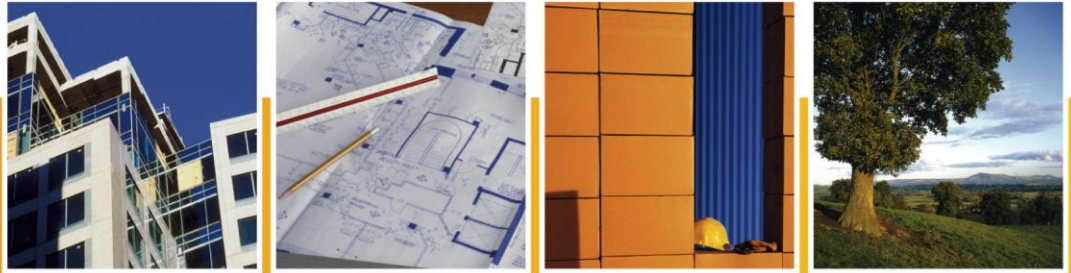


DALSWINTON QUARRY SSD PROJECT – SSD -9094



Response to Request for Information

Dalswinton Quarry

Lot 72 DP 1199484

511 Dalswinton Road, Dalswinton

**Prepared for
Rosebrook Sand and Gravel**

January 2024

Report 19/047 RFI

Prepared by



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CONTENTS

1.	Introduction.....	5
1.1	Project Overview	5
1.2	Public Exhibition and Submissions	6
1.3	Report Purpose	6
3.	Actions Taken since exhibition	7
3.1	Overview of Project Revisions	7
4.	Response to Information Requests	8
4.1	Landowner consent.....	8
4.2	Noise.....	8
4.3	DPE Water	8
4.4	RUMBO BUSH SCHOOL.....	10
4.5	Additional Information	11
4.5.1	Project definition	11
4.5.2	Flood Impact Assessment	14
4.5.3	Final Landform and Rehabilitation	15
4.4.4	Noise	17

APPENDICES

Appendix A: Noise Impact Assessment - Supplementary Report

Appendix B: Rosebrook Sand and Gravel - Integrated Safety Management System – Emergency Response Plan for the Dalswinton Quarry

FIGURES

Figure A: Existing Site **Error! Bookmark not defined.**
Figure B: Extraction Plan and Sections **Error! Bookmark not defined.**
Figure C: Rehabilitation/Final Landform (to be provided) **Error! Bookmark not defined.**
Figure D: Site Layout **Error! Bookmark not defined.**
Figure E: Processing and Stockpile Area

1. INTRODUCTION

1.1 PROJECT OVERVIEW

Dalswinton Quarry is situated on Lot 72 DP1199484 and operates under DA 410/1995 which allows sand and gravel extraction on the site until 13th November 2022. The owners, Rosebrook Sand and Gravel Pty Ltd (Rosebrook), are seeking to vary the footprint and continue the extraction operation for an additional twenty-five years post 2022, therefore until 13 November 2047.

The Muswellbrook Shire Council development consent DA 1994-410 for Dalswinton Quarry expired on 13 November 2023. In consultation with Muswellbrook Shire Council, Rosebrook Sand and Gravel (Rosebrook) has placed the operation into 'care and maintenance' until there is an approval in place.

The proposed development will occur across 89 hectares of the site including expansion towards the east as well as reworking of the previously extracted areas to recover the discarded fines and larger aggregates on the western side of the site.

Materials will be produced on demand at an average rate of 250,000 tonnes per year. During peak periods, the production rate may increase to a maximum of 500,000 tonnes per year, based on which it is estimated to extract up to 12.5 million tonnes of material over an expected life of twenty-five years.

The proposed quarry expansion will involve up to approximately 5 hectares of excavation area at any given time for improved workability and safety of the operations. Approximately 60,000 tonnes of stockpiled materials of different grades/sizes will be stored on site to keep up with the higher production rate and market demand.

No other changes are anticipated for the extended operations and the proposal will adopt the existing method of operations, storage, and transfer of materials.

The proponent proposes progressive rehabilitation to minimise the extent of disturbed area at any given time. Extraction pits will be backfilled, reshaped, top soiled and sown with pasture species for grazing purposes at the end of the operations. The objective is to return the site to a final landform that is gently sloping toward the Hunter River, similar to the surrounding landforms.

