes the removal of overburden and extraction, handling, storage and transportation of extractive materials on site
Raw materials	Raw materials imported for use in brick making including clay/shale and additives (such as manganese and iron oxides)
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition, ensuring that it is safe, stable and non-polluting and appropriately revegetated
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
SEE (Mod 1)	Statement of Environmental Effects titled ' <i>Section 96(1A) Modification Supporting Information</i> ' dated August 2016 and prepared by Element Environment, including the Response to Submissions document dated September 2016
Site	The land listed under "Land" in schedule 1
Shoulder	The period between 6am to 7am on Monday to Saturday
South West Growth Centre	An area of land identified under the Growth Centres SEPP

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this consent, the Applicant **must** implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant **must**:
 - (a) carry out the development generally in accordance with the EIS **and SEE (Mod 1)**; and
 - (b) the conditions of this consent.

Note: The general layout of the development is shown in Appendix 2.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant **must** comply with any reasonable requirement/s of the Secretary arising the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
 - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Quarrying and Brick Making Operations

5. The Applicant may carry out quarrying **operations** and brick making operations from the date of commencement of development under this consent until 1 March 2045.

Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.

Production Limits

6. The Applicant **must** not:
 - (a) extract more than 200,000 tonnes of clay/shale from the site in any calendar year;
 - (b) produce more than 263,500 tonnes of bricks at the site in any calendar year;
 - (c) carry out quarrying operations beyond 46 m AHD; and
 - (d) receive more than **321,000** tonnes of raw materials required for brick making to the site in any calendar year.

Transportation Limits

7. The Applicant **must** not:
 - (a) transport more than 263,500 tonnes of bricks from the site in a calendar year;
 - (b) receive more than 90 trucks to the site per day or more than 18 trucks per hour; and
 - (c) dispatch more than 90 trucks from the site per day or more than 18 trucks per hour.

NOTIFICATION OF COMMENCEMENT

8. **Prior to commencing development under this consent, the Applicant must notify the Department in writing of the date on which it will commence development permitted under this consent.**

SURRENDER OF EXISTING DEVELOPMENT CONSENT

9. Within 4 months of commencing development under this consent, the Applicant must surrender the development consent (DA 91/1194) for existing operations on the site in accordance with Section 104A of the EP&A Act.

Following the commencement of development under this consent, the conditions of this consent (including any notes) shall prevail to the extent of any inconsistency with the conditions of the existing development consent (DA 91/1194).

STRUCTURAL ADEQUACY

10. The Applicant must ensure that any new buildings and structures, and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

DEMOLITION

11. The Applicant must ensure that all demolition work on site is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

12. The Applicant must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

13. The Applicant must ensure that all plant and equipment used on site or any monitoring equipment used off site for monitoring the performance of the development is:
- (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

UPDATING AND STAGING STRATEGIES, PLANS OR PROGRAMS

14. With the approval of the Secretary, the Applicant may submit any strategies, plans or programs required by this consent on a progressive basis.

To ensure the strategies, plans or programs under the conditions of this consent are updated on a regular basis, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval.

With the agreement of the Secretary, the Applicant may prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent.

Notes:

- While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

15. Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant **must** implement the existing strategies, plans or programs for the site that have been approved under DA 91/1194.

IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

16. Prior to undertaking quarrying operations in the extension area, the Applicant **must**:
- (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and
 - (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.
17. While quarrying operations are being carried out, the Applicant **must** ensure that these boundaries are clearly marked at all times to allow operating staff and inspecting officers to clearly identify the approved limits of extraction.

PRODUCTION DATA

18. The Applicant **must**:
- (a) provide annual quarry production data to DRE using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 4 of schedule 5).

DEVELOPER CONTRIBUTIONS

19. The Applicant **must** pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to CPI. Each payment must be:
- (a) paid to Council at the end of each calendar year; and
 - (b) based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site.

Note: If the parties are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

HOURS OF OPERATION

- The Applicant **must** comply with the operating hours set out in Table 1.

Table 1: Operating Hours

Activity	Operating Hours
<ul style="list-style-type: none"> Quarrying operations Deliveries Dispatch of finished bricks 	6am to 6pm, Monday to Friday 6am to 1pm, Saturday No activities on Sundays or Public Holidays
Brick making operations (except dispatch of finished bricks)	24 hours a day, 7 days a week
Construction activities	7am to 6pm, Monday to Friday 8am to 1pm, Saturday No construction to be undertaken on Sundays or Public Holidays

NOISE

Noise Criteria

- The Applicant **must** ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Activity	Receiver	Day/Evening/Shoulder	Night	
		<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{A1}(max)</i>
Brick making and quarrying	R1, R2	47	Not Applicable	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brick making	All receivers	44	43	53

Notes:

- To locate the receivers referred to in Table 2 refer to Appendix 3.
- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this consent prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL.

Appendix 5 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

Construction Noise

- The Applicant **must** manage noise generated during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road, in accordance with the guidelines specified in Table 2 of the *Interim Construction Noise Guideline*.

Note: Management guidelines are applicable to receivers 3 and 4, shown in Appendix 3.

Noise Bunds

4. The Applicant must ensure that the noise bund adjacent to the northern boundary of the extraction area is constructed prior to the commencement of quarrying operations in the extension area.
- 4A. The Applicant must ensure that the noise bund adjacent to Greendale Road is constructed prior to the commencement of brick making operations.

Operating Conditions

5. The Applicant **must**:
 - (a) implement all reasonable and feasible mitigation measures to minimise construction, operational and road noise of the development;
 - (b) implement periods of respite during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road;
 - (c) regularly assess noise monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the noise criteria in this consent;
 - (d) maintain the effectiveness of noise suppression equipment on plant and equipment on site;
 - (e) minimise the noise impacts of the development during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 5); and
 - (f) carry out regular noise monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

Noise Management Plan

6. The Applicant **must** prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the reasonable and feasible mitigation measures that would be implemented to ensure:
 - construction noise is minimise;
 - compliance with the relevant noise criteria and operating conditions in this consent;
 - best management practice is being employed; and
 - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply;
 - (d) describe the proposed noise management system on site; and
 - (e) include a quarterly (or as otherwise agreed with the Secretary) noise monitoring program that:
 - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent;
 - evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Criteria

7. The Applicant **must** implement all reasonable and feasible avoidance and mitigation measures so that particulate matter emissions generated by the development do not exceed the criteria in Tables 3 to 6 at any residence on privately-owned land.

Table 3: Long-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Total suspended particulates (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 4: Short-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 5: Long-Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Table 6: Long and Short-Term Stack Emissions

Pollutant	Averaging period	^d Criterion
Sulphur Dioxide	10-minute	712 µg/m ³
	1-Hour	570 µg/m ³
	24-Hour	228 µg/m ³
	Annual	60 µg/m ³
Nitrogen Dioxide	1-Hour	246 µg/m ³
	Annual	62 µg/m ³
Hydrogen Chloride	1 hour	0.14 mg/m ³

Notes to Tables 3-6:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

Operating Conditions

8. The Applicant **must**:
 - (a) implement all reasonable and feasible measures to minimise the stack and dust emissions of the development;
 - (b) minimise surface disturbance and maximise progressive rehabilitation;
 - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note (d) to Tables 3-6 above); and
 - (d) monitor and report on compliance with the relevant air quality conditions in this consent; to the satisfaction of the Secretary.

Air Quality Management Plan

9. The Applicant **must** prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the measures that would be implemented to ensure:
 - compliance with the air quality criteria and operating conditions under this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions;
 - (d) describe the air quality management system; and
 - (e) include an air quality monitoring program that:
 - evaluates and reports on:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality criteria and operating conditions; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

METEOROLOGICAL MONITORING

10. For the life of the development, the Applicant **must** ensure that there is a suitable meteorological station operating in the vicinity of the site that:
 - (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuous measurement of stability class, in accordance with the *NSW Industrial Noise Policy*, or as otherwise approved by EPA.

TRANSPORT

Monitoring of Product Transport

11. The Applicant **must** keep accurate records of the:
 - (a) **tonnage** of bricks transported from the site (monthly and annually);
 - (b) amount of raw material imported to the site (monthly and annually); and
 - (c) **tonnage of each type of raw materials imported to the site (monthly and annually);** and provide the Secretary with a summary of this information upon request.

Parking

12. The Applicant **must** provide sufficient parking on-site for all development-related traffic, in accordance with Camden Council's parking codes, to the satisfaction of the Secretary.

Operating Conditions

13. The Applicant **must** ensure that:
 - (a) all development-related heavy vehicles enter and exit the site in a forward direction;
 - (b) all laden vehicles entering or exiting the site have their loads covered (with the exception of vehicles carrying bricks);
 - (c) all laden vehicles that have accessed the extraction and/or stockpile areas are cleaned of sand and other material that may fall on the road, before leaving the site;
 - (d) all heavy vehicles exiting the site travel east of the site along Greendale Road to The Northern Road and/or Bringelly Road;
 - (e) the dispatch of laden trucks is avoided during the peak drop-off and pick-up times at the Bringelly Public School to the greatest extent practicable, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS; and
 - (f) no trucks queue at the entrance to the site before 6am.

Access Road Intersection Construction

14. Within 12 months of commencing development under this consent, unless otherwise agreed with the Secretary, the Applicant must design and construct the new site access road intersection with Greendale Road in accordance with applicable AUSTROADS standards, to the satisfaction of Camden Council. The Applicant must notify the Secretary in writing within 30 days of obtaining Council approval.

Within 7 days of completing construction and the new site access road being operational, the existing site access road must be permanently closed.

Transport Management Plan

15. The Applicant **must** prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School, and be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (b) describe the measures that would be implemented to ensure compliance with the transport operating conditions under this consent, including specific measures to avoid **the arrival and**

- [dispatch](#) of laden trucks from the site during the peak drop-off and pick-up times at the Bringelly Public School;
- (c) include a Code of Conduct for heavy vehicle drivers that addresses:
- travelling speeds;
 - [procedures to minimise noise including a regular Truck Noise Auditing Program](#);
 - [procedures to minimise diesel exhaust emissions](#);
 - instructions to avoid grouping or convoying of trucks;
 - procedures to ensure that drivers adhere to the designated haulage routes and the haulage hours permitted under this consent;
 - instructions to drivers not to overtake each other on the haulage route, as far as practicable, and to maintain appropriate distances between vehicles; and
 - instruction to drivers to be properly safety conscious and to strictly obey all traffic regulations, particularly in relation to school zones along Greendale Road; and
- (d) describe the measures that would be put in place to ensure compliance with the drivers' Code of Conduct and include a program to monitor the effectiveness of the implementation of these measures.

[The Applicant must implement the approved management plan as approved from time to time by the Secretary.](#)

SOIL AND WATER

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development, including in respect of the extraction and/or interception of groundwater.

Water Supply

16. The Applicant [must](#) ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply to the satisfaction of the Secretary.

Water Discharges

17. The Applicant [must](#) comply with the discharge limits in any EPL or with Section 120 of the POEO Act.

Water Management Plan

18. The Applicant [must](#) prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified person/s approved by the Secretary;
 - (b) be prepared in consultation with the EPA and [DPI Water](#);
 - (c) be submitted to the Secretary for approval [prior to the commencement of development under this consent](#), unless the Secretary agrees otherwise;
 - (d) include a Site Water Balance that:
 - includes details of:
 - quantity of water required to support operations;
 - sources and security of water supply;
 - water use and management on site;
 - reporting procedures; and
 - measures to be implemented to minimise potable water use on site;
 - (e) include a Surface Water Management Plan, that includes:
 - baseline data on surface water flows and quality in the watercourses that could be affected by the development;
 - a description of the surface water management system on site, including:
 - clean water diversions;
 - erosion and sediment controls;
 - the dirty water management system; and
 - water storages (addressing maximum harvestable rights if applicable);
 - performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts;
 - a program to monitor and report on:
 - any surface water discharges;

- the effectiveness of the water management system; and
 - surface water flows and quality in local watercourses;
 - a plan to respond to any exceedances of the performance criteria.
- (f) a Groundwater Management Plan, which includes:
- baseline data on groundwater levels, yield and quality in surrounding aquifers;
 - groundwater assessment and performance criteria, including trigger levels for investigating potentially adverse groundwater impacts;
 - a program to monitor:
 - groundwater inflows to the quarry pit; and
 - impacts of the development on surrounding aquifers;
 - an analysis of the monitoring results to determine long-term water levels within the quarry void; and
 - a plan to respond to any exceedances of the performance criteria.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

BIODIVERSITY

Biodiversity Offset Strategy

19. The Applicant **must** implement the Biodiversity Offset Strategy described in the EIS, as summarised in Table 7 and shown conceptually in Appendix 4, to the satisfaction of the Secretary.

Table 7: Summary of the Biodiversity Offsets

Area	Offset Criteria	Size (Ha)
On-site offset	Existing vegetation to be enhanced to establish an area of native woodland comprising species associated with Cumberland Plain Woodland.	1.93

Security of Offsets

20. Within 2 years of **notifying the Department of commencement of development (see condition 8 of Schedule 2)**, unless otherwise agreed with the Secretary, the Applicant **must** make suitable arrangements to provide appropriate long-term security for the offset area, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Biodiversity Management Plan

21. The Applicant **must** prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the OEH and Camden Council;
 - (b) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - (c) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;
 - (d) describe the short, medium, and long term measures that would be implemented to:
 - manage the remnant vegetation and habitat on the site and in the offset area and;
 - implement the biodiversity offset strategy, including detailed performance and completion criteria;
 - (e) include performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);
 - (f) include a description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - maximising the salvage of resources within the approved disturbance area - including vegetative, soil and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area;

- minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings;
 - controlling weeds and feral pests;
 - controlling erosion;
 - controlling access; and
 - bushfire management;
- (g) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and
- (h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

Conservation Bond

22. Within 6 months of the approval of the Biodiversity Management Plan, the Applicant **must** lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan.

The sum of the bond **must** be determined by:

- a. calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and
- b. employing a suitably qualified quantity surveyor to verify the calculated costs,
- c. to the satisfaction of the Secretary.

The calculation of the conservation bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond.

If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.

Notes:

- *Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation bond.*
- *The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.*

REHABILITATION

Rehabilitation Objectives

23. The Applicant **must** rehabilitate the site to the satisfaction of the Secretary. Rehabilitation must:
- a. comply with the objectives in Table 8; and
 - b. be generally consistent with the proposed rehabilitation strategy in the EIS, and the final land form shown conceptually in Appendix 4 (unless modified by the Final Land Use Options Plan, prepared in accordance with condition 25 of this consent).

Table 8: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	<ul style="list-style-type: none"> • Safe, stable and non-polluting • Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native species and habitat

Surface infrastructure	<ul style="list-style-type: none"> To be decommissioned and removed (unless the Secretary agrees otherwise)
Final void	<ul style="list-style-type: none"> Minimise the size, depth and slope of the batters of the final void Minimise the drainage catchment of the final void
Quarry pit floor	<ul style="list-style-type: none"> Landscaped and revegetated using native flora species, above the anticipated final void water level
Community	<ul style="list-style-type: none"> Ensure public safety

Progressive Rehabilitation

24. The Applicant **must** rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

Final Land Use Options Plan

25. The Applicant **must** prepare a Final Land Use Options Plan for the site to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with DRE and Camden Council;
 - be submitted to the Secretary for approval within 2 years of the date of [notifying the Department of commencement of development \(see condition 8 of Schedule 2\)](#), unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated final land uses for the site;
 - ensure that the conceptual final land form is compatible with surrounding land uses, and is consistent with the rehabilitation objectives in Table 8 and the objectives of the Growth Centres SEPP for the South West Growth Centre;
 - inform the Rehabilitation Management Plan (prepared in accordance with condition 26 of this consent); and
 - be reviewed every 7 years to account for applicable land use priorities, and if necessary updated.

Rehabilitation Management Plan

26. The Applicant **must** prepare a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH, DRE, [DPI Water](#) and Camden Council;
 - be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated land uses for the site (which must be consistent with the Final Land Use Options Plan under condition 25 of this consent);
 - describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
 - include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any necessary remedial action;
 - include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; and
 - include details of who would be responsible for monitoring, reviewing, and implementing the plan.

[The Applicant must implement the approved management plan as approved from time to time by the Secretary.](#)

Note: The Rehabilitation Management Plan must be reviewed, and if necessary updated, following any update of the Final Land Use Options Plan.

HERITAGE

Heritage Management Plan

27. The Applicant **must** prepare a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH;
 - (a) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - b. describe the measures that would be implemented to:
 - manage identified heritage objects, previously unidentified heritage objects or the discovery of any human remains on site;
 - ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site; and
 - protect sites identified adjacent to the development.

The Applicant **must** implement the approved management plan as approved from time to time by the Secretary.

VISUAL

28. The Applicant **must** establish a vegetation screen on both noise bunds, as soon as practicable after construction of the bunds, to minimise visibility of site infrastructure from outside the development area. Following establishment, the Applicant **must** maintain the vegetation screen, to the satisfaction of the Secretary.
29. The Applicant **must**:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development; and
 - b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version.

BUSHFIRE MANAGEMENT

30. The Applicant **must**:
- ensure that the development is suitably equipped to respond to any fires on site; and
 - b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as practicable if there is a fire in the surrounding area.

WASTE

31. Prior to importing onto the site any material that may be classified as a waste under the EPA *Waste Classification Guidelines 2009* (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department.

Note: This condition does not apply to routine deliveries to the site.

32. The Applicant **must**:
- manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Camden Council; and
 - b) pump all sewage generated and stored on-site to a sewage treatment facility, unless otherwise agreed with the Secretary.
33. The Applicant **must**:
- minimise the waste generated by the development;
 - b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing an exceedance of any relevant criteria in schedule 3, the Applicant **must** notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria.

