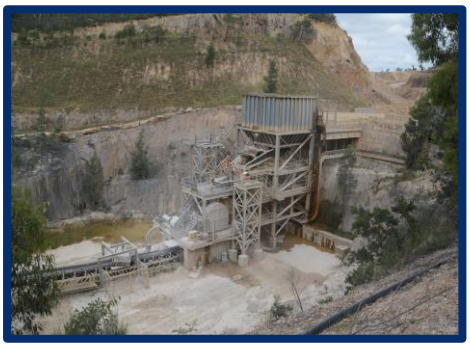
Hy-Tec Industries Pty Limited

ABN: 90 070 100 702

Modification Report

SSD 6084 Modification 3

Biodiversity Offsetting Obligations and Additional Processing Infrastructure



Austen Quarry – Stage 2 Extension Project

Prepared by:

R.W. CORKERY & CO. PTY. LIMITED

October 2021

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Austen Quarry – Stage 2 Extension Project

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CONTENTS

Page

CONTENTS

Page

CONTENTS

Page

APPENDICES

FIGURES

TABLES

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COMMONLY USED ACRONYMS

AQMP	Air Quality Management Plan
BAM	Biodiversity Assessment Method
BCS	Biodiversity Conservation and Science Directorate
BCT	Biodiversity Conservation Trust
DA	Development Application
DAWE	Department of Agriculture, Water and the Environment
DECCW	Department of Environment, Climate Change and Water
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
EIS	Environmental Impact Statement
EPA	Environment Protection Agency
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
EPL	Environment Protection Licence
EP&A Act	*Environmental Planning and Assessment Act 1979*
ESD	Ecologically Sustainable Development
DPIE	Development of Planning, Industry and Environment
LEP	Local Environmental Plan
LLC	Lithgow City Council
LLS Act	*Local Land Services Act 2013*
HPC	Hartley Pastoral Corporation Pty Ltd
MAC	Muller Acoustic Consulting Pty Ltd
NSW	New South Wales
OEH	Office of Environment and Heritage
PCT	plant community type
RWC	R.W. Corkery & Co. Pty Limited
SEPP	State Environment Planning Policy

SLMG	Silver-Leaved Mountain Gum
SSD	State Significant Development
SSI	State Significant Infrastructure
TSP	total suspended particle
WAL	Water Access Licence

EXECUTIVE SUMMARY

Aus-10-Rhyolite Pty Ltd (trading as Hy-Tec Industries (NSW) Pty Limited (hereafter referred to as Hy-Tec)) is proposing to modify Development Consent SSD 6084 (SSD 6084) for the Austen Quarry (the Quarry). This would be the third modification to SSD 6084. The Quarry is located on rural land, owned by the Hartley Pastoral Corporation Pty Ltd (HPC) and leased by Hy-Tec, approximately 3.5km south-southwest of the village of Hartley and 10km south of Lithgow.

Hy-Tec is seeking the following modifications to SSD 6084.

1. Modify Condition 25 of Schedule 3 of SSD 6084 to remove the species credit obligations associated with planted individual Silver-Leaved Mountain Gum - *Eucalyptus pulverulenta* (SLMG). That is, a reduction of 87% of credits generated as a result of planned removal of the 611 plants planted by Hy-Tec in the Stage 2 expansion area (as modified).
2. Modify Condition 25 of Schedule 3 of SSD 6084 to permit the staging of offsetting obligations to align with the progressive schedule of native vegetation clearing.
3. Allow for the installation and operation of a pre-coat plant and pugmill within the existing Secondary Processing Area.

The proposed modifications are being made under Section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It is considered that, should the modification application be approved, the development, as modified, would remain substantially the same development as that originally approved under SSD 6084. The proposed modifications would have only minimal additional environmental impact compared to what is approved. An evaluation of the proposed modification under Section 4.55(2) of the EP&A Act is provided in Section 7.2. The consent authority for the modification application will be the Minister of Planning and Public Spaces on the advice of the Secretary of DPIE.

The following table presents a comparison of key components of the approved Project against the modified Project.

Modified Project Summary Table

Page 1 of 2

Element	Approved Project	Modified Project
Project Components		
Disturbance Area	36.9ha	No change
Extraction Depth	685m AHD	No change
Activities and Equipment		
Duration of Approval	30 June 2050	No change
Method of Extraction	Drilling / blasting and load and haul to Primary Crushing Station	No change
Maximum Annual Sales Level	1.6Mt	No change
Daily Truck loads	Weekday – 300 Saturday – 167	No change
Secondary Processing Operations	Four stage crushing and screening plant and air separator - throughput 400tph.	Addition of pre-coat plant (200tph) and pugmill (300tph).

Modified Project Summary Table

Element	Approved Project	Modified Project
Biodiversity Offset Obligations		
Ecosystem Credits (total)	777	No change
Species Credits	1 402	182
Biodiversity Offset Staging	All credits to be offset within 12 months of the approval of Modification 1, or other timeframe agreed by the Secretary.	Retirement of credits to be staged with credits from within each stage to be retired prior to the progression of disturbance in each nominal area.

Biodiversity Offsetting of SLMG

Hy-Tec is seeking to modify the offsetting obligations described in SSD 6084 to remove the species credits associated with individual plants of the SLMG that were successfully regenerated at the Quarry, but which would be impacted by the Stage 2 development. Hy-Tec's rationale and the expected outcome of the proposed modifications with regards offsetting of residual impacts to the SLMG are as follows.

- The offsetting obligations described in SSD 6084 relating to the SLMG create a perverse outcome. The obligations effectively penalise past efforts at proactive conservation of a threatened species that has been successfully established on land that was previously disturbed for extractive industry and subject to rehabilitation.
- Hy-Tec has demonstrated success in re-establishing this species and has done so over many years. Proven methods have been developed and the revegetation works are flourishing.
- It is considered that the provisions of Clause 17(1) of Schedule 5A of the LLS Act may reasonably be relied upon in retrospect to remove the requirement to offset impacts to SLMG that were planted by Hy-Tec on land that was subsequently the subject of planned extractive activity. It is considered that, in retrospect, approval to clear native vegetation that had been planted in rehabilitation areas was not required for SSD 6084.
- Notwithstanding the above, it is acknowledged that impacts to the SLMG would have been an important consideration in the consent authority's original determination that the Stage 2 Project was in the public interest and should be approved. To ensure there is an overall net benefit to the species, pending approval of the proposed modifications Hy-Tec would commit to establishing areas within the Quarry Site dedicated to SLMG planting and conservation that would be secured in perpetuity following closure of the Quarry. Over the remainder of the life of the existing consent Hy-Tec would plant an additional 2 000 to 3 000 plants and it is expected the SLMG that have been planted would have reached maturity.
- From the perspective of individual counts the number of individual plants would far exceed those naturally occurring or those impacted under the Stage 2 Project (naturally occurring and planted). It has been estimated that the number of plants proposed by Hy-Tec would generate at least 3 248 species credits that more than satisfies the existing obligation for 1 402 credits (Niche 2021a).

- This approach to accounting for residual impacts to biodiversity through rehabilitation activities is already implemented for State significant mining developments in NSW and is a known and appropriate method of offsetting the impacts of development. However, for extractive industries, this commitment must currently sit outside the Biodiversity Offsetting Scheme.

The merit of this approach for both the SLMG population and the NSW community in general is demonstrated in the intended outcome. That is, maintenance of the existing planted individual plants, planting of 2 000 to 3 000 additional plants and the conservation of all of these plants in perpetuity. This is considered a better outcome than is likely within the Biodiversity Offset Scheme and would achieve a standard of 'no net loss' of biodiversity. Compared to the naturally occurring plants removed or that would be removed from within areas of disturbance (since approval of the Stage 1 development), this outcome is a significant improvement in terms of species number, condition and conservation status.

The alternative to the above is for Hy-Tec to pay a price per credit to the Biodiversity Conservation Trust (BCT). The BCT would then need to seek to satisfy this offset obligation or rely upon variation rules which may not have the same benefit to SLMG as expected by retiring species credits for this plant or directly planting and maintaining / conserving them as is proposed. The lack of credits available for purchase or trade now or in the past casts significant doubts over future availability and the achievement of a standard of 'no net loss' of biodiversity under existing arrangements.

The dedication of funds towards payments to the BCT would directly affect rehabilitation activities at the Quarry Site into the future and the current proactive approach taken by Hy-Tec may no longer receive the same financial support it currently benefits from.

In terms of benefits to the community of NSW, the approach taken by Hy-Tec, using an established regeneration method, would ensure that a greater number of SLMG individuals would be conserved in perpetuity, methods for regeneration would be better understood and areas of representative habitat would be created that ensure the species continues to contribute to the biological diversity of the flora of NSW.