This report provides a response to the submissions and agency advice made to the State Significant Development Application SSD- 9094 (the Application) as requested by Department of Planning and Environment (DPE). The report is prepared in accordance with Annexure C of the State Significant Development Guidelines issued on October 2022 by the DPE as required under Environmental Planning & Assessment Regulation, 2021 (EP&A Regulation).

A Response to Submissions Report was initially provided in July 2022.

Several request for information by government authorities were subsequently issued and they addressed in this report.

1.2 PUBLIC EXHIBITION AND SUBMISSIONS

The application was lodged on 17th November 2021 and the EIS was placed on public exhibition from 15 December 2021 to 2 February 2022. During the exhibition, the general public, organisations, and various local and state agencies were invited to make submissions.

A total of fourteen (14) submissions were received during this exhibition period with eight (8) being from government agencies, two (2) from organisations, and four (4) from the general public. Of the fourteen (14) submissions ten (10) have provided comments and four (4) have supported the project. No objection was received to the project.

A Response to Submission's Report was initially provided in July 2022.

1.3 REPORT PURPOSE

The purpose of this report is to provide a consolidated response to the requests for additional information from NSW Government authorities.

3. ACTIONS TAKEN SINCE EXHIBITION

3.1 OVERVIEW OF PROJECT REVISIONS

The project has not materially changed from an operational perspective. However further additional in pit features are proposed to mitigate flood impact, which are discussed in the supplementary Flood Impact Assessment (to be submitted); history of site operations is updated to reflect the temporary ceasing of operations due to the consent lapsing; the sand and gravel extraction staging has been updated together with the final landform.

4. RESPONSE TO INFORMATION REQUESTS

4.1 LANDOWNER CONSENT

- The proposed private haul road would be located entirely within the easement referred to the EIS, as shown on the accompanying deposited plans; or
- Landowner's consent has been granted for any portion(s) of the private haul road located on land not within the easement.

Response

The landowner's consent has been provided in respect to the private haul road.

4.2 NOISE

- A description, and if necessary, assessment, of the activities proposed to be undertaken outside of the operating hours documented in the Noise Impact Assessment (6:00 am to 6:00 pm weekdays and 6:00 am to 1:30 pm Saturdays), noting that the proposed operational hours stated in the EIS are 5:00 am to 12:00 am weekdays and 5:00 am to 1:30 pm Saturdays.
- Clarification of the sound power levels for all noise sources (Tables 15 and 18 of the Noise Impact Assessment, respectively), accounting for any variations in sound power levels for differing plant/equipment models or operating activities using the same plant.
- Clarification of the representative assessment period (i.e. day, evening, night or shoulder) used for the noise impact predictions shown in Table 16 and Appendix IV of the Noise Impact Assessment.
- An assessment of the predicted residual noise impacts at each of the sensitive receiver locations following application of the proposed operational mitigation measures listed in Section 6.4 of the Noise Impact Assessment, in accordance with Section 4 of the Noise Policy for Industry (NPfI)

Response

The issues raised have been considered and addressed by Advitech Pty Limited who prepared the Noise Impact Assessment. The responses are appended at **Attachment A**.

4.3 DPE WATER

- Provide evidence to demonstrate that adequate water licences can be acquired within the water market for the predicted maximum surface water take for the project during operations and void filling.

Response

Dalswinton Quarry currently has the benefit of:

- Water licence (Approval No. 20WA212819) for groundwater extraction pursuant to the Hunter Unregulated and Alluvial Water Sources 2009 to extract 20 ML per annum; and
- Water pump approval (Approval No. 20WA201001) pursuant to the Hunter Regulated River Water Source 2016.

The Groundwater Impact Assessment prepared by 'hydrogeologist.com.au' states that the whole Project will require a predicted 14.6 ML per annum of groundwater.

The existing water access licence (Approval No. 20WA212819) currently authorises extraction of up to 20 ML per annum under the Hunter Unregulated and Alluvial Water Sources (water source being the Jerrys Management Zone of the Jerrys Waste Source). As the Department is aware, the aim of this scheme is to ensure that the health of river and groundwater systems are maintained whilst also providing equitable access for water users for major projects such as the Dalswinton Quarry.