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant **must**:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3;
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Adaptive Management

2. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.

Management Plan Requirements

3. The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:

- impacts and environmental performance of the development; and
- effectiveness of any management measures (see (c) above);
- (e) a contingency plan to manage any unpredicted impacts and their consequences;
- (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
- (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

4. By the end of September each year, the Applicant [must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary](#). This review must:
 - (a) describe the development (including rehabilitation) that was carried out in the previous [financial](#) year, and the development that is proposed to be carried out over the current [financial](#) year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous [financial](#) year, which includes a comparison of these results against:
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the [documents in condition 2\(a\) of Schedule 2](#);
 - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current [financial](#) year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

5. [Within 3 months of the submission of an:](#)
 - (a) [Annual Review under condition 4 above;](#)
 - (b) [incident report under condition 7 below;](#)
 - (c) [audit report under condition 9 below; and](#)
 - (d) [any modifications to this consent,](#)
 the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Community Consultative Committee

6. The Applicant [must](#) establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the [Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments](#) (Department of Planning, 2007, or its latest version), and be operating [prior to the commencement of development under this consent](#).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*

- In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Camden Council and the local community.

REPORTING

Incident Reporting

7. The Applicant **must** immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant **must** provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Applicant **must** provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within a year of **commencing development under this consent**, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant **must** commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any approved strategy, plan or program required under these approvals;
 - (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; **and be conducted and reported to the satisfaction of the Secretary.**

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

10. Within **12 weeks of commencing** this audit, unless the Secretary agrees otherwise, the Applicant **must** submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

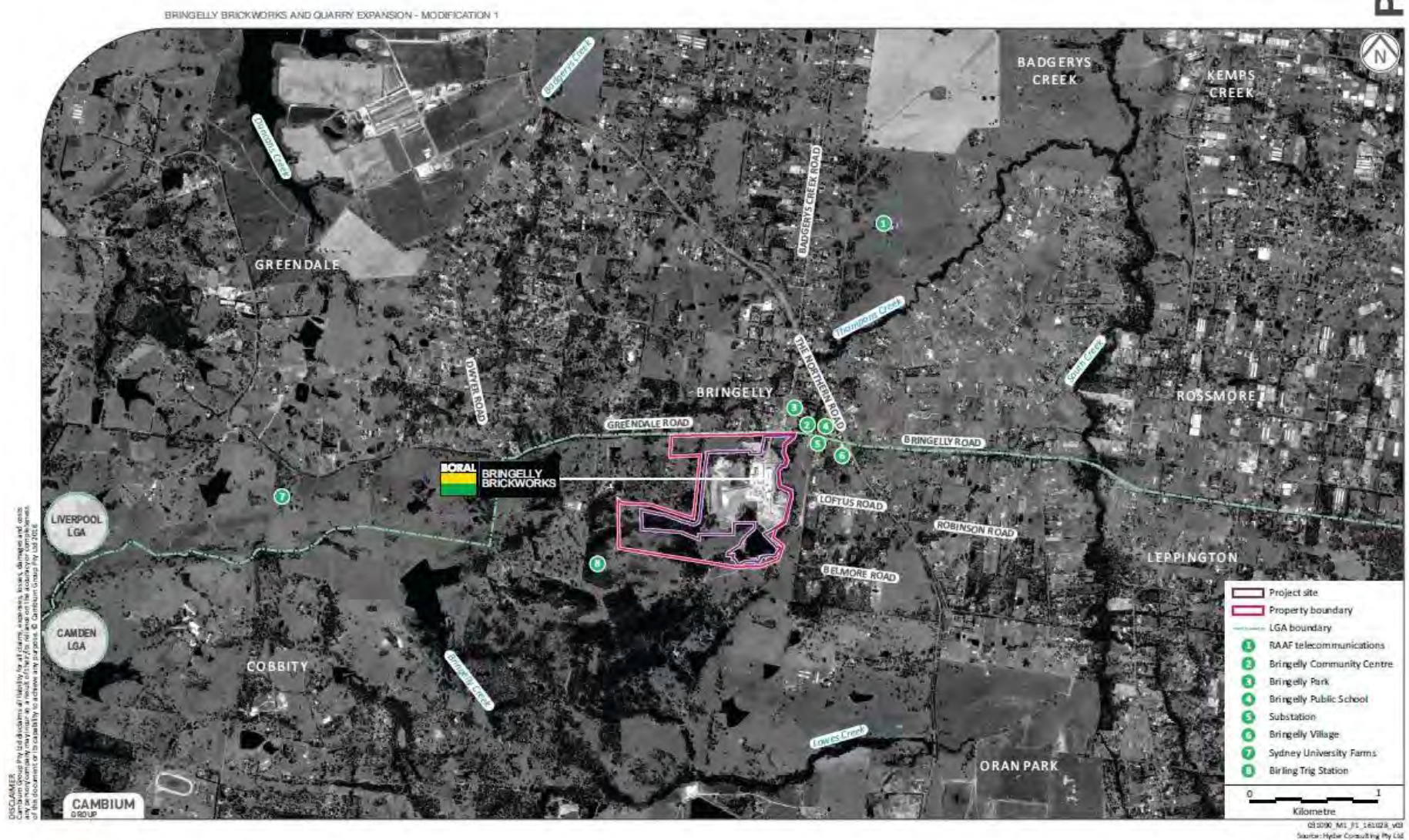
Within 7 days of commencing the audit, the Applicant must notify the Department in writing of the commencement of the audit.

ACCESS TO INFORMATION

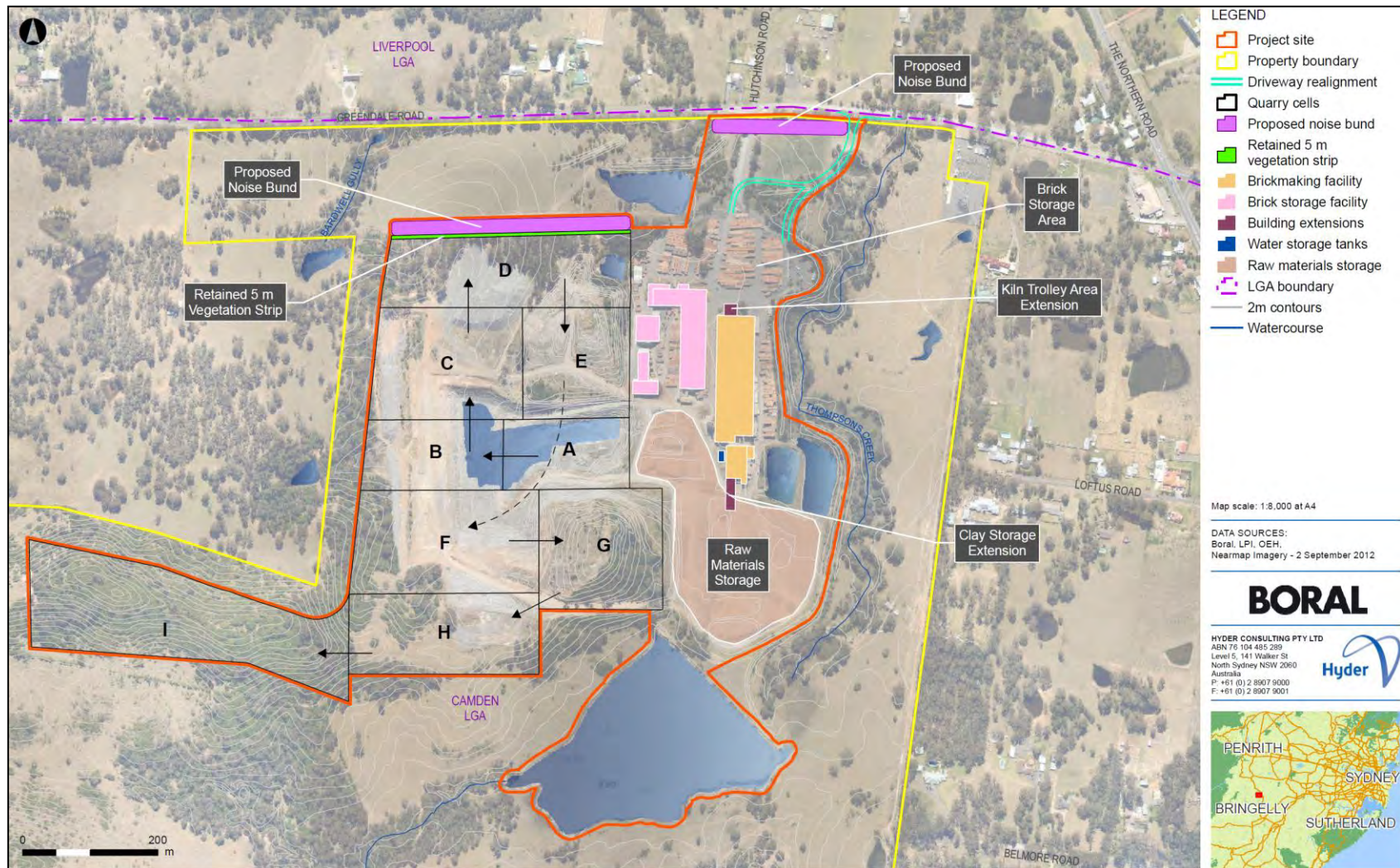
11. Within 6 months of **commencing development under this consent**, the Applicant **must**:
 - (a) make copies of the following publicly available on its website:
 - the documents in **condition 2(a) of Schedule 2**;
 - current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, which is to be updated monthly;
 - minutes of CCC meetings;
 - the annual reviews of the development (for the last 5 years);
 - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Secretary; and

(b) keep this information up-to-date,
to the satisfaction of the Secretary.

APPENDIX 1 DEVELOPMENT AREA



APPENDIX 2 DEVELOPMENT LAYOUT



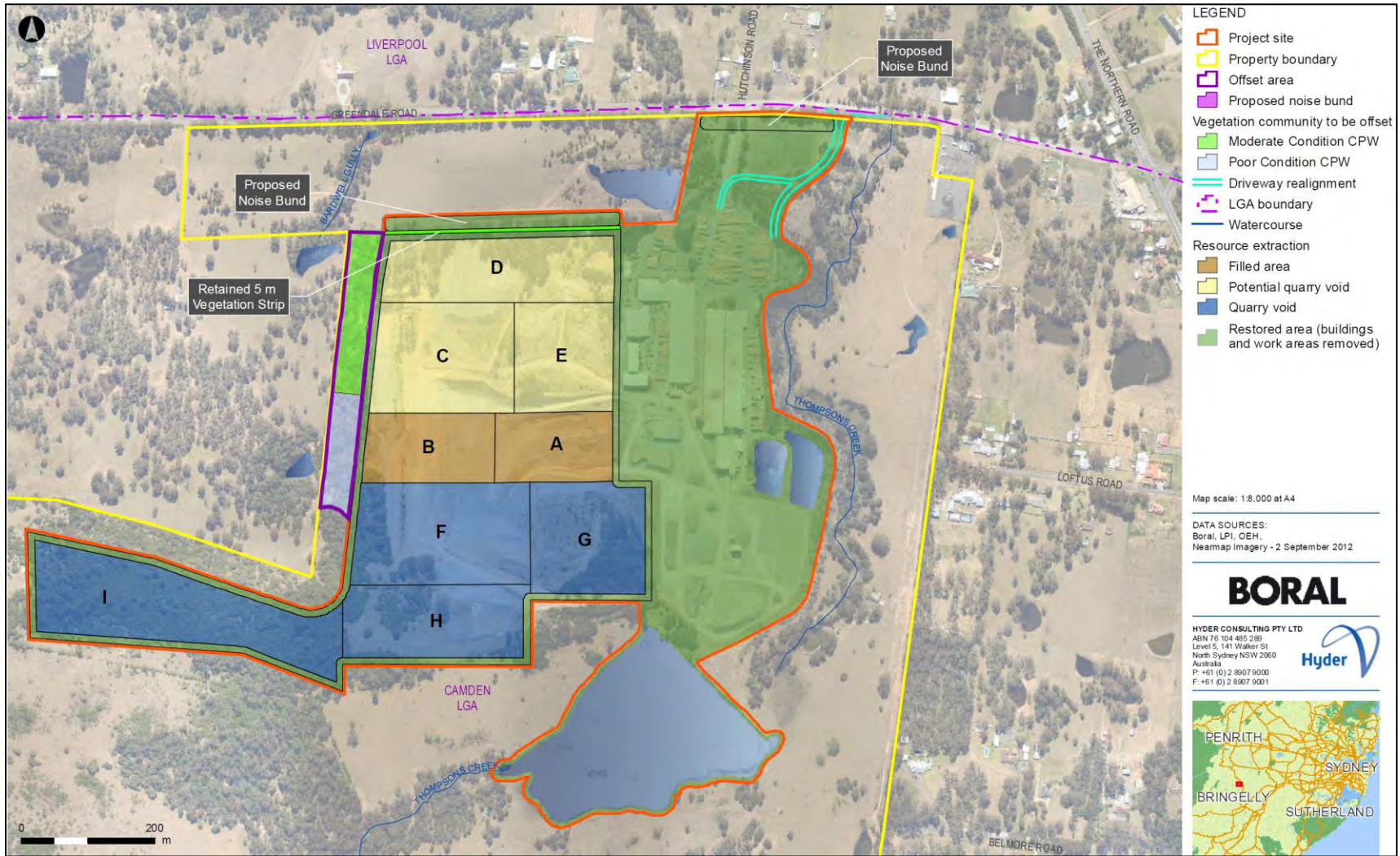
APPENDIX 3 RECEIVER LOCATIONS



Receiver number	Receiver address
1	55 Loftus Road
2	54 Loftus Road
3	20 Greendale Road
4	9 Greendale Road
5	5 Greendale Road (Bringelly Community Centre)
6	46 Loftus Road
7	36 Loftus Road
8	47 Loftus Road
9	37 Loftus Road
10	27 Loftus Road
11	26 Loftus Road
12	15 Loftus Road
13	5 Loftus Road
14	23 Greendale Road
15	27 Greendale Road
16	29 Greendale Road
17	25 Greendale Road
18	31 Greendale Road
19	35 Greendale Road
20	170 Tyson Road
21	196 Greendale Road
22	46 Belmore Road
23	55 Belmore Road
24	63 Belmore Road
25	67 Belmore Road
26	73 Belmore Road
27	83-85 Belmore Road
28	76 Belmore Road
29	86 Belmore Road
30	87 Belmore Road
31	93 Belmore Road
32	95-97 Belmore Road
33	107 Belmore Road
34	96 Belmore Road
35	108 Belmore Road
36	1037 Northern Road
37	10 Greendale Road
38	Bringelly Public School

APPENDIX 4

CONCEPTUAL FINAL LANDFORM AND BIODIVERSITY OFFSET STRATEGY



APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following:
 - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - (b) temperature inversion conditions between 1.5 °C and 3°C/100 m and wind speeds greater than 2 m/s at 10 m above ground level; or
 - (c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions **must** be that recorded by the meteorological station on or in the vicinity of the site.

Compliance Monitoring

3. Unless directed otherwise by the Secretary, quarterly attended monitoring is to be used to evaluate compliance with the relevant conditions of consent.

Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.

4. Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

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Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter 1 Ending March 2023

Document Information

Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter 1 Ending March 2023

Prepared for: PGH Bricks & Pavers Pty Ltd

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Document ID	Date	Prepared By	Signed	Reviewed By	Signed
MAC190946-02RP9	21 February 2023	Nicholas Shipman		Oliver Muller	

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by PGH Bricks & Pavers Pty Ltd (PGH) to complete a Noise Monitoring Assessment (NMA) for the PGH Bringelly Brickworks (the 'site') at 60 Greendale Road, Bringelly, NSW.

This assessment has been undertaken for the quarterly period ending March 2023, and forms part of the annual noise monitoring program to address conditions outlined in the Development Consent.

The NMA has quantified potential operational and sleep disturbance noise emissions from the operation and has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA's), Approved methods for the measurement and analysis of environmental noise in NSW, 2022;
- Bringelly Brickworks Noise Management Plan (NMP ref BRK-BRI-NMP Version 4 dated 12.02.19), 2019;
- Bringelly Brickworks Development Consent, 2015 (SSD_5684); and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

The Bringelly Brickworks NMP outlines the applicable noise criteria for representative residential receivers surrounding the site and are presented in **Table 1**. The site includes the operation of a quarry and brickmaking plant, and as the quarry operates during the daytime, there are separate criteria relating to each period.

Table 1 Noise Criteria ¹				
Activity	Receiver	Day/Evening/Shoulder ^{2,3}	Night ²	
		dB LAeq(15min)	dB LAeq(15min)	dB LA1(max) ³
Brickmaking and quarrying	R1, R2	47	N/A	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brickmaking	All Receivers	44	43	53

Note 1: Noise criteria adopted from the Development Consent.

Note 2: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note 3: Periods and parameters as expressed in the Development Consent.


Figure 1 presents the identified receiver locations and representative measurement locations.

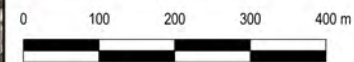
Section 4 of the Bringelly Brickworks Development Consent, 2015 (SSD_5684, see **Appendix B**) outlines requirements for Noise Bunds adjacent to the northern boundary of the extraction area and adjacent to Greendale Road. It is noted that the proposed new access road and associated noise bund adjacent to Greendale Road are not in place at the time of the monitoring. Further details on review of noise mitigation measures for the site are contained in a historic report (MAC190946LR1, 29 September 2019).