There is no change proposed to the direct impacts to individuals of the SLMG as a result of the proposed modifications. The only matter changing is how Hy-Tec accounts for this residual impact (both in relation to offsetting planted individuals and in staging offsetting obligations).

Staging of Biodiversity Offsetting Obligations

Hy-Tec now intends to satisfy the offset obligations of SSD 6084 through either the purchase of credits on the market or through direct payment to the BCT. To that end, it is proposed that offsetting obligations for ecosystem credits be staged to align with the progressive clearing of native vegetation for the development with the credits to be retired prior to the progression of disturbance within the nominated area. The proposed staging of biodiversity offsetting obligations is presented in the following table.

Ecosystem Credit Requirements within Vegetation Clearing Stages

Plant Community Type	BAM Credits				
	Stage C	Stage D	Stage E	Stage F	Total
PCT 1093 (HN 570)	382	112	51	97	642
PCT 840 (HN 527)	24	1	1	19	45
PCT 649 (HN 501)	90	0	0	0	90
Total	496	113	52	116	777
Source: Modified after Niche (2021b) – Table 2					

This approach is consistent with most major resource projects where a single offset site is not proposed. It is noted that the species credit obligations would not been staged. All SLMG credits would be retired prior to any further vegetation clearing.

The proposed staging of biodiversity offsetting obligations represents an example of the orderly development of land which would be enabled under the proposed modification.

Addition of Pre-coat Plant and Pugmill

Hy-Tec proposes to install a pre-coat plant and pugmill within the Secondary Processing Area to allow for the supply of speciality products (e.g., pre-coated aggregates and specified and unspecified pugged road base) to nearby markets. The operation of the proposed equipment is relatively common within hard rock quarries and the management of potential environmental risks is well understood.

The principal residual biophysical impacts under the proposed modification relate to the operation of the pre-coat plant and pug mill, as follows.

Water Resources

The principal risk to the biophysical environment would be a potential hydrocarbon spill or leak from the pre-coat plant. In the event of a spill or leak the impacts would be likely to result in temporary minor impacts. However, given the considerable mitigation and management measures that would be implemented, it is considered that the risk of occurrence of this type of event would be highly unlikely. As such, the residual environmental impacts associated with the operation of the proposed pre-coat plant are considered negligible.

Noise

Hy-Tec anticipates that the addition of the pre-coat plant and pugmill equipment would not significantly alter the outcomes of previous noise impact assessments undertaken for the Quarry. Given that the sound power levels for both the pre-coat plant and pugmill would be considerably less than other processing equipment and the significant distances and intervening topography between the Quarry site and surrounding residences, Hy-Tec contends that the impact of the proposed modification on the existing acoustic environment would be negligible and the operation would continue to satisfy the assessment criteria prescribed in SSD 6084 in relation to noise management.

Air Quality

Hy-Tec anticipates that the addition of the pre-coat plant and pugmill would not significantly alter the outcomes of previous air quality impact assessments undertaken for the Quarry noting that historical air quality monitoring results are well below the relevant criteria. It is further noted that the operation of the pre-coat plant is a “wet” process and dust generation would be negligible with dust generation principally restricted to the loading of aggregates into the pre-coat feeder bin. Likewise, the operation of the pug mill would be consistent with existing approved operations with dust principally caused by the transfer and loading of materials.

Given the above, and the significant distances between the Quarry site and surrounding residences, Hy-Tec contends that the impact of the proposed modification on dust generation would be negligible, and the operation would continue to satisfy the assessment criteria prescribed in SSD 6084 in relation to air quality management.

Other Environmental Impacts

Hy-Tec considers that the remaining environmental impacts associated with the ongoing operations under SSD 6084, would remain generally consistent with existing approved operations. It is proposed that there would not be any changes to environmental impacts associated with the following matters as a result of the proposed modification.

- Aboriginal Cultural Heritage
- Historic Heritage
- Traffic
- Agricultural Resources
- Social and Economic Impacts
- Waste Management

Social and Economic Considerations

Hy-Tec considers that the following economic benefits would be generated under proposed modification.

- Ongoing employment of between 20 and 29 full-time local operational personnel, approximately 60 transportation contractors, and 10 part-time or full-time contractors.
- Ongoing supply of products to local markets including supply of specialty products such as pre-coated aggregates and specified and unspecified road base.

The management of operations at the Quarry, including environmental management, would remain largely unchanged. Ongoing engagement through Hy-Tec's direct engagement with the local community, the Hy-Tec website, blasting notifications and the ease of access to the complaints phone line would continue to provide the local community with access to Quarry management to express any concerns they may have on an ongoing basis.

Conclusion

The primary purpose of offsetting is to facilitate development in an environmentally sustainable manner and to ensure development does not have unacceptable impacts on native ecosystems and species. It ensures that impacts to native flora and fauna are accounted for in approving and implementing development. In this case, the proposed modification to biodiversity offsetting obligations relating to the SLMG would remove a perverse outcome, result in a better biodiversity outcome and due to the ongoing commitments to conservation of the species, ensure that the approved impacts remain acceptable.

Staging of biodiversity offsetting obligations is consistent with the provisions of the *Biodiversity Conservation Act 2016* and would ensure an orderly approach to vegetation clearing and the offsetting of residual impacts to biodiversity values such that it does not require onerous upfront costs and provides encouragement to further minimise vegetation clearing (as occurred under Modification 1 to SSD 6084).

The addition of a pre-coat plant and pugmill to the processing infrastructure utilised at the Quarry Site would be consistent with many similar quarry developments in NSW, would result in only minor changes to potential environmental impacts and would enable Hy-Tec to continue to develop and operate the Quarry in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations.

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1. INTRODUCTION

1.1 SCOPE AND BACKGROUND

This *Statement of Environmental Effects* (SoEE) has been prepared by R.W. Corkery & Co. Pty Ltd (RWC) on behalf of Aus-10-Rhyolite Pty Ltd (trading as Hy-Tec Industries (NSW) Pty Limited (hereafter referred to as Hy-Tec)) to support an application to modify Development Consent SSD 6084 (SSD 6084) for the Austen Quarry (the Quarry). This would be the third modification to SSD 6084. The Quarry is located on rural land, owned by the Hartley Pastoral Corporation Pty Ltd (HPC) and leased by Hy-Tec, approximately 3.5km south-southwest of the village of Hartley and 10km south of Lithgow. **Figure 1** displays the local setting of the Quarry including the village of Hartley, the Great Western Highway and Jenolan Caves Road as well as location of the Quarry in relation to the Blue Mountains and Sydney.

Hy-Tec is seeking the following modifications to SSD 6084.

1. Modify Condition 25 of Schedule 3 of SSD 6084 to remove the species credit obligations associated with planted individual Silver-Leaved Mountain Gum - *Eucalyptus pulverulenta* (SLMG). That is, a reduction of 87% of credits generated as a result of planned removal of the 611 plants planted by Hy-Tec in the Stage 2 expansion area (as modified).
2. Modify Condition 25 of Schedule 3 of SSD 6084 to permit the staging of offsetting obligations to align with the progressive schedule of native vegetation clearing.
3. Allow for the installation and operation of a pre-coat plant and pugmill within the existing Secondary Processing Area.

The proposed modifications are being made under Section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). It is considered that, should the modification application be approved, the development, as modified, would remain substantially the same development as that originally approved under SSD 6084. The proposed modifications would have only minimal additional environmental impact compared to what is approved. An evaluation of the proposed modification under Section 4.55(2) of the EP&A Act is provided in Section 7.2. The consent authority for the modification application will be the Minister of Planning and Public Spaces on the advice of the Secretary of DPIE. Preliminary consultation with the Department of Planning, Industry and Environment has been undertaken regarding the proposed approval pathway.

1.2 THE QUARRY SITE

The Austen Quarry Site (the Quarry Site) incorporates:

- the approved extraction area, overburden emplacement and processing area within Lot 1 and Lot 2 DP1005511; and
- miscellaneous stockpiles, road access and water management infrastructure on Lot 31 DP1009967;

The Quarry Access Road is located on Lot 31 DP1009967 and Lot 4 DP876394. A range of buffers to surrounding undisturbed areas are also located on the lots noted above. This land is leased by Hy-Tec from HPC. **Figure 2** presents the approved Quarry Site layout.

