



Section 7

Evaluation and Justification of the Proposal

PREAMBLE

This section concludes the assessment of the proposed continued operation (and extension) of the Strontian Quarry. The residual impacts associated with the Proposal are evaluated through consideration of the principles of ecologically sustainable development (ESD).

A justification for the Proposal is then provided based on the residual impacts to the biophysical environment, the likely economic and social benefits that would continue to be generated, the consequences of the Proposal not proceeding and assessment against the objects of the EP&A Act.



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7.1 Evaluation of the Proposal

7.1.1 Residual Environmental Risk and Impacts

The Proposal has been designed to avoid or minimise environmental risks and impacts as much as is considered reasonable and feasible. Many aspects of the Proposal have also been planned so that the level of impacts would remain consistent with currently approved activities or would result in only minor changes. This includes electing to undertake extraction and processing activities on a campaign basis using mobile equipment in a manner consistent with existing operations.

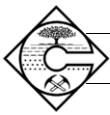
The key residual impact of the Proposal would be the removal of approximately 3.93ha of native vegetation. The area that would require clearing has been minimised as much as feasible by electing to undertake all processing and stockpiling activities within the extraction area. It is noted that the design of the Quarry was also informed by the initial surveys undertaken by OzArk (2021) to avoid impacts to the hollow-bearing tree to the south of the extraction area and areas of PCT 80 in good condition within the northeastern quadrant of the Quarry Site. Two designated areas to the east of the extraction area would also be rehabilitated as part of the Proposal with the intention of re-establishing native vegetation cover. The Applicant has further committed to establishing a Biodiversity Stewardship Site (BSS) at its “Colinroobie” property located approximately 10km northeast of Leeton (see **Figure 2.9**). This property has a total area of approximately 434ha and would generate sufficient credits to offset the majority of residual impacts to biodiversity values under the Proposal. It is currently envisaged that all ecosystem credits associated with the Proposal would be offset by entering into a Biodiversity Stewardship Agreement (BSA), however, the Applicant may also choose to offset credits through payment into the Biodiversity Conservation Fund (BCF) or by purchasing credits on the open market. Several species credit species would also need to be offset by entering into a BSA, payment into the BCF or by purchasing credits on the open market.

Other residual impacts associated with extractive industries include the generation of noise, dust and traffic on local roads. Residual impacts associated with noise and dust would be minimal given the considerable distances between the Quarry Site and the closest residential receivers¹. It is acknowledged that traffic levels under the Proposal would result in an increase in heavy vehicle movements on the surrounding road network. However, TTPP (2020) has assessed that the level of service on the surrounding road network would remain good under the Proposal. In addition, the upgrades to Strontian Road and its intersection with the Quarry Access Road would ensure that road safety is not compromised in the vicinity of the Quarry Site.

The Proposal may also result in other negligible adverse impacts principally relating to visual amenity and socio-economic impacts. However, these adverse impacts would be countered by the positive impacts, including economic benefits from the continued operation of the Quarry in the manner proposed.

In summary, a range of minor residual impacts are predicted from the Proposal, which have been assessed in this document. The outcomes of this assessment indicate that impacts would remain well within the relevant guideline criteria and reasonable community expectations. Residual impacts to biodiversity values through the removal of native vegetation and potential fauna habitat would be offset in accordance with the NSW Biodiversity Offset Scheme and would provide for the in-perpetuity conservation of an area commensurate with the predicted impact.

¹ The closest residential receiver is located approximately 3.7km to the north of the Quarry Site.



7.1.2 Ecologically Sustainable Development

Sustainable practices by industry, all levels of government and the community are recognised to be globally important for future prosperity and well-being. The principles of Ecologically Sustainable Development (ESD) are based upon meeting the needs of the current generation while conserving our ecosystems for the benefit of future generations. In order to achieve sustainable development, recognition needs to be placed upon the integration of both short-term and long-term environmental, economic, social and equitable objectives.

Throughout the planning and design of ongoing operations and the proposed extension of Strontian Quarry, the Applicant has endeavoured to address each of the sustainable development principles. The following subsections draw together the features of the Proposal that reflect the four principles of sustainable development, namely:

- the precautionary principle;
- the principle of intergenerational equity;
- the principle of the conservation of biodiversity and ecological integrity; and
- the principle for the improved valuation, pricing and incentive mechanisms.