FIGURE 1
SITE LAYOUT
MAC190946-02
PGH Bringelly Brickworks

KEY

-  Monitoring Locations
-  Receivers



3 Methodology

3.1 Locality

PGH Bringelly Brickworks is located at 60 Greendale Road, Bringelly, NSW. Receivers in the locality surrounding the site are primarily rural/residential and for consistency the naming conventions for each receiver have been retained from historic noise assessments. The monitoring locations with respect to PGH are presented in the locality plan shown in **Figure 1**.

3.2 Assessment Methodology

The attended noise measurements were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise". Measurements were conducted using a Svantek Type 1, 971 noise analyser. The acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed $\pm 0.5\text{dBA}$.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. Measurements were conducted at five locations (N1, N3, N14, N20, N35) on Wednesday 15 February 2023 during the day, evening, and night periods to satisfy the requirements of the NMP.

Extraneous noise sources were excluded from the analysis to determine the $L_{Aeq}(15\text{min})$ quarry noise contribution for comparison against the relevant criteria. In the event of site attributed noise being above criteria, prevailing meteorological conditions for the monitoring period are analysed in accordance with Fact Sheet D of the NPI to determine the stability category present at the time of each attended measurement.

Where the site is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.

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4 Results

4.1 Assessment Results - Location N1

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N1 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N1

Date	Time (hrs)	Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL, dBA
		LAMax	LA1	LAeq	LA90		
15/02/2023	14:40 (Day)	83	74	61	40	WD: NE WS: 0.8m/s Rain: Nil	Traffic 38-83
							Insects 38-42
							Birds 40-51
							Aircraft 38-68
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<30
15/02/2023	20:37 (Evening)	63	52	48	47	WD: NE WS: 0.1m/s Rain: Nil	Insects 46-48
							Traffic 46-63
							Dog bark 46-52
							Aircraft 48-51
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<37
15/02/2023	22:23 (Night)	52	47	44	43	WD: NE WS: 0.1m/s Rain: Nil	Traffic 42-52
							Insects 42-44
							Dog bark 43-49
							PGH site inaudible
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<33
PGH Site LA1(max) Contribution							<33

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in **Table 3**.

Table 3 Operator-Attended Noise Survey Results – Location N3

Date	Time (hrs)	Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL, dBA	
		LAMax	LA1	LAeq	LA90			
15/02/2023	15:00 (Day)	82	76	65	44	WD: NE	Traffic 40-82	
						WS: 0.8m/s	Insects <39	
						Rain: Nil	Birds 40-56	
							Aircraft 42-50	
							PGH site inaudible	
PGH Site LAeq(15min) Contribution							<34	
15/02/2023	20:57 (Evening)	77	70	57	43	WD: NE	Insects 42-44	
						WS: 0.1m/s	Traffic 44-77	
						Rain: Nil	PGH site inaudible	
						PGH Site LAeq(15min) Contribution		<33
						15/02/2023	22:43 (Night)	80
WS: 0.1m/s	Insects 37-41							
Rain: Nil	PGH site inaudible							
PGH Site LAeq(15min) Contribution		<30						
PGH Site LA1(max) Contribution		<30						

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N14

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N14 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N14

Date	Time (hrs)	Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL,
		LAMax	LA1	LAeq	LA90		dBA
15/02/2023	15:20 (Day)	81	75	62	45	WD: NE WS: 0.4m/s Rain: Nil	Insects <41
							Traffic 42-81
							Birds 41-49
							Pedestrian 56-64
							Aircraft <44
PGH site inaudible							
PGH Site LAeq(15min) Contribution							<35
15/02/2023	21:15 (Evening)	100	74	69	47	WD: NE WS: 0.1m/s Rain: Nil	Insects 44-46
							Traffic 44-100
							Dog bark 44-56
							PGH site inaudible
							PGH Site LAeq(15min) Contribution
15/02/2023	23:01 (Night)	83	67	56	42	WD: NE WS: 0.1m/s Rain: Nil	Traffic 40-83
							Insects 40-42
							Dog bark 40-44
							PGH site inaudible
							PGH Site LAeq(15min) Contribution
PGH Site LA1(max) Contribution							<32

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N20

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N20 for the NMA are presented in **Table 5**.

Table 5 Operator-Attended Noise Survey Results – Location N20

Date	Time (hrs)	Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL,
		LAMax	LA1	LAeq	LA90		dBA
15/02/2023	15:38 (Day)	87	79	66	43	WD: NE WS: 0.5m/s Rain: Nil	Insects 37-39
							Traffic 37-87
							Birds 38-58
							Aircraft 37-51
							Pedestrian 40-59
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<33
15/02/2023	21:35 (Evening)	85	73	60	42	WD: NE WS: 0.1m/s Rain: Nil	Insects 40-41
							Traffic 40-85
							Aircraft 40-43
							Dog bark 40-46
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<32
15/02/2023	23:20 (Night)	86	69	58	38	WD: NE WS: 0.1m/s Rain: Nil	Traffic 36-86
							Insects 36-37
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<30
PGH Site LA1(max) Contribution							<30

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N35

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N35 for the NMA are presented in **Table 6**.

Table 6 Operator-Attended Noise Survey Results – Location N35

Date	Time (hrs)	Descriptor (dBA re 20 µPa)				Meteorology	Description and SPL, dBA
		LAMax	LA1	LAeq	LA90		
15/02/2023	14:18 (Day)	61	47	41	38	WD: NE WS: 1.6m/s Rain: Nil	Traffic 36-61
							Birds 36-46
							Insects <35
							Aircraft 36-46
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<30
15/02/2023	20:14 (Evening)	63	51	46	44	WD: NE WS: 0.1m/s Rain: Nil	Insects 43-45
							Traffic 44-59
							Dog bark 43-52
							Birds 43-63
							Aircraft 42-49
PGH site inaudible							
PGH Site LAeq(15min) Contribution							<34
15/02/2023	22:00 (Night)	62	46	43	41	WD: NE WS: 0.1m/s Rain: Nil	Operator 56-62
							Traffic 40-48
							Insects 40-42
							Aircraft 40-46
							PGH site inaudible
PGH Site LAeq(15min) Contribution							<31
PGH Site LA1(max) Contribution							<31

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Assessment Results - Location N1

Monitoring on Wednesday 15 February 2023 identified that PGH activities were inaudible during the measurement period at location N1 during the evening period. The estimated site contributions were measured below the relevant noise limit of 47dB LAeq(15min). Extraneous sources such as traffic, insects, birds, aircraft and dog bark were audible during the measurement period.

5.2 Assessment Results - Location N3

Monitoring on Wednesday 15 February 2023 identified that PGH activities were inaudible during the measurement period at location N3 during the evening period. The estimated site contributions were measured below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, insects, birds and aircraft were audible during the measurement period.

5.3 Assessment Results - Location N14

Monitoring on Wednesday 15 February 2023 identified that PGH activities were inaudible during the measurement period at location N14. The estimated site contributions were measured below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as insects, traffic, birds, pedestrians, aircraft and dog bark were audible during the measurement period.

5.4 Assessment Results - Location N20

Monitoring on Wednesday 15 February 2023 identified that PGH activities were inaudible during the measurement period at location N20. The estimated site contributions were measured below the relevant noise limit of 44dB LAeq(15min). Extraneous sources such as insects, traffic, birds, aircraft, pedestrians and dog bark were audible during the measurement period.

5.5 Assessment Results - Location N35

Monitoring on Wednesday 15 February 2023 identified that PGH activities were inaudible during the measurement period at location N35. The estimated site contributions were measured below the relevant noise limit of 44dB LAeq(15min). Extraneous sources such as traffic, birds, insects, aircraft, dog bark and operator noise were audible during the measurement period.

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6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) PGH Bricks & Pavers Pty Ltd (PGH) at the PGH Bringelly Brickworks (the 'site') at 60 Greendale Road, Bringelly, NSW. The assessment was completed to assess the site's compliance with the relevant noise criteria during Quarter 1, ending March 2023.

Attended noise monitoring was undertaken on Wednesday 15 February 2023 at five representative receiver locations. The assessment has identified that noise emissions generated by Bringelly Brickworks was inaudible during all measurement periods. Therefore, quarry noise emissions were below the relevant noise criteria throughout the survey period, satisfying the relevant consent conditions.

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

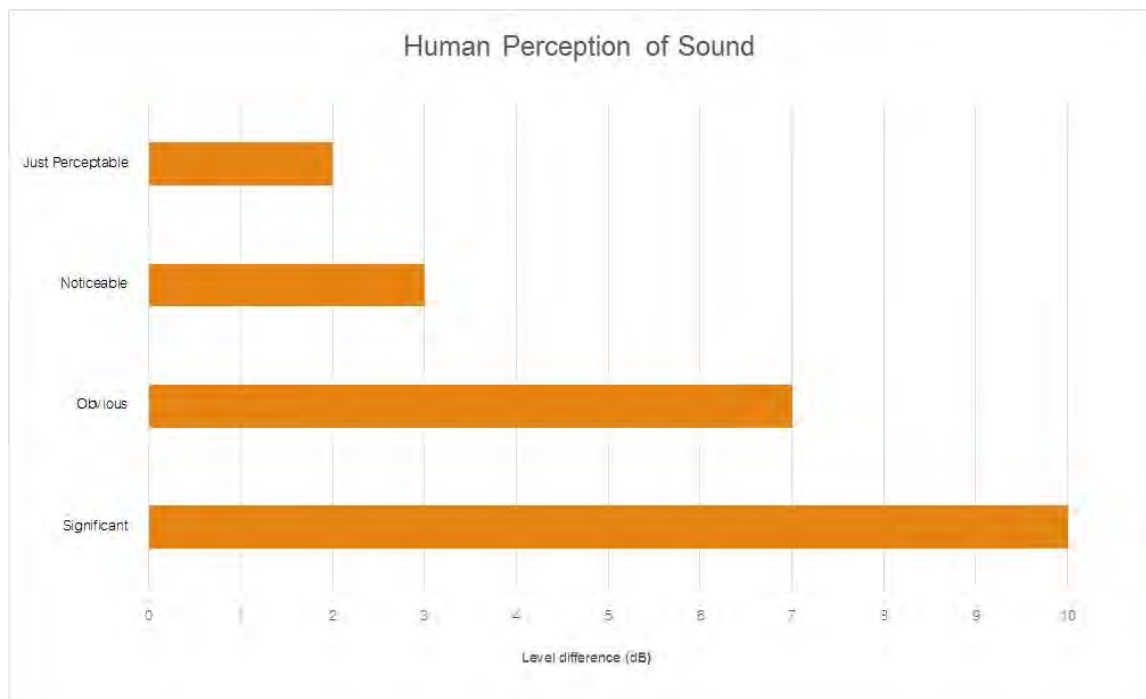
Table A1 Glossary of Acoustical Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmx	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by $10 \cdot \log_{10} (W/W_0)$. Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA

Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Development Consent

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I approve the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

David Kitto
Executive Director
Resource Assessments and Business Systems

Sydney

2015

SCHEDULE 1

Application Number:

SSD_5684

Applicant:

Boral Bricks Pty Ltd

Consent Authority:

Minister for Planning

Land:

[Lot 100 in DP 1203966](#)

Development:

Bringelly Brickworks Extension Project

Modification 1 (October 2016 shown in [blue](#) text)

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DEFINITIONS

AHD	Australian Height Datum
Annual Review	The review required by condition 4 of schedule 5
Applicant	Boral Bricks Pty Ltd, or any other person or persons who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and shown conceptually in Appendix 4
Brick making operations	Includes the receipt, handling, processing, storage and transportation of raw materials on site, brick making on site and transportation of finished bricks on site
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in schedules 1 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
CPI	Australian Bureau of Statistics Consumer Price Index
Date of commencement	The date notified to the Department by the Applicant under condition 8 of Schedule 2
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development described in the documents of condition 2(a) of Schedule 2
Development area	All land to which the development application applies, as listed under "Land" in schedule 1 and shown in Appendix 1
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy, within the NSW Department of Industry
EEC	Endangered Ecological Community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental Impact Statement titled <i>Bringelly Brickworks and Quarry Expansion</i> (2 volumes), dated September 2013, as modified by the Response to Submissions titled, <i>Bringelly Brickworks and Quarry Expansion, Response to Submissions</i> dated February 2014 and the letter entitled <i>Bringelly Brickworks – Biodiversity Offsets</i> , dated 2 June 2014
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Extension area	The area outside of the existing quarry footprint (i.e. cells D, E, F, G, H and I, as shown conceptually in Appendix 2)
Feasible	Feasible relates to engineering considerations and what is practical to build
GDE	Groundwater Dependent Ecosystem
GPS	Global Positioning System
Growth Centres SEPP	<i>State Environmental Planning Policy (Sydney Regional Growth Centres) 2006</i>
Ha	Hectare
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in schedules 3 and 4 of this consent

	where it is defined to mean the whole of a lot, or contiguous lots, owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
m	Metres
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
OEH	NSW Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (or its subsidiary)
Quarrying operations	Includes the removal of overburden and extraction, handling, storage and transportation of extractive materials on site
Raw materials	Raw materials imported for use in brick making including clay/shale and additives (such as manganese and iron oxides)
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition, ensuring that it is safe, stable and non-polluting and appropriately revegetated
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
SEE (Mod 1)	Statement of Environmental Effects titled ' <i>Section 96(1A) Modification Supporting Information</i> ' dated August 2016 and prepared by Element Environment, including the Response to Submissions document dated September 2016
Site	The land listed under "Land" in schedule 1
Shoulder	The period between 6am to 7am on Monday to Saturday
South West Growth Centre	An area of land identified under the Growth Centres SEPP

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this consent, the Applicant **must** implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant **must**:
 - (a) carry out the development generally in accordance with the EIS **and SEE (Mod 1)**; and
 - (b) the conditions of this consent.

Note: The general layout of the development is shown in Appendix 2.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant **must** comply with any reasonable requirement/s of the Secretary arising the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
 - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Quarrying and Brick Making Operations

5. The Applicant may carry out quarrying **operations** and brick making operations from the date of commencement of development under this consent until 1 March 2045.

Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.

Production Limits

6. The Applicant **must** not:
 - (a) extract more than 200,000 tonnes of clay/shale from the site in any calendar year;
 - (b) produce more than 263,500 tonnes of bricks at the site in any calendar year;
 - (c) carry out quarrying operations beyond 46 m AHD; and
 - (d) receive more than **321,000** tonnes of raw materials required for brick making to the site in any calendar year.

Transportation Limits

7. The Applicant **must** not:
 - (a) transport more than 263,500 tonnes of bricks from the site in a calendar year;
 - (b) receive more than 90 trucks to the site per day or more than 18 trucks per hour; and
 - (c) dispatch more than 90 trucks from the site per day or more than 18 trucks per hour.

NOTIFICATION OF COMMENCEMENT

8. **Prior to commencing development under this consent, the Applicant must notify the Department in writing of the date on which it will commence development permitted under this consent.**

SURRENDER OF EXISTING DEVELOPMENT CONSENT

9. Within 4 months of commencing development under this consent, the Applicant must surrender the development consent (DA 91/1194) for existing operations on the site in accordance with Section 104A of the EP&A Act.

Following the commencement of development under this consent, the conditions of this consent (including any notes) shall prevail to the extent of any inconsistency with the conditions of the existing development consent (DA 91/1194).

STRUCTURAL ADEQUACY

10. The Applicant must ensure that any new buildings and structures, and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

DEMOLITION

11. The Applicant must ensure that all demolition work on site is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

12. The Applicant must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

13. The Applicant must ensure that all plant and equipment used on site or any monitoring equipment used off site for monitoring the performance of the development is:
- (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

UPDATING AND STAGING STRATEGIES, PLANS OR PROGRAMS

14. With the approval of the Secretary, the Applicant may submit any strategies, plans or programs required by this consent on a progressive basis.

To ensure the strategies, plans or programs under the conditions of this consent are updated on a regular basis, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval.

With the agreement of the Secretary, the Applicant may prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent.

Notes:

- While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

15. Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant **must** implement the existing strategies, plans or programs for the site that have been approved under DA 91/1194.

IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

16. Prior to undertaking quarrying operations in the extension area, the Applicant **must**:
- (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and
 - (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.
17. While quarrying operations are being carried out, the Applicant **must** ensure that these boundaries are clearly marked at all times to allow operating staff and inspecting officers to clearly identify the approved limits of extraction.

PRODUCTION DATA

18. The Applicant **must**:
- (a) provide annual quarry production data to DRE using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 4 of schedule 5).

DEVELOPER CONTRIBUTIONS

19. The Applicant **must** pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to CPI. Each payment must be:
- (a) paid to Council at the end of each calendar year; and
 - (b) based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site.

Note: If the parties are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

HOURS OF OPERATION

- The Applicant **must** comply with the operating hours set out in Table 1.

Table 1: Operating Hours

Activity	Operating Hours
<ul style="list-style-type: none"> Quarrying operations Deliveries Dispatch of finished bricks 	6am to 6pm, Monday to Friday 6am to 1pm, Saturday No activities on Sundays or Public Holidays
Brick making operations (except dispatch of finished bricks)	24 hours a day, 7 days a week
Construction activities	7am to 6pm, Monday to Friday 8am to 1pm, Saturday No construction to be undertaken on Sundays or Public Holidays

NOISE

Noise Criteria

- The Applicant **must** ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Activity	Receiver	Day/Evening/Shoulder	Night	
		<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{A1}(max)</i>
Brick making and quarrying	R1, R2	47	Not Applicable	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brick making	All receivers	44	43	53

Notes:

- To locate the receivers referred to in Table 2 refer to Appendix 3.
- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this consent prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL.