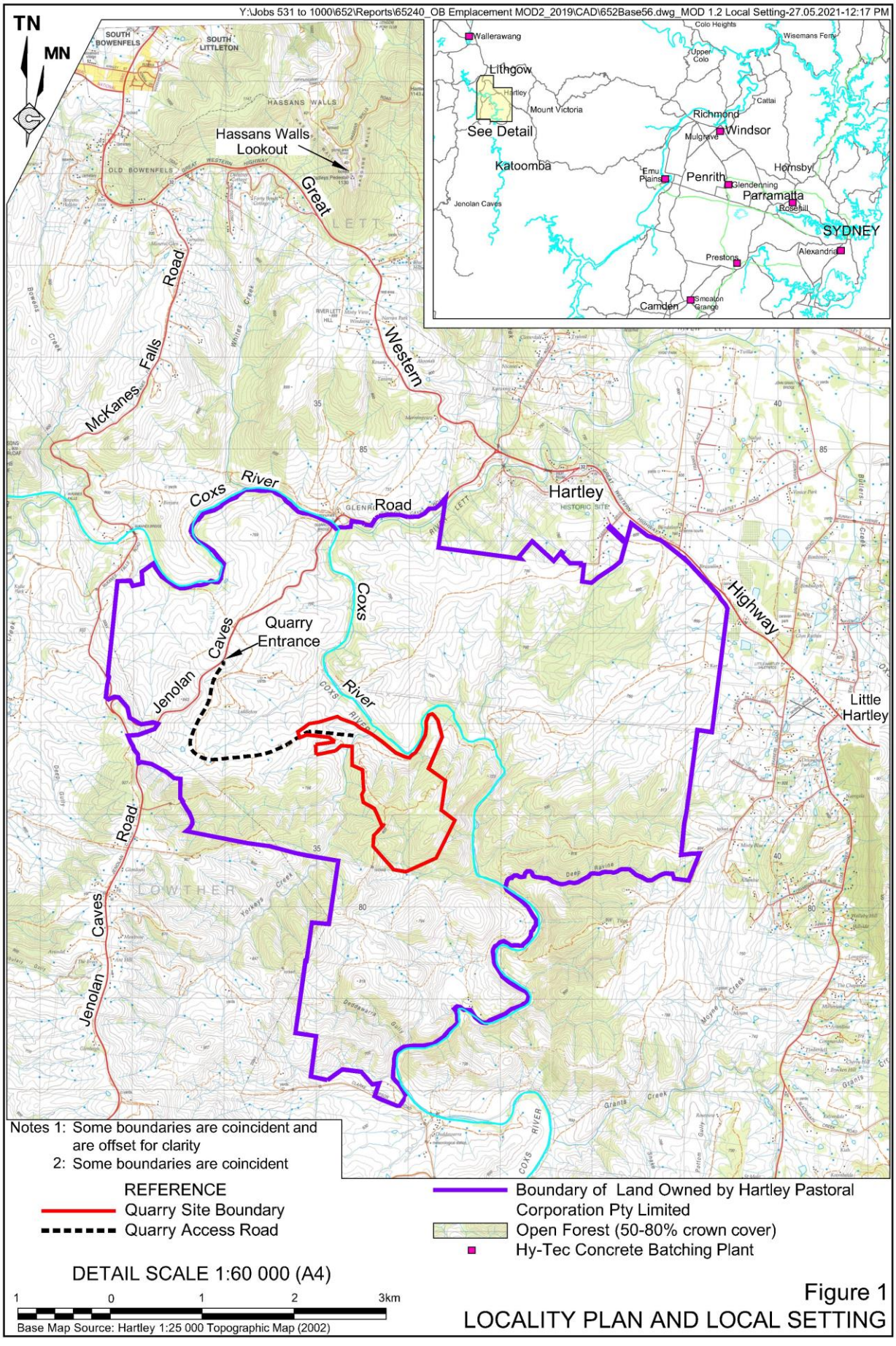


Figure 1
LOCALITY PLAN AND LOCAL SETTING

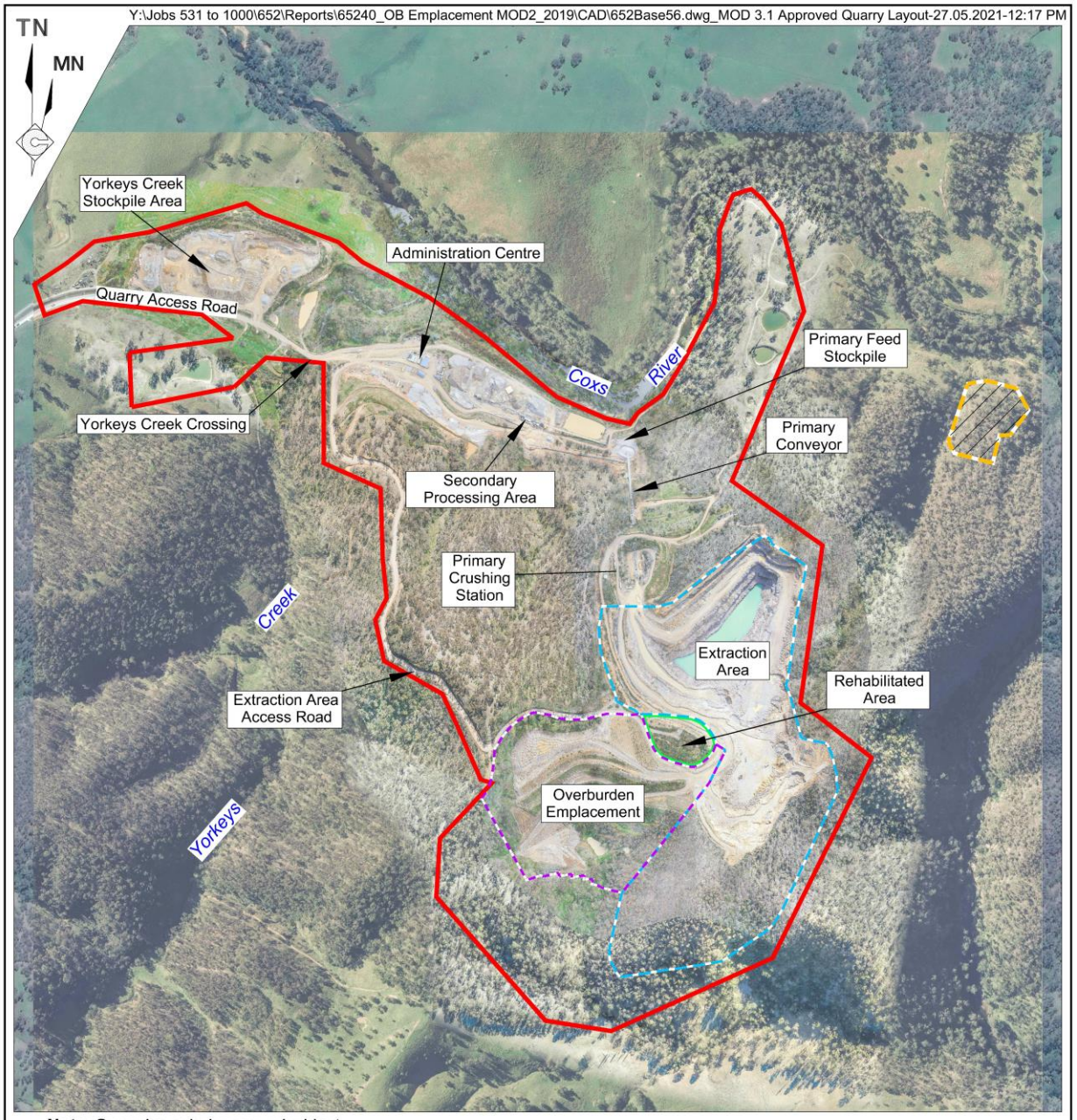


Figure 2
APPROVED QUARRY SITE LAYOUT

1.3 EXISTING APPROVALS

In 1994, AUS10 Rhyolite Pty Ltd sought and obtained development consent for a hard rock quarry within the "Liddleton" property owned by HPC. Lithgow City Council issued development consent DA 103/94 on 24 November 1994 for the development and operation of the Quarry and ultimately endorsed the development consent on 22 March 1995. Hy-Tec entered into a lease to become the operator of the Quarry in early 2002 and commenced the sale of aggregates and other quarry products in 2005. Following the approval of SSD 6084 and commencement under this consent, DA 103/94 was relinquished on 15 September 2015 and operations commenced under SSD 6084. The existing approved operation is State Significant Development.

The Quarry is operated with the following development consent, approvals and licences.

