Executive Summary

PURPOSE OF THIS REPORT

ADW Johnson Pty Limited (ADW Johnson) has been commissioned by Coastwide Materials Pty Limited (CWM) to prepare an Environmental Impact Statement (EIS) for a State Significant Development (SSD), being a Hard Rock Quarry at 67 Maytoms Lane, Booral.

The purpose of the EIS is to describe the proposed development and consider its impacts to aid in community understanding of the project and to allow the development application to be assessed and determined.

The EIS has been prepared in accordance with the requirements of Part 4 of the *Environmental Planning & Assessment Act 1979* (EP&A Act), Part 8, Division 5 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) and the *State Significant Development Guidelines 2022* (including the requirements for an EIS as set out in Appendix B of that document).

This EIS addresses the requirements of the Secretary's Environmental Impact Assessment Requirements (SEARs) which were issued on 3rd June 2024 (SSD-70557215), and are provided as **Appendix A.** These SEARs supersede those previously issued for the project on 10th March 2017 as SSD-8239, which were extended a number of times, before expiring on 27th April 2024.

OVERVIEW OF THE PROJECT

The proposal is for a Hard Rock Quarry for the extraction of Rhyolite. Rhyolite has various uses and is sought after as a component for the creation of aggregate, building materials and road base. Proposed extraction rates and volumes are up to 45 million tonnes in total, with up to 1.5 million tonnes/annum (TPA) over a 30-year period.

The total area of the subject site is approximately 400.3ha; with the total quarry disturbance footprint occupying approximately 48ha.

The proposal includes:

- Construction of an intersection at the junction of The Bucketts Way and Maytoms Lane to facilitate safe site access and egress for vehicles;
- Earthworks, clearing of vegetation and a creek crossing over Double Creek for the construction of a haul road to the processing pad and extraction areas;
- Minor culvert crossings along the haul road route;
- Clearing of vegetation and overburden removal, then excavation to RL 95m for the creation of the processing pad;
- Site preparation works and installation of infrastructure and supporting services to facilitate operations at the site, including: site office, tertiary and secondary crushers, sand wash plant, on-site dams, stockpiles, car parking area, and an onsite sewage managment system;
- Staged progression of the quarrying works, with seven stages in total as shown in **Figure 1** overleaf;
- Extraction and processing of up to 1.5 million tonnes/annum, for 30-years;
- Transport of materials along The Bucketts Way to the intersection with the Pacific Highway, then along the Pacific Highway;
- Rehabilitation works within the quarry pit, and retention of the haul road infrastructure, in accordance with the Rehabilitation Strategy.