Appendix 5 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

Construction Noise

- The Applicant **must** manage noise generated during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road, in accordance with the guidelines specified in Table 2 of the *Interim Construction Noise Guideline*.

Note: Management guidelines are applicable to receivers 3 and 4, shown in Appendix 3.

Noise Bunds

4. The Applicant must ensure that the noise bund adjacent to the northern boundary of the extraction area is constructed prior to the commencement of quarrying operations in the extension area.
- 4A. The Applicant must ensure that the noise bund adjacent to Greendale Road is constructed prior to the commencement of brick making operations.

Operating Conditions

5. The Applicant **must**:
 - (a) implement all reasonable and feasible mitigation measures to minimise construction, operational and road noise of the development;
 - (b) implement periods of respite during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road;
 - (c) regularly assess noise monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the noise criteria in this consent;
 - (d) maintain the effectiveness of noise suppression equipment on plant and equipment on site;
 - (e) minimise the noise impacts of the development during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 5); and
 - (f) carry out regular noise monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

Noise Management Plan

6. The Applicant **must** prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the reasonable and feasible mitigation measures that would be implemented to ensure:
 - construction noise is minimise;
 - compliance with the relevant noise criteria and operating conditions in this consent;
 - best management practice is being employed; and
 - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply;
 - (d) describe the proposed noise management system on site; and
 - (e) include a quarterly (or as otherwise agreed with the Secretary) noise monitoring program that:
 - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent;
 - evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Criteria

7. The Applicant **must** implement all reasonable and feasible avoidance and mitigation measures so that particulate matter emissions generated by the development do not exceed the criteria in Tables 3 to 6 at any residence on privately-owned land.

Table 3: Long-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Total suspended particulates (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 4: Short-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 5: Long-Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Table 6: Long and Short-Term Stack Emissions

Pollutant	Averaging period	^d Criterion
Sulphur Dioxide	10-minute	712 µg/m ³
	1-Hour	570 µg/m ³
	24-Hour	228 µg/m ³
	Annual	60 µg/m ³
Nitrogen Dioxide	1-Hour	246 µg/m ³
	Annual	62 µg/m ³
Hydrogen Chloride	1 hour	0.14 mg/m ³

Notes to Tables 3-6:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

Operating Conditions

8. The Applicant **must**:
 - (a) implement all reasonable and feasible measures to minimise the stack and dust emissions of the development;
 - (b) minimise surface disturbance and maximise progressive rehabilitation;
 - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note (d) to Tables 3-6 above); and
 - (d) monitor and report on compliance with the relevant air quality conditions in this consent; to the satisfaction of the Secretary.

Air Quality Management Plan

9. The Applicant **must** prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the measures that would be implemented to ensure:
 - compliance with the air quality criteria and operating conditions under this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions;
 - (d) describe the air quality management system; and
 - (e) include an air quality monitoring program that:
 - evaluates and reports on:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality criteria and operating conditions; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

METEOROLOGICAL MONITORING

10. For the life of the development, the Applicant **must** ensure that there is a suitable meteorological station operating in the vicinity of the site that:
 - (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuous measurement of stability class, in accordance with the *NSW Industrial Noise Policy*, or as otherwise approved by EPA.

TRANSPORT

Monitoring of Product Transport

11. The Applicant **must** keep accurate records of the:
 - (a) **tonnage** of bricks transported from the site (monthly and annually);
 - (b) amount of raw material imported to the site (monthly and annually); and
 - (c) **tonnage of each type of raw materials imported to the site (monthly and annually);** and provide the Secretary with a summary of this information upon request.

Parking

12. The Applicant **must** provide sufficient parking on-site for all development-related traffic, in accordance with Camden Council's parking codes, to the satisfaction of the Secretary.

Operating Conditions

13. The Applicant **must** ensure that:
 - (a) all development-related heavy vehicles enter and exit the site in a forward direction;
 - (b) all laden vehicles entering or exiting the site have their loads covered (with the exception of vehicles carrying bricks);
 - (c) all laden vehicles that have accessed the extraction and/or stockpile areas are cleaned of sand and other material that may fall on the road, before leaving the site;
 - (d) all heavy vehicles exiting the site travel east of the site along Greendale Road to The Northern Road and/or Bringelly Road;
 - (e) the dispatch of laden trucks is avoided during the peak drop-off and pick-up times at the Bringelly Public School to the greatest extent practicable, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS; and
 - (f) no trucks queue at the entrance to the site before 6am.

Access Road Intersection Construction

14. Within 12 months of commencing development under this consent, unless otherwise agreed with the Secretary, the Applicant must design and construct the new site access road intersection with Greendale Road in accordance with applicable AUSTROADS standards, to the satisfaction of Camden Council. The Applicant must notify the Secretary in writing within 30 days of obtaining Council approval.

Within 7 days of completing construction and the new site access road being operational, the existing site access road must be permanently closed.

Transport Management Plan

15. The Applicant **must** prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School, and be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (b) describe the measures that would be implemented to ensure compliance with the transport operating conditions under this consent, including specific measures to avoid **the arrival and**

- [dispatch](#) of laden trucks from the site during the peak drop-off and pick-up times at the Bringelly Public School;
- (c) include a Code of Conduct for heavy vehicle drivers that addresses:
- travelling speeds;
 - [procedures to minimise noise including a regular Truck Noise Auditing Program](#);
 - [procedures to minimise diesel exhaust emissions](#);
 - instructions to avoid grouping or convoying of trucks;
 - procedures to ensure that drivers adhere to the designated haulage routes and the haulage hours permitted under this consent;
 - instructions to drivers not to overtake each other on the haulage route, as far as practicable, and to maintain appropriate distances between vehicles; and
 - instruction to drivers to be properly safety conscious and to strictly obey all traffic regulations, particularly in relation to school zones along Greendale Road; and
- (d) describe the measures that would be put in place to ensure compliance with the drivers' Code of Conduct and include a program to monitor the effectiveness of the implementation of these measures.

[The Applicant must implement the approved management plan as approved from time to time by the Secretary.](#)

SOIL AND WATER

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development, including in respect of the extraction and/or interception of groundwater.

Water Supply

16. The Applicant [must](#) ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply to the satisfaction of the Secretary.

Water Discharges

17. The Applicant [must](#) comply with the discharge limits in any EPL or with Section 120 of the POEO Act.

Water Management Plan

18. The Applicant [must](#) prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified person/s approved by the Secretary;
 - (b) be prepared in consultation with the EPA and [DPI Water](#);
 - (c) be submitted to the Secretary for approval [prior to the commencement of development under this consent](#), unless the Secretary agrees otherwise;
 - (d) include a Site Water Balance that:
 - includes details of:
 - quantity of water required to support operations;
 - sources and security of water supply;
 - water use and management on site;
 - reporting procedures; and
 - measures to be implemented to minimise potable water use on site;
 - (e) include a Surface Water Management Plan, that includes:
 - baseline data on surface water flows and quality in the watercourses that could be affected by the development;
 - a description of the surface water management system on site, including:
 - clean water diversions;
 - erosion and sediment controls;
 - the dirty water management system; and
 - water storages (addressing maximum harvestable rights if applicable);
 - performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts;
 - a program to monitor and report on:
 - any surface water discharges;

- the effectiveness of the water management system; and
 - surface water flows and quality in local watercourses;
 - a plan to respond to any exceedances of the performance criteria.
- (f) a Groundwater Management Plan, which includes:
- baseline data on groundwater levels, yield and quality in surrounding aquifers;
 - groundwater assessment and performance criteria, including trigger levels for investigating potentially adverse groundwater impacts;
 - a program to monitor:
 - groundwater inflows to the quarry pit; and
 - impacts of the development on surrounding aquifers;
 - an analysis of the monitoring results to determine long-term water levels within the quarry void; and
 - a plan to respond to any exceedances of the performance criteria.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

BIODIVERSITY

Biodiversity Offset Strategy

19. The Applicant **must** implement the Biodiversity Offset Strategy described in the EIS, as summarised in Table 7 and shown conceptually in Appendix 4, to the satisfaction of the Secretary.

Table 7: Summary of the Biodiversity Offsets

Area	Offset Criteria	Size (Ha)
On-site offset	Existing vegetation to be enhanced to establish an area of native woodland comprising species associated with Cumberland Plain Woodland.	1.93

Security of Offsets

20. Within 2 years of **notifying the Department of commencement of development (see condition 8 of Schedule 2)**, unless otherwise agreed with the Secretary, the Applicant **must** make suitable arrangements to provide appropriate long-term security for the offset area, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Biodiversity Management Plan

21. The Applicant **must** prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the OEH and Camden Council;
 - (b) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - (c) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;
 - (d) describe the short, medium, and long term measures that would be implemented to:
 - manage the remnant vegetation and habitat on the site and in the offset area and;
 - implement the biodiversity offset strategy, including detailed performance and completion criteria;
 - (e) include performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);
 - (f) include a description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - maximising the salvage of resources within the approved disturbance area - including vegetative, soil and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area;

- minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings;
 - controlling weeds and feral pests;
 - controlling erosion;
 - controlling access; and
 - bushfire management;
- (g) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and
- (h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

Conservation Bond

22. Within 6 months of the approval of the Biodiversity Management Plan, the Applicant **must** lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan.

The sum of the bond **must** be determined by:

- a. calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and
- b. employing a suitably qualified quantity surveyor to verify the calculated costs,
- c. to the satisfaction of the Secretary.

The calculation of the conservation bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond.

If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.

Notes:

- *Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation bond.*
- *The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.*

REHABILITATION

Rehabilitation Objectives

23. The Applicant **must** rehabilitate the site to the satisfaction of the Secretary. Rehabilitation must:
- a. comply with the objectives in Table 8; and
 - b. be generally consistent with the proposed rehabilitation strategy in the EIS, and the final land form shown conceptually in Appendix 4 (unless modified by the Final Land Use Options Plan, prepared in accordance with condition 25 of this consent).

Table 8: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	<ul style="list-style-type: none"> • Safe, stable and non-polluting • Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native species and habitat

Surface infrastructure	<ul style="list-style-type: none"> To be decommissioned and removed (unless the Secretary agrees otherwise)
Final void	<ul style="list-style-type: none"> Minimise the size, depth and slope of the batters of the final void Minimise the drainage catchment of the final void
Quarry pit floor	<ul style="list-style-type: none"> Landscaped and revegetated using native flora species, above the anticipated final void water level
Community	<ul style="list-style-type: none"> Ensure public safety

Progressive Rehabilitation

24. The Applicant **must** rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

Final Land Use Options Plan

25. The Applicant **must** prepare a Final Land Use Options Plan for the site to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with DRE and Camden Council;
 - be submitted to the Secretary for approval within 2 years of the date of [notifying the Department of commencement of development \(see condition 8 of Schedule 2\)](#), unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated final land uses for the site;
 - ensure that the conceptual final land form is compatible with surrounding land uses, and is consistent with the rehabilitation objectives in Table 8 and the objectives of the Growth Centres SEPP for the South West Growth Centre;
 - inform the Rehabilitation Management Plan (prepared in accordance with condition 26 of this consent); and
 - be reviewed every 7 years to account for applicable land use priorities, and if necessary updated.

Rehabilitation Management Plan

26. The Applicant **must** prepare a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH, DRE, [DPI Water](#) and Camden Council;
 - be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated land uses for the site (which must be consistent with the Final Land Use Options Plan under condition 25 of this consent);
 - describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
 - include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any necessary remedial action;
 - include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; and
 - include details of who would be responsible for monitoring, reviewing, and implementing the plan.

[The Applicant must implement the approved management plan as approved from time to time by the Secretary.](#)

Note: The Rehabilitation Management Plan must be reviewed, and if necessary updated, following any update of the Final Land Use Options Plan.

HERITAGE

Heritage Management Plan

27. The Applicant **must** prepare a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH;
 - (a) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - b. describe the measures that would be implemented to:
 - manage identified heritage objects, previously unidentified heritage objects or the discovery of any human remains on site;
 - ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site; and
 - protect sites identified adjacent to the development.

The Applicant **must** implement the approved management plan as approved from time to time by the Secretary.

VISUAL

28. The Applicant **must** establish a vegetation screen on both noise bunds, as soon as practicable after construction of the bunds, to minimise visibility of site infrastructure from outside the development area. Following establishment, the Applicant **must** maintain the vegetation screen, to the satisfaction of the Secretary.
29. The Applicant **must**:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development; and
 - b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version.

BUSHFIRE MANAGEMENT

30. The Applicant **must**:
- ensure that the development is suitably equipped to respond to any fires on site; and
 - b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as practicable if there is a fire in the surrounding area.

WASTE

31. Prior to importing onto the site any material that may be classified as a waste under the EPA *Waste Classification Guidelines 2009* (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department.

Note: This condition does not apply to routine deliveries to the site.

32. The Applicant **must**:
- manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Camden Council; and
 - b) pump all sewage generated and stored on-site to a sewage treatment facility, unless otherwise agreed with the Secretary.
33. The Applicant **must**:
- minimise the waste generated by the development;
 - b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing an exceedance of any relevant criteria in schedule 3, the Applicant **must** notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria.

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant **must**:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3;
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Adaptive Management

2. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.

Management Plan Requirements

3. The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:

- impacts and environmental performance of the development; and
- effectiveness of any management measures (see (c) above);
- (e) a contingency plan to manage any unpredicted impacts and their consequences;
- (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
- (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

4. By the end of September each year, the Applicant [must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary](#). This review must:
 - (a) describe the development (including rehabilitation) that was carried out in the previous [financial](#) year, and the development that is proposed to be carried out over the current [financial](#) year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous [financial](#) year, which includes a comparison of these results against:
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the [documents in condition 2\(a\) of Schedule 2](#);
 - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current [financial](#) year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

5. [Within 3 months of the submission of an:](#)
 - (a) [Annual Review under condition 4 above;](#)
 - (b) [incident report under condition 7 below;](#)
 - (c) [audit report under condition 9 below; and](#)
 - (d) [any modifications to this consent,](#)
 the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Community Consultative Committee

6. The Applicant [must](#) establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the [Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments](#) (Department of Planning, 2007, or its latest version), and be operating [prior to the commencement of development under this consent](#).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*

- In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Camden Council and the local community.

REPORTING

Incident Reporting

7. The Applicant **must** immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant **must** provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Applicant **must** provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within a year of **commencing development under this consent**, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant **must** commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any approved strategy, plan or program required under these approvals;
 - (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; **and be conducted and reported to the satisfaction of the Secretary.**

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

10. Within **12 weeks of commencing** this audit, unless the Secretary agrees otherwise, the Applicant **must** submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

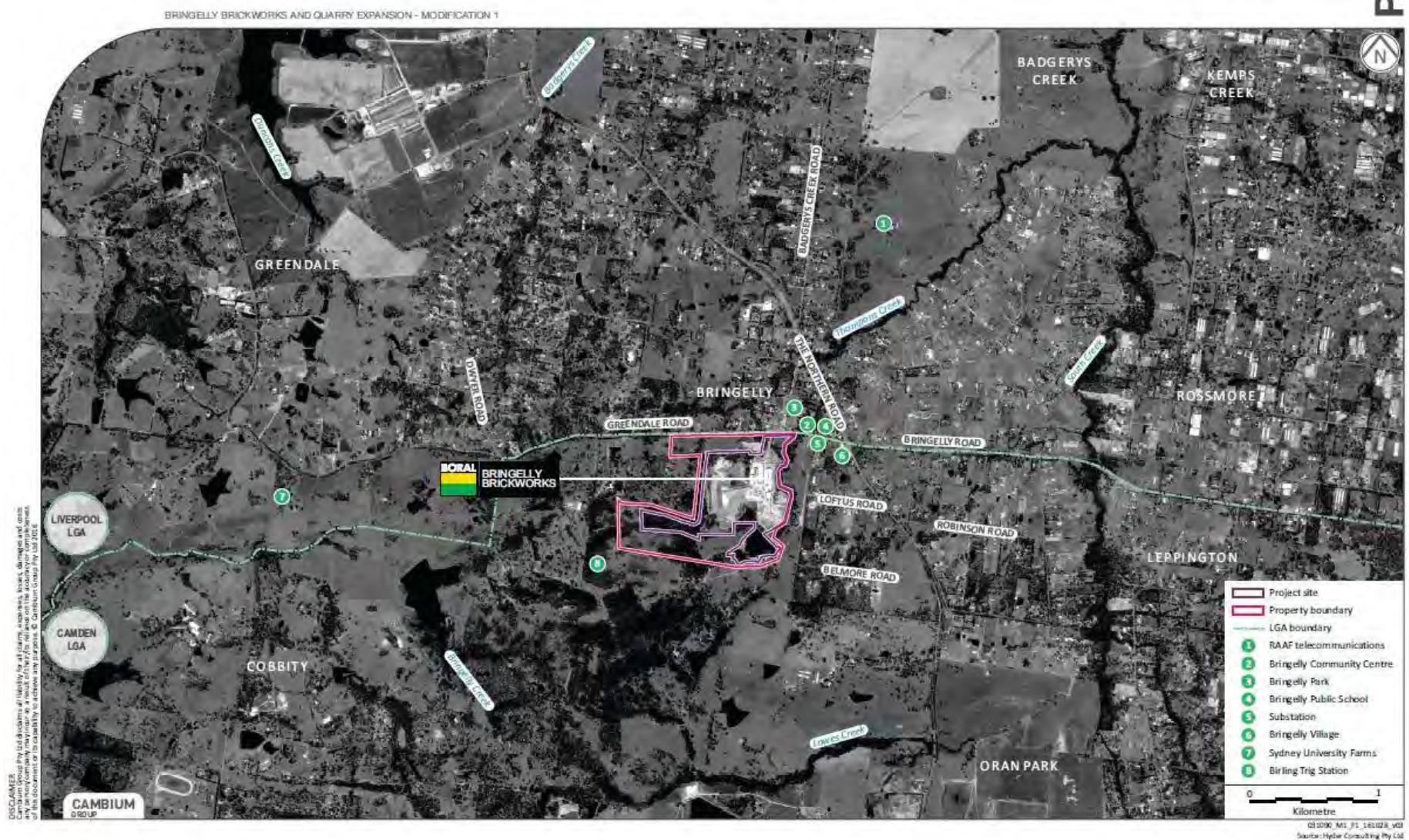
Within 7 days of commencing the audit, the Applicant must notify the Department in writing of the commencement of the audit.