1. Development Consent SSD 6084 issued by DPE on 15 July 2015 to approve the Stage 2 Austen Quarry Extension Project ("the Project"). Modifications to SSD 6084 were approved on 15 August 2018 and 15 July 2019.
2. Environment Protection Licence (EPL) 12323 issued by the NSW Environment Protection Authority (EPA). This licence is renewed annually with the anniversary date being 1 July.
3. Two Water Access Licences (WALs).
   - WAL 37423 (Aquifer) to access 20 units (currently 20ML) per annum of groundwater from the *Coxs River Fractured Groundwater Source* under the *Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources* and Works Approval 10WA119180.
   - WAL 25616 (Unregulated River) to obtain 20 units (currently 20ML) of water per annum from the *Upper Nepean and Upstream Warragamba Water Source* under the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources* and Works Approval 10WA103330
4. Approval EPBC 2013/6967 under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that permits removal of the threatened plant Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*) within disturbance areas of the Quarry that was determined to be a controlled action.

1.4 EXISTING QUARRY OPERATIONS

The existing Stage 2 Project comprises defined proven reserves of approximately 44 million tonnes (Mt) with a total inferred reserve of over 100Mt taking onto consideration the anticipated high-quality material to the east of the existing operations and adjacent to the primary crushing area (to the west). Existing approved Quarry operations include the following key activities.

- Rhyolite extraction through drilling and blasting.
- Loading and haulage of extracted material for on-site processing.
- Primary crushing of extracted material.
- Secondary processing of primary-crushed material using the on-site processing plant.

- Product stockpiling within stockpile areas.
- Placement of overburden within the defined overburden emplacement area.
- Product loading and despatch via Jenolan Caves Road and the Great Western Highway.

Further detail regarding existing approved Quarry operations is presented in the *Environmental Impact Assessment for the Austen Quarry Stage 2 Extension Project* (RWC 2014), the *Austen Quarry Stage 2 Extension Project (MOD 1 – SSD 6084) Statement of Environmental Effects* (RWC 2018) and the *Austen Quarry Stage 2 Extension Project (MOD 2 – SSD 6084) Statement of Environmental Effects* (RWC 2019a). These documents are available from the Hy-Tec website and from the DPIE Major Projects website[1].

The majority of the aggregate produced at the Quarry are transported to Hy-Tec concrete batching plants in the Sydney metropolitan area or Wallerawang as well as to local road works and other destinations.

Operations at the Quarry would remain generally consistent with those approved under SSD 6084 and in some instances as was approved in the original 1994 development consent for the operation.

1.5 EXISTING BIODIVERSITY COMMITMENTS AND OFFSETTING OBLIGATIONS

1.5.1 Former Stage 1 Operations

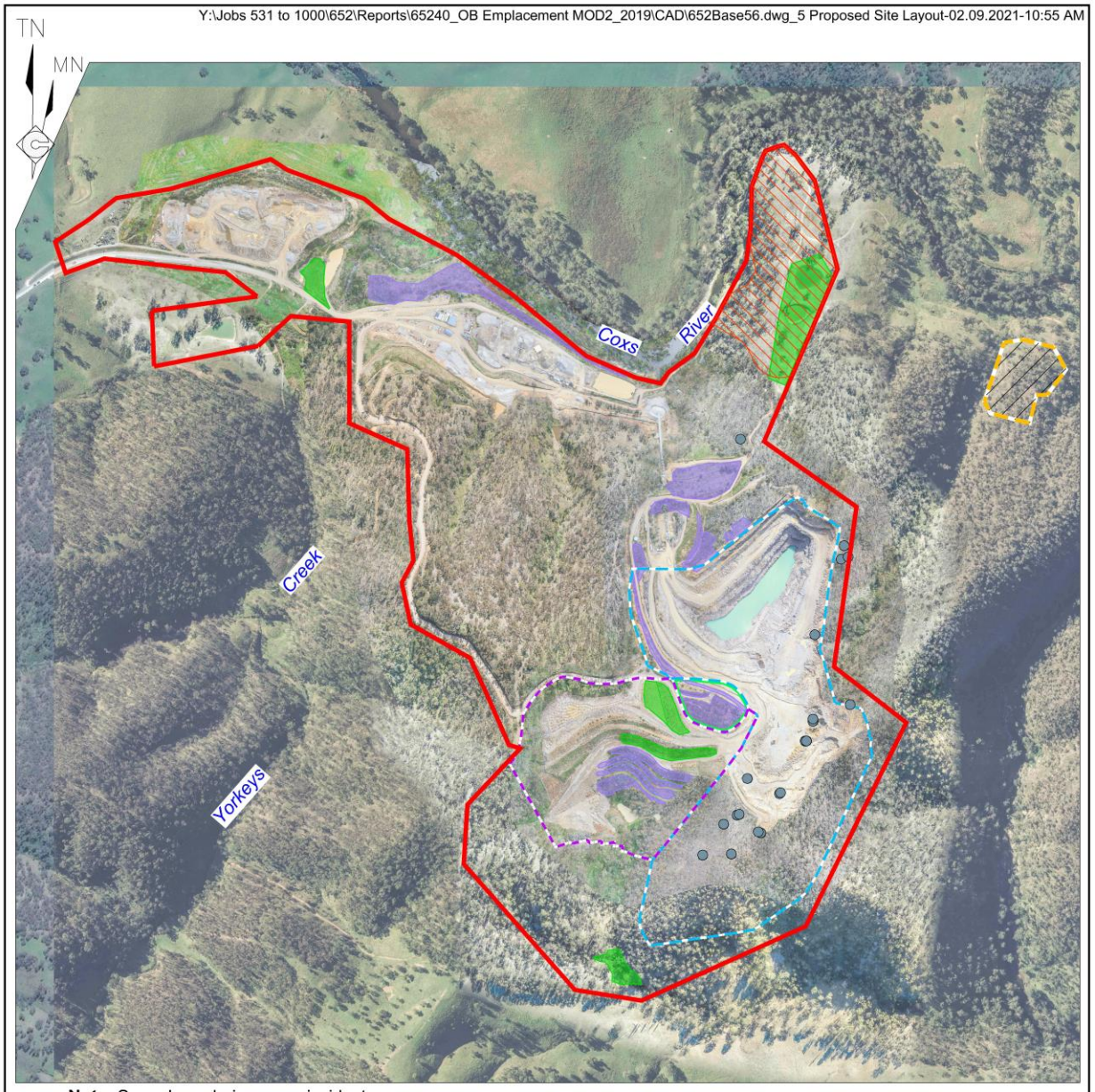
While not a formal offsetting requirement, Condition 7(b) of DA 103/94 required the establishment of a Conservation Agreement or flora preservation conditions over suitable SLMG habitat as identified by the National Parks and Wildlife Service and located within the Hartley area. This condition was satisfied by securing Conservation Area H (see **Figure 2**) for the purpose of SLMG conservation. The establishment of this area dedicated to the conservation of SLMG was in recognition of the threatened status of the plant.

However, in addition to the conditional requirements of DA 103/94 the HPC and after them Hy-Tec continued to plant and maintain areas with SLMG. These areas are presented in **Figure 3**. There were no legal or other commitments associated with the planting areas presented in **Figure 3**. Conservation Area H was the only formal commitment and continues to be maintained under SSD 6084 and has been incorporated into the approved Quarry Site layout as presented in **Figure 2**.

1.5.2 Stage 2 Operations

The proposed expansion of operations at the Quarry (Stage 2) and classification as a State Significant Development required further detailed biodiversity impact assessment (prepared by Niche Environment and Heritage, 2014) to support the Environmental Impact Statement when the Stage 2 application being prepared.

[1] https://www.hy-tec.com.au/ or https://www.planningportal.nsw.gov.au/major-projects/project/5081



Note: Some boundaries are coincident

REFERENCE
- Quarry Site Boundary
- Extraction Area Boundary
- Overburden Emplacement Area Boundary
- Rehabilitated Area (Offset for Clarity)
- Conservation Area H
- Silver-leaved Mountain Gum - Historic Planting Area
- Silver-leaved Mountain Gum - Current Planting Area
- Silver-leaved Mountain Gum - Future Planting Area
- Silver-leaved Mountain Gum Non-core Population

SCALE (A4)

200 0 200 400 600 m

Ecology Source: Niche (2021)
Base Photograph Source: CEH Survey - 11 August 2020 & Google Earth - October 2016 (surrounds)

Figure 3
SILVER-LEAVED MOUNTAIN GUM OCCURRENCES

At that time biodiversity offsetting for State Significant Development was assessed in accordance with the *NSW OEH interim policy on assessing and offsetting biodiversity impacts of Part 3A, State significant development (SSD) and State significant infrastructure (SSI) projects* (OEH, 2011) and also seven offsetting principles (the *NSW offset principles for major projects (state significant development and infrastructure)* (OEH, 2013). Offset calculations were conducted using the BioBanking Assessment Methodology[2] (DECCW, 2008). As the Project was determined to be a controlled action under the EPBC Act due to impacts to the SLMG, assessment was also undertaken in accordance with the *EPBC Act Offsets Assessment Guide* (a spreadsheet calculator) and principles described in the *EPBC Act Environmental Offsets Policy* (DSEWPaC 2012).