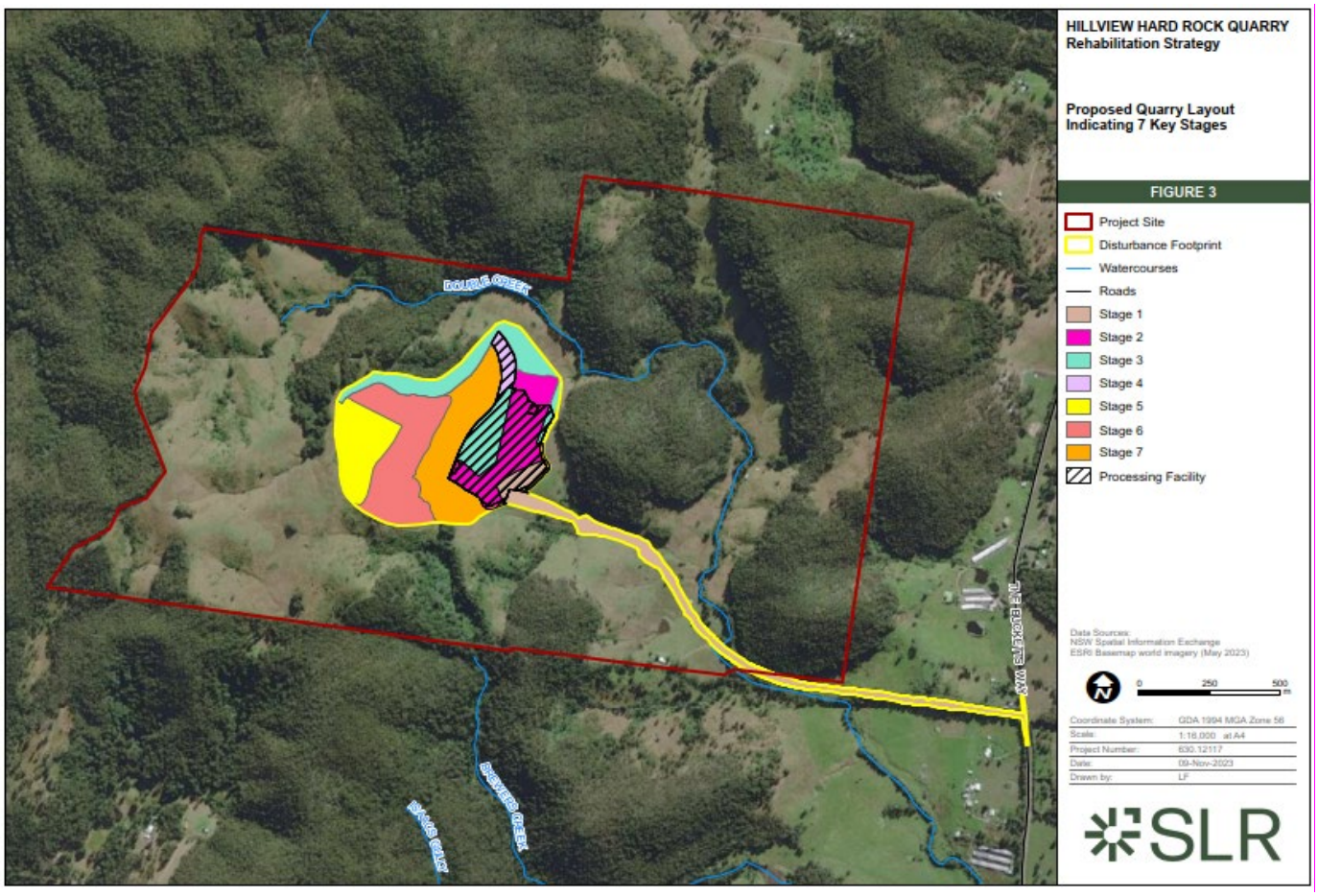

Figure 1: Project Site, Proposed Disturbance Footprint and Staging
(Source: SLR Rehabilitation Strategy 2024)

During the initial years of the quarry; it is not expected that extraction amounts will reach 1.5 million tonnes/annum, with site establishment works to be completed prior to the main extraction activities commencing. These establishment works will include the new intersection of The Bucketts Way and Maytoms Lane; construction of the main access to the processing pad; creation of the processing pad; and installation of other infrastructure including site offices and facilities, weighbridge, and processing machinery. These construction stages will result in the winning of material; with a portion to be used in site establishment activities and the remainder to be exported from the site. **Table 1** provides a summary of the main elements of the project.

Table 1: Summary of Proposal

Project Element	Summary of Project	
Proposed Development	Hard Rock Quarry	
Extraction Method	Traditional drill and blasting over extraction area of 48ha	
Resource	Quarry extraction of Rhyolitic Tuff from RL 205m AHD down to final RL 95m AHD	
Disturbance Areas	Total disturbance area	48ha
	Stage 1 disturbance area	9.5ha
	Stage 2 disturbance area	2.4ha
	Stage 3 disturbance area	10.6ha
	Stage 4 disturbance area	1.1ha
	Stage 5 disturbance area	5.4ha
	Stage 6 disturbance area	9.6ha
	Stage 7 disturbance area	9.4ha
Annual Production	Up to 1.5 million tonnes	
Quarry Life	30 years	