ACCESS TO INFORMATION

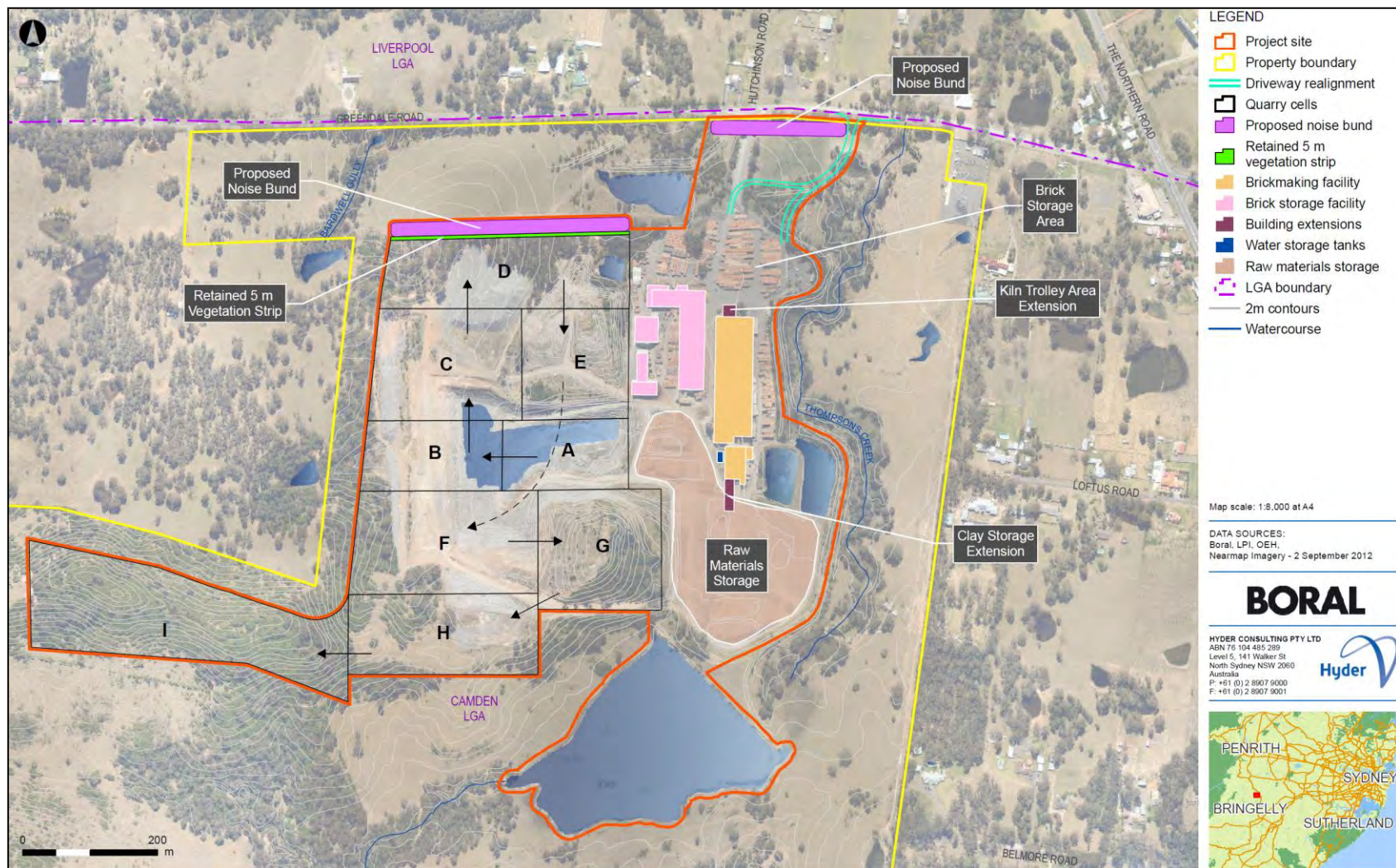
11. Within 6 months of **commencing development under this consent**, the Applicant **must**:
 - (a) make copies of the following publicly available on its website:
 - the documents in **condition 2(a) of Schedule 2**;
 - current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, which is to be updated monthly;
 - minutes of CCC meetings;
 - the annual reviews of the development (for the last 5 years);
 - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Secretary; and

(b) keep this information up-to-date,
to the satisfaction of the Secretary.

APPENDIX 1 DEVELOPMENT AREA



APPENDIX 2 DEVELOPMENT LAYOUT



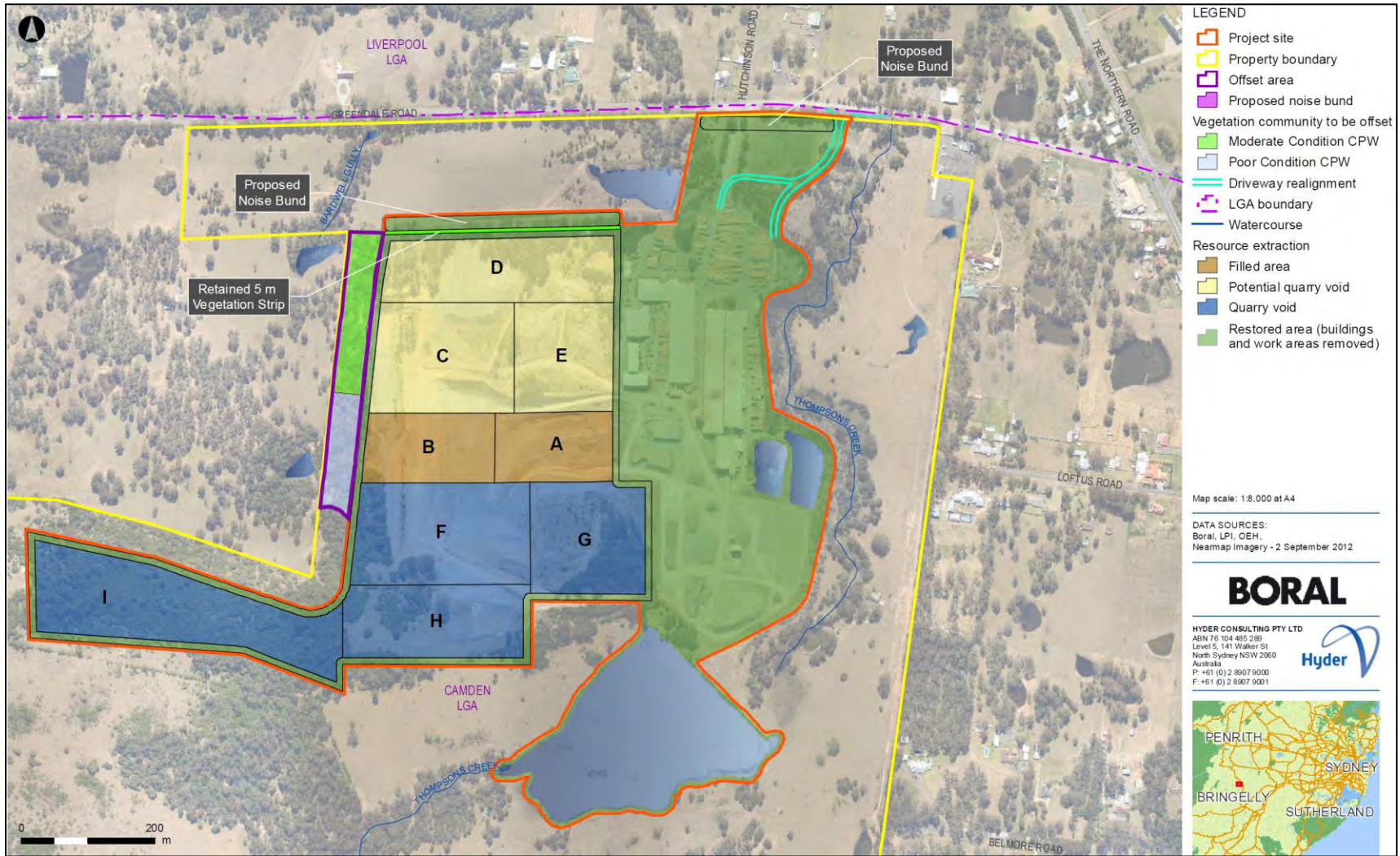
APPENDIX 3 RECEIVER LOCATIONS



Receiver number	Receiver address
1	55 Loftus Road
2	54 Loftus Road
3	20 Greendale Road
4	9 Greendale Road
5	5 Greendale Road (Bringelly Community Centre)
6	46 Loftus Road
7	36 Loftus Road
8	47 Loftus Road
9	37 Loftus Road
10	27 Loftus Road
11	26 Loftus Road
12	15 Loftus Road
13	5 Loftus Road
14	23 Greendale Road
15	27 Greendale Road
16	29 Greendale Road
17	25 Greendale Road
18	31 Greendale Road
19	35 Greendale Road
20	170 Tyson Road
21	196 Greendale Road
22	46 Belmore Road
23	55 Belmore Road
24	63 Belmore Road
25	67 Belmore Road
26	73 Belmore Road
27	83-85 Belmore Road
28	76 Belmore Road
29	86 Belmore Road
30	87 Belmore Road
31	93 Belmore Road
32	95-97 Belmore Road
33	107 Belmore Road
34	96 Belmore Road
35	108 Belmore Road
36	1037 Northern Road
37	10 Greendale Road
38	Bringelly Public School

APPENDIX 4

CONCEPTUAL FINAL LANDFORM AND BIODIVERSITY OFFSET STRATEGY



APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following:
 - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - (b) temperature inversion conditions between 1.5 °C and 3°C/100 m and wind speeds greater than 2 m/s at 10 m above ground level; or
 - (c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions **must** be that recorded by the meteorological station on or in the vicinity of the site.

Compliance Monitoring

3. Unless directed otherwise by the Secretary, quarterly attended monitoring is to be used to evaluate compliance with the relevant conditions of consent.

Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.

4. Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

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Noise Monitoring Assessment

PGH Bringelly Brickworks
Bringelly, NSW
Quarter Ending May 2023



Document Information

Noise Monitoring Assessment

PGH Bringelly Brickworks

Bringelly, NSW

Quarter Ending May 2023

Prepared for: PGH Bricks & Pavers Pty Ltd

60 Greendale Road

Bringelly NSW 2256



Prepared by: Muller Acoustic Consulting Pty Ltd

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Document ID	Date	Prepared By	Signed	Reviewed By	Signed
MAC190946-02RP10	19 May 2023	Nicholas Shipman		Oliver Muller	

DISCLAIMER

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APPENDIX A – GLOSSARY OF TERMS

APPENDIX B – DEVELOPMENT CONSENT

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by PGH Bricks & Pavers Pty Ltd (PGH) to complete a Noise Monitoring Assessment (NMA) for the PGH Bringelly Brickworks (the site) at 60 Greendale Road, Bringelly, NSW.

This assessment has been undertaken for the quarterly period ending May 2023, and forms part of the annual noise monitoring program to address conditions outlined in the Development Consent and Environmental Protection Licence (EPL).

The NMA has quantified potential operational and sleep disturbance noise emissions from the operation and has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA's), Approved methods for the measurement and analysis of environmental noise in NSW, 2022;
- Environment Protection Licence EPL 1808 (EPL);
- Bringelly Brickworks Noise Management Plan (NMP ref BRK-BRI-NMP Version 4 dated 12.02.19), 2019;
- Bringelly Brickworks Development Consent, 2015 (SSD_5684); and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

Section L4 of the projects EPL (EPL #1808) outlines the applicable operational noise criteria for all privately owned receivers surrounding the project. The criteria outlined in the EPL is reproduced below in **Table 1** along with relevant noise conditions.

L4.1 Noise from the mobile plant must not exceed an LA10 (15 minute) noise emission criterion of 35 dB(A) at all times except as expressly provided by this licence.

L4.2 Noise from the premises must not exceed an LA10 (15 minute) noise emission criterion of 35 dB(A) at all times except as expressly provided by this licence.

L4.3 Noise from the premises is to be measured or computed at any point within 30 meters of the most affected residence to determine compliance with condition L4.1 and L4.2. 5dB(A) must be added if the noise is tonal or impulsive in character.

Table 1 EPL Noise Criteria¹

Receiver	Activity	All Operating Periods dB LA10(15min)
All receiver locations	Mobile Plant	35
	Total noise from premises	

Note 1: Noise criteria adopted from the EPL (EPL #1808).

The Bringelly Brickworks NMP outlines the applicable noise criteria for representative residential receivers surrounding the site and are presented in **Table 2**. The site includes the operation of a quarry and brickmaking plant, and as the quarry operates during the daytime, there are separate criteria relating to each period.

Table 2 Development Consent Noise Criteria¹

Activity	Receiver	Day/Evening/Shoulder ^{2,3}	Night ²	
		dB LAeq(15min)	dB LAeq(15min)	dB LA1(max) ³
Brickmaking and quarrying	R1, R2	47	N/A	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brickmaking	All Receivers	44	43	53

Note 1: Noise criteria adopted from the Development Consent.

Note 2: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note 3: Periods and parameters as expressed in the Development Consent.


Figure 1 presents the identified receiver locations and representative measurement locations.

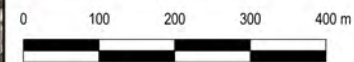
Section 4 of the Bringelly Brickworks Development Consent, 2015 (SSD_5684, see **Appendix B**) outlines requirements for Noise Bunds adjacent to the northern boundary of the extraction area and adjacent to Greendale Road. It is noted that the proposed new access road and associated noise bund adjacent to Greendale Road are not in place at the time of the monitoring. Further details on review of noise mitigation measures for the site are contained in a historic report (MAC190946LR1, 29 September 2019).



FIGURE 1
SITE LAYOUT
MAC190946-02
PGH Bringelly Brickworks

KEY

-  Monitoring Locations
-  Receivers



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3 Methodology

3.1 Locality

PGH Bringelly Brickworks is located at 60 Greendale Road, Bringelly, NSW. Receivers in the locality surrounding the site are primarily rural/residential and for consistency the naming conventions for each receiver have been retained from historic noise assessments. The monitoring locations with respect to PGH are presented in the locality plan shown in **Figure 1**.

3.2 Assessment Methodology

The attended noise measurements were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and as per Approved methods for the measurement and analysis of environmental noise in NSW (EPA, 2022). Measurements were conducted using a Svantek Type 1, 971 noise analyser. The acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed $\pm 0.5\text{dBA}$.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. Measurements were conducted at five locations (N1, N3, N14, N20, N35) on Thursday 27 April 2023 during the day, evening, and night periods to satisfy the requirements of the NMP.

Extraneous noise sources were excluded from the analysis to determine the $\text{LAeq}(15\text{min})$ quarry noise contribution for comparison against the relevant criteria. In the event of site attributed noise being above criteria, prevailing meteorological conditions for the monitoring period are analysed in accordance with Fact Sheet D of the NPI to determine the stability category present at the time of each attended measurement.

Where the site is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.

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4 Results

4.1 Meteorological Conditions

Weather data for the noise assessment period was sourced from Badgerys Creek AWS Site 67108 as well as operator measured conditions at each EPL nominated receiver location. The data was used to determine prevailing meteorological conditions at the time of the attended measurements. Meteorological data is presented in **Table 3** and generally are below levels where noise limits are applicable, furthermore, wind speed at the microphone height satisfy requirements of Fact Sheet A of the NPI.

Table 3 Prevailing Meteorological Conditions

Time & Date	Badgerys Creek AWS Site 67108 (10m AGL)		Operator Measured Weather Monitoring Location (1.8m AGL)	
	Wind Direction	Wind (m/s)	Wind Direction	Wind (m/s)
27/04/2023 15:05	ENE	1.6	E	0.6
27/04/2023 15:28	E	3.0	E	0.6
27/04/2023 15:48	E	3.5	E	0.5
27/04/2023 16:09	ENE	4.0	E	0.2
27/04/2023 16:31	E	3.0	E	0.2
27/04/2023 19:57	NE	1.6	E	0.1
27/04/2023 20:20	NE	1.6	E	0.1
27/04/2023 20:41	NE	1.6	E	0.1
27/04/2023 20:59	NE	2.4	E	0.1
27/04/2023 21:17	NE	1.1	E	0.1
27/04/2023 22:00	NE	1.6	E	0.1
27/04/2023 22:22	NE	0.5	E	0.1
27/04/2023 22:43	N	0	E	0.1
27/04/2023 23:02	NE	1.1	E	0.1
27/04/2023 23:20	NE	1.9	E	0.1

4.2 Assessment Results - Location N1

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N1 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N1

Date	Time (hrs)	Descriptor (dBA re 20 µPa)					Meteorology	Description and SPL, dBA
		LAMax	LA1	LAeq	LA90	LA10		
27/04/2023	15:28 (Day)	75	66	53	41	52	WD: E WS: 0.6m/s Rain: Nil	Traffic 40-75
								Birds 40-46
								Insects <40
								Aircraft 40-44
								PGH site inaudible
PGH Site LAeq(15min) Contribution								<31
27/04/2023	20:20 (Evening)	70	49	45	43	46	WD: E WS: 0.1m/s Rain: Nil	Insects 42-43
								Traffic 42-48
								Dog bark 42-44
								Birds 46-49
								Operator 64-70
PGH site inaudible								
PGH Site LAeq(15min) Contribution								<33
27/04/2023	22:22 (Night)	59	52	47	45	48	WD: E WS: 0.1m/s Rain: Nil	Insects <44
								Traffic 44-59
								PGH site inaudible
PGH Site LAeq(15min) Contribution								<35
PGH Site LA1(max) Contribution								<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in **Table 5**.