Biodiversity offsetting was proposed to account for residual impacts to 29ha of native vegetation (including 2.5ha of indirect impacts) and 721 individuals of SLMG. Of the 721 SLMG individuals, 631 individuals were located in rehabilitation areas on the Quarry Site and were planted during Stage 1 operations.

As a result of the assessment a biodiversity offset area was approved within SSD 6084. Following further consultation with the then Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) (now Department of Agriculture, Water and the Environment (DAWE)), a commitment was made under EPBC Approval 2013/6967 to plant an additional 1 000 individual plants of the SLMG so that there was a direct like for like replacement of removed individual plants (in addition to offset area commitments).

Since the approval of SSD 6084 and commencement of operations under Stage 2, the HPC (the landowner) has withdrawn its consent for the proposed biodiversity offset area and this has been removed from SSD 6084 and replaced with biodiversity credits (under MOD1). This was done principally in light of the significant resource understood to be present to the east of the existing operating areas and a recognition that this resource should not be sterilised from future operations through an in-perpetuity conservation commitment. In addition, MOD1 to SSD 6084 removed 4.3ha of disturbance and associated biodiversity impact, including to SLMG. Further changes to biodiversity offsetting policies and legislation (principally the introduction of the Biodiversity Offset Scheme following repeal of the *Native Vegetation Act 2003* and its replacement by the *Biodiversity Conservation Act 2016*) have required credit conversions through a statement of assessment of reasonable equivalence of biodiversity credits (**Appendix 1**).

The biodiversity offsetting obligations of the Project as they currently stand (for the purpose of SSD 6084) are presented in **Table 1**.

EPBC Approval 2013/7976 approved the impact to 721 individuals of SLMG under the EPBC Act and required Hy-Tec to secure the proposed offset area. Assessment of the proposed offset area concluded that it was adequate to account for the assessed offsetting obligation to offset 1 850 individuals of the SLMG (see Niche, 2014 – Section 8). Notwithstanding, it was further agreed that Hy-Tec would plant an additional 1 000 individual SLMG plants within areas not intended for future quarry-related disturbance. Hy-Tec has now planted in the vicinity of 2 800 individual plants have planted across the Quarry Site and other areas in revegetation and rehabilitation works.

[2] *BioBanking Assessment Methodology and Credit Calculator Operational Manual.* (DECCW) (2008).

Table 1
Biodiversity Offsetting Credit Obligations – Austen Quarry

Species	IBRA Subregion	BBAM Credits	BAM Credits
PCT 1093 (HN 570) Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Bathurst and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.	Not Specified	642
PCT 840 (HN 527) Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin Bioregion and South Eastern Highlands Bioregion		60	45
PCT 649 (HN 501) Apple Box - Broad-leaved Peppermint dry open forest of the South Eastern Highlands Bioregion		131	90
Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*)	Not specified		1 402
Source: Statement of assessment of reasonable equivalence of biodiversity credits - (**Appendix 1**)			

1.6 ONGOING MANAGEMENT AND REGENERATION OF SLMG

Under its various approvals, Hy-Tec is required to conserve the SLMG in Conservation Area H, satisfy the offsetting obligations in **Table 1** and to plant an additional 1 000 individuals of SLMG in dedicated areas or rehabilitation works. Notwithstanding these conditional requirements, since the commencement of operations under SSD 6084, approximately 2 800 individual plants have been planted in rehabilitation activities within the Quarry Site, in Conservation Area H and other locations on the land leased by Hy-Tec. Planted SLMG have been actively cultivated through preserved seed stock, germination in a nursery, planting and follow up care by Hy-Tec. All plants were germinated at a local nursery from seed stock collected at the Quarry. This is in addition to more than 1 000 individuals that have been planted and remain in historical planting areas that would not be disturbed for quarrying operations. Hy-Tec has investigated the feasibility of securing all historic planting areas as a Stewardship Site, however the patchy and disjointed nature of the planted areas is not possible to efficiently secure under the current Biodiversity Offset Scheme.

Quarry personnel have been able to establish a planting methodology that provides for the highest rates of successful establishment. This includes minor ripping of the rhyolitic gravel and overburden that the plants are planted into and timing the planting for suitable weather. **Plate 1** and **Plate 2** display successfully grown examples of the species with the Quarry Site. **Plate 1** presents an area of historic growth with SLMG up to 15m high while **Plate 2** presents more recent successful planting. Both images demonstrate the ability to progressively establish SLMG in disturbed areas that are the subject of rehabilitation actions.

Hy-Tec's approach to re-establishing communities of SLMG and maintenance of existing plantings clearly demonstrate accountability for the impacts to this species that were required to be removed by the Quarry development. It also demonstrates a proactive approach to the conservation of the species not evident in any local, State or Federal government programs.

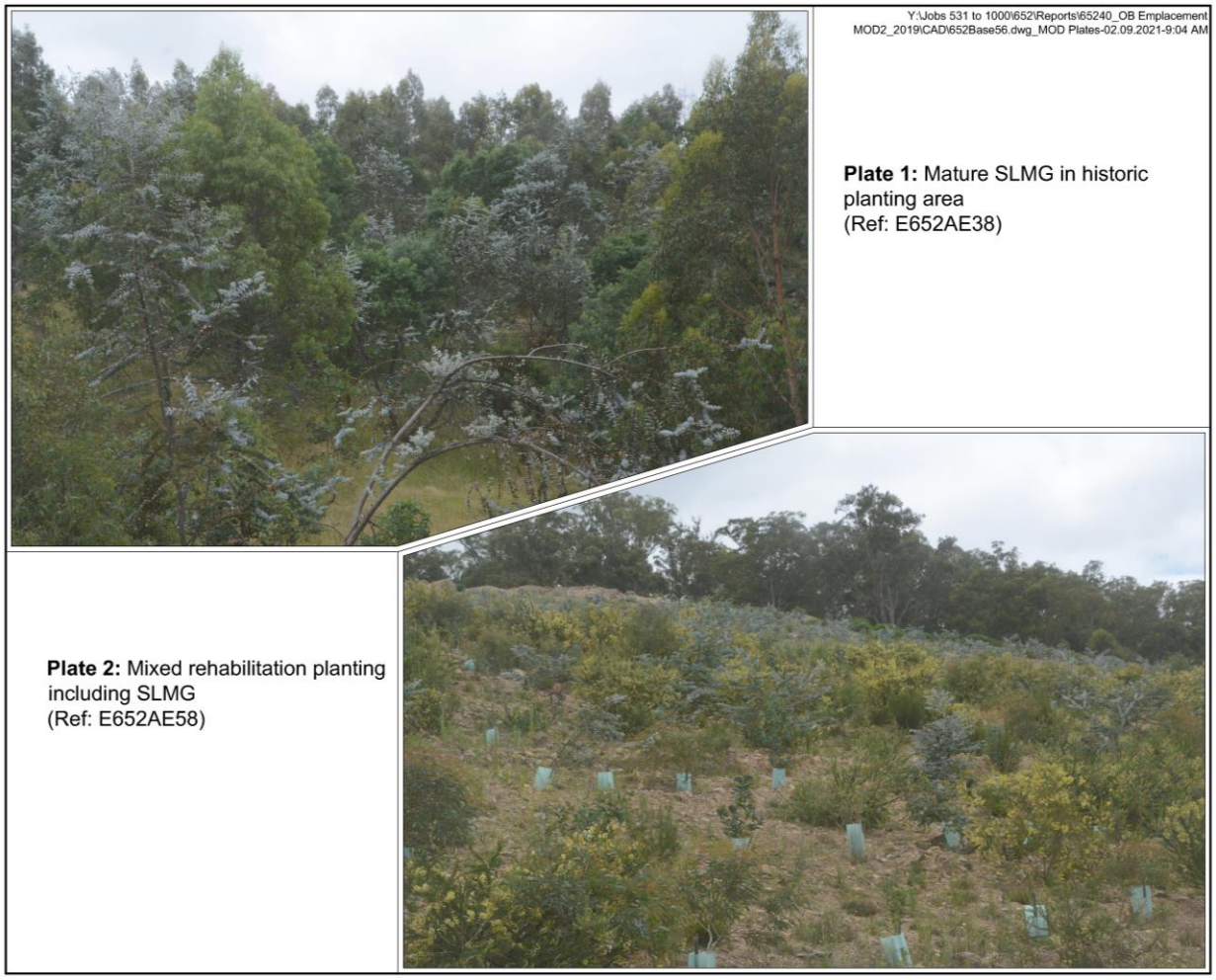


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Plate 1: Mature SLMG in historic planting area
(Ref: E652AE38)

Plate 2: Mixed rehabilitation planting including SLMG
(Ref: E652AE58)

2. STRATEGIC CONTEXT

2.1 INTRODUCTION

The strategic context for the proposed modifications is principally concerned with the planning context for modification to the biodiversity offsetting obligations of the Project. These matters are discussed in detail in Section 4.