Detailed and comprehensive analysis and modelling was provided for in the initial Groundwater Impact Assessment dated 30 April 2021. The analysis provided for by the groundwater consultants in their assessment determined that the quarry project would require a predicted 14.6 ML of groundwater per annum to be appropriately authorised by a reliable water supply.

Given the Quarry already has the requisite licenses in place to extract water under the water sharing plan for the Hunter Unregulated and Alluvial Waste Sources, it is considered that no further amendments or additional water licences are necessary. This is based on the assumption that the current quarry operations not requiring a buffer to be in place above the groundwater table, as it intersects with the groundwater table as part of the normal quarry operations. As the Quarry is licensed to take any water from intersecting the groundwater table, no buffer between the quarrying and groundwater table is required as verified by the Groundwater Impact Assessment.

- Further assessment of the risk of erosion to the existing and final landform, including assessment of potential impacts to watercourses, riparian land or water quality, and risks and potential impacts to stream flows, watercourse stability and water quality associated with the failure of the levee/bund.

Response

A supplementary Flood Impact Assessment is being prepared and will be submitted as soon as possible.

- Further details regarding the proposed final landform and rehabilitation strategy, including:
 - a description of the type and quantity of material to be imported to achieve final landform.
- and
 - proposed site stabilisation methods to minimise the potential for erosion, and confirmation of the:
 - site surface levels and maximum depth of extraction in m AHD

Response

The EIS states that the proposed extraction will be undertaken to the depth of bedrock, and the final landform following the rehabilitation, will be 2m above the median flow in the Hunter River.

Under section 4.3 of Resource Availability Assessment (Appendix Q –EIS) the author has plotted five (5) cross-sections showing surface elevation and assumed bedrock elevation. The surface elevation and the bedrock surface elevation are both variables. Based on the cross-sections (Figure 14 - Assessment of Available Resource), the depth of extraction would vary from approximately 5 to 14 m from the surface.

Furthermore, Table 3 of the Resource Availability Assessment describes the elevation of basement rock between RL 83.31m AHD and RL 85.54m AHD.

- capacity of the final void for water storage.

The capacity of the final void for water storage is 25,083 m³ or 25 ML.

- distance to the closest dwelling (EIS states 600m, RTS states 1.1km).
The closest dwelling to the subject site is 600m towards the southeast of the site.
and
- disturbance boundary and project boundary (see Attachment B).

Project Area – 160 ha

Disturbance Boundary – 89 ha

Please refer to **Figure C – Final Landform** – to be provided.

4.4 RUMBO BUSH SCHOOL

- Provide a figure showing the location of the Rumbo Bush School in relation to the Project. You are also requested to confirm the distance between the Rumbo Bush School and the Project.

Response

An updated figure has been previously provided and is reproduced below.



4.5 ADDITIONAL INFORMATION

4.5.1 PROJECT DEFINITION

- A comprehensive consolidated project description, incorporating all changes made through the SSD assessment process. The project description must address all project elements outlined in the Secretary's Environmental Assessment Requirements and should be supported by clear, legible and consistent figures that show all project elements.

Response

The project description has not fundamentally changed as a result of responding to the RFI's.

The existing Muswellbrook Council consent has lapsed, and the operation is in care and maintenance mode.

- A detailed description of the staging/sequencing of extraction, including plans showing the key operational stages over the life of the quarry and corresponding cross-sectional plans of the extraction areas. Timeframes associated with each stage are to be included.

Response

The sequence of extraction is depicted in **Figure B**.

Material will be extracted in sequence across to the east, moving in a clockwise rotation, 1A through to 8A. Each cell will take two (2) years to complete with the eastern area complete in sixteen (16) years. The operation will then revert back to the west and commence extracting material from cells 1B through to 6B. The western extraction area will be complete in nine (9) years.

- A detailed description of the nature and timing of progressive rehabilitation to be undertaken over the life of the quarry, including plans showing the staging/sequencing of progressive rehabilitation across the site.

Response

It is proposed to progressively rehabilitate the site during its twenty-five-year life to return it to grazing land at the closure of extraction activities.

Returning the land to grazing land at the end of its life is consistent with the current and projected future uses of the properties in the vicinity of Dalswinton Quarry. Refer to **Figure C** to be provided.