Management of Mining Waste	Managed and minimised by retaining resources that have value for reuse on-site, or collected by an appropriately licensed contractor and transported to appropriately licensed facility for recycling or disposal.	
General Infrastructure	Access roads including intersection works, electricity supply, on-site sewer management, weighbridge and site office.	
Product Transport	Transport by truck with average of 272 movements (136 in and 136 out) a day.	
Water Management	An array of water storages are proposed to contain and control runoff at the project – including sediment dams, water storage dams and pit sump.	
Operational Workforce	30 full time employees, anticipated to comprise quarry manager, supervisors, drivers, weighbridge operator and administration clerk.	
Hours of Operation	Extraction and processing operations	Monday to Saturday 6:00am to 10:00pm
	Internal product transfers to stockpiles	Monday to Saturday 6:00am to 12:00am (midnight)
	Haulage from and to the development site	Monday to Saturday 7:00am to 6:00pm
	Blasting activities	Monday to Friday 9:00am to 4:00pm
	Maintenance activities	24 hours 7 days a week
Site Rehabilitation	Progressive	
Capital Investment Value	$39,000,000 excl GST	

The extraction area has been located to avoid the more sensitive areas of the site, and the only area where the works intersect with Double Creek is where the proposed access road crosses this water course. Avoidance measures have been incorporated into the design and layout of the proposal. The pit shell has been specifically designed to avoid areas of high biodiversity value such as larger patches of forest with high vegetation integrity. In particular, a small gully containing rainforest vegetation (PCT 3436) has been avoided and will be retained on-site. The pavement width of the haul road has also been reduced from 14m down to 10m, reducing the amount of vegetation clearing required to facilitated access for the quarry.

The processing pad will be constructed to a final RL of 95m AHD and will accommodate the main operations of the proposal including siting of the site office, tertiary and secondary crushers, sand wash plant, on-site dams, stockpiles and car parking area. The site office will comprise demountable buildings, which are considered appropriate given the office building will not be visible from the public domain.

A 10m wide internal haul road will be constructed which will facilitate access to areas of the site for extraction as well as for the Run of Mine (ROM) pad which will allow extracted material to be put through the primary crusher located at RL 105m AHD and then conveyed down to the processing pad (RL 95m AHD) where material will pass through secondary and tertiary crushers and be stockpiled before being transported offsite.

To mitigate acoustic impacts associated with blasting required for the proposal; the proposed staging has been designed such that once preparation works have been completed for the propsoed development, hard rock extraction will generally take place in a south-easterly direction below the highest RL of the extraction area. This design measure is aimed at mitigating acoustic impacts to dwellings closest to the site, located adjacent The Bucketts Way, east of the site. The staging has been specifically designed with acoustic and visual mitigation measures in mind. In effect, the operations will commence at the eastern extent of the pit (processing pad), from which a haul road will circle around to to the western extent, with extraction activities then being carried out so as to progress in an easterly direction, back toward the processing pad. This design ensures that operations, and therefore noise, dust, and visual impacts are screened by the working face of the extraction area. Staging details are discussed at **Section 3.3**.

THE SITE

The subject site is approximately 400.3ha in area, comprising eight lots being, Lot 60 DP 1094397, Lot 1 DP 159902, Lot 62 DP 95029, Lot 63 DP 95029, Lot 2 DP 1166923, Lot 3 DP 1166923, Lot 4 DP 1166923, and Lot 64 DP 95030.

The subject site has been partially modified and disturbed as a result of past clearing and agricultural activities and as such substantial areas of the site are largely cleared of vegetation. Small portions of the site are identified on the Biodiversity Values Map and identified as flood prone land.

These areas of the site generally follow Double Creek which traverses the site in a south-easterly direction, and well clear of the actual quarry pit. The majority of the site is identified as bushfire prone land with associated buffer area.

PLANNING CONTEXT

The proposed development is an '*extractive industry'* per the definition in the *Great Lakes Local Environmental Plan* (LEP) 2014 and triggers State Significant Development (SSD) under Schedule 1, *Section 7 – Extractive Industries* of *State Environmental Planning Policy (Planning Systems) 2021* (Planning Systems SEPP). Schedule 1 Clause 7 of the SEPP states that development which extracts more than 500,000 tonnes of extractive materials per year or extracts a total resource of more than 5 million tonnes is SSD. The proposal seeks to extract up to 1.5 million tonnes of material each year and a total extractive amount over the life of the quarry of up to 45 million tonnes, and so is declared to be SSD.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Biodiversity

