

Dunmore Lakes Sand Project Independent Environmental Audit

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Executive Summary

This Independent Environmental Audit has been prepared for the Dunmore Sand & Soil operation in satisfaction of Conditions 10 and 11 of Schedule 5, of the Development Consent DA195-8-2004 MOD3 and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Independent Audit Post Approval Requirements 2018 published by the Department of Planning, Infrastructure and Environment.

The consent requires that an external independent audit be undertaken every three years of operation commencing in 2017. This audit represents the second independent audit of the operation. The first audit found two non-compliances which were rectified shortly after the audit was conducted. This audit found one non-compliance in relation to adherence to water quality objectives described in the conditions of the consent in the onsite dredge ponds (Table 7 Condition 24 of Schedule 3). This non-compliance does not relate to discharge water quality nor potential offsite impacts and is associated with the consented water quality objectives not adequately reflecting site conditions and regional water quality parameters. It is a recommendation of this audit that Table 7 of the consent be reviewed in light of natural variations in surface and groundwater systems which are now evident in the monitoring data set.

This audit has found that the site is well managed and poses little risk to the receiving environment. The nature of the operation limits noise and dust emissions and the monitoring data indicates that the current assessment criteria are being met and is in line with the predictions made in the 2004 EIS. Rehabilitation is of a high standard and is progressing in accordance with the extraction schedule.

A number of recommendations have been made which are found in Chapter 4. These recommendations largely involve improvement procedural matters which should be incorporated into the current set of environmental management plans. As the approval of MOD2 is pending, recommendations in relation to the management plans should be incorporated when the new consent has been obtained.

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1. Introduction

This Independent Audit of Dunmore Sand & Soil has been prepared in accordance with the NSW Department of Planning Industry and Environment (DPIE) Independent Audit Post Approval Requirements June 2018. The following document sets out the scope of the audit, methodology and audit findings.

1.1 Background

The Dunmore Lakes Sand Project (the Site) is operated by Dunmore Sand & Soil Pty Ltd (DSS) which is a wholly owned subsidiary of Boral Limited. The Site is located adjacent to Boral's Dunmore Hardrock Quarry at Tabbita Road Dunmore, to the west of the Princes Highway, approximately 12 km northwest of Kiama, NSW 2533. The Site produces a range of sand and landscaping products via sand dredging and extraction by an excavator, which is then washed, processed and blended if required. Product can be dispatched by road or rail depending on market and destination.

The DSS operation differs from most extractive industries in that the sand is dredged from flooded ponds that are naturally fed by surface and groundwater within a low lying drainage system. The raw sand is then pumped to the processing plant for screening to remove debris, organic matter, and oversized material prior to simple flotation to remove fines and then dewatering. Other than soil removal and edge trimming by an excavator, there is no need for dozer ripping, mobile plant for breaking and loading of the material, overland hauling, blasting, crushing or screening and processing to remove fines, clay and silt which occurs in a typical extractive industry. This reduces the potential for noise and dust emissions which are generally key issues for surrounding residential receptors.

The lack of typical clay tailings and slimes ponds simplifies the rehabilitation program. In the case of the DSS operation, rehabilitation is further simplified by the ability to create permanent ponds which are incorporated into the final landform design therefore eliminating the need to deal with final voids.

The site is just above the tidal reaches of the Minnamurra River which is fed by several tributaries which meander through the coastal flood plain of the Rocklow Creek catchment where the sand resource is located. A key environmental issue for the operation is therefore managing surface and groundwater inflows and discharges, flood controls and diversions to avoid adverse impacts on water quality, flooding and downstream wetlands. These issues were examined in detail in this audit.

Partial filling of the extraction area with Virgin Excavated Natural Materials (VENM) and Potential Acid Sulphate Soils (PASS) also presents specific environmental issues requiring careful management to avoid long term adverse environmental impacts. This audit has examined in detail the use and handling of incoming rehabilitation materials along with general water management, pollution controls and environmental monitoring programs.

1.2 Approval Documents

1.2.1 Development Consent

The Development Consent (DA 195-8-2004) was issued on the 29th June 2005 for Stages 2, 3 and 4 by the then Minister for Infrastructure and Planning. This allows the site to produce up to 800,000 tonnes of product per year, and transport offsite by road and rail to local and regional markets.

The site is permitted to import a total 250,000 tpa of Virgin Excavated Natural Material (VENM) and Potential Acid Sulphate Soils (PASS) for disposal in completed extraction areas as part of the rehabilitation program. The consent was modified in March 2020 to allow for up to 120,000 tpa of VENM and PASS to be processed on site for blending and sale. To date, no processing or off site sales of VENM or PASS has occurred with all materials being used to backfill completed extraction areas.

An additional modification to allow for Stage 5A and 5B extraction on an adjacent property to the original Stage 1 operation was approved on 16 November 2020. Stage 5A will provide an additional one to two years supply of sand from 5A and four to five years from 5B.

1.2.2 EPA Environment Protection Licence

The quarry holds Environment Protection Licence 11147 administered by the Environment Protection Authority covering all scheduled activities undertaken at the Quarry. The licence anniversary date for EPL 11147 is 5th October each year. The licence covers extraction, crushing, grinding and separating activities up to a limit of 500,000 tonnes per annum. The licence includes discharges to air and water but without specific limits other than as may be relevant to comply with Section 120 of the Protection of the Environment Operations Act 1997.

Clause L3 on EPL 11147 provides specific limits on noise levels for three receptor locations, referred to as Renton, Dunmore Village and Stocker. The limits are set for four separate time periods.

1.2.3 Controlled Activity Approval

The site holds two Controlled Activity Approvals issued by the NSW Natural Resource Access Regulator (NRAR). Approval number 10CX123242 (10 ERM2010/1116) was granted in December 2017 covers mining and redirection of water from the Stage 2 pond area, while approval number 10CX122266 covers extraction within 10 m of Rocklow Creek.

1.3 Audit Objectives

As this is the second Independent Environmental Audit of the operation, the objectives for this audit are extended to include a more detailed assessment of environmental performance and adequacy of pollution controls and management systems. The consent, EPL and Controlled Activity Approvals provide specific performance criteria to be met by the development. In order to verify that these are being met, an environmental monitoring program has been implemented on site. This program includes data gathered on noise, dust, surface water and groundwater emissions. A key objective of this audit is to determine if the monitoring program is adequately robust to verify that the assessment criteria provided in the approval instruments are being met.

Environmental management systems include procedures that have been adopted on site to manage the environmental impacts of the project to acceptable levels in line with the assessment criteria. Determination of the efficacy of these procedures have also been included as an objective of this audit.

An overall objective of this audit is to satisfy the requirements of Conditions 10 and 11 of Schedule 5, of the Development Consent. These conditions state that the 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 and the CCC;
- 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; and
- e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals.

The condition also states that the audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary. Condition 11 states that the audit must be submitted to the Secretary, Council, EPA and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report within 6 weeks of commissioning.

1.4 Audit Scope

The scope of this audit includes consideration and assessment of:

- Review compliance of the development with DA 195-8-2004;
- Review of all environmental management plans, assess their effectiveness and identify areas for improvement;
- Assess the level of implementation of the environmental management plans on site;
- Review actual impacts compared to predicted impacts documented in the environmental impact assessment;
- requirements of relevant regulatory agencies;
- the key regulatory risks, including past or future risks;
- the performance of the operation;
- any environmental incidents or community complaints;
- feedback received from regulatory agencies on the performance of the operation or on any issues of concern; and
- feedback received from the community consultative committee on the performance of the operation.

The following report provides an assessment of compliance against the current approval, the implementation of the required management plans and assessment of environmental performance of the operation. A detailed checklist against the conditions of the development consent is attached. The checklist follows the requirements of the Independent Audit Post Approval Requirements 2018 published by the Department of Planning, Industry and Environment (DPIE). The following sections detail the status of the current operation, environmental management provisions and performance and compliance.

1.5 Endorsement of Auditor and Audit Team

Robert Byrnes of International Environmental Consultants Pty Ltd was approved by DPIE to undertake the independent audit. Correspondence from DPIE is attached in Appendix B. Mr Byrnes holds a Bachelor of Science and post graduate qualifications in environmental science and has 36 years experience in environmental assessment and management of mining and extractive industries.

Other audit team members included Kirsty Nielsen who assisted with the assessment of adequacy of the management plans. Kirsty holds a Bachelor of Science (Honours) and has 12 years industry experience. Keira Leahy provided assistance with data analysis and reporting. Keira holds a Bachelor of Conservation Biology (Honours, Dean's Scholar) with 3 years of industry experience.

1.6 Audit Period

The audit period covers the date of November 2017 to November 2020.

2. Audit Methodology

The audit methodology involved the interview of site personnel, a review of documentation and samples of records provided by site management and a site inspection of the operations to determine the level of compliance of the operations and assess the status of the sites operational performance. The audit process and methodology are described in more detail in the sections below.

2.1 Document Review

Documents, information and data available for this audit included:

- Environmental studies contained in the Environmental Assessment.
- Environmental management plans prepared in response to the approval.
- Monitoring data and reporting.
- Internal company documents such as weighbridge records.
- Advice from government agencies obtained through email and/or telephone discussions;
- Advice from the Community Consultative Committee; and
- Site inspection and interviews with Ben Williams (Environmental Coordinator) and Chris Brown (Quarry Manager).

A list of documents used, reviewed or sighted as part of the audit is provided in Section 3.1. Specific environmental management plans are listed in Section 3.1.1. These were separately reviewed and used to assess effectiveness of environmental management systems on site. Several additional documents were sighted during the audit interviews including site plans, survey documents, monitoring reports and weighbridge inspection dockets. These were viewed but no copies were made.

2.2 Opening meeting

The opening meeting was held onsite at the DSS site office on 14th October 2020. The audit scope was discussed as well as information requirements for the audit. The audit methodology was described including the need for sufficient information and documentation to satisfy verification criteria. The verification could be in the form of sighting documents, cross checking a sample of monitoring data or digital records, confirmation advice from agencies and visual inspection. The on site interviews were arranged and a site inspection was undertaken.

2.3 Site Interviews and Inspections

2.3.1 Site Interviews

Interviews were held on 14th October in the presence of Ben Williams and Chris Brown. During the interviews, key conditions of the consent were discussed, and the required information needed to verify compliance. A detailed site inspection was conducted to confirm some aspects of the consent requirements and on site management.

All information requested was provided at the time of the interview or by email shortly after. The full list of information made available for the audit is provided in Section 3.1.

2.3.2 Data Collection and Verification

Where possible, documents and data were collected and reviewed prior to the on site audit inspections. Several documents were provided during the site visit.

All information obtained during the audit process was verified by the auditor where possible. For example, statements made by site personnel were verified by viewing documentation and/or site inspections where possible. Photographs were taken of key points around the site (See Appendix C).

AS/NZS ISO 19011 Guidelines for Auditing Management Systems, provides a protocol for verification of environmental data. The environmental monitoring data was verified by random selection of data as well as cross checking data provided in reports with corresponding data listed in online reporting. No samples or measurements were taken for third party verification.

2.3.3 Site Inspections

The site inspection undertaken focused on but was not limited to the operations and management of the following areas:

- Equipment parking area and hardstand;
- Refuelling area;
- Sand processing and stockpiling site;
- Roadways, main access road intersection;
- Truck wheel wash and surrounds;
- Sand dredging ponds;
- Silt disposal pond;
- VENM and PASS dumping sites;
- Survey points showing the approved development footprint;
- Rehabilitation areas;
- Creek diversion and culverts;
- Selected surface, groundwater and dust monitoring sites;
- The water management system including pollution control ponds and main drainage lines; and,
- Downstream from the site.

Photographs taken during the inspection are provided as Appendix C.

2.4 Closing Meeting

The closing meeting was held remotely with key DSS personnel on 6th November 2020. The objectives of this meeting were to discuss any outstanding matters, present preliminary findings and outline the process for finalising the audit report.

2.5 Authority Liaison

The following agencies and organisations were contacted as part of this audit.

- Department of Planning, Infrastructure and Environment.

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- Department of Planning, Infrastructure and Environment - Water.
 - Shellharbour City Council.
 - Environment Protection Authority.

Copies of correspondence are contained in Appendix B. At the time of finalising this audit, only the EPA provided a formal response. The EPA raised the following three issues for inclusion in the audit:

Real-time dust monitors

Check the progress of the real-time dust monitors. DSS planned to use the real-time monitors from the Hardrock Quarry for their own data. Real-time dust monitors are a huge improvement over the current monthly dust deposition gauges. Request to check where progress is at.

Response:

This issue was raised at the site interview. It is understood that DSS are liaising with the adjacent Boral Dunmore Hard Rock Quarry and internal Boral management personnel in relation to the real time monitors. Specifications for the units have been confirmed and quotations obtained. It is understood that there are some outstanding technical issues that still require resolution but the units will be installed by the first quarter of 2021.

VENM importation

EPA request confirmation that the consent allows DSS to import:

- 120,000 tonnes of VENM per annum for processing/blending which can be resold and;
- an unlimited quantity of VENM per annum for the purpose of void reclamation.

Response:

The consent allows for a total quantity of 120,000 tonnes per annum of VENM to be processed and/or blended for resale. The consent does not separately refer to a total imported volume of VENM that can be used for void reclamation. The use of VENM for backfilling completed extraction areas was part of the original approval and included in the 2004 EIS. Page 2-40 of the 2004 EIS includes in Table 2.9 a stage by stage breakdown of VENM estimates. These were then expressed as an average over the project life, leading to the estimate that between 150,000 and 250,000 tpa of VENM would be imported for backfilling purposes. Consent modification 3 sought to include processing and recovery of a sand component of this VENM which led to the limit of 120,000 tpa.

It is the opinion of this audit that total dispatched product is currently limited to 800,000 tpa of which 120,000 tpa can be sourced from reprocessed VENM. As the terms of consent refers to the original EIS, the total imported VENM must be interpreted as presented in the EIS, that is, an estimated annual volume over the life of the project. In this regard, the total imported VENM need only be within a reasonable range of 250,000 tpa as assessed in the 2004 EIS, no matter what the purpose of the VENM is to be used for.

In financial year ending June 2019, VENM imports totalled 122,753 tonnes while financial year ending June 2020 a total of 77,247 tonnes of VENM entered the site.

Resource Recovery

If DSS are allowed to import 120,000 tonnes of VENM per year and blend it with their sand and resell it, the EPA may need to add a Scheduled Activity to the licence for Resource Recovery.

Response:

Resource Recovery should be added to the list of Scheduled Activities permitted on site.

2.5.1 Community Consultative Committee

The Chair of the Community Consultative Committee (CCC) was contacted as part of this audit. The response, attached in Appendix B, as well as follow-up telephone conversations, confirmed the following key elements of the CCC:

- The Committee continues to act effectively and efficiently in both disseminating information flow to and from the local community over sand mining operations and interactions. It is a very constructive committee with actions raised being adequately dealt with.
- Meetings continue to be well attended by both the nominated community attendees and Boral staff. The DSS CCC has developed a constructive, open and honest two-way relationship between the local community and DSS allowing members to express concerns and work towards a satisfactory resolution for all parties to any issues raised.
- Boral Resources (NSW) Pty Ltd has well-resourced the committee, providing presentations to attendees, catering prior to, during and following committee meetings and facilitating site inspections and tours upon the request of the Committee.
- Through the DSS CCC, members are informed of the environmental performance of the site, provided with an update on operations and given a chance to tour the site and ask questions they may have regarding its operations.
- DSS CCC members have also been diligent in disseminating the information from the meetings to other interested community members in the local area. The minutes of each meeting are published on the Boral website and are provided to Shellharbour City Council and DPIE.
- There are no material unresolved outstanding actions from any previous meeting.