The sequence of rehabilitation will follow the extraction sequence, as each cell, once complete is back filled and rehabilitated as follows:

- Strip topsoil from cell to be excavated and stockpile for future use.
- Excavated material, above gravel layers and stockpile to backfill excavated cells.
- Cart material to processing area.
- Separate gravel from spoil material and stockpile separately
- Use spoil for fill in excavated cells.
- Excavated cells to be filled in accordance with best practice rehabilitation methods.
- Topsoil to be spread over the filled cells.
- Filled cells to be stabilised and dust suppressed with grass seed from stripped overburden.
- A detailed layout plan for the proposed processing and stockpile area.

The sequence of extraction is depicted in **Figure B**.

Response

An updated site layout plan is appended as **Figure D**

- The EIS and RTS refer to a proposed extension of the existing flood levee located to the south and an extension of the existing earth bund located to the north. Please provide details of these extensions including length, width, height and location, and

show these elements on project figures; and confirm if flood modelling to date has included the levee and bund extensions.

Response

A supplementary Flood Impact Assessment is being carried out and will be submitted as soon as possible.

- Further details regarding the proposed plant and equipment to be utilised for the project. In particular, further details regarding the operation of the following project elements:
 - the “sand washing treatment plant” referenced in Section 4.1 of the EIS.
 - the “water treatment plant” referenced in Section 4.4 of the EIS; and
 - the “water treatment plant for thickening tailings” referenced in Section 1.1 of Appendix U to the EIS

Response

Sand washing treatment plant.

The existing water management system within Work Area 1 will be partially rehabilitated to reduce the stagnant tailings dam significantly and will be maintained for the extended life of the operations. It will pump water through tailings drains and existing pipelines in a closed-circuit set-up as shown in Figure 14 and Appendix O in the EIS.

A new sand washing treatment plant is to be supplied and installed as an upgrade and improvement to the site. This will include new sump and pump, sand wash system, and stockpile conveyors.

Water treatment plant

This is existing site infrastructure that filters sand from site water which can be recovered through existing site water management system.

Water treatment plant for thickening tailings

This is potentially new site infrastructure which would recycle up to 90% of the process water for reuse onsite.

After feed material has been washed and classified, waste is sent to a thickener tank. Here, a small amount of polyelectrolyte flocculant is added to the water via an automatic dosing station which forces fine particles to settle on the bottom of the thickener tank. The clean water on the top overflows the weir and is stored in a water tank before being re-circulated around the plant. The result is a highly efficient water recycling system that requires only a 10% supply of top-up water.

- Confirmation as to whether each of the plant items listed above were included in noise modelling.

Response

The NIA including noise emissions from the following onsite sources:

- Screening and Processing Plant
- Washery
- Mobile Crushing Plant
- Articulated Dump Truck
- Front End loader
- Water Cart
- Excavator
- Truck & Dog
- Truck loading

4.5.2. FLOOD IMPACT ASSESSMENT

- Please provide clarification of the following terms which are used inconsistently between the Flood Impact Assessment and EIS:
 - o Flood Bund.
 - o Flood levee.
 - o Narrow embankment.
 - o Existing conditions.
 - o Proposed Development.
 - o Developed Conditions.

Response

Flood Bund; same as levee

Flood levee; same as bund

Narrow embankment; earthen mound

Existing conditions; existing quarry layout and operation

Proposed Development; the continuation of quarry operations through to the east and then back to the west to recover material that was not originally extracted efficiently.

Developed Conditions; site conditions post quarry operations concluding.

- The Flood Impact Assessment states that in the 10% and 1% AEP design event, flood hazard across the majority of the site would be unsafe for people, vehicles and structures. It also states that existing flood warning gauges should be treated with caution. In light of this information, please provide the following:

- o Details of the proposed site flood warning system to be utilised for the development, noting that existing flood gauge information is considered unreliable for the site; and
- o Details of the proposed flood preparation and response to be implemented for the development, including emergency management, evacuation and access, pollution prevention and contingency measures.

The Department understands that additional flood protection works are being considered for the development. If this is the case, provide a re-assessment of the flooding impacts of the proposed development based on additional flood protection measures.

Response

Rosebrook Sand and Gravel have an Integrated Safety Management System – Emergency Response Plan for the Dalswinton Quarry, refer to **Attachment B**. The Plan sets out specific response procedures for the operations in respect to.