Table 5 Operator-Attended Noise Survey Results – Location N3

Date	Time (hrs)	Descriptor (dBA re 20 µPa)					Meteorology	Description and SPL, dBA
		LAMax	LA1	LAeq	LA90	LA10		
27/04/2023	15:48 (Day)	77	74	63	46	67	WD: E	Traffic 42-77
							WS: 0.5m/s	Birds 42-46
							Rain: Nil	PGH site inaudible
PGH Site LAeq(15min) Contribution								<36
27/04/2023	20:41 (Evening)	76	70	58	45	59	WD: E	Insects <42
							WS: 0.1m/s	Traffic 44-76
							Rain: Nil	Recreational noise <42
PGH Site LAeq(15min) Contribution								PGH site inaudible
PGH Site LAeq(15min) Contribution								<35
27/04/2023	22:43 (Night)	76	68	54	44	51	WD: E	Insects <42
							WS: 0.1m/s	Traffic 42-76
							Rain: Nil	PGH site inaudible
PGH Site LAeq(15min) Contribution								<34
PGH Site LA1(max) Contribution								<34

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N14

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N14 for the NMA are presented in **Table 6**.

Table 6 Operator-Attended Noise Survey Results – Location N14

Date	Time (hrs)	Descriptor (dBA re 20 µPa)					Meteorology	Description and SPL, dBA
		LAMax	LA1	LAeq	LA90	LA10		
27/04/2023	16:09 (Day)	87	77	64	46	66	WD: E	Traffic 42-87
							WS: 0.2m/s	Birds 44-50
							Rain: Nil	Aircraft 42-50
								PGH site inaudible
PGH Site LAeq(15min) Contribution								<36
27/04/2023	20:59 (Evening)	73	68	54	40	55	WD: E	Insects <37
							WS: 0.1m/s	Dog bark 41-48
							Rain: Nil	Traffic 40-73
								Recreational noise 41-44
								Birds 41-48
								PGH site inaudible
PGH Site LAeq(15min) Contribution								<30
27/04/2023	23:02 (Night)	73	62	49	40	48	WD: E	Traffic 38-73
							WS: 0.1m/s	Insects <38
							Rain: Nil	PGH site inaudible
PGH Site LAeq(15min) Contribution								<30
PGH Site LA1(max) Contribution								<30

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N20

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N20 for the NMA are presented in **Table 7**.

Table 7 Operator-Attended Noise Survey Results – Location N20

Date	Time (hrs)	Descriptor (dBA re 20 µPa)					Meteorology	Description and SPL,
		LAMax	LA1	LAeq	LA90	LA10		dBA
27/04/2023	16:31 (Day)	91	84	72	42	75	WD: E	Traffic 40-91
							WS: 0.2m/s	Birds 40-46
							Rain: Nil	PGH site inaudible
PGH Site LAeq(15min) Contribution								<32
27/04/2023	21:17 (Evening)	88	77	64	39	57	WD: E	Insects <37
							WS: 0.1m/s	Traffic 37-88
							Rain: Nil	PGH site inaudible
PGH Site LAeq(15min) Contribution								<29
27/04/2023	23:20 (Night)	90	66	60	37	45	WD: E	Traffic 35-90
							WS: 0.1m/s	Insects <35
							Rain: Nil	Dog bark 40-43
PGH Site LAeq(15min) Contribution								<27
PGH Site LA1(max) Contribution								<27

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.6 Assessment Results - Location N35

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N35 for the NMA are presented in **Table 8**.

Table 8 Operator-Attended Noise Survey Results – Location N35

Date	Time (hrs)	Descriptor (dBA re 20 µPa)					Meteorology	Description and SPL, dBA
		LAMax	LA1	LAeq	LA90	LA10		
27/04/2023	15:05 (Day)	64	55	45	37	47	WD: E WS: 0.6m/s Rain: Nil	Traffic 35-64
								Birds 35-41
								Insects <35
								Local residential noise 46-51
								Aircraft 38-42
PGH site inaudible								
PGH Site LAeq(15min) Contribution								<27
27/04/2023	19:57 (Evening)	55	49	43	41	45	WD: E WS: 0.1m/s Rain: Nil	Insects <40
								Traffic 40-55
								PGH site inaudible
PGH Site LAeq(15min) Contribution								<31
27/04/2023	22:00 (Night)	51	46	43	42	44	WD: E WS: 0.1m/s Rain: Nil	Insects <40
								Traffic 40-51
								PGH site inaudible
PGH Site LAeq(15min) Contribution								<32
PGH Site LA1(max) Contribution								<32

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

5 Discussion

5.1 Assessment Results - Location N1

Monitoring on Thursday 27 April 2023 identified that PGH activities were inaudible during the measurement period at location N1. The estimated site contributions were measured below the relevant noise limit of 47dB LAeq(15min). Extraneous sources such as traffic, birds, insects, aircraft, operator and dogs barking were audible during the measurement period.

5.2 Assessment Results - Location N3

Monitoring on Thursday 27 April 2023 identified that PGH activities were inaudible during the measurement period at location N3. The estimated site contributions were measured below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, birds, insects and recreational noise were audible during the measurement period.

5.3 Assessment Results - Location N14

Monitoring on Thursday 27 April 2023 identified that PGH activities were inaudible during the measurement period at location N14. The estimated site contributions were measured below the relevant noise limit of 46dB LAeq(15min). Extraneous sources such as traffic, birds, aircraft, insects, dogs barking, and recreational noise were audible during the measurement period.

5.4 Assessment Results - Location N20

Monitoring on Thursday 27 April 2023 identified that PGH activities were inaudible during the measurement period at location N20. The estimated site contributions were measured below the relevant noise limit of 44dB LAeq(15min). Extraneous sources such as traffic, birds, insects and dogs barking were audible during the measurement period.

5.5 Assessment Results - Location N35

Monitoring on Thursday 27 April 2023 identified that PGH activities were inaudible during the measurement period at location N35. The estimated site contributions were measured below the relevant noise limit of 44dB LAeq(15min). Extraneous sources such as traffic, birds, insects, local residential noise and aircraft were audible during the measurement period.

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6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) commissioned by PGH Bricks & Pavers Pty Ltd (PGH) for the PGH Bringelly Brickworks (the site) at 60 Greendale Road, Bringelly, NSW. The assessment was completed to assess the site's compliance with the relevant noise criteria during the quarter period ending May 2023.

Attended noise monitoring was undertaken on Thursday 27 April 2023 at five representative receiver locations. The assessment has identified that noise emissions generated by Bringelly Brickworks were inaudible during all measurement periods. Therefore, noise emissions were below the relevant noise criteria throughout the survey period, satisfying the relevant consent conditions.

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

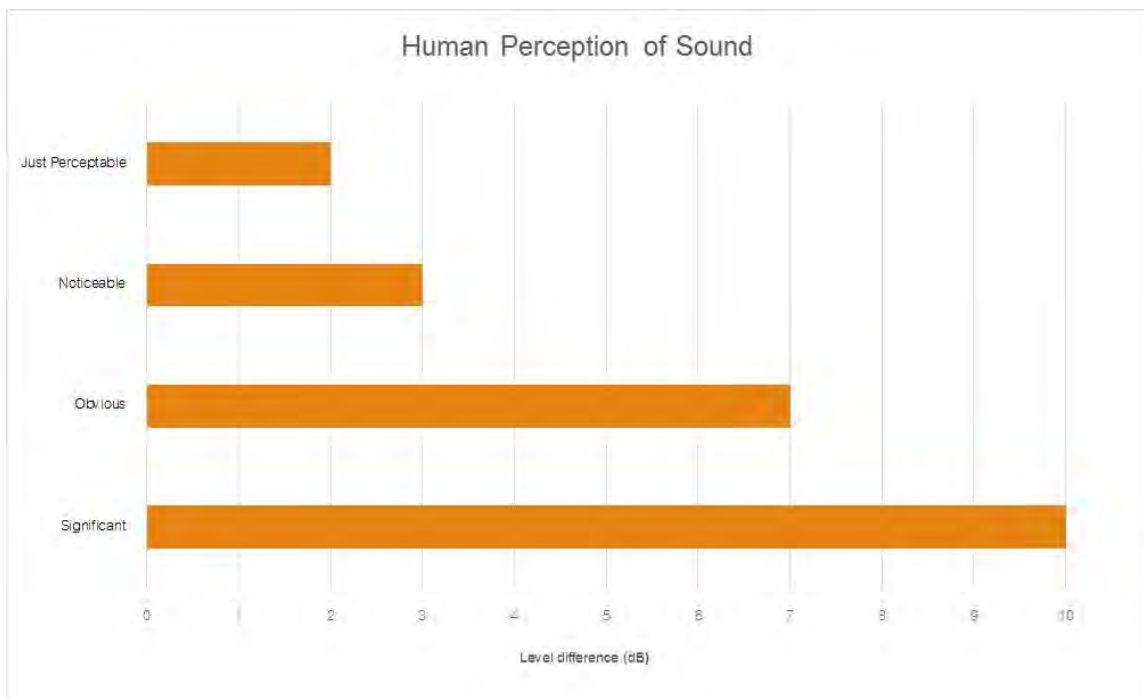
Table A1 Glossary of Acoustical Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmx	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by $10 \cdot \log_{10} (W/W_0)$. Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA

Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Development Consent

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I approve the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

David Kitto
Executive Director
Resource Assessments and Business Systems

Sydney

2015

SCHEDULE 1

Application Number:

SSD_5684

Applicant:

Boral Bricks Pty Ltd

Consent Authority:

Minister for Planning

Land:

[Lot 100 in DP 1203966](#)

Development:

Bringelly Brickworks Extension Project

Modification 1 (October 2016 shown in [blue](#) text)

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DEFINITIONS

AHD	Australian Height Datum
Annual Review	The review required by condition 4 of schedule 5
Applicant	Boral Bricks Pty Ltd, or any other person or persons who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and shown conceptually in Appendix 4
Brick making operations	Includes the receipt, handling, processing, storage and transportation of raw materials on site, brick making on site and transportation of finished bricks on site
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in schedules 1 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
CPI	Australian Bureau of Statistics Consumer Price Index
Date of commencement	The date notified to the Department by the Applicant under condition 8 of Schedule 2
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development described in the documents of condition 2(a) of Schedule 2
Development area	All land to which the development application applies, as listed under "Land" in schedule 1 and shown in Appendix 1
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy, within the NSW Department of Industry
EEC	Endangered Ecological Community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental Impact Statement titled <i>Bringelly Brickworks and Quarry Expansion</i> (2 volumes), dated September 2013, as modified by the Response to Submissions titled, <i>Bringelly Brickworks and Quarry Expansion, Response to Submissions</i> dated February 2014 and the letter entitled <i>Bringelly Brickworks – Biodiversity Offsets</i> , dated 2 June 2014
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Extension area	The area outside of the existing quarry footprint (i.e. cells D, E, F, G, H and I, as shown conceptually in Appendix 2)
Feasible	Feasible relates to engineering considerations and what is practical to build
GDE	Groundwater Dependent Ecosystem
GPS	Global Positioning System
Growth Centres SEPP	<i>State Environmental Planning Policy (Sydney Regional Growth Centres) 2006</i>
Ha	Hectare
Incident	A set of circumstances that: <ul style="list-style-type: none"> causes or threatens to cause material harm to the environment; and/or breaches or exceeds the limits or performance measures/criteria in this consent
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in schedules 3 and 4 of this consent

	where it is defined to mean the whole of a lot, or contiguous lots, owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
m	Metres
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
OEH	NSW Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (or its subsidiary)
Quarrying operations	Includes the removal of overburden and extraction, handling, storage and transportation of extractive materials on site
Raw materials	Raw materials imported for use in brick making including clay/shale and additives (such as manganese and iron oxides)
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition, ensuring that it is safe, stable and non-polluting and appropriately revegetated
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
SEE (Mod 1)	Statement of Environmental Effects titled ' <i>Section 96(1A) Modification Supporting Information</i> ' dated August 2016 and prepared by Element Environment, including the Response to Submissions document dated September 2016
Site	The land listed under "Land" in schedule 1
Shoulder	The period between 6am to 7am on Monday to Saturday
South West Growth Centre	An area of land identified under the Growth Centres SEPP

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this consent, the Applicant **must** implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.

TERMS OF CONSENT

2. The Applicant **must**:
 - (a) carry out the development generally in accordance with the EIS **and SEE (Mod 1)**; and
 - (b) the conditions of this consent.

Note: The general layout of the development is shown in Appendix 2.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant **must** comply with any reasonable requirement/s of the Secretary arising the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent;
 - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Quarrying and Brick Making Operations

5. The Applicant may carry out quarrying **operations** and brick making operations from the date of commencement of development under this consent until 1 March 2045.

Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.

Production Limits

6. The Applicant **must** not:
 - (a) extract more than 200,000 tonnes of clay/shale from the site in any calendar year;
 - (b) produce more than 263,500 tonnes of bricks at the site in any calendar year;
 - (c) carry out quarrying operations beyond 46 m AHD; and
 - (d) receive more than **321,000** tonnes of raw materials required for brick making to the site in any calendar year.

Transportation Limits

7. The Applicant **must** not:
 - (a) transport more than 263,500 tonnes of bricks from the site in a calendar year;
 - (b) receive more than 90 trucks to the site per day or more than 18 trucks per hour; and
 - (c) dispatch more than 90 trucks from the site per day or more than 18 trucks per hour.

NOTIFICATION OF COMMENCEMENT

8. **Prior to commencing development under this consent, the Applicant must notify the Department in writing of the date on which it will commence development permitted under this consent.**

SURRENDER OF EXISTING DEVELOPMENT CONSENT

9. Within 4 months of commencing development under this consent, the Applicant must surrender the development consent (DA 91/1194) for existing operations on the site in accordance with Section 104A of the EP&A Act.

Following the commencement of development under this consent, the conditions of this consent (including any notes) shall prevail to the extent of any inconsistency with the conditions of the existing development consent (DA 91/1194).

STRUCTURAL ADEQUACY

10. The Applicant must ensure that any new buildings and structures, and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.

DEMOLITION

11. The Applicant must ensure that all demolition work on site is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

12. The Applicant must:
- (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
 - (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

13. The Applicant must ensure that all plant and equipment used on site or any monitoring equipment used off site for monitoring the performance of the development is:
- (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

UPDATING AND STAGING STRATEGIES, PLANS OR PROGRAMS

14. With the approval of the Secretary, the Applicant may submit any strategies, plans or programs required by this consent on a progressive basis.

To ensure the strategies, plans or programs under the conditions of this consent are updated on a regular basis, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval.

With the agreement of the Secretary, the Applicant may prepare any revised strategy, plan or program without undertaking consultation with all parties under the applicable condition of this consent.

Notes:

- While any strategy, plan or program may be submitted on a progressive basis, the Applicant must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.
- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.

15. Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant **must** implement the existing strategies, plans or programs for the site that have been approved under DA 91/1194.

IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

16. Prior to undertaking quarrying operations in the extension area, the Applicant **must**:
- (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and
 - (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.
17. While quarrying operations are being carried out, the Applicant **must** ensure that these boundaries are clearly marked at all times to allow operating staff and inspecting officers to clearly identify the approved limits of extraction.

PRODUCTION DATA

18. The Applicant **must**:
- (a) provide annual quarry production data to DRE using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 4 of schedule 5).

DEVELOPER CONTRIBUTIONS

19. The Applicant **must** pay Camden Council road maintenance contributions of \$0.0811 for every tonne of material transported to and from the site, indexed to CPI. Each payment must be:
- (a) paid to Council at the end of each calendar year; and
 - (b) based on weighbridge records of all supplementary brick making materials transported to the site and bricks and spoil transported from the site.

Note: If the parties are not able to agree on any aspect of the maintenance contributions, either party may refer the matter to the Secretary for resolution.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

HOURS OF OPERATION

- The Applicant **must** comply with the operating hours set out in Table 1.

Table 1: Operating Hours

Activity	Operating Hours
<ul style="list-style-type: none"> Quarrying operations Deliveries Dispatch of finished bricks 	6am to 6pm, Monday to Friday 6am to 1pm, Saturday No activities on Sundays or Public Holidays
Brick making operations (except dispatch of finished bricks)	24 hours a day, 7 days a week
Construction activities	7am to 6pm, Monday to Friday 8am to 1pm, Saturday No construction to be undertaken on Sundays or Public Holidays

NOISE

Noise Criteria

- The Applicant **must** ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Activity	Receiver	Day/Evening/Shoulder	Night	
		<i>L_{Aeq}(15 min)</i>	<i>L_{Aeq}(15 min)</i>	<i>L_{A1}(max)</i>
Brick making and quarrying	R1, R2	47	Not Applicable	
	R3, R4, R14	46		
	R15, R17	45		
	All other receivers	44		
Brick making	All receivers	44	43	53

Notes:

- To locate the receivers referred to in Table 2 refer to Appendix 3.
- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this consent prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL.

Appendix 5 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

Construction Noise

- The Applicant **must** manage noise generated during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road, in accordance with the guidelines specified in Table 2 of the *Interim Construction Noise Guideline*.