The Chair of the CCC advised that the Committee is functioning as intended and provides an excellent forum for open discussion between representatives of the company, the community and the Shellharbour City Council over the operation and environmental performance of DSS.

2.6 Compliance Status Descriptors

The reporting of results from the compliance audit was determined based on the definitions presented below in Table 2. The results of the compliance audit are presented in Appendix A.

Table 2- Compliance assessment criteria

Status	Description
Compliant	The auditor has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with within the scope of the audit.
Non-compliant	The auditor has determined that one or more specific elements of the conditions or requirements have not been complied with within the scope of the audit.
Not triggered	A requirement has an activation or timing trigger that has not been met at the time when the audit is undertaken, therefore an assessment of compliance is not relevant.

The current DPIE guidelines do not allow for separate categories of non-compliance. However, AS/NZS ISO 19011 provides for grading of nonconformities and non-compliances. The purpose of grading is to reflect the severity of environmental risk associated with the non-compliance. This audit presents the findings in accordance with the three categories provided in the DPIE guidelines but also provides an additional comment where considered appropriate, on severity using the following grading:

- The non-compliance has or could result in an exceedance of assessment criteria or environmental harm.
- The non-compliance has not and would be unlikely to result in an exceedance of assessment criteria or environmental harm.
- The non-compliance is administrative in nature and has not and could not in itself result in an exceedance of assessment criteria or environmental harm.

These descriptors however have not been used in the compliance table but rather in commentary components of this audit document. In addition to the above descriptions of non-compliance, the audit has included observations and comments on the adequacy of environmental controls and procedures. This is considered particularly important in the future prevention of an assessment criteria or pollution event.

3. Audit Findings

3.1 Documentation Used in the Audit

The documents used in this audit have been separated into assessment and approval related, environmental management plans and other data sources and reports. A complete list of documents reviewed as part of this Audit is provided as Appendix D.

3.1.1 Environmental Management Plans

All currently approved Environmental Management Plans are hosted on the DSS web page. The following plans have been reviewed as part of this audit:

- Air Quality Monitoring Program (V5) 28/02/2017
- Flora and Fauna Management Plan (Revision D) 6/02/2017
- Long Term Management Strategy (Revision D) 22/06/2016
- Pollution Incident Response Management Plan (V10) 26/08/2019
- Noise Management Plan- Incorporating a Noise Monitoring Program (V5) 27/02/2017
- Rehabilitation Management Plan (Revision E) 17/03/2017 incorporating:
 - Riparian Area Management Plan and
 - Landscaping Plan
- Waste Management Plan (V2) 9/12/2016
- Water Management Plan- Stage 2, 3 and 4 (V1) 7/09/2018

In response to the MOD3 approval in March 2020 which allows for the processing and blending of up to 120,000 tpa of VENM for sale, the Water Management Plan and Waste Management Plan were updated. The draft of the updated Water Management Plan was provided for comment to DPIE Water on 22nd July 2020 but at the date of this audit, comments have yet to be received. A copy of the unapproved updated Water Management Plan was provided by DSS and has been reviewed as part of this audit.

A draft of the updated Waste Management Plan was provided for comment to EPA on 16th July 2020 and comments received on 17th July 2020. DSS has advised that these comments are currently being addressed and a revised version will be resubmitted on approval of the Annual Review and Independent Audit process.

3.1.2 Environmental Studies and Assessments

There are three environmental assessment documents used in this audit:

- Environmental Impact Statement for the Dunmore Lakes Sand Extraction Proposal – Stages 2, 3 and 4 prepared by R.W. Corkery & Co Limited, August 2004. This document provides the basis for the majority of the current operation.
- Environmental Assessment in support of Modification 2 for the Dunmore Lakes Sand Extraction Project prepared by Element Environment. The EA was lodged in April 2019. This EA covers the extraction in Area 5 (referred to as 5a and 5b). A part of Stage 4 of the 2004 approval covers the main access road which will need to be relocated as it is used for the adjacent hard rock quarry. At the time of this audit, this application had been recommended

for approval by DPIE but referred to the Independent Planning and Assessment Commission for final assessment.

- ❑ Environmental Assessment in support of Modification 3, prepared by DSS dated 24th June 2019. This application primarily sought to allow the processing and blending of 120,000 tonnes per annum of VENM for offsite sales. This was approved in March 2020.

The current Environmental Assessment in support of Modification 2 is listed under the Boral Dunmore web page: <https://www.boral.com.au/locations/boral-dunmore-operations>. This site also lists other documents associated with the current approval process such as a presentation to the NSW Independent Planning Commission, links to the DPIE website, a summary of the process being undertaken and several community newsletter updates. Overall, the website information is comprehensive and informative.

3.1.3 Environmental Monitoring and Records

Environmental monitoring work associated with these plans is published on the Boral Environmental Reporting web page at <https://www.boral.com.au/our-commitment/environmental-reporting>, and includes:

- ❑ Environment Protection Licence 11147
- ❑ POELA Act 2011 Monitoring Data which covers dust and surface water results
- ❑ Pollution Incident Response Management Plan Version 11: 27th May 2020

The data is easily accessible and the as of the date of access for this audit (4th November 2020), the monitoring data included results up until 29th October 2020. The PIRMP shows progressive updating and review on an annual basis and meets the requirements of the Protection of the Environment Legislation Amendment Act.

Although the environmental reporting data listed in Section 3.1.3 is found on a different site along with all the other Boral operations, the data is easily found through a separate link. Other monitoring data and reports were included in the audit and the complete list is provided in Appendix D. This includes raw data files covering air quality and water monitoring.

3.1.4 Environmental Reports

The following additional environmental reports were reviewed as part of the audit, the majority of these are listed on the Boral Dunmore web page at <https://www.boral.com.au/locations/boral-dunmore-operations>.

- ❑ Annual Reviews (2011 to 2019)
- ❑ Annual Review 2020 (lodged but not yet approved by DPIE)
- ❑ Noise Compliance Assessment Reports – 2017, 2018, 2019, 2020
- ❑ Groundwater Monitoring Reports – 2018, 2019 2020 (draft)
- ❑ Long Term Management Strategy 2017
- ❑ Air Quality Management Plan 2017
- ❑ Water Management Plan 2018, 2020 (as lodged but waiting approval)
- ❑ Noise Management Plan 2017
- ❑ Rehabilitation Management Plan 2018
- ❑ Flora and Fauna Management Plan 2018
- ❑ Waste Management Plan 2018, 2020 (as lodged but waiting approval)
- ❑ Independent Environmental Audit 2017

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- ❑ Complaints Register
 - ❑ DSS Community Consultation Committee Meeting minutes for the auditing period
 - ❑ Rehabilitation progress reports for the Stage 2 North West project, Bird Island project, Western Tributary Realignment project and the Australian Bass Stocking Project.

DSS have listed a comprehensive set of documentation on their web page. Other reports used in this audit are listed in Appendix D. These include correspondence with government agencies, analysis reports on VENM and Potential Acid Sulphate Soils, Works Approvals and various internal validation checklists and forms. It is considered that there has been sufficient information and documentation provided to adequately conduct this audit.

3.2 Compliance Performance

A detailed breakdown of the audit findings is provided in Appendix A. There was one noted non-compliance with the development consent. This related to achieving the water quality goals for the on site dredge ponds listed in Table 7 of Condition 24 of Schedule 3. Although the condition recognises that exceedances may occur as a result of natural events, this audit has reviewed all data since the commencement of the operation and found the exceedances to occur over a long period of time. There were no exceedances relating to discharges, only for water quality within the internal dredge ponds.

As required by DPIE guidelines, this is noted as a non-compliance, however it is not attributable to DSS site activities and rather is a reflection of natural water quality variations, which are not reflected in the values included in Table 7 of the consent. As discussed further in Section 3.5.2 and 3.5.3, the list of water quality goals detailed in the consent should be reviewed to adequately reflect natural variation in water quality. In particular, the criteria associated with ambient groundwater for which DSS has no control over and would otherwise not have an impact on receiving waters.

The measured levels are well within the range of natural pondages and wetland systems. It is recommended that Table 7 of the consent be updated with appropriate Site Specific Trigger Values based on ambient monitoring data that is now available.

3.3 Notices, Penalties and Prosecutions

There have been no notices or penalties issued by regulatory authorities during the period of this audit. There have also been no prosecutions or court action initiated since the quarry commenced operations.

3.4 Previous Audit Recommendations

The previous Independent Environmental Audit was prepared by Element Environment (Lead Auditor- Darren Green) on the 9th November 2017. A response to the audit was made by the DSS Manager Brad Subotic on the 10th November 2017. There were two non-compliances in the 2017 audit:

Schedule 4, Condition 1:

The 2017 Independent Audit found that there was no evidence that the Response to Impact Assessment Criteria or Objective Exceedance Protocol were implemented following the receipt of monthly dust deposition exceedances during 2015-2016 and 2016-2017. This condition was only created following MOD 1 in June 2016, however exceedances were registered after this date and there is no evidence that landowners were notified. The actions and response agreed for this condition included:

- Training of the operations personnel on the *Impact Assessment Criteria*;
- The *Impact Assessment Criteria* to be displayed on the site environmental notice board;
- Non-compliances are displayed and discussed at the biannual CCC meeting and meeting minutes are distributed to the community by CCC members. The CCC is comprised of adjacent landowners.
- DSS claimed that the average monthly dust data during 2015-2016 and 2016-2017 were compliant and the exceedances were abnormal, once-off outliers which posed low risks to surrounding residents.

Schedule 5, Condition 12:

It was also found that the environmental management plans and annual reviews were not available on the DSS webpage at the time of the 2017 Independent Audit. The approved management plans, reviews and the 2017 independent audit were all uploaded to the website by the 22nd December 2017.

Five recommendations were made in the 2017 audit as opportunities for improvement. These are listed below:

Schedule 3, Condition 14:

The EPL11147 doesn't differentiate between different operating times for delivery and distribution via the Shellharbour Road (Table 2 in the DA 195-8-2004). The 2017 independent audit suggested that the EPL could be varied to match the operating times categorized in the DA, to prevent confusion and potential non-compliances.

The DSS response was that the M1 construction has since been completed and trucks are no longer accessing the site past the township via Shellharbour Road. The EPL is routinely updated as required to align with changes to the operation and development consent conditions. It is anticipated that the EPL will be updated again once the MOD 2 application is approved.

Schedule 3, Condition 19:

It was recommended in the 2017 independent audit that the AQMP should be updated to reflect the PM10 monitoring reported in the 2017 Annual Review, and that the monitoring locations DD-7a and DD-9 are removed if no longer applicable. The AQMP was updated by the 22nd December 2017 to include the recommendations.

Schedule 3, Condition 22:

It was recommended in the 2017 independent audit that sampling should be undertaken downstream of the discharge point rather than just at the discharge point, to better reflect the impacts and quality of ambient waters. This audit found that there had been no further sampling downstream of the site however an inspection was made as part of this current audit and this inspection found no evidence of current or historic discharges causing downstream impacts. The culvert that leads under the Princess Highway was also inspected and no evidence of sediment or sediment stains existed. The groundwater monitoring program however extends to the

downstream area, so some data is being collected from ambient areas downstream of the operation.

The WAL number needed to be undated in Table 2 of the Annual Review and this was modified for the FY2018 documentation. The 2017 independent audit also suggested minimizing the number of unnecessary surface water monitoring locations. The locations were reviewed as part of this audit and no finding of unnecessary or redundant surface water quality sampling points was made. The surface sites are to some extent historic and date back to the original 2004 EIS. This has provided data going back to 2006 on ambient water quality, pond quality and discharge water quality.

Schedule 3, Condition 24:

The interpretation and compliance of surface and groundwater monitoring results is not reported in the Annual Review. This was included in annual reviews following the audits' recommendation. The Annual Reviews produced during the period covered by this audit have included a more detailed analysis of groundwater provided by Environmental Earth Sciences who also provide advice on ongoing groundwater management.

Schedule 5, Condition 6:

The 2017 independent audit suggested changes to the distribution details of the Annual Review. These have changed again with all Annual Reviews being lodged through the DPIE Planning Portal.

Nine conditions of the consent were not triggered during the 2017 independent audit as listed in Table 3. This means that the activation or timing of an approval requirement has not yet been met at the time of the audit, and thus a determination of compliance is unable to be made. The following table identifies the current status of each previously untriggered condition.

Table 3- Conditions not triggered in the 2017 independent audit

Condition	Requirement	2017 Status	2020 Status	Comments
Schedule 3, Condition 4	The Applicant must not undertake any extraction in Stage 4 without the prior approval of the Secretary. An application to undertake extraction in Stage 4 must be accompanied by an extraction management plan that must: a) detail the proposed realignment and rehabilitation of Tabbita Road and associated infrastructure; b) assess the environmental impacts of the proposed realignment; and c) include appropriate agreements with affected parties, to the satisfaction of the Secretary.	Not triggered	Not-triggered	This condition is still not triggered due to the need to keep the access road open to service the adjacent hard rock quarry. The operation will move directly from Stage 3 to Stage 5 extraction areas.
Schedule 3, Condition 10	Prior to the commencement of extraction in Sub-Stage 3C1 (see Appendix 1), the Applicant must complete the realignment and rehabilitation of Rocklow Creek, to the satisfaction of the Secretary. The realignment must be undertaken in accordance with an approved Riparian Area Management Plan (see condition 45). The realigned channel must be designed so as to safely convey, without bed or bank erosion, the 1 in 20 year ARI peak flow.	Not triggered	Not Triggered	The realignment of Rocklow Creek has not occurred however the Rehabilitation Management Plan has been approved. DSS has completed the realignment of the Western Tributary
Schedule 3, Condition 11	The Applicant must not undertake extraction within 3 metres of the bank of the realigned Rocklow Creek. Batter slopes from this	Not triggered	Triggered and Compliant	Extraction was not and has previously not been undertaken within 3m of the realigned

	extraction limit must be no steeper than 1:2 (V:H).			Creek Bank, as observed during the site inspection. Batter slopes were also in compliance with the condition
Schedule 3, Condition 12	The Applicant must provide for the ultimate redirection of the realigned Rocklow creek into the lake in Stage 3, unless otherwise approved by the Secretary. The redirection must be undertaken in accordance with an approved Riparian Area Management Plan (see condition 45).	Not triggered	Not Triggered	The Riparian Area Management Plan was approved by the DPIE in May 2017, Stage 3 works appear to follow the Plan.
Schedule 3, Condition 29	Following the cessation of dredging and backfilling operations, the Applicant must commission a suitably qualified hydrologist to define the flood-related limits of the final landform. The flood study must be undertaken in consultation with the Department and Shellharbour Council, and to the satisfaction of the Secretary.	Not triggered	Not- triggered	Dredging and backfilling operations have not yet ceased. However DSS have incorporated flood design levels into the rehabilitation program from the outset
Schedule 3, Condition 69	Any on-site wastewater treatment system must comply with the requirements of the Environment and Health Protection Guidelines – On-site Sewage Management for Single Households (1998).	Not triggered	Triggered and Compliant	AWT reviewed as part of this audit
Schedule 4, Condition 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.	Not triggered	Not- triggered	
Schedule 4, Condition 3	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 independent person, whose appointment has been approved by the Secretary, to: • consult with the landowner to determine concerns; • conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and • if the development is not complying with these criteria then identify measures that could be implemented to ensure compliance with the relevant criteria.	Not triggered	Not- triggered	
Schedule 5, Condition 1	If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary.	No- triggered	Not- triggered	An Environmental Management Strategy is not required, however it is current best practice to have an overarching EMS for the operation.