- o Contain an emergency.
- o Protect property, plant, equipment and the environment.
- o Care for the welfare of casualties and families.
- o Manage the impact upon the business and broader ramifications on the wider community; and
- o Manage the recovery and resumption of normal operations.

More specifically the Plan contains Emergency Response Procedure – 24/V1 Evacuation Due to Flooded Site, which sets procedures to ensure the safe evacuation of employees and equipment from the site. This procedure is part of the Plan at **Attachment B**.

A supplementary Flood Impact Assessment is being carried out and will be submitted as soon as possible.

4.5.3 FINAL LANDFORM AND REHABILITATION

- The EIS states the final landform would be 2m above the median flow of the Hunter River. Appendix G of the RTS states that the final landform would be 2m above the mean Hunter River level. Please provide.
 - o Clarification of the final landform elevation, including:
 - Elevation in relation to the Hunter River.
 - Elevation in relation to groundwater levels on site; and
 - Elevation in absolute terms i.e. mAHD.
 - o justification of the use of the median or mean flow of the Hunter River in setting final landform elevation, particularly in relation to onsite groundwater levels, and confirmation of how median or mean flow has been calculated; and

o the maximum depth of extraction below the groundwater table during operation in mAHD.

Response

The Groundwater Impact assessment notes the following.

It is important to note that the existing and approved quarry has historically, and currently intersects the groundwater table within the Quaternary alluvium as part of normal operations. The current quarry forms a window into the groundwater table and there is currently no need to maintain a buffer between the quarry excavation and the groundwater table.

There is licensing in place to deal with the take of water (evaporation from the groundwater table window). The proposed development would be carried out in a similar manner to the existing operation, therefore there is no need for a buffer between the quarry excavation and the groundwater table.

A supplementary Flood Impact Assessment is being carried which will clarify the final landform with respect to Hunter River levels.

- The Rehabilitation Plan states that the final landform will consist of grades no greater than 5%, however the Final Landform plan in Appendix AB of the EIS indicates slopes of 10%. Please clarify.

Response

The final Landform will consist of grades no greater than 5%. Refer to **Figure C** to be provided.

- The Rehabilitation Plan raises the potential of utilising a benched profile design as part of the final landform. A benched profile is not reflected by the Final Landform plan. Given the unconsolidated nature of the material and the apparent lack of constraints to a sloped profile design, a bench final landform is not supported. You are requested to provide a clear commitment to the final landform profile design to be utilised by the development.

Response

A final landform plan will be provided with the supplementary Flood Impact Assessment.

A benched profile is not proposed. Rather, from the northwest the landform naturally rises away from the quarry. From this side it is proposed to shape the final landform from RL97m/RL97m towards the southeast creating a 10% bank to RL92m then shaping the landform through a 0.5% fall to the river bank.

An artificial bund will be removed to allow the high river flow to return to pre quarrying conditions, refer to update Rehabilitation Plan/ final landform plan to be submitted.

- The Rehabilitation Plan states that the final landform would include a dam and water storage. Please indicate the extent of these features on the Final Landform plan.

Response

Please refer to update plan to be provided with the supplementary Flood Impact Assessment.

- The Rehabilitation Plan includes a figure which shows rehabilitation only occurring within the extraction area. Please provide a revised figure which includes rehabilitation of all areas disturbed by the project, including the processing and stockpiling area, levees, bunds and internal and external haul roads.

Response

Please refer to update plan to be provided with the supplementary Flood Impact Assessment.

4.4.4. NOISE

- Explain and show on a figure how the commitment to re-orient stockpiles to serve as a buffer between closest receivers along Bureen Road (R7 and R8) and the sole receiver to the west of the quarry (R5) would be achieved.

To reduce any residual impacts for these operations under worst case meteorological conditions, the following mitigation measures should be considered:

- re-orienting stockpiles to serve as a buffer between closest receivers along Bureen Road (R7 and R8) and the sole receiver to the west of the quarry (R5)

Response

It is not proposed to initially reorientate the stockpiles. Rather, should noise monitoring reveal the need to further ameliorate noise impacts in this locality additional operational measures would be implemented depending on what is reasonable and practicable.

APPENDIX A

SUPPLEMENTARY NOISE IMPACT ASSESSMENT

APPENDIX B

DALSWINTON INTEGRATED SAFETY MANAGEMENT SYSTEM