Note: Management guidelines are applicable to receivers 3 and 4, shown in Appendix 3.

Noise Bunds

4. The Applicant must ensure that the noise bund adjacent to the northern boundary of the extraction area is constructed prior to the commencement of quarrying operations in the extension area.
- 4A. The Applicant must ensure that the noise bund adjacent to Greendale Road is constructed prior to the commencement of brick making operations.

Operating Conditions

5. The Applicant **must**:
 - (a) implement all reasonable and feasible mitigation measures to minimise construction, operational and road noise of the development;
 - (b) implement periods of respite during the construction of the new site access road and associated road alignment works, and the noise bund adjacent to Greendale Road;
 - (c) regularly assess noise monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the noise criteria in this consent;
 - (d) maintain the effectiveness of noise suppression equipment on plant and equipment on site;
 - (e) minimise the noise impacts of the development during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 5); and
 - (f) carry out regular noise monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

Noise Management Plan

6. The Applicant **must** prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the reasonable and feasible mitigation measures that would be implemented to ensure:
 - construction noise is minimise;
 - compliance with the relevant noise criteria and operating conditions in this consent;
 - best management practice is being employed; and
 - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply;
 - (d) describe the proposed noise management system on site; and
 - (e) include a quarterly (or as otherwise agreed with the Secretary) noise monitoring program that:
 - uses attended monitoring to evaluate the compliance of the development against the noise criteria in this consent;
 - evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Criteria

7. The Applicant **must** implement all reasonable and feasible avoidance and mitigation measures so that particulate matter emissions generated by the development do not exceed the criteria in Tables 3 to 6 at any residence on privately-owned land.

Table 3: Long-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Total suspended particulates (TSP)	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 4: Short-Term Criteria for Particulate Matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 5: Long-Term Criteria for Deposited Dust

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Table 6: Long and Short-Term Stack Emissions

Pollutant	Averaging period	^d Criterion
Sulphur Dioxide	10-minute	712 µg/m ³
	1-Hour	570 µg/m ³
	24-Hour	228 µg/m ³
	Annual	60 µg/m ³
Nitrogen Dioxide	1-Hour	246 µg/m ³
	Annual	62 µg/m ³
Hydrogen Chloride	1 hour	0.14 mg/m ³

Notes to Tables 3-6:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources).
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own).
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

Operating Conditions

8. The Applicant **must**:
 - (a) implement all reasonable and feasible measures to minimise the stack and dust emissions of the development;
 - (b) minimise surface disturbance and maximise progressive rehabilitation;
 - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note (d) to Tables 3-6 above); and
 - (d) monitor and report on compliance with the relevant air quality conditions in this consent; to the satisfaction of the Secretary.

Air Quality Management Plan

9. The Applicant **must** prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (c) describe the measures that would be implemented to ensure:
 - compliance with the air quality criteria and operating conditions under this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions;
 - (d) describe the air quality management system; and
 - (e) include an air quality monitoring program that:
 - evaluates and reports on:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality criteria and operating conditions; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

METEOROLOGICAL MONITORING

10. For the life of the development, the Applicant **must** ensure that there is a suitable meteorological station operating in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuous measurement of stability class, in accordance with the *NSW Industrial Noise Policy*, or as otherwise approved by EPA.

TRANSPORT

Monitoring of Product Transport

11. The Applicant **must** keep accurate records of the:
- (a) **tonnage** of bricks transported from the site (monthly and annually);
 - (b) amount of raw material imported to the site (monthly and annually); and
 - (c) **tonnage of each type of raw materials imported to the site (monthly and annually);** and provide the Secretary with a summary of this information upon request.

Parking

12. The Applicant **must** provide sufficient parking on-site for all development-related traffic, in accordance with Camden Council's parking codes, to the satisfaction of the Secretary.

Operating Conditions

13. The Applicant **must** ensure that:
- (a) all development-related heavy vehicles enter and exit the site in a forward direction;
 - (b) all laden vehicles entering or exiting the site have their loads covered (with the exception of vehicles carrying bricks);
 - (c) all laden vehicles that have accessed the extraction and/or stockpile areas are cleaned of sand and other material that may fall on the road, before leaving the site;
 - (d) all heavy vehicles exiting the site travel east of the site along Greendale Road to The Northern Road and/or Bringelly Road;
 - (e) the dispatch of laden trucks is avoided during the peak drop-off and pick-up times at the Bringelly Public School to the greatest extent practicable, particularly prior to the upgrade of the Greendale Road/Bringelly Road intersection by RMS; and
 - (f) no trucks queue at the entrance to the site before 6am.

Access Road Intersection Construction

14. Within 12 months of commencing development under this consent, unless otherwise agreed with the Secretary, the Applicant must design and construct the new site access road intersection with Greendale Road in accordance with applicable AUSTROADS standards, to the satisfaction of Camden Council. The Applicant must notify the Secretary in writing within 30 days of obtaining Council approval.

Within 7 days of completing construction and the new site access road being operational, the existing site access road must be permanently closed.

Transport Management Plan

15. The Applicant **must** prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with RMS, Camden Council, Liverpool City Council and Bringelly Public School, and be submitted to the Secretary for approval prior to the commencement of **development** under this consent, unless the Secretary agrees otherwise;
 - (b) describe the measures that would be implemented to ensure compliance with the transport operating conditions under this consent, including specific measures to avoid **the arrival and**

- dispatch of laden trucks from the site during the peak drop-off and pick-up times at the Bringelly Public School;
- (c) include a Code of Conduct for heavy vehicle drivers that addresses:
- travelling speeds;
 - procedures to minimise noise including a regular Truck Noise Auditing Program;
 - procedures to minimise diesel exhaust emissions;
 - instructions to avoid grouping or convoying of trucks;
 - procedures to ensure that drivers adhere to the designated haulage routes and the haulage hours permitted under this consent;
 - instructions to drivers not to overtake each other on the haulage route, as far as practicable, and to maintain appropriate distances between vehicles; and
 - instruction to drivers to be properly safety conscious and to strictly obey all traffic regulations, particularly in relation to school zones along Greendale Road; and
- (d) describe the measures that would be put in place to ensure compliance with the drivers' Code of Conduct and include a program to monitor the effectiveness of the implementation of these measures.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

SOIL AND WATER

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain the necessary water licences for the development, including in respect of the extraction and/or interception of groundwater.

Water Supply

16. The Applicant **must** ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply to the satisfaction of the Secretary.

Water Discharges

17. The Applicant **must** comply with the discharge limits in any EPL or with Section 120 of the POEO Act.

Water Management Plan

18. The Applicant **must** prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified person/s approved by the Secretary;
 - (b) be prepared in consultation with the EPA and **DPI Water**;
 - (c) be submitted to the Secretary for approval **prior to the commencement of development under this consent**, unless the Secretary agrees otherwise;
 - (d) include a Site Water Balance that:
 - includes details of:
 - quantity of water required to support operations;
 - sources and security of water supply;
 - water use and management on site;
 - reporting procedures; and
 - measures to be implemented to minimise potable water use on site;
 - (e) include a Surface Water Management Plan, that includes:
 - baseline data on surface water flows and quality in the watercourses that could be affected by the development;
 - a description of the surface water management system on site, including:
 - clean water diversions;
 - erosion and sediment controls;
 - the dirty water management system; and
 - water storages (addressing maximum harvestable rights if applicable);
 - performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts;
 - a program to monitor and report on:
 - any surface water discharges;

- the effectiveness of the water management system; and
 - surface water flows and quality in local watercourses;
 - a plan to respond to any exceedances of the performance criteria.
- (f) a Groundwater Management Plan, which includes:
- baseline data on groundwater levels, yield and quality in surrounding aquifers;
 - groundwater assessment and performance criteria, including trigger levels for investigating potentially adverse groundwater impacts;
 - a program to monitor:
 - groundwater inflows to the quarry pit; and
 - impacts of the development on surrounding aquifers;
 - an analysis of the monitoring results to determine long-term water levels within the quarry void; and
 - a plan to respond to any exceedances of the performance criteria.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

BIODIVERSITY

Biodiversity Offset Strategy

19. The Applicant **must** implement the Biodiversity Offset Strategy described in the EIS, as summarised in Table 7 and shown conceptually in Appendix 4, to the satisfaction of the Secretary.

Table 7: Summary of the Biodiversity Offsets

Area	Offset Criteria	Size (Ha)
On-site offset	Existing vegetation to be enhanced to establish an area of native woodland comprising species associated with Cumberland Plain Woodland.	1.93

Security of Offsets

20. Within 2 years of **notifying the Department of commencement of development (see condition 8 of Schedule 2)**, unless otherwise agreed with the Secretary, the Applicant **must** make suitable arrangements to provide appropriate long-term security for the offset area, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Biodiversity Management Plan

21. The Applicant **must** prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the OEH and Camden Council;
 - (b) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - (c) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;
 - (d) describe the short, medium, and long term measures that would be implemented to:
 - manage the remnant vegetation and habitat on the site and in the offset area and;
 - implement the biodiversity offset strategy, including detailed performance and completion criteria;
 - (e) include performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);
 - (f) include a description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - maximising the salvage of resources within the approved disturbance area - including vegetative, soil and cultural heritage resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area;

- minimising the impacts on fauna on site, including pre-clearance surveys and minimising the potential exposure to tailings;
 - controlling weeds and feral pests;
 - controlling erosion;
 - controlling access; and
 - bushfire management;
- (g) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate against these risks; and
- (h) include details of who would be responsible for monitoring, reviewing, and implementing the plan.

The Applicant must implement the approved management plan as approved from time to time by the Secretary.

Conservation Bond

22. Within 6 months of the approval of the Biodiversity Management Plan, the Applicant **must** lodge a conservation bond with the Department to ensure that the biodiversity offset strategy is implemented in accordance with the performance and completion criteria of the Biodiversity Management Plan.

The sum of the bond **must** be determined by:

- a. calculating the full cost of implementing the biodiversity offset strategy (other than land acquisition costs); and
- b. employing a suitably qualified quantity surveyor to verify the calculated costs,
- c. to the satisfaction of the Secretary.

The calculation of the conservation bond must be submitted to the Department for approval at least 1 month prior to lodgement of the final bond.

If the offset strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the offset strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the satisfactory completion of the relevant works.

Notes:

- *Alternative funding arrangements for long term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate (or any other mechanism agreed with OEH) can be used to reduce the liability of the conservation bond.*
- *The sum of the bond may be reviewed in conjunction with any revision to the biodiversity offset strategy or the completion of major milestones within the approved plan.*

REHABILITATION

Rehabilitation Objectives

23. The Applicant **must** rehabilitate the site to the satisfaction of the Secretary. Rehabilitation must:
- a. comply with the objectives in Table 8; and
 - b. be generally consistent with the proposed rehabilitation strategy in the EIS, and the final land form shown conceptually in Appendix 4 (unless modified by the Final Land Use Options Plan, prepared in accordance with condition 25 of this consent).

Table 8: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	<ul style="list-style-type: none"> • Safe, stable and non-polluting • Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of local native species and habitat

Surface infrastructure	<ul style="list-style-type: none"> To be decommissioned and removed (unless the Secretary agrees otherwise)
Final void	<ul style="list-style-type: none"> Minimise the size, depth and slope of the batters of the final void Minimise the drainage catchment of the final void
Quarry pit floor	<ul style="list-style-type: none"> Landscaped and revegetated using native flora species, above the anticipated final void water level
Community	<ul style="list-style-type: none"> Ensure public safety

Progressive Rehabilitation

24. The Applicant **must** rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

Final Land Use Options Plan

25. The Applicant **must** prepare a Final Land Use Options Plan for the site to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with DRE and Camden Council;
 - be submitted to the Secretary for approval within 2 years of the date of [notifying the Department of commencement of development \(see condition 8 of Schedule 2\)](#), unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated final land uses for the site;
 - ensure that the conceptual final land form is compatible with surrounding land uses, and is consistent with the rehabilitation objectives in Table 8 and the objectives of the Growth Centres SEPP for the South West Growth Centre;
 - inform the Rehabilitation Management Plan (prepared in accordance with condition 26 of this consent); and
 - be reviewed every 7 years to account for applicable land use priorities, and if necessary updated.

Rehabilitation Management Plan

26. The Applicant **must** prepare a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH, DRE, [DPI Water](#) and Camden Council;
 - be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - provide details of the conceptual final landform and associated land uses for the site (which must be consistent with the Final Land Use Options Plan under condition 25 of this consent);
 - describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
 - include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any necessary remedial action;
 - include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria; and
 - include details of who would be responsible for monitoring, reviewing, and implementing the plan.

[The Applicant must implement the approved management plan as approved from time to time by the Secretary.](#)

Note: The Rehabilitation Management Plan must be reviewed, and if necessary updated, following any update of the Final Land Use Options Plan.

HERITAGE

Heritage Management Plan

27. The Applicant **must** prepare a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH;
 - (a) be submitted to the Secretary for approval prior to undertaking quarrying operations in the extension area, unless the Secretary agrees otherwise;
 - b. describe the measures that would be implemented to:
 - manage identified heritage objects, previously unidentified heritage objects or the discovery of any human remains on site;
 - ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site; and
 - protect sites identified adjacent to the development.

The Applicant **must** implement the approved management plan as approved from time to time by the Secretary.

VISUAL

28. The Applicant **must** establish a vegetation screen on both noise bunds, as soon as practicable after construction of the bunds, to minimise visibility of site infrastructure from outside the development area. Following establishment, the Applicant **must** maintain the vegetation screen, to the satisfaction of the Secretary.
29. The Applicant **must**:
- implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development; and
 - b) ensure that all external lighting associated with the development complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version.

BUSHFIRE MANAGEMENT

30. The Applicant **must**:
- ensure that the development is suitably equipped to respond to any fires on site; and
 - b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as practicable if there is a fire in the surrounding area.

WASTE

31. Prior to importing onto the site any material that may be classified as a waste under the EPA *Waste Classification Guidelines 2009* (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department.

Note: This condition does not apply to routine deliveries to the site.

32. The Applicant **must**:
- manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Camden Council; and
 - b) pump all sewage generated and stored on-site to a sewage treatment facility, unless otherwise agreed with the Secretary.
33. The Applicant **must**:
- minimise the waste generated by the development;
 - b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - c) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing an exceedance of any relevant criteria in schedule 3, the Applicant **must** notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria.

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.

If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant **must**:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3;
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Secretary and landowner a copy of the independent review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this consent.

The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Adaptive Management

2. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
- (c) implement remediation measures as directed by the Secretary; to the satisfaction of the Secretary.

Management Plan Requirements

3. The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:

- impacts and environmental performance of the development; and
- effectiveness of any management measures (see (c) above);
- (e) a contingency plan to manage any unpredicted impacts and their consequences;
- (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
- (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
- (h) a protocol for periodic review of the plan.

Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

4. By the end of September each year, the Applicant [must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary](#). This review must:
 - (a) describe the development (including rehabilitation) that was carried out in the previous [financial](#) year, and the development that is proposed to be carried out over the current [financial](#) year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous [financial](#) year, which includes a comparison of these results against:
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the [documents in condition 2\(a\) of Schedule 2](#);
 - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current [financial](#) year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

5. [Within 3 months of the submission of an:](#)
 - (a) [Annual Review under condition 4 above;](#)
 - (b) [incident report under condition 7 below;](#)
 - (c) [audit report under condition 9 below; and](#)
 - (d) [any modifications to this consent,](#)
 the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.

Community Consultative Committee

6. The Applicant [must](#) establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the [Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments](#) (Department of Planning, 2007, or its latest version), and be operating [prior to the commencement of development under this consent](#).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*

- In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Camden Council and the local community.