The 2017 audit confirmed the compliance status for a number of pre-operating conditions, that is, conditions that are required to be satisfied prior to commencement. These conditions have not been subject to reconfirmation however, most of the conditions require ongoing assessment of compliance and have been assessed in detail in this audit. These typically involve meeting performance measures or criteria as well as ongoing management of the site in order to continue to meet environmental assessment criteria.

3.5 Monitoring Data Review

DSS reports data required by the consent on both its web page and in its Annual Review. This data was reviewed as part of this audit and the following observations were noted:

3.5.1 Noise Monitoring Review

DSS use a specialist consultant to assess noise levels and to determine compliance. Although this is not necessary specified in the consent which only requires that the assessment of noise be undertaken by a suitably qualified person, by using a registered noise consultant provides a greater level of confidence in the assessment of compliance. The noise consultant's reports are contained in each Annual Review.

3.5.2 Groundwater Monitoring Review

DSS also employs a specialist consultant to assess groundwater data and their report is provided in each Annual Review. The groundwater monitoring program was originally designed by a specialist groundwater consultant who was also responsible for installing the monitoring piezometers. This provides confidence in the assessment of compliance.

The program is designed to assess the potential impacts of the DSS operation on groundwater levels and flow as well as water quality that may arise from the use of VENM and PASS in void filling. Hydraulic gradient and direction of flow is determined by in bore loggers which allow the calculation of average standing water levels across the monitoring network which can then be compared with the downgradient ambient bore DG5. Given the proximity to sea level, tidal movements also need to be considered. The data shows that the dredging and backfilling operation has not resulted in measurable impacts on groundwater systems.

The quality of the groundwater is also tested and compared with trigger values. The trigger values were first developed in the 2004 EIS which were included in the development consent however Site Specific Trigger Values (SSTV) have been developed in the Water Management Plan. These have been based on analysis of historic data using 2 standard deviations around the mean with a distinction between the bores to the east of the Princess Highway which are tidal and those to the west of the highway. The development of SSTVs for a specific site is in line with ANZECC 2000 Water Quality guidelines as they provide a better measure of variations over and above what would be considered natural. This can then be used to determine if the operation is in fact having an influence on the receiving environment.

SSTVs are not static criteria but change over time and can consider changes to climate (droughts and high rainfall periods) and gradual changes to surrounding land uses. More importantly, SSTVs use real data rather than modelling or published standard guideline values. Condition 24 of Schedule 3 lists water quality objectives some of which are not relevant to the DSS operation given its location. For example, Salinity is listed at <1,500 $\mu\text{S}/\text{cm}$ for both groundwater and surface water but is not relevant to either particularly since some bores are influenced by brackish tidal flows and have natural levels of above 30,000 $\mu\text{S}/\text{cm}$. Groundwater salinity of below 1,500 $\mu\text{S}/\text{cm}$ would be considered "fresh" and in fact quite rare for groundwater to be so low however surface rivers with salinity approaching this level would be considered moderately disturbed.

The results show minor exceedances of the guideline values and although the consent acknowledges that exceedances may occur during high rainfall events or tidal influences some of these exceedances occurred during very low rainfall periods. Low rainfall periods are equally

influential on natural background water quality as they can increase salt and metal concentrations as well as increase nutrients and algal growth. In fact, it could be argued that drought conditions would provide a greater overall influence on water quality than high rainfall events.

The main purpose of for the assessment of groundwater quality is to determine if the quality of the material being disposed in the extraction voids is having an impact on ambient groundwater quality. The key water quality parameter for this assessment is pH. The placement of PASS in the Stage 2 pond commenced in mid 2018. The pH of this pond was relatively alkaline at this time being consistently above pH 8. From early 2019, the pH showed a gradual fall to about pH 7.5 by mid 2020. Although the fall is not significant, and the levels are still within normal expected ambient levels, the fall is measurable and should be watched closely over coming years. There has been little change in groundwater pH downstream compared with upstream ambient levels other than a recent cross over whereby upstream pH had usually been more acidic than downstream was reversed in early 2020.

Further discussion on water quality guidelines and results are provided in the following section on surface water monitoring.

3.5.3 Surface Water Monitoring Review

DSS currently monitors surface water at 12 locations. This includes one licensed discharge point, five ambient upstream sites and a variable number of pond samples within the quarry footprint. The EPL requires only three upstream sites to be measured however additional sites are included which are based on the original upstream sites which enables a long term database to be maintained. The EPL also only requires operational area monitoring points however several additional points are included in the overall monitoring program.

The 2017 Independent Environmental Audit recommended that the surface monitoring program be rationalised and reduced in line with the EPL monitoring requirements. This audit however supports DSS's decision to maintain the original monitoring points as this has not only yielded useful historic data but also supports the ability to develop and maintain Site Specific Trigger Values in accordance with the objectives of the ANZECC 2000 Water Quality Guidelines.

This audit has separately reviewed the surface water quality data collected. This has included verification of the data as presented in the Annual Reviews, on line data reporting and in the annual Environment Protection Licence returns. The data reported is an accurate reflection of the data collected.

The critical data point is the licensed discharge at EPL point 9 (DW20b). Levels found within the dredge ponds and silt disposal ponds are largely irrelevant to the assessment of impacts the quarry may have on downstream water quality. The internal pond data can however give an indication of developing problems within the pollution control system which need correcting, but ultimately it is the quality of water discharged that has the potential to cause environmental impacts. A review of the discharge data showed levels of total suspended solids within licence limits but more importantly consistently below the background levels entering the site.

The levels of salt within the onsite ponds has increased since 2018. This occurred primarily in Pond 3 which has moved closer to the tidal reach of Rocklow Creek but is also showing at monitoring Point DW16 which is between the Stage 2 and 3 ponds and DW14 and DW15 which are in the Stage 2 ponds. Although discharges of saline water to Rocklow Creek is not considered harmful given the creek's naturally high levels of salt, it would be advantageous to be

able to demonstrate this by having some available monitoring data downstream. The Rocklow Creek downstream of the operation was inspected as part of this audit and there was no evidence of impacts to riparian vegetation or sediment levels in the creek bed or banks.

The following table provides some commentary on the water quality objectives listed in Table 5 of the consent.

Water Quality Guideline Comments

Pollutant	Units	Water Quality Objective	Comments
Turbidity	NTU	5-20	There should be no minimum level of turbidity. Total Suspended Solids is the standard used for discharge quality. Using Turbidity levels can create confusion
pH	pH	6.5-8.5	These are standard EPA licence specifications
Salinity	µS/cm	<1,500	Appropriate for surface water discharges but not for groundwater or pond storages. Should be replaced by appropriate SSTVs
Dissolved Oxygen	mg/L	>6	Appropriate level but relatively low for healthy ponds
Total Phosphorus	µg/L	5-50	This is a range of default triggers from ANZECC 2000 and should be replaced by appropriate SSTVs
Total Nitrogen	µg/L	100-500	This is a range of default triggers from ANZECC 2000. Should be replaced by appropriate SSTVs
Chlorophyll-a	µg/L	2-10	This is a range of default triggers from ANZECC 2000. Should be replaced by appropriate SSTVs
Faecal coliforms	/100ml	<1000	This trigger is far too high and is usually less than 100.
Enterococci	/100ml	<230	This is normally reserved for recreational guidelines and not relevant to the ponds at DSS
Algae, blue-green algae	cells/ml	<15,000	This is relevant to background water quality and should be a trigger not a water quality objective for the operation
Sodium	mg/L	400	Default trigger from ANZECC 2000 and should be replaced by appropriate SSTVs
Potassium ion	mg/L	50	Default trigger from ANZECC 2000 and should be replaced by appropriate SSTVs
Magnesium ion	mg/L	50	Default trigger from ANZECC 2000 and should be replaced by appropriate SSTVs
Chloride ion	mg/L	300	Default trigger from ANZECC 2000 and should be replaced by appropriate SSTVs
Sulphate ion	mg/L	250	Default trigger from ANZECC 2000 and should be replaced by appropriate SSTVs
Bicarbonate ion	mg/L	750	The source of this is unknown but should be replaced by a SSTV
Soluble Iron ion	mg/L	6	The source of this is unknown but should be replaced by a SSTV
Ammonium ion	mg/L	20	This level is extremely high and based on the monitoring results the SSTV would be less than 2 mg/L

Notes from the consent:

- The objectives for dissolved oxygen, turbidity and algae are relevant to surface water only;
- The Department acknowledges that short term exceedances of these objectives may occur during natural events such as heavy rainfall or tidal saline water inflow.

Based on the above analysis it is recommended that the consent be modified to include more appropriate water quality criteria, or a method to determine appropriate criteria using the methods outlined in ANZECC 2000 Water Quality Guidelines.

3.5.4 Air Quality Monitoring Review

Dust monitoring consists of 6 deposition gauges and 1 High Volume Air Sampler. Given the nature of the operation, dust levels should be very low. This was observed on site during the site inspection. This is a wet quarry for both extraction and processing. The stockpile area is small and is used to drain water from the sand following processing. The hardstand area is also small and well contained. The sand extraction process occurs underwater and the delivery process is via pipeline to the processing plant. There is no blasting or crushing and very little need for mobile plant. Despite this, the measured dust levels are relatively high.

Deposition dust is measured in grams per metre squared per month and is collected in elevated funnelled bottles. The collected dust is first washed to remove dissolvable organic material such as cobwebs and droppings. The remaining material is referred to as insoluble solids which is the standard used to determine dust compliance. It does however include organic matter which is often naturally derived. The next procedure is heating the dust to remove volatile compounds and organic material to leave just mineral dust. These two components are referred to as combustible matter and residual ash.

DSS reports the residual ash as a compliance measure which is appropriate given that the potential dust impacts of the operation would be in the form of fine mineral sand however Condition 19 of Schedule 3 specifies insoluble solids as the assessable component as provided by AS3580.10.1-1991.

There are several external sources of dust which influence the dust levels experienced at DSS. These include two neighbouring quarries as well as the adjacent Princess Highway and surrounding agricultural land. Reviewing the data shows that rolling 12 month average total insoluble solids has approached the criteria of 4g/m²/month on several occasions over the audit period. The criteria however have been met at receptor locations.

3.5.5 Rehabilitation Monitoring Review

The monitoring of rehabilitation takes the form of photographic records of the various plantings. This is appropriate but is considered fairly basic. As described below, the rehabilitation work inspected as part of this audit was of a high standard and appears to be well on track to achieve a similar land use as was found when inspecting the Stage 1 pond areas.

3.6 Site Inspection and On-Site Environmental Management

The site inspection covered all aspects of the quarry operation and a photographic record is provided in Appendix C. Results of the inspection are discussed in the following sections.

3.6.1 Equipment Parking and Hardstand

All mobile plant is parked up when not in use. The area is generally clean and tidy however some oil drips were noted below engine and gearbox locations. These should be cleaned up on an as needed basis. There would be the potential to establish a bioremediation area on site where minor soil contamination could be disposed and treated naturally by use of cover crops and regular turning over prior to use in the rehabilitation area.

3.6.2 Refuelling Area

All tanks were self bunded and the area generally free of oil contamination. Spill containment kits are available however there were minor levels of fuel spillage from bowser use. All oils and chemicals are stored in a shipping container which is considered appropriate. As recommended above, the use of an on site bioremediation area for minor fuel and oil spillages is an appropriate measure to deal with minor hydrocarbon contamination.

3.6.3 Sand Processing and Stockpiling Site

The sand processing operation consists of screening and separating the dredged sand from organic matter and debris. It is a wet process and no dust was observed. The stockpiles are small but are also used to drain the water from the processed sand prior to loading with a front end loader into road registered trucks. The site as inspected was well organised and operated. There was no evidence of dust and little noise generated.

3.6.4 Roadways, Intersections and Wheel Wash Area

The main access road is also used by the Dunmore Hardrock Quarry. All trucks leave the site via the wheel wash and weighbridge and enter Tabbita Road. The intersection with the Princess Highway is via a left turn only on ramp. Inspection of Tabbita Road showed some minor dust build-up on the pavement however none was tracked onto the Princess Highway. The roadways were in good order and access to the site was easily obtained.

The operation of the wheel wash was observed multiple times as trucks passed over it. No issues were observed with its operation.

3.6.5 Sand Dredging and Silt Disposal Ponds

The dredging operation is self contained and well managed. Silt curtains are provided around the dredge and visually water quality was good. The cut slopes of the extraction area are formed by an excavator and no slumping was observed. The silt ponds were also inspected and visually the water appeared more turbid as would be expected. The discharge channel was inspected and no sedimentation within the channel was found. There were several floating booms laid over the pond to capture floating organic matter, although none was observed.

The only issue found was a modest level of weed growth around the ponds and access roads. The weeds of concern were mainly Lantana and Blackberry.

3.6.6 VENM and PASS Dumping Sites

An inspection was made over the western side of Pond 2 which includes the area of VENM dumping. There was no PASS on the surface at the time of the inspection as this material is emplaced in Pond 2 shortly after delivery. The general dumping area showed evidence of foreign materials which could have been brought in on VENM delivery trucks. This material was inert and consisted of fragments of sawn timber, bricks and tiles. It has been recommended that closer attention be paid to VENM delivery trucks to ensure that no foreign materials are inadvertently left on site. The level of contamination with inert foreign materials was minor.

The processing of VENM and PASS to obtain saleable sand and soil either directly or as a blend is considered a beneficial reuse of a benign waste material which would otherwise be dumped at

landfill. Using this material to partially fill completed extraction voids provides benefits to the final rehabilitated landform.

3.6.7 Survey Points

An inspection was made of the main survey points which mark the approved development footprint.

3.6.8 Rehabilitation Areas

An inspection was made of most of the rehabilitation areas around the previous extraction ponds including internal island habitats. The inspection included the first stage extraction area which is now used for public open space. The standard of final rehabilitation is considered excellent and the ability of the operation to repurpose mined land for passive recreation is one of the key strengths of this operation.

3.6.9 Creek Diversion and Culverts

The Western Tributary diversion was inspected and the standard of rehabilitation was considered excellent. The construction phases were also reviewed using the photographic records available. No issues were found with the standard of work. The licensed discharge point was inspected as was the condition of the culvert beneath the Princess Highway. There was no evidence of high concentrations of sediment leaving the site.

3.6.10 Downstream from the Site

An inspection of Rocklow Creek was made downstream of the site. This section of creek is tidal and the purpose of the inspection was to determine if the quarry was having any visible signs of impact on the receiving waters. There was no evidence of sediment having left the quarry and the riparian vegetation appeared healthy. There was no evidence of vegetation dieback. The surface water in this reach of Rocklow Creek would be classified as brackish where fresh surface water mixes with tidal waters. The conductivity of this mixing zone should vary however its ongoing health is maintained by fresh surface flows diluting more saline groundwater base flows.

3.7 Community Liaison

Inspection of the community complaints register showed that there have been no complaints during the audit period. A review of the minutes of the Community Consultation Committee (CCC) meeting indicate that most issues are quickly resolved. Noise and traffic issues has been regularly discussed. Minutes are prepared which document each issue raised by the committee, DSS's response and agreed actions to be taken. Minutes are presented at each CCC meeting. This process satisfies the consultation requirements of Condition 4 of Schedule 5 of the approval and the Department's CCC guidelines.

As discussed in Section 2.5.1, the CCC was contacted as part of this audit and no specific issues were raised. The function and purpose of the CCC is considered satisfactory and issues raised are proactively addressed and resolved by DSS.