A total of 282 plant species were recorded, comprising 213 native species and 69 exotic species. No threatened plant species listed under the *NSW Biodiversity Conservation Act 2016* (BC Act) or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were detected. Two Threatened Ecological Communities (TECs) listed under the BC Act have been identified within or adjacent to the site, being - *River Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions*, and the *Lower Hunter Valley Dry Rainforest in the Sydney Basin and NSW North Coast Bioregions.* Five threatened fauna species were detected, as follows: Little Lorikeet (*Glossopsitta pusilla*); Varied Sittella (*Daphoenositta chrysoptera*); Eastern False Pipistrelle (Falsistrellus tasmaniensis); Squirrel Glider (*Petaurus norfolcensis*) and Koala (*Phascolarctos cinereus*). One Matter of National Environmental Significance (MNES), the Koala, listed as 'Endangered' under the EPBC Act, was recorded on site. No other listed threatened species were recorded.

A migratory species, Latham's Snipe (Gallinago hardwickii), listed under the EPBC Act was detected during the assessment. Additionally, the Black-faced Monarch (Monarcha melanopsis) has previously been recorded within the site. The habitats to be removed for the Koala and other listed threatened species that could potentially occur are not considered to be important to the long-term survival of these species, given the lack of evidence for these species and the retention of similar habitat across the periphery of the site. The proposed development is therefore not considered likely to have a significant impact on EPBC Act listed threatened or migratory species. One TEC, *Subtropical coastal floodplain forest*, listed under the EPBC Act, was recorded in a narrow belt along Maytoms Lane. No other EPBC Act matters are considered relevant to this assessment. Overall, the proposed quarry is not likely to have a significant impact on any MNES listed under the EPBC Act. However, given the presence of the Koala and likely presence of the Grey-headed Flying Fox (*Pteropus poliocephalus*), listed as 'Vulnerable' under the EPBC Act, a referral has been submitted to the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

Avoidance measures have been incorporated into the design and layout of the proposed quarry. The pit shell has been specifically designed to avoid areas of high biodiversity value such as larger patches of forest with high vegetation integrity. In particular, a small gully containing rainforest vegetation (PCT 3436) has been avoided and will be retained on-site. The residual impacts of the proposed development (after application of impact avoidance and mitigation measures) consist of the permanent removal of 10.59ha of native vegetation.

A total of 250 ecosystem credits and species credits for 11 candidate species has been determined to be required for the proposed development.

Noise and Blasting

Construction noise management level noise goals have the potential to be intermittently exceeded throughout development of the site at some residential receivers. As such, the proposed construction works shall require noise management by investigation and application of all feasible and reasonable noise mitigation work practices, to minimise impact on surrounding receivers.

A review of operational noise modelling under enhanced meteorological conditions indicates that the proposed operations will generate offsite noise levels below the project trigger noise level (PTNL) at all receivers, during the day period, however; control measures and operational restrictions on mechanical plant items have been provided to result in operational compliance for both evening and night periods. Site activities may well be audible at some locations given the characteristics of the receiving environment. It is thus recommended that measures be implemented to ensure timely and effective response to any concerns raised by adjacent sensitive receivers.

Airblast overpressure levels are expected to be below the ANZECC guidance values at all receivers. The limiting charge size has been specified in the body of the Acoustic Assessment to result in the airblast overpressure remaining below the 115dB annoyance threshold at modelled receivers. The result of the assessment indicates that, based on the observed separation distances, ground vibration levels are unlikely to exceed the criteria for human annoyance at sensitive receivers adjacent to the blast site.

Air Quality

Worst case scenario modelling for the proposed development indicated that the construction and operation of the proposed quarry will result in incremental increases in particulate matter and dust deposition at surrounding sensitive receivers. These increases were predicted to result in exceedances of the NSW EPA assessment criteria for the PM10 dust component, 24 hour averaging period and for both the construction and operation scenarios, and whilst conducting a 'cumulative assessment'.

A 'Level 2' analysis including the assessment of cumulative air quality impacts for PM10 (24 hour averaging period) indicates that quarry operations will be primarily below NSW EPA guidelines. Any exceedances that may occur will be: either at or slightly exceeding the guideline for PM10 24 hour averaging period (50.0ug/m^3); at a limited number of receivers in the vicinity of the quarry; and likely attributed to elevated background concentrations rather than significant incremental contribution from the proposed quarry development.