The significance of the resource and the need for products of the Quarry including the market for pre-coated aggregates and pugged road base as well as the setting of the operation in terms of nearby landownership and land uses is important for the consideration of the proposed modification to processing infrastructure at the Quarry.

2.2 RESOURCE

The geology, rock quality, location and future development potential of the resource within and surrounding the Quarry Site supports its consideration as strategically significant for the ongoing supply of hard rock products locally and to the Greater Sydney Metropolitan Area.

The hard rock resource within the approved Quarry was originally identified as a 'metamorphosed rhyolitic rock' and subsequently described as 'rhyolite'. The 'rhyolite' and related igneous rock types within the Site are Lower to Middle Devonian in age (approximately 390 million years old). These volcanic rocks are underlain by granitic rocks types and interbedded with a range of metasediments of the Lambie Group that outcrop to both the east and west of the Site. The rock extracted for the Stage 2 Project to date has proven to be strong, durable, sound and of excellent quality for production of a full range of premium quality, hard rock quarry products.

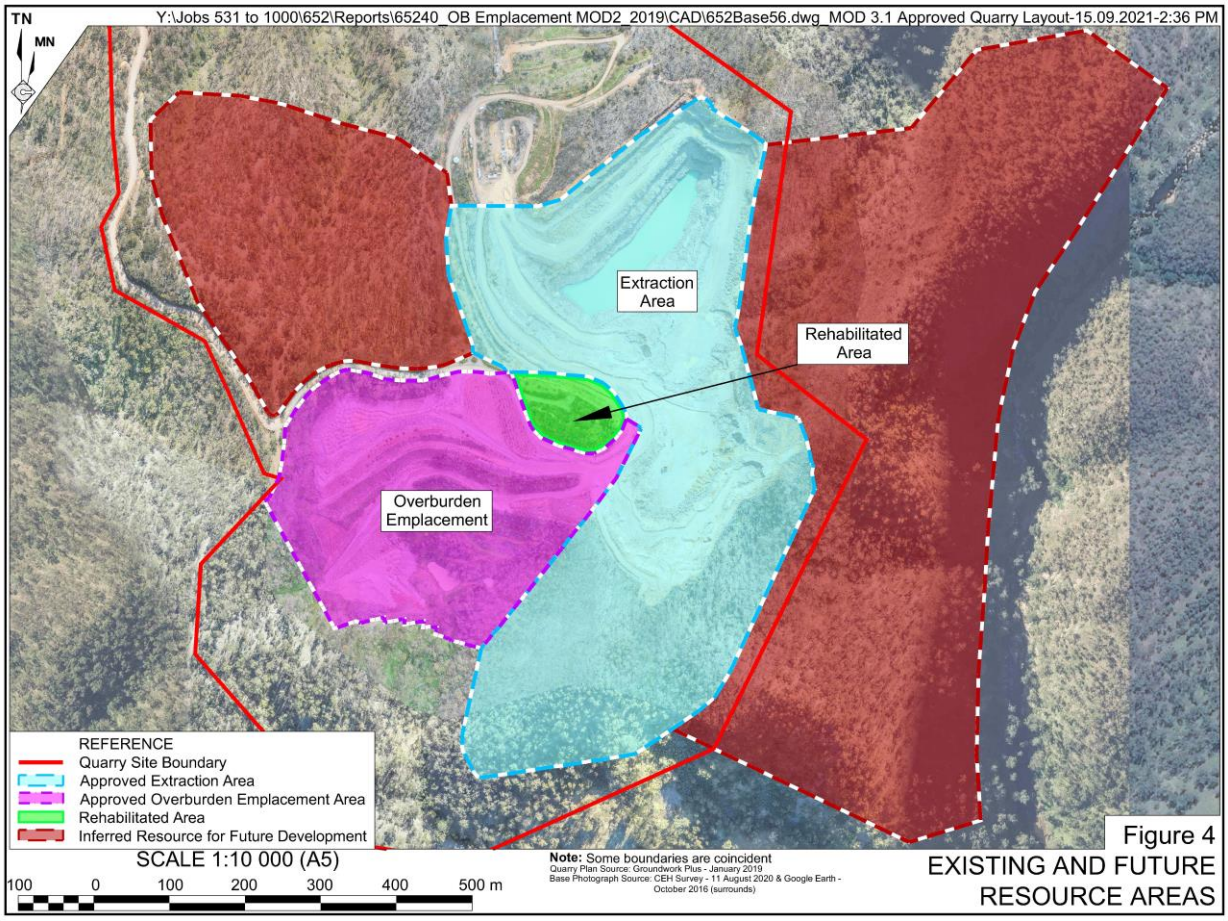
The resource is ideally located within the broader HPC landholding and separated from privately-owned residences. It is also relatively close to Jenolan Caves Road and the Great Western Highway with few private residences between the Quarry Site and the highway.

Future resource potential within the Quarry Ste is presented in **Figure 4** and indicates locations for continued resource extraction under future modifications or new development applications. The long-term resource potential of this location is substantial.

2.3 PROJECT AND MODIFICATION NEED

The Quarry is approved to despatch up to approximately 1.6Mtpa of coarse aggregates, manufactured sand and other specialty products annually to supply the building and construction market requirements within the greater Sydney metropolitan area, Blue Mountains and surrounding regions. The demand for these products, used in the manufacture of concrete, road construction and rail works is projected to increase over the next 30 years in response to population growth within Sydney and its surrounds. The key material required to underpin Sydney's growth throughout this period will be concrete for which coarse aggregates account for approximately 70% of the raw materials requirements. As a concrete manufacturer with significant and growing market share, a large proportion of aggregates and manufactured sand from Austen Quarry is used directly by Hy-Tec concrete batching plants to meet forecast

demand. It is noted that specialty products, such as pre-coated aggregates and specified and unspecified pugged road base, is in high demand within the Sydney metropolitan area and underpins the proposed installation and operation of a pre-coat plant and pugmill.



2.4 LAND OWNERSHIP

The Quarry is located within a substantial landholding, owned by the Hartley Pastoral Corporation Pty Ltd (HPC), approximately 3.5km south-southwest of the village of Hartley and 10km south of Lithgow (see **Figure 1**). The surrounding land is rural land and provides a significant buffer between quarrying activities and privately-owned residences. This is particularly important to the north as the processing area and activities are shielded by a remnant ridge to the south but more open to the north.

The location of the Quarry also serves to limit the risk of land use conflicts and reduces cumulative impacts as there are no high-impact land uses in the vicinity of the Quarry.

2.5 LAND USES

In keeping with the RU1 – Primary Production, the HPC-owned properties on which the Quarry Site is located, as well as the larger properties to the south, west and north, are operated as pastoral properties with land use primarily for cattle grazing, sheep grazing, cereal and fodder crops.

Other notable land uses within the local setting are as follows.

- Conservation – Active conservation in the form of an agreement between HPC and the then OEH on Lot 31, DP1009967 for the protection and conservation of habitat for the threatened *Eucalyptus pulverulenta* (Conservation Area H in **Figure 2**).

  Biodiversity is also passively conserved in the local setting as a consequence of steep terrain and limitations for agriculture.

- Rural residential / hobby farming – Within and surrounding the villages of Hartley and Little Hartley to the north and northeast, along Coxs River Road to the east, and along Jenolan Caves Road to the west of the Site are smaller lots, many developed with residences.

- Recreation and Tourism – Jenolan Caves Road is the primary route between Sydney and the Jenolan Caves, a significant regional tourist feature, with camping facilities, outdoor activities and B&B style accommodation occurring within the local setting.

The Quarry Site is located within the Mid-Coxs River sub-catchment of the Warragamba Catchment, i.e. the upper reaches of the Sydney Drinking Water Catchment. Therefore, careful management of potential impacts to the Coxs River has been a feature of Project planning and management including the establishment of surface water infrastructure.

Lithgow City Council Land Use Strategy 2010-2030

The Lithgow Land Use Strategy 2010-2030 (LCC, 2011) was endorsed by the then Department of Planning and Infrastructure in May 2012. It explores the land use and planning issues currently facing the LGA and provides recommendations for resolving these issues.

The proposed modification would not result in changes to the existing operation that would impact the land use and planning issues relevant to the proposed modification. It is considered that impacts to SLMG would not change under the proposed modification.