Boral as a corporation have good community liaison and communication systems in place. Their web page contains all necessary information for the general public to gain a good appreciation of the operation and its impact on the environment and surrounding community.

3.8 Record Keeping

The success of site environmental management often rests with good data collection, proper analysis of data and record keeping. The environmental data is all kept on site and there is a system to enable ongoing management of data to identify trends and potential future exceedences. The raw environmental data has been inspected and found to be stored and kept up to date.

Paper records are kept of VENM and PASS deliveries, pH testing on arrival, validation forms and selected PASS assessment studies. This process is acceptable however it is recommended that regular inspections for foreign materials be undertaken to strengthen the testing procedures.

3.9 Environmental Management Plan Review

All the management plans required by the consent have been prepared and approved, since the development commenced. These plans have been reviewed and updated since the 2017 Environmental Audit. The key management plans operating on site were reviewed as part of this audit were the Water Management Plan, Waste Management Plan

3.9.1 Water Management Plan 2019 (pending approval)

This updated version of the WMP incorporated EPL changes in monitoring frequency and new Water Access Licence conditions. Overall, the WMP covers the main water related issues of the operation and provides adequate management initiatives to effectively reduce adverse impacts on receiving waters. Comments on the WMP are as follows:

- ❑ Section 4.3 of the WMP refers to Table 5 of the consent (Condition 23, Schedule 3) as criteria that are not to be exceeded. The consent states that Table 5 lists water quality objectives in recognition that these are largely derived from default guidelines. A review of the listed guideline values is provided in Section 3.5.3 of this audit.
- ❑ Section 4.3.3 correctly identifies the primary issue of concern being the potential impacts of the operation on downstream wetland communities. There is the potential for saline groundwater to be drawn into the Stage 3 pond area which may discharge to surface water systems during heavy rainfall. This issue however does not have a specified trigger value or protocol nor available data to determine an appropriate trigger.
- ❑ A simplified Trigger Action Response Plan should be provided for the PASS monitoring in Pond 2. The WMP states the procedures to monitor the pond following placement of PASS and that the pH is to remain above 6.5 however no actions are provided in the event that pH falls below this level.
- ❑ The Groundwater Management Plan provides appropriate Site Specific Trigger Values and these should be used to amend the consent as part of the Stage 5 approvals.

3.9.2 Waste Management Plan 2020

This updated plan incorporated additional conditions resulting from the approval of MOD3 as well as procedures relating to processing and blending of VENM. The key issue for this plan is the ability for the site to appropriately classify and effectively handle VENM and PASS on site either for reprocessing or emplacement in extraction areas. The use of an Acid Sulphate Soil Classification report by a certified practicing soil scientist is considered sufficient as a verification

procedure. The delivery, handling and quick emplacement of the material under water is also an appropriate method as is the follow-up pH monitoring of the pond.

The self assessment style pre-acceptance validation process for VENM should be strengthened by additional inspections of each load delivered. The trucks used to deliver VENM are likely to also be used to deliver building demolition waste to licensed disposal facilities in the region. If the pre-acceptance form notes that the originating site is an “old house block”, “old factory site” or there is an indication that the originating site may contain foreign materials, then the load must be subject to detailed inspection on arrival.

3.9.3 Air Quality Management Plan

The AQMP will need to be updated once the Stage 5 project is approved. This will involve additional dust monitoring and management procedures to be incorporated. It is understood that real-time monitoring will be incorporated as part of the overall monitoring program for Dunmore Hardrock Quarry. At the time of the next update of this plan, it is recommended that the dust management control procedures be documented in more detail including the use of the water cart on site.

3.9.4 Noise Management Plan

The NMP will need to be updated once the Stage 5 project is approved. This will include additional noise receptors to be incorporated. The use of an external noise consultant to confirm compliance with noise assessment criteria is supported and the list of corrective actions in the event of an exceedance is considered satisfactory.

3.9.5 Rehabilitation Management Plan

The currently approved RMP has been reviewed and is considered satisfactory for its intended purpose. There are some assumptions made in relation to the final shape of the lakes and bird sanctuary island and the level of filling that may occur. This is particularly the case in the division between proposed lake area and proposed wetland area. The actual area and shape of each will likely differ over time and these plans should be updated on an as required basis.

The list of management actions is very detailed and has assumed an extraction program that has not occurred. This list should be updated and simplified as part of any future updating of the plan. The completion criteria should incorporate additional measures to enable verification that the proposed Swamp Oak Floodplain Forest ecosystem has been achieved. This could be in the form of number and species of canopy, shrub and groundcover, health and vigour and self seeding. To demonstrate completion of an ecological community establishment, there needs to be a robust set of data which can demonstrate that the target community has been achieved and is sustainable.

3.9.6 Flora and Fauna Management Plan

This plan will need to be updated as part of the Stage 5 project approval. The plan is comprehensive and adequately addresses the consent requirements however it is now out of date in relation to progress of rehabilitation currently on site.

3.9.7 Long Term Management Strategy

This plan will need to be updated as part of the Stage 5 project approval. It is recommended that this document be replaced by an Environmental Management Strategy (EMS) covering the entire operation. This is essentially what this plan does by tying together all the environmental management aspects of the operation however it is out of date.

3.10 Actual vs Predicted Impacts

Based on the monitoring results presented in the Annual Reviews of 2017, 2018, 2019 and 2020, the environmental performance of the DSS operation has been in line with the impacts anticipated in the 2004 Environmental Impact Statement and subsequent modifications in relation to the use of VENM and PASS.

3.11 Improvement Opportunities

The main improvement opportunity identified by this audit is strengthening of procedures in relation to the receipt of VENM. Other recommendations made in Chapter 4 are also procedural in nature which are designed to improve the site's ability to demonstrate compliance.

3.12 Key Strengths

The key strengths of the DSS operation are as follows:

- The operation is essentially a wet process which drastically reduces the potential for dust impacts to occur.
- The operation is an inherently low noise producer. As documented by several different noise consultants, the operation not only meets its noise contribution criteria but is in fact inaudible at key residential receptors. This reduces the potential for noise related complaints.
- The CCC for this operation functions very well and is an effective tool in resolving community issues.
- Boral has well established and effective community consultation programs which reduce the incidence of community concerns.
- The ability to beneficially reuse VENM and PASS conforms to the NSW government's Circular Economy Policy initiatives.
- The final rehabilitation program produces community based facilities that are both environmentally and socially acceptable.

4. Recommendations

4.1 Summary of Recommendations

The following recommendations have resulted from this audit:

- ❑ The water quality goals listed in Table 7 of Condition 24 of Schedule 3 be reviewed and updated with appropriate Site Specific Trigger Values based on long term ambient monitoring data that is now available. There is an opportunity to do this with the new planning consent anticipated for the Stage 5 project.
- ❑ Rehabilitation monitoring should be expanded to include measures which could be used to verify the achievement of the completion criteria. These could be incorporated into the next review of the management plans post approval of Stage 5.
- ❑ Woody weeds such as lantana should be treated on an annual basis until effective control is achieved.
- ❑ VENM inspection and verification systems should be upgraded and strengthened to include regular testing of foreign materials.
- ❑ Consideration should be given to upgrading the current Long Term Management Strategy to an Environmental Management Strategy.