It should also be noted that the exceedances were obtained whilst incorporating many conservative assumptions into the modelling including machinery operating for 100% of the time, which is unlikely to happen in practice. Based on this assumption and other considerations incorporated into the conservative modelling approach adopted, the exceedances are unlikely to occur on a regular basis. Additional dust mitigation measures at the quarry operations, if implemented by the site owner, should further reduce the likelihood of dust exceedances at sensitive receivers in the vicinity.

Hillview Quarry is expected to generate approximately 299,123t of CO^2e GHG emissions over the life of the development. Operating onsite equipment is the primary source of GHG emissions, and from Scope 1, 'direct' emissions (and primarily from the operational period of the quarry). This total GHG amount is also based on conservative assumptions, and maximum operating conditions over the expected life of the quarry. Reduction of emissions from machinery and transportation will result in a net reduction of GHG emissions and economic savings due to reduced fuel use.

Water

Site Water Balance: The on-site Water Management System (WMS) is predicted to interact with groundwater inflows, which are expected to gradually increase; likely peaking when the final landform is established. A Licenced Discharge Point (LDP) will be established at the Farm Dam when an EPL is issued for the proposed development, and on-site water storages will require ongoing management through implementation of a set of Dam Operating Rules. Site water balance for the proposed development was assessed for all climate conditions. Under a year of average climate conditions, 12.6ML of treated water will be release off-site, 100L of water will need to be imported to meet operational demands, and discharge will occur at an average of 0.03ML/year. Under a year of extreme dry conditions, 0ML would be release offsite, 100L imported and no discharge is to occur. Under a year of extreme wet conditions, 12.6ML would be released, 0L would be imported and discharge will occur at a maximum of 1.52ML in any stage.

Water Licensing and Water Sharing Plans: The development site is within the catchment for the Water Sharing Plan (WSP) for the Karuah River Water Source 2003. The proposed development can capture up to 44.03ML of water under harvestable rights to be used for any purpose. A total of 3,360ML/yr is estimated to be required for water extraction under the WSP, indicating there may be capacity for water allocation to supplement the proposed development. The proponents WAL (number 44439) is for 100 units from the New England Fold Belt Coast Groundwater Source. Based on calibrated inflow predictions, the WAL will be adequate until Stage 6 of the proposed development, to cover groundwater inflows to the quarry pit.

A further water allocation is likely to be required at this stage, and as such, the proponent would be required to obtain an additional Water Access Licence for up to approximately 260ML/a to cover transient inflows at the start of both Stages 6 and 7.

Water Supply: Water used during the construction phase will be accessed from existing farm dams within the site as permitted under harvestable rights, brought to site in water tankers and sourced from site water storages as they are developed. Construction water requirements for the proposed development are estimated between 0.4ML/day to 1 ML/day. Operational water requirements for the proposed development have been estimated at 1 to 1.5ML/day. The details for provision of potable water, grey water and wastewater infrastructure would be confirmed during the detailed design phase. Water use approval is not required for State Significant Developments under Section 4.41 (1)(g) of the EP&A Act.

Flooding: The site is unaffected by flood water up to and including the 1% AEP flood. The proposed development does not affect the flood behaviour along Double Creek, and there will be no increase in peak flows, velocities or depths either upstream or downstream of the site. The proposed Maytoms Lane crossing will not increase afflux, overland and in-stream velocities or flood hazard. The proposed changes to the topography of the site will reduce the contributing catchment area and peak discharge downstream of the site will reduce. Additionally, the Maytoms Lane crossing will not impede on flow downstream. The proposed development has been designed to minimise risk to occupants from flooding events, including the risk of extreme events along Double Creek inundating the access road. The run-on rate from direct rainfall is low. The site would be unaffected by a 1% AEP (1 in 100), with the conveyance of Double Creek sufficient to convey the floodwaters downstream with very little surcharge of the overbanks.

Quality and Quantity of Surface and Ground Water: The primary risk to surface water associated with the proposed development is ground disturbance, with a high potential for sediment laden water. However, through the implementation of erosion and sediment control measures, and a Water Management Plan, the potential environmental impact to surface water is considered very low and manageable.