7.1.2.1 The Precautionary Principle

Preparation of the EIS has involved comprehensive technical assessment to examine the existing environment, predict possible impacts and recommend controls and mitigation measures in order to ensure that the level of impact is understood and so that the Proposal may be designed to ensure that it satisfies statutory requirements and reasonable community expectations. This approach has ensured that an appropriate level of research and baseline investigations and environmental evaluation was undertaken during the assessment. The controls, safeguards and mitigation measures presented in the EIS have been planned with a comprehensive knowledge of the existing environment and the potential risk of environmental degradation posed by the ongoing activities at the Quarry. In doing this, an anticipatory approach was taken to potential impacts and where data was not available a predictive assessment was completed using a conservative approach to likely scenarios and impacts.

Examples of where a precautionary approach has been taken include in the assessments of traffic, dust and noise impacts which have considered the potential worst case for operations in presented predicted impacts to ensure that design and operational controls account for this scenario. Overall, the impacts of the operation would be lower than those predicted in the assessments and reflect expected peaks in demand from clients.

7.1.2.2 Intergenerational Equity

Intergenerational equity embraces value concepts of justice and fairness so that the basic needs of all sectors of society are met and there is a fair distribution of costs and benefits to the community. This provides for both inter-generational (between generations) and intra-generational (within generations) equity considerations. Equity within generations requires that the economic and social benefits of the development be distributed appropriately among all members of the community. Equity between generations requires that the non-material well-being or “quality of life” of existing and future residents of the local community would be maintained throughout and beyond the life of the Proposal.



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Both elements of social equity are addressed through the design of the Proposal such that the Applicant would continue the significant contribution to the economy within the Narrandera LGA and the broader Riverina Region. Consideration of potential impacts to cultural heritage through assessment of potential impacts to Aboriginal heritage and historic heritage has confirmed that the Proposal would not impact the cultural record of the local area. Finally, the conservation of land in perpetuity under offsetting arrangements would conserve an area of approximately 434ha of the natural environment for future generations to experience and benefit from.

Finally, rehabilitation of the Quarry Site at closure would provide for use of the land by future generations, whether it as a conserved area or used for agriculture.

7.1.2.3 Conservation of Biological Diversity and Ecological Integrity

The protection of biodiversity and maintenance of ecological processes and systems are central goals of sustainability. It is important that developments do not threaten the integrity of the ecological system as a whole or the conservation of threatened species in the short- or long-term.

The Biodiversity Development Assessment Report (BDAR) has addressed the potential impacts to the natural environment including for both flora and fauna. Establishment of an offset for residual impacts to native vegetation and fauna habitat would conserve the biological diversity and ecological integrity of this area. In designing the Proposal, the Applicant has minimised disturbance of native vegetation and re-establishment of areas of native vegetation to ensure these values are maintained, where possible. The implementation of weed eradication programs would further assist in addressing the principle of sustainable development.

7.1.2.4 Improved Valuation and Pricing of Environmental Resources

The issues that form the basis of this principle relate to the acceptance that the “polluter pays”, all resources are appropriately valued, cost-effective environmental stewardship is adopted and the adoption of user-pays principles based upon the full life cycle of the costs.

Consideration of this principle is demonstrated through the thorough assessment undertaken for the Proposal and commitment to ongoing management of the Quarry Site to limit residual environmental risks and impacts. The commitment to offset impacts to native vegetation and fauna habitat demonstrates that the Applicant is taking responsibility for the environmental impact of the Proposal. This principle is further demonstrated by the road upgrades that would be undertaken to Strontian Road and its intersection with the Quarry Access Road.

7.2 Justification of the Proposal

7.2.1 Introduction

In assessing whether the development and operation of the Proposal is justified, consideration has been given both to biophysical and socio-economic factors including the predicted residual impacts on the local and wider environment and the potential benefits of the Proposal. This section also considers the consequences of the Proposal not proceeding.



7.2.2 Biophysical Considerations

Traffic and Transport

Assessment of potential traffic-related impacts has determined that under the Proposal the Quarry would continue to operate with acceptable impacts on the surrounding road network. Traffic operations for the Proposal have been planned to include a maximum of 12 laden truck movements per hour and 48 laden truck movements per day on those days when products are transported from the Quarry. TTPP (2020) has concluded that the level of service would remain good on the surrounding road network during morning and evening peak hours with the combined effects of traffic growth and additional Proposal-generated traffic. The proposed upgrades to Strontian Road and its intersection with the Quarry Access Road would also enhance the safety for turning vehicles and minimise the risk of interference to through traffic.