Appendix A – Compliance Status Table

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
Schedule 2: Administrative Conditions				
1	The Applicant must implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.	Audit inspection and interviews	All practicable measures to minimise and prevent environmental harm are being implemented.	Compliant
2	The Applicant must carry out the development:		Audit findings conclude that the development is being carried out in accordance with the conditions of the approval, EIS and Development Layout Plan	
	a) generally in accordance with the EIS and the Development Layout Plan; and	Audit inspection and interviews		Compliant
	b) in accordance with the conditions of this consent.	Audit inspection and interviews		Compliant
3	If there is any inconsistency between the documents identified in condition 2(a), the more recent document shall prevail to the extent of the inconsistency. The conditions of this consent shall prevail to the extent of any inconsistency with the documents identified in condition 2(a).	Audit inspection and interviews	Noted- no inconsistencies identified by Audit	Compliant
4	The Applicant must comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:	Site Interview	DP&E requested a review of the management plans on 23 rd June 2016. The reviewed management plans were approved on 22 nd May 2017.	Compliant
	a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents);	Site Interview		Compliant
	b) any reviews, reports or audits commissioned by the Department regarding compliance with this consent;	Site Interview		Compliant
	c) the implementation of any actions or measures contained in these documents.	Site Interview		Compliant
5	This consent shall lapse 25 years after the date it commences.		Noted	Compliant
6	The Applicant must not produce or transport more than 800,000 tonnes of product per year from the site.	2018 and 2019 AEMR, Section 2.6 2020 AEMR Section 2.5	DSS produced 416,988 tonnes and transported 434,442 tonnes during 2018 In 2019 production was 448,193 tonnes and 460,495 tonnes were transported. 220,995 t were produced in the 2019-20 FY, with 227,794t being transported by road and rail combined. All remained below the limit.	Compliant
7	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.	2017 Audit	No construction was conducted during the audit timeframe. The buildings present onsite are temporary.	Compliant
8	The Applicant must ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	2017 Audit	No demolition was conducted during the audit timeframe.	Compliant
9	The Applicant must:	Site Interview	Interview with DSS personnel confirmed that no damage to public infrastructure occurred during the audit timeframe	
	a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and			Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	b) relocate, or pay the full costs associated with relocating any public infrastructure that needs to be relocated as a result of the development.			Compliant
10	The Applicant must ensure that all plant and equipment at the site, or used in connection with the development, are:	Audit inspection and interviews	The maintenance log was sighted during the audit to show regular maintenance of machinery. Pre-start inspections are undertaken daily.	
	a) maintained in a proper and efficient condition; and			Compliant
	b) operated in a proper and efficient manner			Compliant
Schedule 3: Specific Environmental Conditions				
1	Within 6 months of the date of this consent, the Applicant must:			
	a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction;	Audit inspection and interviews	The initial survey plan, completed by Bruce E Smith (Registered Surveyor) of Craven Elliston & Hayes was submitted on 24/02/2006 and updated on 5/03/2007.	Compliant
	b) submit a survey plan of these boundaries to the Secretary; and	Document sighted		Compliant
	c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.	Site inspection	The extraction limit boundaries were clearly marked during the site inspection	Compliant
2	The Applicant must not undertake extraction within 3 metres of the project site boundary. Batter slopes from this extraction limit must be no steeper than 1:3 (V:H).	Site inspection, design of Western Tributary diversion	Extraction was not and has previously not been undertaken within 3m of the site boundary as observed during the site inspection. Batter slopes were also in compliance with the condition	Compliant
3	The Applicant must not undertake any stockpiling of material in the area marked 'Potential Future Stockpiling Area' on Figure 2.2 of the EIS.	Document sighted	There was no stockpiling observed in this area during the site inspection	Compliant
4	The Applicant must not undertake any extraction in Stage 4 without the prior approval of the Secretary. An application to undertake extraction in Stage 4 must be accompanied by an extraction management plan that must:	Audit inspection and interviews	Stage 4 extraction has not commenced. Extraction will move into the Stage 5 area prior to completing Stage 4. The changed sequence should be reflected in the modification 2 approvals	Not Triggered
	a) detail the proposed realignment and rehabilitation of Tabbita Road and associated infrastructure;	Audit inspection and interviews		Not Triggered
	b) assess the environmental impacts of the proposed realignment; and	Audit inspection and interviews		Not Triggered
	c) include appropriate agreements with affected parties,	Audit inspection and interviews		Not Triggered
5	The Applicant must not undertake extraction within 3 metres of the bank of the Eastern Tributary. Batter slopes from this extraction limit must be no steeper than 1:3 (V:H).	Site inspection	Extraction was not and has previously not been undertaken within 3m of the Eastern Tributary as observed during the site inspection. Batter slopes were also in compliance with the condition	Compliant
6	The Applicant must maintain the integrity of the Northern and Western Tributaries for as long as practicable. In this regard, the Applicant must only extract sand within 3 metres of the bank of the tributaries in accordance with an approved Riparian Area Management Plan (see condition 45). Batter slopes from this extraction limit must be no steeper than 1:2 (V:H).	Site inspection	Extraction was not and has previously not been undertaken within 3m of the Tributaries as observed during the site inspection. Batter slopes were also in compliance with the condition	Compliant
7	The Applicant must not undertake extraction within 10 metres of the bank of the southern or north-eastern wetlands. Batter slopes from this extraction limit must be no steeper than 1:2 (V:H).	Flora and Fauna Management Plan	Extraction has not been undertaken within the 10m buffer of the wetland banks, as observed during the site inspection. Batter slopes were also in compliance with the condition	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
		Vegetation Clearing Protocol (Appendix A) Site inspection		
8	The Applicant must commission a suitably qualified ecologist, whose appointment has been endorsed by the Secretary, to mark out the extraction limit to the southern and north-eastern wetlands.	Site inspection	Dr David Robertson of Cumberland Ecology marked out the extraction limits from the wetlands banks during the Flora, Fauna and Rehabilitation Management Plan which was submitted to DP&E in June 2006. The amended survey plan was submitted on 5/03/2007.	Compliant
9	The Applicant must ensure that extraction within 40m of the southern, north-eastern and north-western wetlands occurs towards the end of dredging when the dredge pond water volume is maximised, and in accordance with an approved Riparian Area Management Plan (see condition 45). The plan must include an assessment by a suitably qualified hydrogeologist justifying the extraction limit referred to in condition 7, based on data obtained from the site.	Audit inspection and interviews	Staging in this area appears to have been in sequence with the staging approved in the development consent. Extraction near the southern wetland is not yet occurring. Extraction near the north-eastern wetland is complete. Extraction near the north-western wetland is complete.	Compliant
10	Prior to the commencement of extraction in Sub-Stage 3C1 (see Appendix 1), the Applicant must complete the realignment and rehabilitation of Rocklow Creek, to the satisfaction of the Secretary. The realignment must be undertaken in accordance with an approved Riparian Area Management Plan (see condition 45). The realigned channel must be designed so as to safely convey, without bed or bank erosion, the 1 in 20 year ARI peak flow.	Audit inspection and interviews	Extraction in Sub-Stage 3C1 has not yet commenced	Not Triggered
11	The Applicant must not undertake extraction within 3 metres of the bank of the realigned Rocklow Creek. Batter slopes from this extraction limit must be no steeper than 1:2 (V:H).	Audit inspection and interviews	Extraction was not and has previously not been undertaken within 3m of the realigned Creek Bank, as observed during the site inspection. Batter slopes were also in compliance with the condition	Compliant
12	The Applicant must provide for the ultimate redirection of the realigned Rocklow creek into the lake in Stage 3, unless otherwise approved by the Secretary. The redirection must be undertaken in accordance with an approved Riparian Area Management Plan (see condition 45).	Chapter 6, Rehabilitation Management Plan	The Riparian Area Management Plan was approved by the DP&E in May 2017, Stage 3 works appear to follow the Plan.	Not Triggered
13	The Applicant must ensure that the noise generated by the development does not exceed the criteria specified in Table 1.	AR 2017-18 Appendix E AR 2018-19 Appendix C AR 2020 Appendix C	Noise Monitoring conducted in 2018, 2019 and 2020 confirmed compliance of attended noise monitoring at the three receptors. No noise complaints were recorded during the Audit period.	Compliant
14	The Applicant must comply with the operating hours in Table 2	Site Interview	It was confirmed during the interview that the site has been operating within the approved hours.	Compliant
15	The following activities may be carried out at the premises outside the hours specified in Table 2: a) the delivery of materials as requested by Police or other authorities for safety reasons; and	Site Interview, Annual Reviews	It was confirmed during the interview that deliveries were not required outside of standard operating hours for the conditions of this consent.	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	b) emergency work to avoid the loss of lives, property and/or to prevent environmental harm. In such circumstances the Applicant must notify EPA and affected residents prior to undertaking the works, or within a reasonable period in the case of emergency.			Compliant Not Triggered
16	Within 3 months of the date of this consent, the Applicant must prepare a Noise Monitoring Program for the development, in consultation with EPA, and to the satisfaction of the Secretary. This program must include a noise monitoring protocol for evaluating compliance with the noise impact assessment criteria in this consent.	DLSP Noise Management Plan	The Noise Management Plan was updated in February 2017 to include a noise monitoring program in order to satisfy the requirements of this condition.	Compliant
17	Within 2 months of the date of commencement of extraction of production sand, and annually thereafter unless directed otherwise by the Secretary, the Applicant must:			
	a) commission a suitably qualified person to assess whether the development is complying with the noise impact assessment criteria in Table 1, in general accordance with the <i>NSW Industrial Noise Policy</i> and <i>Australian Standard (AS) 1055-1997: Description and Measurement of Environmental Noise</i> ; and	AR 2017-18 Appendix E AR 2018-19 Appendix C AR 2020 Appendix C	Noise Monitoring conducted in 2018, 2019 and 2020 confirmed compliance of the criteria in Table 1.	Compliant
	b) provide the results of this assessment to EPA and Secretary within a month of commissioning the assessment.	Interview	The noise compliance assessment reports were submitted to the EPA and DP&E within the timeframe of the condition.	Compliant
18	Within 7 days of detecting any exceedance of the noise limits in Table 1, the Applicant must report the exceedance to EPA and the Secretary. This report must include details of the date and time of the exceedance, the operational cause of the exceedance, the response initiated, and the measures proposed to ensure ongoing compliance with the noise limits.	AR 2017-18 Appendix E AR 2018-19 Appendix C AR 2020 Appendix C	No exceedances to the noise limits were detected in the Noise Compliance Assessment Reports.	Compliant
19	The Applicant must ensure that dust generated by the development does not cause additional exceedances of the criteria listed in Tables 3 to 5 at any residence on, or on more than 25 percent of, any privately-owned land.	AR 2017-18 Section 5.2 AR 2018-19 Section 5 AR 2020 Section 4.2.2	Data published in the 2018, 2019 and 2020 Annual Reviews confirms that TSP, PM1 and Deposited Dust remained below the annual average criteria in this consent.	Compliant
20	Within 3 months of the date of this consent, the Applicant must prepare an Air Quality Monitoring Program for the development, in consultation with EPA, and to the satisfaction of the Secretary. This program must include an air monitoring protocol for evaluating compliance with the air quality criteria in this consent.	DSLPA Air Quality Monitoring Program	The Air Quality Monitoring Program was reviewed in February 2017 and satisfies this condition. The Plan was submitted prior to the due date.	Compliant
21	The Applicant must not cause or permit the emission of offensive odour beyond the boundary of the site.	Site Inspection, Complaints Register	No odours were noted during the site inspection, and no complaints of odour were made during the audit period.	Compliant
22	Except as may be expressly provided by an EPL, the Applicant must comply with section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the development.	AR 2017-18 Section 5.4 AR 2018-19 Section 7	Water access licence: WAL24477 (Status: current) Water supply approval: 10-WA-106714 (Status: current) Controlled activity licence: 10-ERM2010/1116 (Status: current).	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
		AR 2020 Section 4.4.1 WMP Section 4.3	From 2018 to 2020, no exceedances from discharge point DW20b or DW21b were recorded.	
23	Except as may be expressly provided by an EPL, the Applicant must ensure that the discharges from any licenced discharge point/s do not cause additional exceedances of the criteria in Table 6.	WMP Section 4.3	Water discharges via licensed discharge points have not exceeded the limits	Compliant
24	The Applicant must ensure that water quality in the dredge ponds and in groundwater comply with the water quality objectives in Table 7, or other such level as approved by the Secretary	Water Monitoring Data AR 2017-18 Appendix F AR 2018-19 Appendix E AR 2020 Appendix D WMP Section 4 Monitoring data	Groundwater did not exceed the site-specific trigger levels (SSTV) in 2018/2019 outlined in the GMMP. Some exceedances have occurred in the water quality objectives however these have not resulted in harm to the environment. Values in Table 7 are not appropriate or reflective of natural conditions as described in Section 3.5.3 of the audit report. This audit has recommended that Table 7 be updated as part of the new consent process for MOD2. Sufficient data exists to create SSTV with more appropriate values. It is noted that short term exceedances of the objectives may occur due to natural events such as heavy rainfall or tidal saline inflow.	Non-Compliant
25	The Applicant must ensure that any pond subject to dredging or backfilling, or containing turbid water due to recent dredging or backfilling, must be maintained and operated to prevent discharges of any turbid water (as defined in Tables 6 and 7) from these ponds.	Site interview and inspection WMP Section 8	During an interview, it was stated that turbid water was not discharged from site. During the site inspection sand extraction was being undertaken and no discharge of turbid water was witnessed.	Compliant
26	The Applicant must cease backfilling activities not less than 12 hours prior to the commencement of overflow from any dredge pond. No backfilling must occur when the dredge ponds are overflowing.	WMP Section 7	No evidence of sediment leaving the site was found in the receiving waters downstream of the operation	Noted
27	The Applicant must ensure that the flood storage capacity of the site is no less than the pre-existing flood storage capacity at all stages of the development. Details of the available flood storage capacity must be reported in the Annual Review.	AR 2017-18 Section 3.3.1 AR 2018-19 Section 7.7 AR 2020 Section 4.6 WMP Section 7	The three Annual Reviews examined during this audit period detailed construction works and bund levels on site to protect the site from floods up to and including the 1 in 100 year event.	Compliant
28	The access road entrance off Tabbita Road, processing and stockpile area, and the fines return pond(s) must be constructed and maintained so as to prevent inundation by floodwaters caused by the 1 in 100 year ARI flood level. Prior to the commissioning of the processing area, the Applicant must provide certification to the Secretary that this condition has been complied with.	AR 2018-19 Section 7.7 WMP Section 7	AR 2018-19 stated that "The majority of the access road off Tabbita Road is also above 3.6 metres AHD; however, the ramp abutting Tabbita Road was constructed below 3.6 metres AHD due to the presence of overhead powerlines and potential safety risks to heavy vehicles."	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
29	Following the cessation of dredging and backfilling operations, the Applicant must commission a suitably qualified hydrologist to define the flood-related limits of the final landform. The flood study must be undertaken in consultation with the Department and Shellharbour Council, and to the satisfaction of the Secretary.	WMP Section 7	Dredging and backfilling operations have not yet ceased. However DSS have incorporated flood design levels into the rehabilitation program from the outset	Not Triggered
30	Within 3 months of the date of this consent, the Applicant must prepare a Water Management Plan for the development, in consultation with DPIE Water and the Department, and to the satisfaction of the Secretary. This plan must be prepared by a qualified hydrogeologist/hydrologist and include:	Water Management Plan	The Water Management Plan was submitted within the required timeframe and includes information to satisfy conditions 30a- 30e. The WMP for Stages 2, 3 and 4 was updated in 7/09/2018.	Compliant
	a) Water Balance;	WMP Section 6		Compliant
	b) an Erosion and Sediment Control Plan;	WMP Section 8		Compliant
	c) a Surface Water Monitoring Program;	WMP Section 4		Compliant
	d) a Ground Water Monitoring Program; and	WMP Section 5, Appendix B		Compliant
e) a Surface and Ground Water Response Plan, to address any potential adverse impacts associated with the development.	WMP Sections 9, 10	Compliant		
31	The Water Balance must:		Included in the WMP submitted on 7/09/2018	
	a) include details of all water extracted and used by the development; and	WMP Section 6.1		Compliant
	b) provide for the reporting of annual water extraction and maximum instantaneous pumping rates to the Department in accordance with the licence under the Water Act 1912.	WMP Section 6.2		Compliant
32	The Erosion and Sediment Control Plan must:		Included in the WMP submitted on 7/09/2018	
	a) be consistent with the requirements of the Department of Housing's <i>Managing Urban Stormwater: Soils and Construction</i> manual;	WMP Section 8		Compliant
	b) identify activities that could cause soil erosion and generate sediment;	WMP Section 8.1		Compliant
	c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;	WMP Section 8.2		Compliant
	d) describe the location, function, and capacity of erosion and sediment control structures; and	WMP Section 8.3		Compliant
e) describe what measures would be implemented to maintain the structures over time	WMP Section 8.4	Compliant		
33	The Surface Water Monitoring Program must include:		Included in the WMP submitted on 7/09/2018	
	a) detailed baseline data on surface water flows and quality in all waterbodies and wetlands within the site;	WMP Section 4.1		Compliant
	b) surface water impact assessment criteria;	WMP Sections 4.2, 4.3		Compliant
	c) a program to monitor surface water flows and quality;	WMP Section 4.4		Compliant
	d) a program to monitor bank and bed stability;	WMP Section 8		Compliant
e) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria; and	WMP Section 9	Compliant		