LCC (2011) highlights that the biggest threat to primary production resources within the LGA is continued fragmentation, predominantly for rural lifestyle development. However, the proposed modification would not impact the primary production resources of the LGA.

3. DESCRIPTION OF MODIFICATIONS

3.1 INTRODUCTION

Hy-Tec is seeking the following modifications to SSD 6084.

1. Modify Condition 25 of Schedule 3 of SSD 6084 to remove the species credit obligations associated with planted individual Silver-Leaved Mountain Gum - *Eucalyptus pulverulenta* (SLMG). That is, a reduction of 87% of credits generated as a result of planned removal of the 611 plants planted by Hy-Tec in the Stage 2 expansion area (as modified).
2. Modify Condition 25 of Schedule 3 of SSD 6084 to permit the staging of offsetting obligations to align with the progressive schedule of native vegetation clearing.
3. Allow for the installation and operation of a pre-coat plant and pugmill within the existing Secondary Processing Area.

The following subsections provide a detailed description of the approvals required and the proposed modifications. **Table 2** presents a comparison of key components of the approved Project against the modified Project.

Table 2
Modified Project Summary Table

Element	Approved Project	Modified Project
Project Components		
Disturbance Area	36.9ha	No change
Extraction Depth	685m AHD	No change
Total Resource	44Mt	No change
Activities and Equipment		
Duration of Approval	30 June 2050	No change
Method of Extraction	Drilling / blasting and load and haul to Primary Crushing Station	No change
Maximum Annual Sales Level	1.6Mt	No change
Daily Truck loads	Weekday – 300 Saturday – 167	No change
Secondary Processing Operations	Four stage crushing and screening plant and air separator - throughput 400tph.	Addition of pre-coat plant (200tph) and pugmill (300tph).
Biodiversity Offset Obligations		
Ecosystem Credits (total)	777	No change
Species Credits	1 402	182
Biodiversity Offset Staging	All credits to be offset within 12 months of the approval of Modification 1, or other timeframe agreed by the Secretary.	Retirement of credits to be staged with credits from within each stage to be retired prior to the progression of disturbance in each nominal area.

3.2 APPROVALS REQUIRED

Minor modifications to the wording of the following conditions would be required as a result of the proposed modification (changes in red).

SSD 6083 - Condition 2 of Schedule 2

2. The Applicant must carry out the development generally in accordance with the:

(a) EIS, SEE (Mod 1), SEE (Mod 2) and Modification Report (Mod 3); and

(b) Statement of Commitments.

Note: The statement of commitments is reproduced in Appendix 3.

SSD 6084 - Condition 25 of Schedule 3

Biodiversity Credits Required

25. The Applicant must retire the biodiversity credits specified in Table 4A below prior to the progression of vegetation clearing within each nominated stage.

Table 4A: Biodiversity credits to be retired

PCT / Species	BAM Credits				
	Stage C	Stage D	Stage E	Stage F	Total
Ecosystem Credits					
PCT 1093 (HN 570)	382	112	51	97	642
PCT 840 (HN 527)	24	1	1	19	45
PCT 649 (HN 501)	90	0	0	0	90
Total	496	113	52	116	777
Species Credits					
Silver-leaved Mountain Gum (Eucalyptus pulverulenta)	168	0	0	0	168
Total	168	0	0	0	168

The retirement of the credits in Table 4A must be carried out in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT.

SSD 6084 – Appendix 2

Hy-Tec is seeking a modification to the approved Quarry Layout presented as Appendix 2 of SSD 6084.

EPL 12323

No modification to EPL 12323 would be required under the *Protection of the Environment Operations Act 1997* as the operation would remain within the existing scale of 500 000t to 2 000 000t of material extracted, processed or stored.

3.3 REDUCTION OF BIODIVERSITY OFFSET OBLIGATIONS

3.3.1 Introduction

Vegetation clearing for the Stage 2 Project will require removal of 701 individual plants of SLMG and threatened plant listed as endangered under the *Biodiversity Conservation Act 2016* and the EPBC Act. The originally assessed impact to 721 plants was reduced by Hy-Tec in an earlier modification to SSD 6084 that reduced the disturbance area required for overburden management. This residual impact is accounted for in Condition 25 of Schedule 3 of SSD 6084 as a requirement to retire 10 784 species credits for the SLMG. An assessment of equivalence (issued 30 October 2019 – **Appendix 1**) to reflect the requirements of the *Biodiversity Conservation Act 2016* has determined that 1 402 SLMG species credits are required under the current legislative requirements (see **Table 1**).

From the commencement of operations in this location (in 2001), Hy-Tec has proactively planted SLMG at the Quarry (in addition to any conditional requirements to do so). This means that Hy-Tec is now in a position where it is required to retire species credits for planted SLMG removed under SSD 6084. It is now recognised that this process has resulted in a perverse outcome whereby Hy-Tec is subject to a financial penalty for the proactive conservation of a species.

In reviewing this outcome, it has been established that at the time of assessment of the impact to planted SLMG, reliance should have been placed on the provisions of the *Local Land Services Act 2013* (LLS Act) with regards to approvals required for the clearing of native vegetation that has been planted. A review of this position is provided in the following subsections including a conclusion relating to the merits of the proposed modification considered against it not proceeding.

3.3.2 Impact and Offset Obligation

Figure 3 displays the locations of planted and naturally occurring SLMG plants within the Quarry Site and **Table 3** presents the number of planted and naturally occurring SLMG plants that would be impacted by the Project and associated BAM credits. Niche (2021 – **Appendix 2**) identifies that of the 701 individual plants to be removed, 611 of these plants (87%) were planted by Hy-Tec and the remaining 90 individuals were naturally occurring.

Table 3
Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*) Credit Obligations

Species	Provenance	Number Impacted	Percentage Impacted	BAM Credits
Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*)	Planted	611	87	1 220
	Naturally Occurring	90	13	182
	Total	**701**	**100**	**1 402**
Source: Modified after Niche (2021b) – Table 3				

3.3.3 Legal Position

Hy-Tec has received legal advice from McPhee Kelshaw Solicitors & Conveyancers concerning the application of Clause 17(1) of Schedule 5A of the *Local Land Services Act 2013* (LLS Act) in consideration of the approval for clearing of planted SLMG (and associated

biodiversity offsetting obligations). That advice is provided as **Appendix 3** and concludes that, in accordance with the LLS Act, Hy-Tec did not require approval for this clearing activity and can reasonably seek to modify SSD 6084 to reduce the biodiversity credits that must be retired to exclude planted SLMG.

The advice concludes that Clause 17(1) of Schedule 5A of the LLS Act should have been relied upon for the following reasons.

- The LLS Act recognises the different value between naturally occurring and planted vegetation and makes allowances for land management in this regard.
- Section 60Q of the LLS Act sets out allowable clearing activities through reference to Schedule 5A, noting the need to consider the context of any other approvals required.
- Clause 1 of Schedule 5A of the LLS Act sets out that the schedule applies to land mapped as Category 2 regulated land on the native vegetation regulatory map. The land on which the Quarry is located is mapped as Category 2 Vulnerable Regulated Land (see **Figure 5**) and therefore Schedule 5A applies.
- Clause 17(1) of Schedule 5A of the LLS Act sets out that the clearing of native vegetation that has been planted is allowable without any other approval subject to the qualifications in Clause 17(2) and Clause 17(3). These clauses do not override Clause 17(1) in this case.
- Further to this, Clause 17(1) is subject to the qualification in Clause 35(10) of the LLS Act requiring that native vegetation that has been planted must not be cleared if it is located within a buffer distance from a water body as set out in the *Land Management (Native Vegetation) Code 2018*. The Quarry is in proximity to the Coxs River and assuming it is a 6th order stream or above[3], the relevant buffer is 50m. It is not proposed to clear vegetation within 50m of the Coxs River.

Based on the above summary (described in detail in **Appendix 3**), McPhee Kelshaw concludes that for the purpose of the original application for SSD 6084, Hy-Tec did not require approval to remove native vegetation that it had planted and it is reasonable that this obligation be removed from the offsetting obligations of the Stage 2 Project.

3.3.4 Consideration of Planting Activities and Alternatives

Hy-Tec acknowledges that at the time that SSD 6084 was approved, consideration of the commitment to provide suitable biodiversity offsets, preserve Conservation Area H and plant an additional 1 000 SLMG within the Quarry Site was considered within the determination by the consent authority that the Project was in the public interest and should be approved. However, it is also noted that no Government agency or public submission raised the clearing of this species as a concern other than to ensure that the assessed impact was appropriately offset. This suggests that for this species, removal for the development of the Project was not considered a significant risk to the species but that it was more important that the impacts to this species are addressed in a satisfactory manner and the environmental responsibility of the development ensured.