Air Quality

The results of the air quality assessment undertaken by Northstar (2020) based on consideration of two operational scenarios (Stage 1 and Stage 3) has concluded that the Proposal is predicted to comply with all impact assessment criteria for annual average concentrations of TSP, PM_{2.5}, PM₁₀ and deposited dust. The assessment of 24-hour average PM_{2.5} and 24-hour average PM₁₀ applying a Level 2 Contemporaneous Assessment has indicated that there would be no additional exceedances of the assessment criteria as a result of the Proposal.

The Greenhouse Gas (GHG) assessment undertaken for the Proposal concluded that average Scope 1 emissions from the Proposal would represent approximately 0.0002 % of Australian and 0.0009 % of NSW GHG emissions which represents a very minor proportion of global GHG emissions.

Noise and Vibration

Operational noise attributable to activities within the Quarry Site and road traffic noise generated by product transport would be well within nominated limits and would have minimal impact on sensitive receivers. Blast overpressure and ground vibration levels would also be well below criteria levels at surrounding residences.

Water Resources

The Proposal includes the use of a sediment basin and collection drains to manage potentially sediment-laden runoff. The sediment basin would be designed to accommodate predicted runoff resulting from a 90th percentile 5-day rainfall event. The Applicant would continue to manage surface water runoff to limit the potential for sediment-laden runoff to leave the Quarry Site. It is noted that the extraction area has been designed to be internally draining to further minimise the risk of sediment-laden discharge off site.

Water use at the Quarry Site would be limited to that required for dust suppression on unsealed roads and the processing plant with water to be sourced from the sediment dam or carted in, as required.

Given the elevation of the Quarry Site, and the lack of groundwater water during current extraction and exploration drilling activities, it is not considered that the Proposal would impact groundwater resources.



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Biodiversity

The Proposal would include the removal of 3.93ha of native vegetation comprising 0.04ha of PCT 70 (moderate condition), 0.27ha of PCT 80 (moderate condition), 2.64ha of PCT 80 (poor condition) and 0.98ha of PCT 185 (moderate condition). This vegetation has the potential to provide habitat through foraging areas or breeding habitat. Residual impacts to native vegetation would be offset in accordance with the Biodiversity Offset Scheme (see Section 2.13).

It has been concluded that potential direct (residual) impacts would be suitably offset and potential indirect impacts would be managed through the implementation of measures to avoid or mitigate potential risks. There would be no significant impacts to SAII or MNES as a result of the Proposal.

Cultural

No Aboriginal sites were identified within the Quarry Site during the assessment. It has also been assessed that there is a low likelihood that the Proposal would adversely harm Aboriginal cultural heritage items or sites. Two heritage features, a survey blaze tree (HS-01) and the Buckingham Trigonometrical Station (HS-02), were identified within the Quarry Site. However, given the design and operational safeguards that would be implemented, it is anticipated that these features would not be impacted by the Proposal.

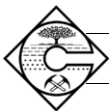
Soil and Land Resources

Assuming the implementation of appropriate soil management measures, the residual impacts associated with soil removal, handling, storage and re-use would be negligible. In addition, the Proposal would not alter the productive use of surrounding land.

7.2.3 Economic and Social Considerations

The Proposal provides for the ongoing extraction, processing and despatch of Quarry products to end markets within the Narrandera LGA and the broader Riverina Region. The ongoing extraction of the targeted resource would ensure that downward pressure is exerted on costs associated with construction material supply and influence market costs associated with construction and infrastructure projects. The Proposal would also provide for the ongoing employment of local persons which would contribute to economic growth within the Narrandera LGA and support local businesses and services. The Applicant's estimated annual expenditure of approximately \$1 million would also have considerable direct and indirect economic benefits.

Consultation with the local community has identified that the existing operation has been operating since 2012 with minimal social impacts or loss of amenity. Given the large distances between the Quarry Site and surrounding residences, it is anticipated that there would not be a significant change in the current level of social impact. Notwithstanding this, the Proposal incorporates a range of management and mitigation measures to ensure that the Proposal would operate with only minor residual impacts. The Applicant would continue to maintain an open-door policy regarding complaints, questions and feedback from the local community.