Potential changes to groundwater levels, flow, and surface water-groundwater interactions are likely to occur during operation of the proposed development. The quarry is predicted to act as a regional sink in the water table, and therefore offsite migration of concentrations within the quarry footprint is generally considered low risk to groundwater. However, any contamination of groundwater outside of the groundwater drawdown radius (i.e., in vicinity of haul road) could migrate through the subsurface to downgradient water receptors. Where quality impacts exist, they are anticipated to be minor due to the short-term (temporary) nature of quality impacts in the water environment where attenuation is anticipated. Post-closure, quality impacts are expected to be less than that during operation as all the activities and materials that pose a water quality risk will be removed from the site.

Aquifers: The proposed development is not likely to have a significant impact on groundwater levels or flow in the alluvial floodplain deposits aquifer associated with the Karuah River. This is supported conceptually, since the dewatered area is predicted to contribute a relatively limited volume of groundwater throughflow to the alluvial floodplain deposits, in comparison to the contribution of other groundwater recharge process across the catchment.

Water Management: Without incorporation of suitable mitigation measures into the proposed development, the construction and operation of the proposed quarry including road access, have potential to impact on downstream watercourses and waterbodies. As the footprint of the extraction area increases more rainfall is captured and this additional rainfall needs to be appropriately managed. There is also a complementary increase in water demand for use in dust suppression and for processing of quarry products. The WMS for the proposed development will include water infrastructure to capture, store, treat and discharge surface water.

A Wastewater Management System (WWMS) for the development is proposed to the north of the office building, with the site suitable for a wide range of onsite wastewater management options. The treatment system is to have a minimum treatment capacity of 1,200L/day.

Heritage

The results of the assessment and survey are consistent with the predictive model and there is little to no potential for in situ cultural materials to be present in the crest and slopes within the project area, whereas, there is potential for cultural materials to be present along the 4th order creek (identified PAD).

Two test pits were therefore conducted within PAD1. No archaeological sites were identified. Soil horizon A and top of horizon B contained significant evidence of past land uses with the complete mixing of the A horizon with the clays of the B horizon. Very few rocks were present and there is no evidence of stratigraphy and the evidence indicates the PAD area has been subject to high intensity impacts and as such the PAD is identified as a highly disturbed deposit with little to no likelihood of in situ deposits. Due to the highly disturbed nature of the area, the area subject to test excavation cannot be reassessed or compared to other assessments.

Traffic and Transport

The proposed development results in a small increase to the surrounding traffic network volumes and will not have an adverse impact on major traffic flows when considered in isolation. There is the potential for passing background traffic growth along the Pacific Highway to make the right turn out onto the Pacific Highway from The Buckets Way difficult for traffic of the proposed development at peak times, but there is an alternative route that has been proposed to ameliorate any externalised impacts of the subject development upon this intersection in the future.

There is adequate room on-site to provide informal parking facilities for both staff and heavy vehicles traffic. The largest vehicle that will travel to the site is a 19m length Articulated Vehicle. The proposed internal access road, including Maytoms Lane allows for an 8m wide road, inclusive of 1m wide unsealed road shoulders on both sides of the road. This design is adequate to allow two-way passing of heavy vehicles. All heavy vehicles will predominantly arrive from the south and travel from the development to the south towards Sydney, the Hunter and Central Coast. The exception to this is occasionally, vehicles will arrive from the south and depart to the north to travel to Stroud, but this will be a very rare occasion and generally will only be one or two vehicles in any given day.

The intersection of The Bucketts Way/Maytoms Lane has been assessed, and it is recommended that the future layout include a short deceleration left turn lane into Maytoms Lane and a basic right turn (BAL) treatment. Based upon AUSTROAD turn warrants, the minimum requirements to be provided are basic right and left turn treatments. As such, these recommended road treatments exceed requirements outlined in Austroads and is recommended due to the associated higher levels of heavy vehicle traffic associated with the proposed development.

The overall intersection geometry in terms of safety with reference to sight lines is acceptable and it is recommended that regular understorey trimming of trees located within the road reserve occurs to ensure unobstructed sight lines are provided. The existing 85th percentile road speeds of 100km/h, which requires 248m of sight distance, which is achievable.