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	f) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.	WMP Section 8		Compliant
34	The Ground Water Monitoring Program must include:	All in Appendix B	Included in the WMP submitted on 7/09/2018	
	a) detailed baseline data on ground water levels, flows and quality, based on statistical analysis;	WMP Section 4		Compliant
	b) ground water impact assessment criteria;	WMP Section 8.1		Compliant
	c) a program to monitor regional ground water levels and quality;	WMP Section 5		Compliant
	d) a program to monitor ground water level effects on adjacent wetlands, vegetation, and on ground water supply to adjoining properties; and	WMP Section 5		Compliant
	e) a protocol for the investigation, notification and mitigation of identified exceedances of the groundwater impact assessment criteria.	WMP Section 8.2		Compliant
35	Each year, the Applicant must:			
	a) review the Water Management Plan;	Site interviews and evidence on line	The Water Management Plan was submitted to the department on 3 April 2017.	Compliant
	b) update each sub-plan; and		The Water Management Plan was updated and approved in September 2018. The 2019 version is pending approval. This version of the WMP was updated following the approval of MOD3 and was under review by the DPIE at the time of this audit.	Compliant
	c) report the results of this review in the Annual Review, including:	2020 AR	The Annual review refers to updated plans pending approval	Compliant
	d) the results of monitoring;	2020 AR	The Annual review refers to updated plans pending approval	Compliant
	e) details of the review for each sub-plan;	2020 AR	The Annual review refers to updated plans pending approval	Compliant
	f) amendments to the sub-plans; and	2020 AR	The Annual review refers to updated plans pending approval	Compliant
	g) details of the measures undertaken/proposed to address any identified issues	2020 AR	The Annual review refers to updated plans pending approval	Compliant
36	The Applicant must establish a rainfall monitoring gauge at a location approved by EPA, using the following specified units of measure, averaging period, frequency and sampling method.	AR 2017-18 Section 5.3 AR 2018-19 Appendix A AR 2020 Appendix A	A meteorological monitoring station has been operating at Dunmore since 2002. The rainfall gauge was sighted during the site inspection. Results are reported in the AR	Compliant
37	The Applicant must establish, conserve and maintain at least:	DLSP Flora and Fauna Management Plan (Appendix B)		
	a) 6 ha of Freshwater Wetlands on Coastal Floodplains (which may include areas of associated wetland pondage); and		Included in DLSP Flora and Fauna Appendix B Compensatory Habitat Management Plan submitted on 6/02/2017	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	b) 3 ha of Swamp Oak Floodplain Forest; in rehabilitation and visual screening plantings on the site, in a manner that integrates the compensatory habitats with existing similar habitats on and near the site.		Included in DLSP Flora and Fauna Appendix B Compensatory Habitat Management Plan submitted on 6/02/2017	Compliant
38	Within 12 months of the date of this consent the Applicant must prepare a Flora and Fauna Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared by a suitably qualified ecologist and include:	DLSP Flora and Fauna Management Plan		
	a) a Vegetation Clearing Protocol;	Appendix A	DLSP Flora and Fauna Management Plan (D) last revised 6/02/2017 included as Appendix A	Compliant
	b) a Compensatory Habitat Management Plan; and	Appendix B	DLSP Flora and Fauna Management Plan (D) last revised 6/02/2017 included as Appendix B	Compliant
	c) a Pest and Weed Management Plan.	Appendix C	DLSP Flora and Fauna Management Plan (D) last revised 6/02/2017 included as Appendix C	Compliant
39	The Vegetation Clearing Protocol must be prepared prior to the commencement of any vegetation clearing works, and must:	DLSP Flora and Fauna Management Plan Appendix A		Compliant
	a) delineate the areas of vegetation to be cleared; and		Vegetation which has been removed and is proposed to be cleared during each Stage is outlined in Appendix A, Section 8.4	Compliant
	b) describe the procedures that would be implemented for; <ul style="list-style-type: none"> • pre-clearance surveys; • progressive clearing; • fauna management; • conserving and reusing topsoil; • collecting seed from the site; • salvaging and reusing material from the site; • managing waste vegetation; and • controlling weeds. 		The following procedures are described in Appendix A: <i>Table 3: Vegetation clearing protocol management actions</i> Management plan requires updating	Compliant
40	The Compensatory Habitat Management Plan must:	DLSP Flora and Fauna Management Plan Appendix B	This plan requires updating, particularly the staged plans	Compliant
	a) describe the compensatory habitat proposal;	Section 8.9.1	Included in the DLSP Flora and Fauna Management Plan (D) Appendix B submitted on 06/02/2017	Compliant
	b) justify why the proposed area(s) is suitable for the compensatory habitat proposal, including how the area will integrate with existing habitat areas on and near the site;	Section 8.9.2	Included in the DLSP Flora and Fauna Management Plan (D) Appendix B submitted on 06/02/2017	Compliant
	c) establish baseline data for the existing habitat in the proposed area(s);	Section 8.9.3	Included in the DLSP Flora and Fauna Management Plan (D) Appendix B submitted on 06/02/2017	Compliant
	d) describe how the compensatory habitat proposal would be implemented;	Section 8.9.4	Included in the DLSP Flora and Fauna Management Plan (D) Appendix B submitted on 06/02/2017	Compliant
	e) set completion criteria for the compensatory habitat proposal; and	Section 8.9.5	Included in the DLSP Flora and Fauna Management Plan (D) Appendix B submitted on 06/02/2017	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	f) describe how the performance of the compensatory habitat proposal would be monitored over time.	Section 8.9.6	Included in the DLSP Flora and Fauna Management Plan (D) Appendix B submitted on 06/02/2017	Compliant
41	The Pest and Weed Management Plan must be prepared in consultation with Shellharbour Council, BCD and DPI Fisheries, and must:	DLSP Flora and Fauna Management Plan Appendix C	This plan requires updating, particularly the staged plans	
	a) identify potential terrestrial and aquatic pests and weeds that may be expected on the site;	Section 8.14	Included in the DLSP Flora and Fauna Management Plan (D) Appendix C submitted on 06/02/2017	Compliant
	b) describe the measures that would be implemented to prevent and eradicate the occurrence of pests and weeds on the site; and	Section 8.15	Included in the DLSP Flora and Fauna Management Plan (D) Appendix C submitted on 06/02/2017	Compliant
	c) describe how the performance of these measures would be monitored over time.	Section 8.15.4	Included in the DLSP Flora and Fauna Management Plan (D) Appendix C submitted on 06/02/2017	Compliant
42	The Applicant must progressively rehabilitate the site to the satisfaction of the Secretary, in a manner that is generally consistent with the concept final landform in the EIS (see Appendix 2), and in accordance with the conditions of this consent.	Dunmore Rehabilitation Management Plan Section 4.4 Landscaping Plan	The Rehabilitation Management Plan outlines rehabilitation procedures to be used on site which have been approved by the Secretary. Site rehabilitation is consistent with the Plan.	Compliant
43	Within 12 months of the date of this consent the Applicant must prepare a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:	Dunmore Rehabilitation Management Plan	This plan requires updating, particularly the staged plans	
	a) identify the disturbed area at the site;	Section 3	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	b) describe in general the short, medium, and long-term measures that would be implemented to rehabilitate the site;	Section 4.5.1	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	c) describe in detail the measures that would be implemented over the next 5 years to rehabilitate the site;	Section 4.5.1 Section 7	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	d) define the final landform based on current backfill estimates;	Section 4.4	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	e) set completion criteria for the rehabilitation of the site;	Section 8.1	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	f) describe how the performance of these measures would be monitored over time;	Section 8.1	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	g) include Riparian Area Management Plan/s for those riparian areas to be disturbed/rehabilitated in the next 5 years; and	Section 6	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	h) include Landscaping Plan/s for the site.	Section 4.4	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
44	The Rehabilitation Management Plan must be prepared:	Dunmore Rehabilitation Management Plan	This plan requires updating, particularly the staged plans	
	a) in consultation with Shellharbour Council, Kiama Council, BCD, Resources Regulator, the CCC, and the Department;	Section 1.5	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	b) by suitably qualified consultants, including a specialist hydrologist, wetlands ecologist and landscape architect, whose appointments have been approved by the Secretary;	Page i	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	c) in accordance with extant guidelines including the Constructed Wetlands Manual, Volumes 1 & 2 and the Shellharbour Visual Management Plan User Manual, to the satisfaction of the Secretary.	Section 2.2	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
45	The Riparian Area Management Plan/s must be prepared in consultation with BCD and the Department, and must:	Dunmore Rehabilitation Management Plan	This plan requires updating, particularly the staged plans	
	a) For works involving disturbance within 3m of an existing riparian area: <ul style="list-style-type: none"> • describe the broader extraction staging and justify the need for extraction in the riparian area at the proposed time; • describe in detail the methods and timing for extraction within the riparian area; • provide for construction and stabilisation of appropriate diversion channels to divert the waterbody around the disturbance area, unless otherwise approved by BCD and the Department; and • describe the methods for rehabilitation of the riparian area and diversion channels. 	Section 6	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	b) For works involving construction/rehabilitation of riparian areas: <ul style="list-style-type: none"> • detail proposed channel/bed designs, including scour protection measures; • include hydraulic modeling supporting the proposed design; • where applicable, include measures to replicate pre-existing tidal-estuarine conditions; • include detailed plans for rehabilitation and revegetation of the riparian area using locally endemic species; • describe measures for the protection, enhancement and integration with adjacent threatened communities, including Freshwater Wetlands on Coastal Floodplains and Swamp Oak Floodplain Forest. 	Section 6	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
46	The Landscaping Plan/s must be prepared in consultation with Shellharbour Council and Kiama Council and must include:	Dunmore Rehabilitation Management Plan	This plan requires updating, particularly the staged plans	
	a) concept design plans for the final landform; and	Section 4.4.1	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
	b) detailed design plans for the areas to be rehabilitated in the next 5 years.	Section 4.4.2	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant
47	Within 3 years of providing the Rehabilitation Management Plan to the Secretary, and every 4 years thereafter, the Applicant must review and update the Rehabilitation Management Plan in a manner similar to that described in condition 44, to the satisfaction of the Secretary.	Dunmore Rehabilitation Management Plan Section 8.3	Included in the DLSP Rehabilitation Management Plan (E) revised on the 17/03/2017	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
48	Within 12 months of the date of this consent, the Applicant must lodge a rehabilitation and conservation bond for the development with the Secretary. The sum of the bond must be calculated at:	2017 Audit	Correspondence dated 7 June 2016 from DP&E approved the recalculation of the Rehabilitation and Conservation Bond following the determination of Stage 2,3 and 4 on 2 June 2016.	Compliant
	a) \$2.50/m ² for the total area to be disturbed in each 4 year review period (see condition 49); and	2017 Audit	This will be due to be negotiated shortly	Not Triggered
	b) \$1.00/m ² for the total area of land previously disturbed and/or rehabilitated by the development, or as otherwise directed by the Secretary.	2017 Audit	This will be due to be negotiated shortly	Not Triggered
49	Within 3 years of lodging the rehabilitation and conservation bond with the Secretary, and every 4 years thereafter, unless the Secretary directs otherwise, the Applicant must review, and if necessary revise, the sum of the rehabilitation bond to the satisfaction of the Secretary. This review must consider:	2017 Audit	This will be due to be negotiated shortly	Not Triggered
	a) the effects of inflation;		This will be due to be negotiated shortly	Not Triggered
	b) any changes to the total area of disturbance; and		This will be due to be negotiated shortly	Not Triggered
	c) the performance of the rehabilitation to date.		This will be due to be negotiated shortly	Not Triggered
50	Within 12 months of the date of this consent the Applicant must prepare a Long Term Management Strategy for the site, in consultation with Shellharbour Council, Kiama Council and the CCC, to the satisfaction of the Secretary. The strategy must:	DLSP Long Term Management Strategy Section 1.4	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	
	a) define the objectives and criteria for quarry closure and post-extraction management;	Section 4.2	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
	b) investigate options for the future use of the site;	Section 4.3	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
	c) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the development; and	Section 6	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
	d) describe how the performance of these measures would be monitored over time.	Sections 6, 7	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
51	Within 3 years of providing the Long Term Management Strategy to the Secretary, and every 4 years thereafter, the Applicant must review and update the strategy to the satisfaction of the Secretary.	DLSP Long Term Management Strategy Section 7	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
52	Within 4 years of the date of this consent the Applicant must establish a trust fund (or other mechanism as agreed by the Secretary), that has available by the end of year 20 a minimum of \$300,000 for the long term management of the site, to the satisfaction of the Secretary. Every 4 years following establishment of the trust, the Applicant must review, and if necessary revise, the trust sum to the satisfaction of the Secretary. This review must consider:	DLSP Long Term Management Strategy	This document should be converted to an overall site Environmental Management Strategy in line with current approvals for extractive industries	Compliant
	a) the effects of inflation;	Section 5	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	b) any changes to the total area of disturbance; and	Section 5	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
	c) the performance of the rehabilitation to date.	Section 5	Included in the DLSP Long Term Management Strategy (D) revised on the 22/03/2016	Compliant
53	The Applicant must not undertake any product despatch from the proposal until the completion of the 'Stage 2 – Kiama Bypass' by the RMS.		The North Kiama Bypass project was completed in December 2005, this condition is no longer applicable.	Compliant
54	The Applicant must provide sufficient parking on-site for all quarry-related traffic, in accordance with Shellharbour Council's parking codes, and to the satisfaction of the Secretary. All vehicular and pedestrian facilities must be in accordance with the RMS's Guide to Traffic Generating Developments.	Site Inspection	Sufficient parking is available on-site.	Compliant
55	The Applicant must ensure that all loaded vehicles entering or leaving the site are covered.	Site Inspection	During the site inspection all vehicle loads were covered as per the condition.	Compliant
56	The Applicant must ensure all loaded vehicles leaving the site are cleaned of materials that may fall on the road before they are allowed to leave the site.	Site Inspection	Vehicles are required to travel through a wheel wash on site prior to exiting the site.	Compliant
57	The Applicant must maximise the use of rail transport for delivery/despatch outside the Illawarra Region, to the satisfaction of the Secretary. Details of transportation modes and measures to assess and encourage rail transport must be provided in the Annual Review.	AR 2017-18 Section 3.3.1 AR 2018-19 Section 2.6 AR 2020 Section 2.5- 2.6	31% of product was transported via rail in calendar year 2018 37% of product was transported via rail in FY 2018/19 18.5% of product was transported via rail in FY 2019/20	Compliant
58	The Applicant must minimise the visual impacts of the development to the satisfaction of the Secretary.	Dunmore Rehabilitation Management Plan	The Rehabilitation Management Plan approved in May 2017 was prepared in accordance with the Shellharbour Visual Management Plan User Manual. The final landform has been designed to blend in with the surrounding landscape to reduce visual impact of the site where possible. A tree screen has been established on the eastern boundary to block views of the site.	Compliant
59	Prior to the commencement of any works, the Applicant must establish and subsequently maintain a tree screen along the eastern boundary (and northeastern and southeastern boundaries), to the satisfaction of the Secretary.	Site inspection	The tree screen was observed during the site inspection and partially blocks the view of the site.	Compliant
60	Within 2 months of completing construction of the processing area, the Applicant must establish and subsequently maintain a tree screen around the processing area to the satisfaction of the Secretary.	Site inspection	The tree screen was observed during the site inspection and partially blocks the view of the processing area. The screen was constructed within the timeframe.	Compliant
61	The Applicant must establish the tree screens identified in conditions 59 and 60 in accordance with a Landscaping Plan that has been prepared in consultation with Shellharbour Council and Kiama Council, and to the satisfaction of the Secretary. The plan must be prepared by a suitably qualified ecologist/landscape architect and must:	Dunmore Rehabilitation Management Plan Section 4.4 Landscaping Plan	The final landform has been developed to be consistent with the DoP approved Landscape Concept Plan prepared by Hughes Landscape Architects (Appendix B) in accordance with this Condition, in consultation with	Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
			Shellharbour Council and Kiama Council, and the desired future land uses for the Site.	
	a) be prepared in accordance with the Shellharbour Visual Management Plan User Manual;		The Rehabilitation Management Plan has been prepared in accordance with the Shellharbour Visual Management plan User Manual.	Compliant
	b) comprise a full range of Swamp Oak Floodplain Forest species;	Section 4.4.2	Revegetation of Swamp Oak Floodplain Forest will cover an area of approximately 29 hectares.	Compliant
	c) provide for the planting of trees of sufficient maturity that will ensure the prompt screening of the site;	Section 4.6.1 (ii) Site inspection	Tree planting acts as a successful visual screen to “enhance the lakes’ visual appeal and to restrict and soften views of the site activities”.	Compliant
	d) provide for a sufficient planting width and density to ensure that the site will be effectively screened when viewed from the Princes Highway and residential areas.	Site inspection	The site inspection confirmed that forest vegetation successfully serves as a visual screen of the site from the adjacent Princes Highway.	Compliant
62	The Applicant must take all practicable measures to prevent and/or minimise any off-site lighting impacts from the development.		There have been no complaints regarding light spillage during the audit timeframe.	Compliant
63	All external lighting associated with the development must comply with <i>Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting</i> .		No complaints regarding light spillage have been recorded and the site does not typically operate during the evening and night periods.	Compliant
64	The Applicant must minimise the amount of waste generated by the development to the satisfaction of the Secretary.	Waste Management Plan Section 3	The Waste Management Plan aims to minimise waste generation. The plan is currently under review	Compliant
65	The Applicant must use VENM for the purpose of void backfilling.	Waste Management Plan Section 4.2	The Waste Management Plan states that only VENM is used to backfill the void.	Compliant
66	Backfilling of the voids must be undertaken in a manner, and with material with suitable physical characteristics, so that it does not significantly affect the direction or rate of groundwater flow from the site.	Waste Management Plan Section 4.2	Included in the DLSP Waste Management Plan (2) revised on the 8/12/2017	Compliant
67	All fines separated from the dredged sand must be placed below the permanent water table within 12 hours of processing the dredged sand.	Waste Management Plan Section 4.3	Included in the DLSP Waste Management Plan (2) revised on the 8/12/2017	Compliant
67A	The applicant must not process and/or blend more than 120,000 tonnes of VENM per annum.	Waste Management Plan	Included in the DLSP Waste Management Plan (2) revised on the 8/12/2017	Compliant
67B	Except as expressly permitted in an applicable EPL, specific resource recovery order or exemption under the Protection of the Environment Operations (Waste) Regulation 2014, the Applicant must not receive waste at the site for storage, treatment, processing or reprocessing.	Waste Management Plan	Included in the DLSP Waste Management Plan (2) revised on the 8/12/2017 No waste was received at the site for storage, treatment, processing or reprocessing as per this condition.	Compliant
68	Within 12 months of the date of this consent the Applicant must prepare and subsequently implement a Waste Management Plan for the development, in consultation with EPA, and to the satisfaction of the Secretary. The plan must include:	Waste Management Plan	Included in the DLSP Waste Management Plan (2) revised on the 8/12/2017	

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	a) VENM receipt and acceptance, processing and blending procedures;	Section 4.2		Compliant
	b) procedures for the management of fines from the processing plant;	Section 4.3.2		Compliant
	c) procedures for managing potential acid sulfate soils; and	Appendix B		Compliant
	d) procedures for minimising and managing other wastes generated by the development.	Section 3		Compliant
69	Any on-site wastewater treatment system must comply with the requirements of the Environment and Health Protection Guidelines – <i>On-site Sewage Management for Single Households (1998)</i> .	Documents provided	Design provided as lodged	Compliant
70	The Applicant must ensure that the storage, handling, and transport of dangerous goods is conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code.	Site Interview and inspection	Fuel and oil storages are within volume limits to not require licensing. All bunding in place	Compliant
71	The Applicant must secure the development to ensure public safety to the satisfaction of the Secretary.	Site inspection	The site is not readily accessible to the public. The site is surrounded by a fence and access is controlled.	Compliant
72	The Applicant must:		The production data is provided to the DRG and is included in each Annual Review.	
	a) provide annual production data to the DRG using the standard form for that purpose; and	AR documents		Compliant
	b) include a copy of this data in the Annual Review.	AR 2017-18 Section 3.2 AR 2018-19 Section 2.6 AR 2019-20 Section 2.5		Compliant
Schedule 4: Additional Procedures				
1	As soon as practicable after obtaining monitoring results showing:			
	a) an exceedance of any relevant criteria in Schedule 3, the Applicant must notify the 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; and	Monitoring data	Data reviewed as part of this audit confirmed that exceedances requiring notification have not occurred	Not Triggered
	b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).	Monitoring data	Data reviewed as part of this audit confirmed that exceedances requiring notification have not occurred	Not Triggered
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.	Monitoring data	Data reviewed as part of this audit confirmed that exceedances requiring notification have not occurred	Not Triggered
3	Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant must:	Monitoring data	Data reviewed as part of this audit confirmed that exceedances requiring notification have not occurred	Not Triggered
	a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to: <ul style="list-style-type: none"> consult with the landowner to determine his/her concerns; 	Monitoring data	Data reviewed as part of this audit confirmed that exceedances requiring notification have not occurred	Not Triggered

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	<ul style="list-style-type: none"> conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and if the development is not complying with these criteria then identify 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.			Not Triggered
Schedule 5: Environmental Management, Reporting and Auditing				
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:		Environmental Management Strategy not required, however the current Long Term Management Plan essentially acts as an EMS	Not Triggered
	a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;			Not Triggered
	b) provide the strategic framework for the environmental management of the development;			Not Triggered
	c) identify the statutory approvals that apply to the development;			Not Triggered
	d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;			Not Triggered
	e) describe the procedures that would be implemented to: <ul style="list-style-type: none"> 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; and respond to emergencies; and 			Not Triggered
	f) include: <ul style="list-style-type: none"> copies of any strategies, plans and programs approved under the conditions of this development consent; and a clear plan depicting all the monitoring required to be carried out under the conditions of this consent. 			Not Triggered
2	The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:	Review of management plans	Management Plans have been prepared in accordance with the relevant guidelines outlined in this condition. The Water Management Plan and Waste Management Plan have recently been updated and are currently subject to review and approval. The remaining management plans will need to be reviewed and updated in light of the Stage 5 approval	Compliant
	a) detailed baseline data;	Review of management plans		Compliant
	b) a description of: <ul style="list-style-type: none"> 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; 	Review of management plans		Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Review of management plans		Compliant
	d) a program to monitor and report on the: <ul style="list-style-type: none"> • impacts and environmental performance of the development; and • effectiveness of any management measures (see (c) above); 	Review of management plans		Compliant
	e) a contingency plan to manage any unpredicted impacts and their consequences;	Review of management plans		Compliant
	f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Review of management plans		Compliant
	g) a protocol for managing and reporting any: <ul style="list-style-type: none"> • incidents; • complaints; • non-compliances with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and 			Compliant
	h) a protocol for periodic review of the plan.	Review of management plans		Compliant
3	To ensure the strategies, plans or programs under this consent are updated on a regular basis, and that they incorporate any appropriate mitigation measures to improve the environmental performance of the development, 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 also submit any strategy, plan or program required by this consent on a staged basis. With the agreement of the Secretary, the Applicant may revise any strategy, plan or program approved under this consent without consulting with all the parties nominated under the applicable conditions of consent.	Listed management plans on web site, draft plans provided by Boral	The majority of management plans were updated in February to March 2017, with the exception of: <ul style="list-style-type: none"> - Waste Management Plan 9/12/16 - Long Term Management Strategy 22/03/16 - Water Management Plan 7/09/18 - PIMRP 26/08/19 Subsequent updates were prepared for the Water Management Plan and Waste Management Plan	Compliant
4	Within 3 months of the submission of an: <ul style="list-style-type: none"> a) incident report under condition 7 below; b) Annual Review under condition 9 below; c) audit report under condition 10 below; and d) any modifications to this consent, the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. 		The strategies, plans, and programs required under this consent have been kept up to date and reviewed as required.	Compliant
				Compliant
				Compliant
				Compliant
5	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:		There have not been any exceedances of the criteria and/or performance measures during this audit period.	