7.2.4 Consequences of not Proceeding with the Proposal

The consequences of not continuing operations at the Strontian Quarry relate principally to the lost opportunity to access the indurated sandstone that would be extracted by the Applicant to produce road base and other aggregates for use in construction and infrastructure projects. Given that the demand for these products would remain, it is expected that alternative greenfield sources would need to be developed, which would almost certainly result in much greater impacts to the biophysical environment than the incremental impacts addressed for the Proposal. Alternatively, products would be drawn from other quarries operated by the Applicant which would result in longer transport distances to end-users and consequently higher costs for all consumers.

In addition, the Proposal would provide for the employment of up to five employees² on site during extraction and production campaigns with an average of five truck drivers also employed throughout the life of the Quarry. Overall, it is anticipated that the Applicant would spend approximately \$1 million each year on wages, machinery servicing, consumables and all other purchases for the operation of the Strontian Quarry, the bulk of which would be spent within the Narrandera LGA or broader Riverina Region.

Should the Proposal not proceed, the minor impacts on the local biophysical environment would not eventuate.

It is considered that the benefits of continuing (and extending) the operations at Strontian Quarry therefore outweigh the minor impacts on the environment that would result. The nominated consequences of not proceeding with the Proposal also weigh heavily in favour of continuing the operation of the Quarry.

7.2.5 Objects of the Environmental Planning and Assessment Act 1979

Table 7.1 provides a short description of how the Proposal and this EIS have addressed and satisfy the objects of the EP&A Act.

Table 7.1
Objects of the EP&A Act

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Object	EIS Coverage
The objects of this Act are as follows: a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	It is considered that the Proposal would provide for the orderly and professional ongoing operation of the Quarry.

² It is noted that these employees would likely work at multiple quarries operated by the Applicant throughout the year.



Table 7.1 (Cont'd)
Objects of the EP&A Act

Object	EIS Coverage
b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	Final decisions on whether the Proposal is acceptable will be made by the Western Regional Planning Panel. However, as described in Section 7.1, the Applicant has undertaken detailed technical assessments to understand residual risks and impacts for the Proposal and to plan to avoid, minimise or mitigate these impacts as much as is reasonable and feasible. The principles of ecological sustainable development have been considered in the development of the Proposal (see Section 7.1.2)
c) to promote the orderly and economic use and development of land,	The ongoing development of the Quarry would maintain the existing orderly development of an existing site and, through doing so, avoid the need for the Applicant to seek alternate sources of a similar resource. Development for the purpose of an extractive industry is considered a beneficial use of the land on which the Quarry is located.
d) to promote the delivery and maintenance of affordable housing,	While not directly relatable to the Proposal, it is considered that the ongoing provision of Quarry products from Strontian Quarry would exert a downward force on construction material prices which may have a beneficial impact on housing development in Narrandera LGA.
e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	Consideration of residual impacts to biodiversity values has been undertaken in accordance with the <i>Biodiversity Conservation Act 2016</i> . Direct disturbance of native vegetation and potential native fauna habitat has been minimised as much as possible to reduce the need for impact to biodiversity values.
f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The Proposal would not reduce the availability of any matters or sites of cultural heritage value for the general public.
g) to promote good design and amenity of the built environment,	The Proposal has been designed to incorporate a range of components, either excavated or constructed, that would achieve a good design and minimise impacts to amenity.
h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	This is not relevant for the Proposal as the only building at the Quarry would be a demountable office and amenities.
i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The assessment requirements addressed in this EIS include feedback from Council and relevant State government agencies. The Proposal would be determined by the Western Regional Planning Panel.
j) to provide increased opportunity for community participation in environmental planning and assessment.	The Applicant has and would continue to maintain an open-door policy for community involvement in the operation. In addition, if any member(s) of the local community that have concerns or complaints, they should feel comfortable in approaching Quarry personnel and know that that they would be provided with constructive feedback on the issues raised.



7.3 Conclusion

The Proposal has been designed to permit the ongoing efficient extraction of an important indurated sandstone resource within the Quarry Site. The Proposal incorporates a range of design and operational mitigation measures to ensure all relevant statutory goals and criteria, environmental objectives and reasonable community expectations are satisfied.

This document and the range of specialist consultant studies undertaken have identified that the Proposal should proceed because it would:

- contribute towards satisfying the demand for Quarry products required for construction and infrastructure projects within the Narrandera LGA and the broader Riverina Region;
- have a minimal and manageable impact on the biophysical environment;
- satisfy sustainable development principles; and
- result in a net benefit for the local community, the Narrandera Shire Council and the State of NSW.