Land Resources

Land within the Land and Soil Capability (LSC) assessment area classification range from LSC Class 4 to LSC Class 8. At least 73% (33ha) of the site is classified as LSC Class 7 and LSC Class 8. With the remainder of the site classified as LSC Class 4 (4%) to LSC Class 5 (23%).

A Biophysical Strategic Agricultural Land (BSAL) assessment found the entire LSC assessment area is non-BSAL and was verified as non-BSAL due to slope more than 10% and the remaining BSAL soils do not have a contiguous area of greater or equal to 20 hectares. The LSC assessment area is suited to grazing and improved pastures. It is not considered highly productive agricultural land as defined in *The Land and Soil Capability Assessment Scheme; Second Approximation* (OEH 2012).

Waste Management

Demolition and construction activities at the site will generate a range of construction and demolition (C&D) wastes. Throughout the development process, all materials will be reused and recycled where possible, minimising the disposal (landfilling) of materials other than those that are contaminated or unsuitable for reuse or recycling processes.

The proposed quarry will generate only small quantities of waste. Where possible these waste materials will be recycled. Waste materials that cannot be recycled will be removed by suitably licenced contractors and disposed of at a licenced landfill.

240L Mobile Garbage Bins (MGBs) are recommended for the storage of general waste and comingled recycling based on the waste generation expectations. 240L bins provide suitable capacity and are easily manoeuvred for collection purposes.

Considering the scale of the proposed development and the number of bins required to manage waste, a weekly collection is proposed as a minimum for servicing the above waste streams. Additional bins or increased servicing frequency may be applicable upon commencement of operations.

A range of specialist wastes unsuitable for disposal in general waste bins may be generated as a result of typical operation of this development. Materials such as paints, cleaning chemicals, batteries, e-waste, and lightbulbs will be stored temporarily before appropriate disposal by a suitably qualified waste contractor.

Waste on site is to be managed in accordance with the requirements outlined throughout the *Protection of the Environment Operations Act 1997* (POEO Act), including the correct transportation of wastes to a licensed facility (Section 143) and the disposal of waste without causing harm to environment (Section 115). Waste management strategies related to site operations have been established according to the *Great Lakes Development Control Plan 2014* (GLDCP) and NSW EPA Guidelines.

Hazards

Bushfire: The predominant vegetation formation around the proposed development is grassland and the office and weighbridge structures will be more than 100m from any areas of forest vegetation. The office building will be at least 119m from any forest vegetation to the east. Land with a radius of not less than 50m of each of those structures is to be established and maintained as an Asset Protection Zone (APZ), and the assessed Bushfire Attack Level (BAL) will be BAL-LOW. While no construction requirements apply for BAL-LOW, construction materials will be non-combustible. In conjunction with the management of areas within the site as an APZ, the existing and proposed future conditions on the site are such that any potential bushfire hazard vegetation within the development area will gradually be reduced as the quarry progresses through the stages of the proposed development. The management and use of the site will be subject to a separate Bushfire Management Plan (BMP).

Hazardous and Offensive Development: The maximum quantities of dangerous goods to be stored on site for the proposed development do not exceed the screening thresholds for storage quantity screening. Explosives will be transported to site for use, but not stored on site. The cumulative annual peak weekly movements of vehicles delivering dangerous goods to the site do not exceed the transport screening thresholds. As such, the proposed development is not considered to be 'potentially hazardous development', and further addition of a preliminary hazard assessment is not required.
The proposed development is however considered to be a 'potentially offensive development' in line with Schedule 1 of the POEO Act, as it requires a licence under pollution control legislation. If a development cannot obtain the necessary pollution control licences or other permits, then it may be classified as 'offensive' and may not be permissible in most zonings.

Visual

The existing landscape character within and surrounding the site will have a relatively high capability to absorb change. The proposed development would not result in the introduction of prominent elements to the surrounding landscape character. The proposed quarry will not form a significant visual element within the viewshed and will not be visible from most key view locations, including areas of rural dwellings, local road corridors and The Buckets Way. Potential views towards the proposed development from dwellings with potential visibility are likely to be partially screened and/or filtered by sloping hillsides with existing dense mature tree cover. The proposed quarry will result in a low to moderate visual effect and is deemed to be acceptable.