REPORTING

Incident Reporting

7. The Applicant **must** immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant **must** provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

8. The Applicant **must** provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

INDEPENDENT ENVIRONMENTAL AUDIT

9. Within a year of **commencing development under this consent**, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant **must** commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
 - (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of any approved strategy, plan or program required under these approvals;
 - (e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; **and be conducted and reported to the satisfaction of the Secretary.**

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

10. Within **12 weeks of commencing** this audit, unless the Secretary agrees otherwise, the Applicant **must** submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

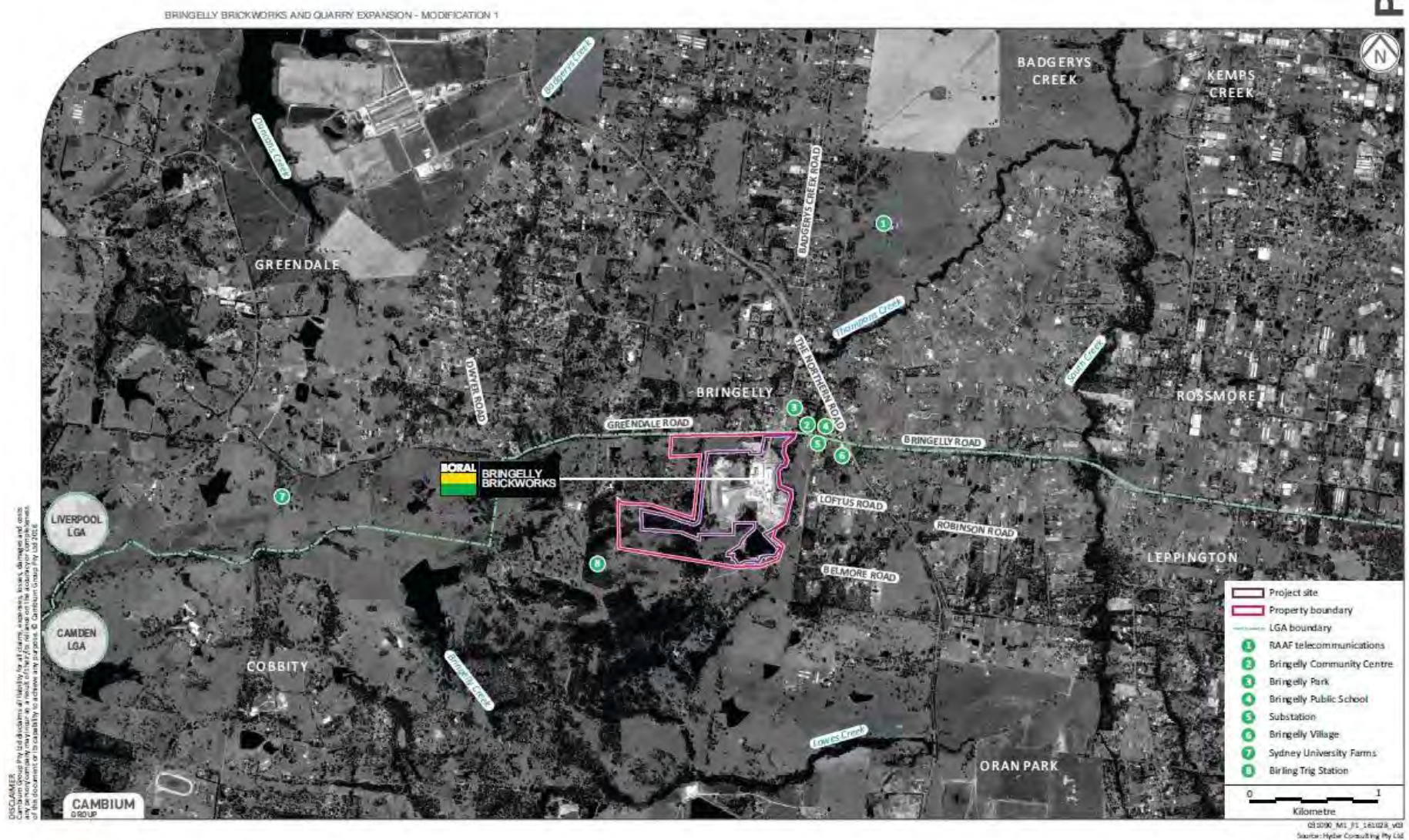
Within 7 days of commencing the audit, the Applicant must notify the Department in writing of the commencement of the audit.

ACCESS TO INFORMATION

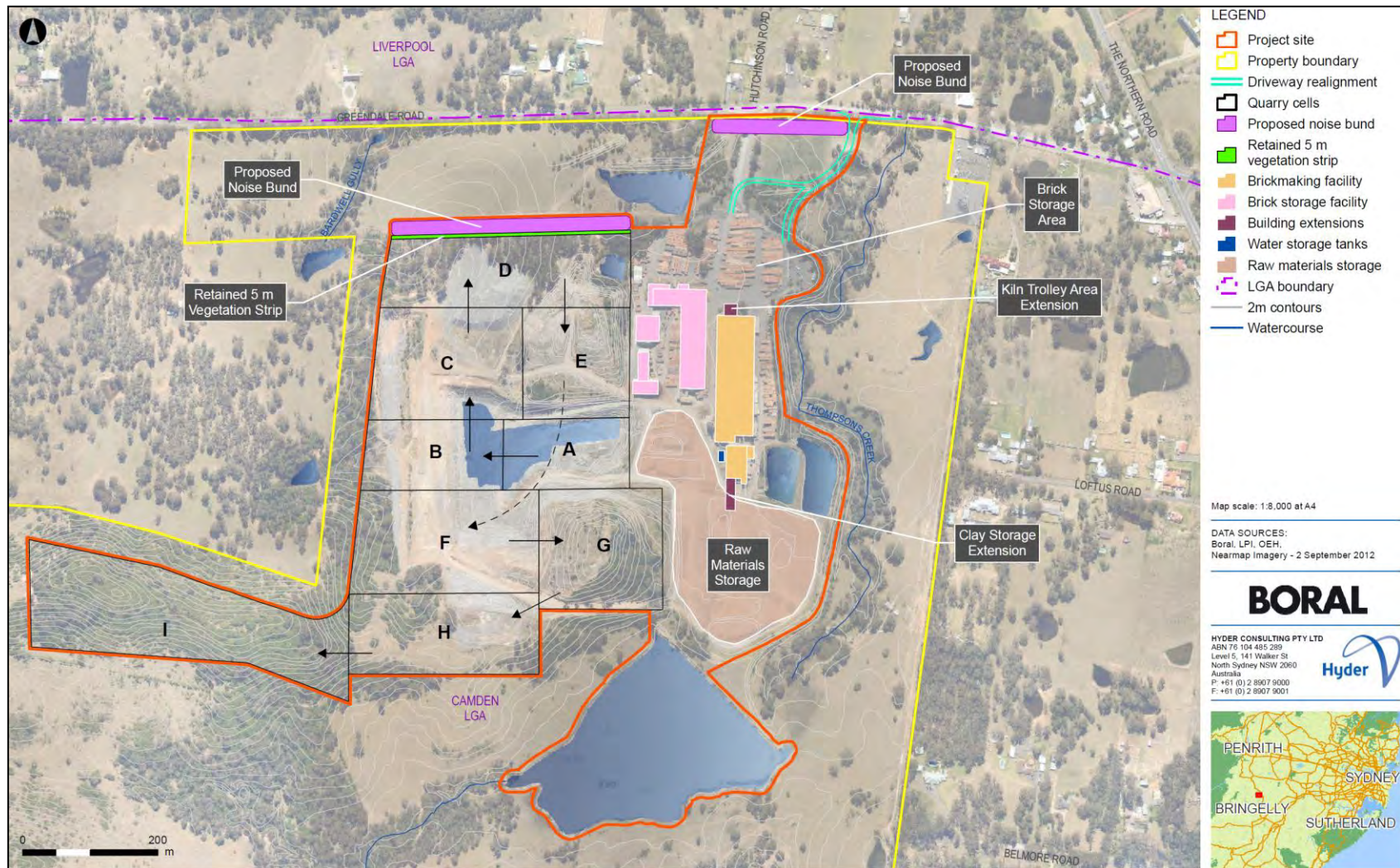
11. Within 6 months of **commencing development under this consent**, the Applicant **must**:
 - (a) make copies of the following publicly available on its website:
 - the documents in **condition 2(a) of Schedule 2**;
 - current statutory approvals for the development;
 - approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, which is to be updated monthly;
 - minutes of CCC meetings;
 - the annual reviews of the development (for the last 5 years);
 - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Secretary; and

(b) keep this information up-to-date,
to the satisfaction of the Secretary.

APPENDIX 1 DEVELOPMENT AREA



APPENDIX 2 DEVELOPMENT LAYOUT

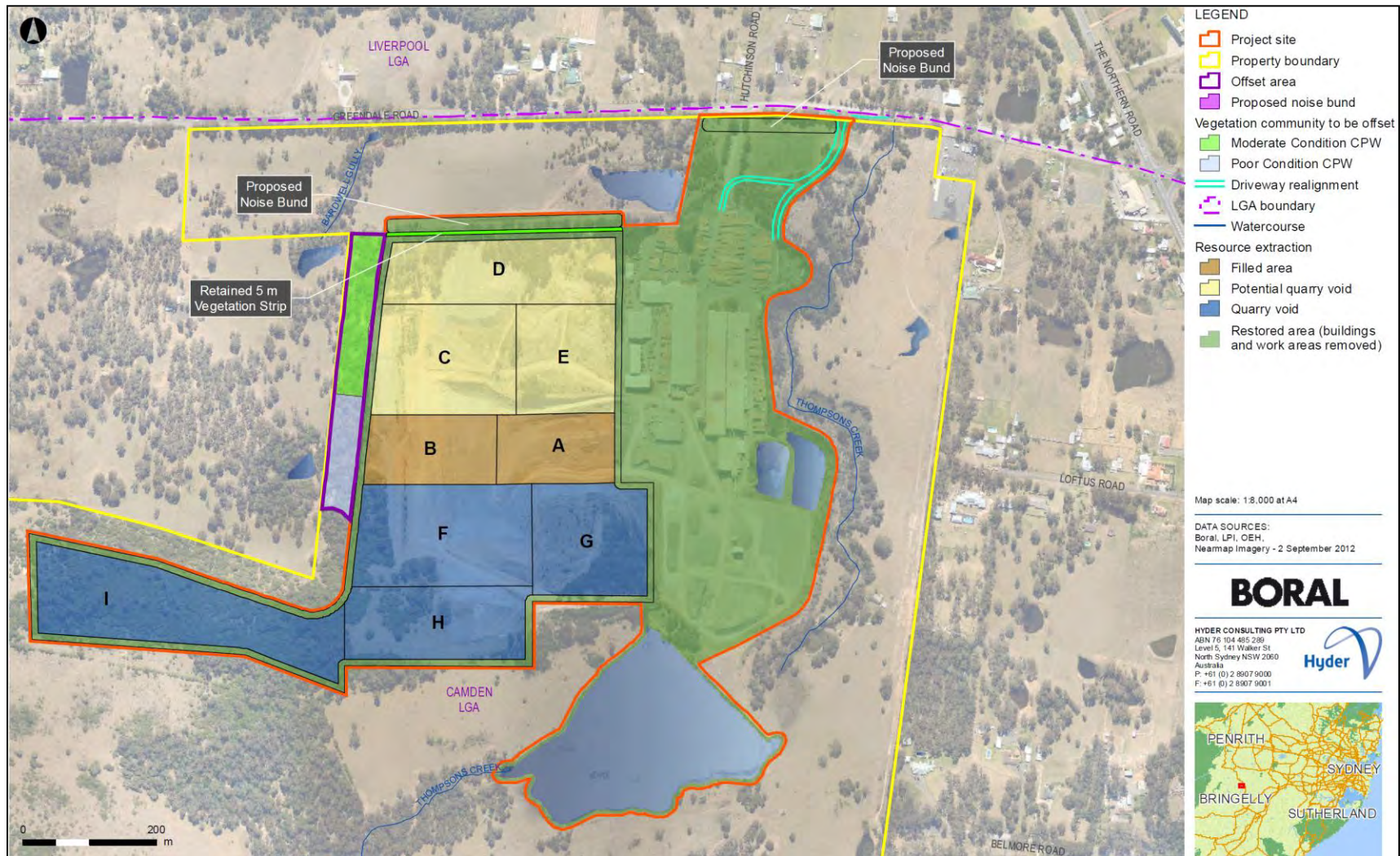


APPENDIX 3 RECEIVER LOCATIONS



Receiver number	Receiver address
1	55 Loftus Road
2	54 Loftus Road
3	20 Greendale Road
4	9 Greendale Road
5	5 Greendale Road (Bringelly Community Centre)
6	46 Loftus Road
7	36 Loftus Road
8	47 Loftus Road
9	37 Loftus Road
10	27 Loftus Road
11	26 Loftus Road
12	15 Loftus Road
13	5 Loftus Road
14	23 Greendale Road
15	27 Greendale Road
16	29 Greendale Road
17	25 Greendale Road
18	31 Greendale Road
19	35 Greendale Road
20	170 Tyson Road
21	196 Greendale Road
22	46 Belmore Road
23	55 Belmore Road
24	63 Belmore Road
25	67 Belmore Road
26	73 Belmore Road
27	83-85 Belmore Road
28	76 Belmore Road
29	86 Belmore Road
30	87 Belmore Road
31	93 Belmore Road
32	95-97 Belmore Road
33	107 Belmore Road
34	96 Belmore Road
35	108 Belmore Road
36	1037 Northern Road
37	10 Greendale Road
38	Bringelly Public School

APPENDIX 4 CONCEPTUAL FINAL LANDFORM AND BIODIVERSITY OFFSET STRATEGY



APPENDIX 5 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following:
 - (a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - (b) temperature inversion conditions between 1.5 °C and 3°C/100 m and wind speeds greater than 2 m/s at 10 m above ground level; or
 - (c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions **must** be that recorded by the meteorological station on or in the vicinity of the site.

Compliance Monitoring

3. Unless directed otherwise by the Secretary, quarterly attended monitoring is to be used to evaluate compliance with the relevant conditions of consent.

Note: The Secretary may direct that the frequency of attended monitoring increase or decrease at any time during the life of the development.

4. Unless otherwise agreed with the Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - (a) monitoring locations for the collection of representative noise data;
 - (b) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

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Appendix J Community Consultation

Trinit 3, 39 Delhi Road, North Ryde, NSW 2113
 Locked Bag 1345, North Ryde, BC 1670
 T 61 2 9235 8000
 F 61 2 8362 9005
 ABN 68 168 794 821



Project:	PGH Bricks Bringelly brickworks extension
Meeting No:	13
Date:	28 July 2022
Venue and Time:	Bringelly Community Hall 4-5pm
Document:	Meeting notes
Chair/Facilitator:	Kath Elliott, (KE)
Minutes:	Kath Elliott
PGH representatives:	Tony West, Plant Manager, PGH Bricks Bringelly Nelma Arancibia, Property Manager Michael Travers, Project Manager Janus Arana, Process Engineer
Committee Members:	Diane Newell, Neighbour Sharyl Scott, Principal, Bringelly Public School Dam Truong, Neighbour
Apologies:	Michelle Pickering, Neighbour, leave of absence Rino Di Mascio. P&C President, Bringelly PS

Meeting Minutes

<p>Welcome</p> <p>Kath Elliott (KE) welcomed members. Members were reminded to be Covid safe. The meeting observed NSW social distancing rules.</p> <p>Apologies were noted.</p> <p>Rhino Di Mascio had advised he was longer the P&C president and moved away from the area . He has tendered his resignation, which was accepted.</p> <p>Members welcomed Janus Arana, Process Engineer, PGH Bricks.</p> <p>Minutes</p> <p>The minutes of June 2021 were accepted as a true and accurate record.</p> <p>Matters arising</p>	
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<p>The Chair noted that the Council had not been in contact with the school regarding safety improvements as promised.</p> <p>The chair advised that despite the recruitment attempt there had been no new membership nominations. Members were asked to advise anyone who may be interested.</p> <p>Operational performance – Tony West</p> <p>TW advised that payments are being made to Council on a regular basis now as part of the approvals for increased truck movements. .</p> <p>Environmental Performance -Tony West</p> <p>All licence conditions have been met during the period. And there have been no exceedances.</p> <p>There have been no notifiable incidents in the period.</p> <p>There have been no inspections by the EPA.</p> <p>There has been no environmental audit in the period.</p> <p>The north, west, and eastern boundary dust monitors are well below limits.</p> <p>There has been a change to the environmental licence which does not require Bringelly Brickworks to advise of dam overflows during heavy rain events. Overflow during heavy rain events are still internally recorded and water tested.</p> <p>Project status update – Michael Travers</p> <p>Since the State Significant Development approval, management plans are being developed.</p> <p>Traffic Management plan has been submitted.</p> <p>Land use management plan is being developed and it is assessing the landform and what it should look like in 30/40 years time. This will include flattening the site and water bodies.</p> <p>It will work in conjunction with the rehabilitation plan.</p> <p>The Biodiversity management plan has been submitted to DPE and is under review. The biodiversity conservation legislation has changed and PGH are investigating the new legislation to determine how they can comply. This could mean buying offset credits in a more suitable area, as the 200m x 10m strip on the western boundary of the site has been assessed as unsustainable in biodiversity terms. The key flora to conserve is the Cumberland Wood Plains, typical in western Sydney.</p> <p>Mining cannot start on the site until the plans are approved by DPE. There will also be a bund constructed at the northern side of the quarry before mining can occur.</p> <p>CSR will also install a new stormwater system to minimise risk and impact of future uncontrollable flows.</p> <p>It was noted that mining reduces the number of trucks bringing materials to site.</p> <p>CSR Network Optimisation – Nelma Arancibia</p> <p>Advised that CSR operates three sites: Schofields, Bringelly and Cecile Park. Urbanisation has put pressure on the plants. PGH will close the Schofields plant,</p>	<p>Chair to contact councils</p>
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<p>releasing land for residential development and consolidating manufacturing at the Bringelly site, increasing production at Bringelly by 25%.</p> <p>NA advised that DPE required CSR to do technical studies before lodging a modification, which will increase brickmaking from 87 million to 110 bricks per annum.</p> <p>CSR will duplicate the brickmaking building to the west of the existing building. The modern plant will improve brick quality.</p> <p>The hard stand will be increased, creating onsite storage, There will be two additional dams, and an enhanced stormwater system.</p> <p>Truck movements are predicted to increase from 90 in and out each day to maximum of 200 in and out each day.</p> <p>It was noted that quarrying will reduce the number of trucks.</p> <p>The driveway will be shifting to the east and this will reduce truck speed on Greendale Rd near the school.</p> <p>NA advised the public exhibition of the modification is likely to be in 2-4 months and she will advise the CCC when this happens,</p> <p>Q: Will this increase capacity ?</p> <p>A There will be no change in operating hours but increase will provide flexibility for peak times. Truck hours are 6am-6pm Mon- Fri and 6am – 1pm on Saturdays.</p>	
<p>General business</p> <p>SS advised that the road changes near the school have alleviated pressure on parents and children. There has been a reduction in students from 160-170 to 86 students.</p> <p>Dam Truong advised that he is unable to attend meetings on a regular basis and has requested a leave of absence.</p> <p>This was agreed by all members.</p> <p>Meeting closed at 5.00 pm</p>	<p>Dam provided leave of absence.</p>
<p>Next meeting</p> <p>TBA –but prior to June 30, 2023.</p>	



Beyond Compliance

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