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;			Compliant
	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			Compliant
	c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.			Compliant
6	The Applicant must 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 <i>Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects</i> (Department of Planning, 2007, or its latest version)		The CCC meets on an annual basis and the last meeting was held on Wednesday 19 February 2020. The CCC is independently chaired by Mr James Bailey. Minutes are distributed to DP&E and Council. The next meeting was scheduled for the 5 th August 2020.	Compliant
7	The Applicant must notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the development, the Applicant must notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the 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.		There were no incidents of environmental harm during the auditing period.	Compliant
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.		DSS posts its environmental monitoring data to its website: on a monthly basis.	Compliant
9	By the end of September each year, or other timing as may be agreed by the Secretary, the Applicant must review the environmental performance of the development to the satisfaction of the Secretary. This review must:		Annual Reviews for the periods 2017-2018, 2018-2019 and 2019-2020 were submitted to DPIE. The Annual Reviews generally would satisfy this condition however this audit has identified that the majority of the management plans would need to be updated following approval of the Stage 5 project.	Compliant
	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;	AR 2017-18 Section 2 AR 2018-19 Section 9 AR 2020 Section 4.8		Compliant
	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; requirements of any plan or program required under this consent; the monitoring results of previous years; and the relevant predictions in the documents listed in condition 2(a) of Schedule 2; 	AR 2017-18 Sections 3-5 AR 2018-19 Sections 5-8 AR 2020 Section 4		Compliant

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	AR 2017-18 Section 6 AR 2018-19 Section 13 AR 2020 Section 1.1		Compliant
	d) identify any trends in the monitoring data over the life of the development;	AR 2017-18 Section 5 AR 2018-19 Sections 5-8 AR 2020 Section 4		Compliant
	e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	AR 2017-18 Section 5 AR 2018-19 Section 5-12 AR 2020 Section 4		Compliant
	f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.	AR 2017-18 Sections 3-6 AR 2018-19 Sections 14.2 AR 2020 Section 4		Compliant
	The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 6 of Schedule 5) and any interested person upon request.	Site interview	Annual Reviews are submitted to council and are uploaded to the website.	Compliant
10	By 30 September 2017, 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:		This audit was commissioned on 1 st October 2020 and was lodged by 12 th November 2020. The six week timeframe is considered too short for an Independent audit largely because it requires sufficient time to secure input from government agencies.	
	a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;	This document		Compliant
	b) include consultation with the relevant agencies and the CCC;	This document		Compliant
	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);	This document		Compliant
	d) review the adequacy of any approved strategy, plan or program required under these approvals; and	This document		Compliant
	e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals.	This document		Compliant
11	Within 6 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the	NOted		Complaint

Condition	Requirement	Evidence	Audit Findings and Recommendations	Compliance Status
	Secretary, Council, EPA and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report.			
12	By 30 November 2016, unless otherwise agreed by the Secretary, the Applicant must:		The outlined information is available online and kept up to date.	
	a) make the following information publicly available on its website: <ul style="list-style-type: none"> • the documents listed in condition 2(a) of Schedule 2; • current statutory approvals for the development; • approved strategies, plans or programs; • a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent; • a complaints register, which is to be updated on a quarterly basis; • the Annual Reviews (over the last 5 years); • any independent environmental audit, and the Applicant's response to the recommendations in any audit; • any other matter required by the Secretary; and 			Compliant
	b) keep this information up-to-date, to the satisfaction of the Secretary.			Compliant

Appendix B – Audit Correspondence

robert.byrnnes@iec.com.au

From: James Bailey <JBailey@hansenbailey.com.au>
Sent: Thursday, 15 October 2020 11:54 AM
To: robert.byrnnes@iec.com.au
Subject: RE: Dunmore Sand and Soil Independent Environmental Audit DA 195-8-2004MOD3

Hi Robert,

I apologise for my late response to your email. I have been on leave.

Consistent with our earlier discussion, as the Chairperson of the Dunmore Sand and Soil Community Consultative Committee (DSS CCC) I can confirm that the Committee continues to act effectively and efficiently in both disseminating information flow to and from the local community over sand mining operations and interactions. It is a very constructive committee with actions raised being adequately dealt with.

Meetings continue to be well attended by both the nominated community attendees and Boral staff.

The DSS CCC has developed a constructive, open and honest two-way relationship between the local community and DSS allowing members to express concerns and work towards a satisfactory resolution for all parties to any issues raised.

Boral Resources (NSW) Pty Ltd has well-resourced the committee, providing presentations to attendees, catering prior to, during and following committee meetings and facilitating site inspections and tours upon the request of the Committee.

Through the DSS CCC, members are informed of the environmental performance of the site, provided with an update on operations and given a chance to tour the site and ask questions they may have regarding its operations. DSS CCC members have also been diligent in disseminating the information from the meetings to other interested community members in the local area. The minutes of each meeting are published on the Boral website and are provided to Shellharbour City Council and DPIE.

There are no material unresolved outstanding actions from any previous meeting.

In light of the above the Committee is functioning as intended and provides an excellent forum for open discussion between representatives of the company, the community and the Shellharbour City Council over the operation and environmental performance of DSS.

Please do not hesitate to contact the undersigned if you require any further information.

James Bailey
Director

HANSEN BAILEY
Tel: (02) 6575 2000
Mobile: 0428 772 565
email jbailey@hansenbailey.com.au

From: robert.byrnnes@iec.com.au <robert.byrnnes@iec.com.au>
Sent: Thursday, 1 October 2020 3:40 PM
To: James Bailey <JBailey@hansenbailey.com.au>
Subject: Dunmore Sand and Soil Independent Environmental Audit DA 195-8-2004MOD3

Dear James

As discussed, I have been appointed by Boral Resources NSW to undertake an Independent Environmental Audit of their Dunmore Sand and Soil operation as required by Schedule 5, Condition 10 and 11 of DA 195-8-2004MOD3. The scope of the audit includes an assessment of compliance with the development consent and Environment Protection Licence, an assessment of environmental performance and a review of the adequacy of management strategies in place to achieve and maintain compliance. As you are aware, the operation and function of the Community Consultative Committee (CCC) plays an important role in the ongoing environmental

management of the operation and its effective communication with the local community. I would appreciate your advice on any specific matters or issues of concern to the CCC that you would like included or addressed as part of the audit. Your general comments on the operation of the CCC and its ability to resolve community issues would also be appreciated.

I have attached a copy of the DPIE confirmation of my appointment for your information.

Regards

Rob Byrnes
International Environmental Consultants
"Longmead"
700 Wombeyan Caves Road
High Range NSW 2575
Phone: 02 48785502
Mobile: 0417437120



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robert.byrnesc@iec.com.au

From: Georgia Dragicevic <Georgia.Dragicevic@planning.nsw.gov.au>
Sent: Friday, 6 November 2020 9:47 AM
To: robert.byrnesc@iec.com.au
Subject: RE: Dunmore Sand and Soil Independent Environmental Audit DA 195-8-2004 MOD 3

Thanks Rob,

If you do not hear from them, please include the correspondence from your end seeking the input into the IEAR and indicate that a response was provided, if that is the case at the time you are ready to submit the report.

Kind Regards,
Georgia

From: robert.byrnesc@iec.com.au <robert.byrnesc@iec.com.au>
Sent: Friday, 6 November 2020 9:07 AM
To: Georgia Dragicevic <Georgia.Dragicevic@planning.nsw.gov.au>
Subject: RE: Dunmore Sand and Soil Independent Environmental Audit DA 195-8-2004 MOD 3

Hi Georgia

An update on the Dunmore Sand and Soil audit, I have received correspondence from the Chair of the CCC and the EPA but at this stage I have only received acknowledgement of my request for input from DPIE-Water and Shellharbour Council. I am currently chasing these authorities for their input and advice.

Kind Regards
Rob Byrnes
International Environmental Consultants
"Longmead"
700 Wombeyan Caves Road
High Range NSW 2575
Phone: 02 48785502
Mobile: 0417437120

From: robert.byrnesc@iec.com.au <robert.byrnesc@iec.com.au>
Sent: Friday, 2 October 2020 12:46 PM
To: 'Georgia.Dragicevic@planning.nsw.gov.au' <Georgia.Dragicevic@planning.nsw.gov.au>
Subject: Dunmore Sand and Soil Independent Environmental Audit DA 195-8-2004 MOD 3

Hi Georgia,

Just to confirm that on 30th September Boral Resources commissioned me to undertake the Independent Environmental Audit of the Dunmore Sand and Soil operation in accordance with Schedule 5, Condition 10, of DA195-8-2004MOD2. The condition requires me to consult with "relevant agencies and the CCC". I have sent consultation emails to the Chair of the CCC, EPA, DPIE-Water and Shellharbour Council. I would also appreciate your advice on matters which you would like included in the audit but in particular at this stage, any other agencies which you believe should be consulted as part of the audit.

I am required to complete the audit within 6 weeks of commissioning which means the due date for the audit will be 11th November 2020.

Kind regards
Rob Byrnes

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Phone: 02 48785502
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From: robert.byrnes@iec.com.au
Sent: Thursday, 1 October 2020 4:53 PM
To: 'James Crawford'
Subject: RE: Dunmore Sand and Soil - Independent Environmental Audit

Hi James

Much appreciate your quick response. I will ensure these matters are covered in the Audit report. The EPA are listed as a recipient of the final audit report as well as the response from Boral to the audit findings. If there are any other issues that come to mind, please do not hesitate to contact me. The Audit is due for completion in mid November. Kind regards

Rob Byrnes
International Environmental Consultants
"Longmead"
700 Wombeyan Caves Road
High Range NSW 2575
Phone: 02 48785502
Mobile: 0417437120

From: James Crawford <James.Crawford@epa.nsw.gov.au>
Sent: Thursday, 1 October 2020 4:34 PM
To: robert.byrnes@iec.com.au
Subject: RE: Dunmore Sand and Soil - Independent Environmental Audit

Hi Rob,

Thank you for the heads up regarding the independent audit.

I had a couple of things that may be of interest to you.

1. **Real-time dust monitors.**

Checking the progress of the real-time dust monitors. From memory (and don't quote me on this) Dunmore Sand and Soil are not required to install real-time dust monitors, but the Boral Hardrock Quarry next door is. They are run by the same company and I think Dunmore Sand and Soil were going to use the real-time dust monitors for their own data. Last I heard those monitors had not been installed yet. From an environmental point of view real-time dust monitors are a huge improvement over the current monthly dust deposition gauges. It would be good to know what stage the installation of these monitors is at.

2. **VENM importation.**

Dunmore Sand and Soil have told the EPA that their consent allows them to import 120,000 tonnes of VENM per annum for processing/blending which can be resold (condition 67A of the consent). Dunmore Sand and Soil have also told EPA they are allowed to import an unlimited quantity of VENM per annum for the purpose of void reclamation (filling the holes they have dug in the ground). It would be good to check and 100% confirm that the consent allows both of these activities. The consent does not specifically say this is allowed, but supporting documents may.

3. **Resource Recovery**

If Dunmore Sand and Soil are allowed to import 120,000 tonnes of VENM per year and blend it with their sand and resell it, the EPA may need to add a Scheduled Activity to the licence for Resource Recovery. I am currently seeking advice on this from the EPA technical team. (Schedule 1, Activity 34 of the POEO Act).

For your information, Dunmore Sand & Soil have applied for a variation of their Environment Protection Licence to move the anniversary date so it aligns with the consent and to amend the waste table in L2.1 to make it clearer what purposes they can import VENM for. As mentioned above, the EPA may need to add a Resource Recovery scheduled activity to the licence. I am awaiting internal advice before I progress this variation.

Thank you and good luck,

James Crawford

Operations Officer – Regulatory Operations
NSW Environment Protection Authority

(02) 4224 4100

James.crawford@epa.nsw.gov.au www.epa.nsw.gov.au [@NSW_EPA](#) [EPA YouTube](#)

Report pollution and environmental incidents on 131 555 (NSW only) or +61 2 9995 5555



From: robert.byrnes@iec.com.au <robert.byrnes@iec.com.au>
Sent: Thursday, 1 October 2020 3:53 PM
To: James Crawford <James.Crawford@epa.nsw.gov.au>
Subject: Dunmore Sand and Soil - Independent Environmental Audit

Dear James

I have been appointed by Boral Resources NSW to undertake an Independent Environmental Audit of their Dunmore Sand and Soil operation as required by Schedule 5, Condition 10 and 11 of DA 195-8-2004MOD3. I have attached a copy of the consent and confirmation from the Department of Planning and Infrastructure of my appointment. The scope of the audit includes an assessment of compliance with the development consent and Environment Protection Licence, an assessment of environmental performance and a review of the adequacy of management strategies in place to achieve and maintain compliance. I would appreciate your advice on any issues of concern that you would like included or addressed as part of the audit.

If you require any further information or clarification on the audit please do not hesitate to contact me.

Regards

Rob Byrnes
International Environmental Consultants
"Longmead"
700 Wombeyan Caves Road
High Range NSW 2575
Phone: 02 48785502
Mobile: 0417437120



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robert.byrnes@iec.com.au

From: DPI Landuse Enquiries Mailbox <landuse.enquiries@dpi.nsw.gov.au>
Sent: Friday, 2 October 2020 11:14 AM
To: robert.byrnes@iec.com.au
Subject: RE: Dunmore Sand and Soil - Independent Environmental Audit

Hi Rob,

Thanks for your email.

I've forwarded it to our technical teams to review and comment back to you if they deem it necessary.