Social and Economic

Social

The proposed development and operation of Hillview Quarry is likely to have different effects on the populations of the various social localities assessed. At the broader community levels, the project is likely to have positive impacts, although these may not be material in scale. Communities nearer to the quarry site would be more exposed to its operational effects and may experience these as material impacts.

There are a number of impacts of concern to stakeholders relating to proposed operations. Overall, the likelihood of traffic and transport impacts of quarry-related truck movements on The Bucketts Way was the most commonly identified concern. The Traffic and Parking Impact Assessment for the development addresses current and likely impacts. These impacts can be mitigated to some extent by management actions.

The development would also be the subject of heavy vehicle road use contributions that can be applied to managing effects on The Bucketts Way in particular. With respect to other effects, technical assessments of these also include recommendations for the avoidance, minimisation and mitigation of impacts. In most instances, these impacts can be managed to accepted industry standards.

The development would create employment and potentially some business opportunities in the local and regional areas. Overall, these would be positive for directly engaged parties, and indirectly positive on local communities and economies, based on the additional activities that incomes would support. The Applicant has also indicated its intention to directly support the local community through direct contributions to appropriate organisations and activities.

Assessment of the social impacts of the proposed development requires consideration of the differential effects on the local and broader communities. This necessitates consideration of the exposure to, and materiality of effects, and relative 'weighting' of these. It is submitted that the most substantial issue for local and immediate regional stakeholders relates to traffic and transport effects on The Bucketts Way. If the effects of the additional use relating to the quarry can be managed, it is possible that, on balance, the overall social effects of the development would be positive.

Economic

The overall assessment is that the proposed quarry would be likely to have a positive economic impact. The broad-based positive effect of a continued supply of construction materials is a matter acknowledged in the *Hunter Regional Plan 2041*. Sufficient supply is crucial to allow the construction of the additional housing and infrastructure required to support future population growth.

From the State's perspective, in aggregate terms, beneficial outcomes are unlikely to be material in terms of their scale. However, they do represent additional direct industrial activity and stimulus for the commercial activity required to support it. This is also the case for additional employment, with its beneficial socioeconomic onflows. Furthermore, the potential use of the quarry's output in the development of public infrastructure, such as roadworks etc., which generally benefit subsequent users of that infrastructure.

Rehabilitation

The primary rehabilitation goal is to create a safe, stable and non-polluting post extraction landform that facilitates the achievement of the identified post mining land uses and is commensurate with site constraints. Preliminary final land use domains have been defined as land management units characterised by similar post mining land use objectives.

Rehabilitation planning will be undertaken to ensure the total area of disturbance is minimised as far as practicable at any one time. This will reduce the potential for dust generation, erosion and sediment runoff or visual disruption caused by the site. Rehabilitation of the site will be undertaken to achieve a stable non-polluting landform that is compatible with the surrounding landscape both visually and functionally. The resultant landscape will be constructed in accordance with the detailed final landform designs, proposed final landform and the recommendations of relevant assessments and studies. Achievement of the agreed post mining land use will be reached through a series of conceptual rehabilitation phases.

CONCLUSION

In addressing the requirements of the SEARs, the proposed Hillview Hard Rock Quarry has been demonstrated to be consistent with the objectives of the EP&A Act and is justified by the technical findings of the environmental, social and economic assessments prepared as part of this EIS.

The proposed '*Extractive Industry*' is permissible under the sites current *RU2 Rural Landscape* zoning; is strategically located behind the natural ridgelines of the site and positioned on largely cleared areas; and is well situated in relation to existing road infrastructure in order to be able to efficiently service both local and regional demands for the extracted Rhyolite.

This EIS demonstrates that the proposed quarry will not result in any significant impacts during construction or operation, nor any significant residual impacts following the closing and rehabilitation of the quarry. Any potential impacts which have been identified, have also been shown to be manageable, mitigated or offset to ensure that the proposed quarry can operate without significant impacts to the receiving environment. The proposal is therefore considered to be justified, in that it meets the objectives of Ecologically Sustainable Development and other objectives under Section 1.3 of the EP&A Act; in addition to providing positive economic benefits and limited social impacts.