Regards,

Judy Court

Assistant Project Officer

Water | Department of Planning, Industry and Environment

T 9842 8126 | E judy.court@dpie.nsw.gov.au

4 Parramatta Square, 12 Darcy St, Parramatta

www.dpie.nsw.gov.au

Our Vision: Together, we create thriving environments, communities and economies

From: robert.byrnes@iec.com.au <robert.byrnes@iec.com.au>
Sent: Thursday, 1 October 2020 4:04 PM
To: DPI Landuse Enquiries Mailbox <landuse.enquiries@dpi.nsw.gov.au>
Subject: Dunmore Sand and Soil - Independent Environmental Audit

Dear Liz

I have been appointed by Boral Resources NSW to undertake an Independent Environmental Audit of their Dunmore Sand and Soil operation as required by Schedule 5, Condition 10 and 11 of DA 195-8-2004MOD3. I have attached a copy of the consent and confirmation from the Department of Planning and Infrastructure of my appointment. The scope of the audit includes an assessment of compliance with the development consent and Environment Protection Licence, an assessment of environmental performance and a review of the adequacy of management strategies in place to achieve and maintain compliance. I would appreciate your advice on any issues of concern that DPIE Water would like included or addressed as part of the audit.

If you require any further information or clarification on the audit please do not hesitate to contact me.

Regards

Rob Byrnes

International Environmental Consultants

"Longmead"

700 Wombeyan Caves Road

High Range NSW 2575

Phone: 02 48785502

Mobile: 0417437120



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robert.byrnes@iec.com.au

From: robert.byrnes@iec.com.au
Sent: Thursday, 1 October 2020 3:57 PM
To: 'Mark.Miller@shellharbour.nsw.gov.au'
Subject: Dunmore Sand and Soil - Independent Environmental Audit
Attachments: Dunmore Lakes MOD 3 - Consolidated Consent.pdf; Appointment of Experts_22092020_102533.pdf

Dear Mark

I have been appointed by Boral Resources NSW to undertake an Independent Environmental Audit of their Dunmore Sand and Soil operation as required by Schedule 5, Condition 10 and 11 of DA 195-8-2004MOD3. I have attached a copy of the consent and confirmation from the Department of Planning and Infrastructure of my appointment. The scope of the audit includes an assessment of compliance with the development consent and Environment Protection Licence, an assessment of environmental performance and a review of the adequacy of management strategies in place to achieve and maintain compliance. I would appreciate your advice on any issues of concern that Council would like included or addressed as part of the audit.

If you require any further information or clarification on the audit please do not hesitate to contact me.

Regards

Rob Byrnes
International Environmental Consultants
"Longmead"
700 Wombeyan Caves Road
High Range NSW 2575
Phone: 02 48785502
Mobile: 0417437120

robert.byrnes@iec.com.au

From: Williams, Ben <ben.williams@boral.com.au>
Sent: Thursday, 1 October 2020 9:44 AM
To: robert.byrnes@iec.com.au
Subject: Fwd: Dunmore Lakes Quarry - Auditor Approval 2020
Attachments: Appointment of Experts_22092020_102533.pdf

Hi Robert,

Please see below as requested.

Regards,

BEN WILLIAMS
Environmental Coordinator

Telephone: 02 42378414
Mobile: 0401 895 478
Email: Ben.Williams@boral.com.au



Boral Dunmore Sand and Soil
[38 Tabbita Road](#)
Dunmore, Dunmore NSW 2529
www.boral.com.au

----- Forwarded message -----

From: no-reply@majorprojects.planning.nsw.gov.au <no-reply@majorprojects.planning.nsw.gov.au>
Date: Tue, 22 Sep 2020 at 10:46
Subject: Dunmore Lakes Quarry - Auditor Approval 2020
To: <Ben.williams@boral.com.au>
Cc: <Ben.williams@boral.com.au>

Dear Benjamin ,

The Department has completed its assessment of the Auditor Approval 2020 for the Dunmore Lakes Quarry

The Department's comments are attached.

If you have any enquiries, please contact Georgia Dragicevic on 02 4247 1852 /at Georgia.Dragicevic@planning.nsw.gov.au.

To sign in to your account click [here](#) or visit the [Major Projects Website](#).

Please do not reply to this email.

Kind regards

Department of Planning, Industry and Environment



**Planning,
Industry &
Environment**



Mr Ben Williams
Environmental Coordinator
Boral Resources (NSW) Pty Ltd
38 Tabbita Road
DUNMORE NSW 2529

22/09/2020

Dear Mr Williams

**Dunmore Lakes Sand Extraction Project (DA 195-8-2004)
Independent Environmental Audit 2020**

I refer to your email letter of 18 September 2020 seeking approval of Mr Robert Byrnes of International Environmental Consultants as the lead auditor for the upcoming Independent Environmental Audit of Dunmore Lakes Sand Extraction Project (the development), in accordance with Schedule 5, Condition 10 of development consent 195-8-2004, as modified (the consent).

Having considered the qualifications and experience of Mr Byrnes, the Secretary endorses the appointment of Mr Byrnes to undertake the audit in accordance with Schedule 5, Condition 10 of the consent. This approval is conditional on Mr Byrnes being independent of the development.

The audit is to be conducted in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and you may wish to consider the Independent Audit Guideline dated October 2015. A copy of this guideline can be located at <http://planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/Integrated-Mining-Policy>.

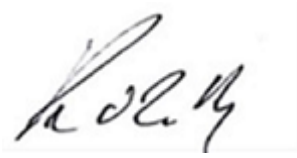
The audit report is to include the following:

1. consultation with the relevant agencies;
2. a compliance table indicating the compliance status of each condition of approval and any relevant EPL;
3. not use the term “partial compliance”;
4. recommend actions in response to non-compliances;
5. review the adequacy of plans and programs required under this consent; and
6. identify opportunities for improved environmental management and performance.

Within six weeks of commissioning this audit, Boral is to submit a copy of the audit report to the Secretary, Council EPA and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report and a timetable to implement the recommendations. Prior to submitting the audit report to the Secretary, it is recommended that Boral review the report to ensure it complies with the relevant consent condition.

Should you have any enquiries in relation to this matter, please contact Georgia Dragicevic, Senior Compliance Officer, on (02) 4247 1852 or by email to Georgia.Dragicevic@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'K. O'Reilly', enclosed within a thin black rectangular border.

Katrina O'Reilly
Team Leader - Compliance
Compliance

As nominee of the Planning Secretary

Appendix C – Site Inspection Photos



Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 5:

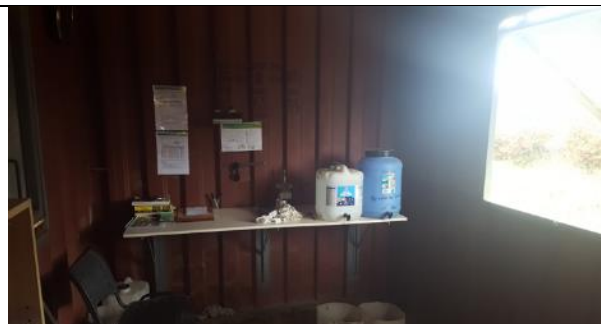


Photo 6:



Photo 7:



Photo 8:



Photo 9:



Photo 10:



Photo 11:



Photo 12:



Photo 13:



Photo 14:



Photo 15:



Photo 16:



Photo 17:



Photo 18:



Photo 19:



Photo 20:



Photo 21:



Photo 22:



Photo 23:



Photo 24:



Photo 25:



Photo 26:



Photo 27:



Photo 28:



Photo 29:



Photo 30:



Photo 31:



Photo 32:



Photo 33:



Photo 34:

Appendix D – Documentation Used in this Audit

The following documents have been used in the preparation of this audit.

ID #	Title	Date	Summary
1.	AR 2017-18	01/10/18	Annual review
2.	AR 2018-19	30/09/19	Annual review
3.	AR 2019-20	30/09/20	Annual review
4.	AR 2017-18 Appendix F	20/09/18	Annual report on groundwater level monitoring
5.	AR 2017-18 Appendix E	30/08/19	Annual report on groundwater monitoring
6.	AR 2019-20 Appendix D	2020	Annual report on groundwater monitoring
7.	AR 2018-19 Appendix E	28/07/17	Annual Compliance Noise Monitoring
8.	AR 2018-19 Appendix C	12/09/18	Noise Compliance Assessment Report - 2018
9.	AR 2019-20 Appendix C	30/07/19	Annual Noise Monitoring Assessment 2019
10.	Annual Monitoring Report 2017-18	12/11/18	Dust deposition, water quality, potential acid sulphate soils, noise compliance assessment, complaints summary
11.	Annual Monitoring Report 2018-19	18/11/19	Dust deposition, water quality, potential acid sulphate soils, noise compliance assessment, complaints summary
12.	Annual Monitoring Report	2019-20	Dust deposition, water quality, potential acid sulphate soils, noise compliance assessment, complaints summary
13.	Flora and Fauna Management Plan	6/02/17	Vegetation Clearing Protocol, Compensatory Habitat Management Plan, Pest and Weed Management Plan, Evidence of Consultation
14.	DLSP Noise Management Plan	27/02/17	Response to Impact Assessment Criteria or Objectives Exceedance, Complaints Recording and Handling, Protocol, Evidence of Consultation - EPA
15.	DSLPA Air Quality Monitoring Program	28/02/17	Response to Impact Assessment Criteria or Objectives Exceedance, Complaints Recording and Handling Protocol, Evidence of Consultation - EPA
16.	Water Management Plan (V2)	17/12/19	Surface Water Monitoring Results, Groundwater Monitoring and Management Plan, Site Checklist
17.	Rehabilitation Management Plan	17/03/17	Vegetation Monitoring Proforma, EIS Final Landform, Controlled Activity Application Summary Letter (EES 2015), Controlled Activity Approval, Bewsher Hydrological Report (August 2015)
18.	Long Term Management Strategy	22/03/17	EIS Final Landform, Boral Letter to DOP Re. Bank Guarantee, Evidence of Consultation
19.	Waste Management Plan (V4)	19/03/20	EPL VENM Acceptance Form, EPL VENM Pre-acceptance Validation Form, EPL VENM Pre-acceptance Validation Checklist, EPL VENM Transport Verification Form
20.	Pollution Incident Response Management Plan	26/08/19	Risk Assessment on Potential Impacts, PIRMP Response Actions and Maps, Pollution Incident Notification Log, Immediate Notification Sheet
21.	Acid Sulphate Soil Management Plan	23/05/20	Relevant Regulatory Requirements, Summary of Acid Sulphate Soil Conditions, Potential Environmental Impacts, Management Strategy
22.	Complaints Register	July 2016 – July 2020	All complaints, with associated corrective actions and responsibilities
23.	Controlled activity approval	9/08/19	For activity described as: Tabbita Road Stage 2 extraction Controlled activity approval, Inspections and fees
24.	Controlled activity approval	18/12/17	For activity described as: Tabbita Road Stage 3 extraction Controlled activity approval, Inspections and fees
25.	CCC Meeting	21/02/18	Minutes
26.	CCC Meeting	1/08/18	Minutes
27.	CCC Meeting	20/02/19	Minutes
28.	CCC Meeting	07/08/19	Minutes
29.	CCC Meeting	19/02/20	Minutes
30.	Community Briefing Presentation	10/04/19	MOD2 Overview, Ecology, Water Management

31.	Newsletter- community Update	Feb -2019	Details on MOD2 Stage 5A and Stage 5B
32.	Newsletter- community Update	Aug-2020	Proposed Stage 5A and 5B operations Extracting the facts for our community
33.	Independent Environmental Audit Response to Recommendations	10/11/17	Table of consent conditions, recommendations/ actions and responses from DSS
34.	EPL	13/05/20	
35.	MOD 2 EA	10/04/19	Full version
36.	VENM Pre-Acceptance Checklist	13/08/20	DSS EPL VENM Pre-Acceptance Validation Checklist, Internal VENM Classification Flow chart
37.	VENM Pre-Acceptance Validation Form	May-20	Introduction, Document Purpose, Summary of VENM Pass Procedures, Pre-Acceptance Validation Form, Transport Verification
38.	Acid Sulphate Soil Investigation Report	4/08/20	Fieldwork, Laboratory Testing, Acid Sulphate Assessment, ASS Management Options
39.	Econocycle Owners Manual		Pre-installation information and after installation care.
40.	Aerated Wastewater	28/08/15	Certificate of Accreditation, Specification, Conditions of Accreditation
41.	Application for Approval for Western Tributary (Stage 2 and 3)	24/08/15	Western Tributary Stage 2- Finalised entry and exit point lake Works, Western Tributary Stage 3 – Stream realignment works, EES General Limitations, Flora and Fauna Rehabilitation MP, EIS Final Landform, Performance Monitoring Program, Controlled Activities Guidelines, Hydrological Report for Dredge Crossing of the Western Tributary
42.	Stage 2 and 3 Western Tributary Approval	14/12/15	Letter from Water Regulation Officer, Notice of Determination, Statement of Approval
43.	DA195-8-2004 proposed Modification 3_ Revised	24/06/19	Existing operations and approval, The proposed modification, Planning considerations and approvals, Stakeholder engagement and consultation, Environmental Assessment
44.	Historical Surface Water Quality Results	2019	2005-2018 surface water results for DW-9 to DW-20
45.	FY2020 Surface Water Monitoring	2020	Average Monthly results for field and laboratory data, Graphs from AR, EPA Returns, Surface water monitoring locations map
46.	DSS Dust Records	Jun-2020	Site Graphs, AR Report Tables, Monthly results for 9x Deposited Dust Gauges from July 2002 to June 2020
47.	DQ PM10 Monitoring results	Sep-2020	6-day PM10 readings from Oct-2005 to Sep-2020
48.	Submission of Water Management Plan to NRAR	22/07/20	Email correspondence
49.	EPA Comments on Waste Management Plan	16/06/20	Letter including comments on the WMP

Appendix E – Certification Form

Development Name: Dunmore Sand & Soil Project
Development Consent: DA195-8-2004 MOD3
Development Description: Sand Quarry
Development Address: 38 Tabbita Road Dunmore NSW 2529
Operator: Dunmore Sand & Soil Pty Limited
Operator Address: 38 Tabbita Road Dunmore NSW 2529
Title of Audit: Independent Environmental Audit

I certify that I have undertaken the independent audit and prepared the contents of the attached independent audit report and to the best of my knowledge:

- The audit has been undertaken in accordance with Conditions 10 and 11 of Schedule 5, of the Development Consent and in accordance with the auditing standard AS/NZS ISO 19011:2014 and Independent Audit Post Approval Requirements 2018
- The findings of the audit are reported truthfully, accurately and completely;
- I have exercised due diligence and professional judgement in conducting the audit;
- I have acted professionally, in an unbiased manner and did not allow undue influence to limit or over-ride objectivity in conducting the audit;
- I am not related to any owner or operator of the development as an employer, business partner, employee, sharing a common employer, having a contractual arrangement outside the audit, spouse, partner, sibling, parent, or child;
- I do not have any pecuniary interest in the audited development, including where there is a reasonable likelihood or expectation of financial gain or loss to me or to a person to whom I am closely related (i.e. immediate family);
- Neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the lead regulator prior to the audit; and
- I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment) from any owner or operator of the development, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Note.

a) The Independent Audit is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, *or both*).

Name of Auditor: Robert Byrnes

Signature:

A handwritten signature in black ink that reads "R Byrnes". The signature is written in a cursive style with a large, sweeping initial 'R' and a long, horizontal tail on the 'y'.

Qualification: Bachelor of Science, Graduate Diploma in Environmental Studies

Company: International Environmental Consultants Pty Limited

Company address: "Longmead", 700 Wombeyan Caves Road, High Range NSW 2575