[3] We estimate that the Coxs River is at least a 4th/5th order stream, however given the length of the river a comprehensive analysis has not been undertaken. For the purpose of this report it has been assumed that the most restrictive buffer applies (that is, 50m for a 6th order stream).

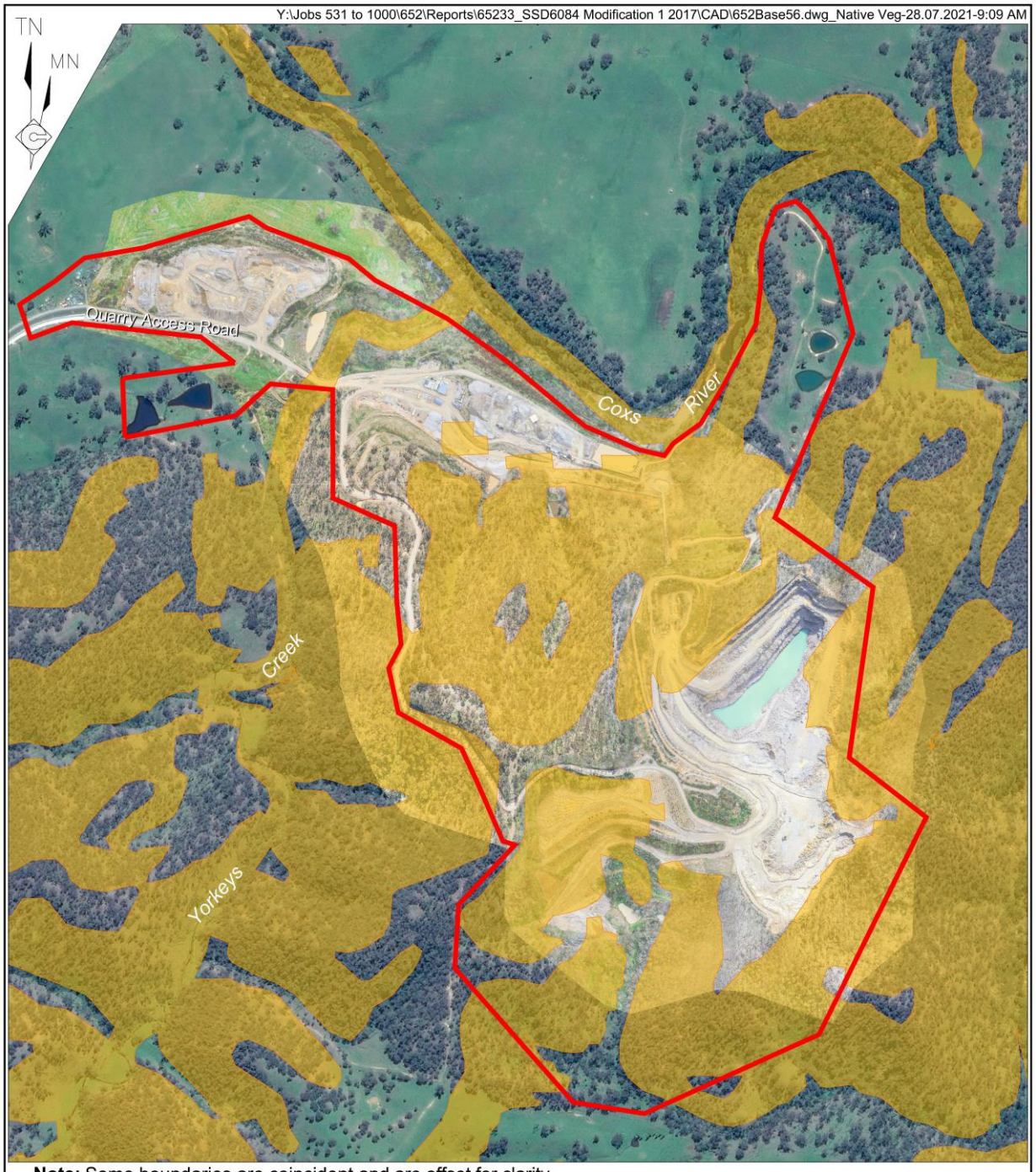


Figure 5
NATIVE VEGETATION
REGULATORY MAPPING

The approved removal of 701 individuals of SLMG may be compared to the planting of over 5 000 SLMG in revegetation activities since the original approval in 1995 that would not be subject to future clearing. Hy-Tec also intends to continue to collect seed, germinate seedlings and plant tubestock of the SLMG in revegetation activities. It is conservatively estimated that under current arrangements a further 2 000 to 3 000 SLMG are likely to be planted in future rehabilitation areas.

Notwithstanding the above, without the proposed modifications the retirement of the existing conditioned species credits associated with the SLMG would be the final commitment required under SSD 6084 relating to the SLMG. There is no further conditional imperative to dedicate the time and funding to conservation of this species. It is considered likely that due to the practicalities of quarrying operations, the funding to retire species credits associated with the species would be drawn from budgets currently directed towards rehabilitation of the species. From the perspective of Hy-Tec's management there is no longer a clear benefit to continuing to actively participate in the conservation of this species. Rehabilitation works at the Quarry would continue but most likely under a different funding approach.

As noted previously, the Biodiversity Offset Scheme currently recognises the biodiversity value generated through rehabilitation activities, but only for State significant mining projects. Consistent with this approach, but not strictly relying on it from a planning and legislative position, Hy-Tec would commit to establishing a dedicated planting and rehabilitation program and committing that areas dedicated to planting would be secured for conservation purposes in perpetuity following final rehabilitation and closure of the Quarry. This commitment would be subject to the approval of the proposed modification. Until that time, the areas would be progressively established and maintained in accordance with commitments presented in the Landscape and Rehabilitation Management Plan for the Quarry. It is noted that the offsetting assessment under the EPBC Act established that the impacts associated with the Stage 2 Project would be satisfied by planting of 1 850 individual plants of SLMG.

Areas of the Quarry Site that were subject to historical planting with SLMG demonstrate what may be achieved for this species through this approach. Many individuals in these areas are over 20 years old and 15m+ in height (see **Plate 1**). Niche Environment and Heritage were also commissioned to prepare an estimate of species credits that may be generated by securing the SLMG in the proposed planting area (assuming agreement on a Biodiversity Stewardship Site for the area). A letter report describing the outcomes of these estimates is presented in **Appendix 4 (**and referred to as Niche, 2021a). Niche (2021a) predict that should Hy-Tec secure the existing 1 909 SLMG individuals and a further 2 000 SLMG individuals are planted and reach maturity, 3 248 species credits for the SLMG would be generated under the existing Biodiversity Offset Scheme. This would more than satisfy the existing obligation of 1 402 SLMG species credits.

The approach to establishing, maintaining and securing the areas of SLMG planting in perpetuity would be subject to consultation with BCS and DAWE, however, may involve the following measures.

- Hy-Tec would continue existing planting activities using its established methodologies to ensure the greatest likelihood of successful establishment.
- Hy-Tec would commit to achieving a target number of mature and healthy individual SLMG before the land may be considered rehabilitated or established and suitable to be secured for conservation purposes. For example, Hy-Tec has

committed to an additional planting of 2 000 to 3 000 plants over the remainder of the life of the existing consent, which may be added to the existing 1 909 plants counting in the proposed planting area. The planting area may also be assessed to determine if they have generated Silver-leaved mountain gum mallee woodland (as described in Niche, 2014).

- Two areas were targeted as planting areas under EPBC 2013/6967 for the committed 1 000 SLMG planting commitment. One of these areas may be dedicated to ongoing planting now that the commitment to plant 1 000 individual SLMG has been satisfied.
- All areas would need to be large enough that edge effects could be accounted for in planning for future conservation of the species.
- The locations and strategy for planting and maintenance of SLMG in dedicated planting areas would be described in the Landscape and Rehabilitation Management Plan that would be prepared in consultation with BCS and approved by DPIE.
- Planting activities would be described and plans for planting in the coming year discussed in the Annual Review.
- Successful plantings would be monitored each year by a qualified ecologist and the number of individuals, their condition and health would be reported in the Annual Review. Performance criteria are discussed in Niche (2021a) and include:
  - the number of individuals;
  - plant condition;
  - maturity;
  - evidence of natural seeding or other reproductive status indicators; and
  - weed presence.
- Following agreement with the relevant authorities (BCS and DPIE) that the planting areas had been rehabilitated and the targets satisfied, the areas would be secured in perpetuity, including registration of a conservation requirement on the land title. This may currently be done through a Conservation Agreement as described in Part 5 Division 3 of the *Biodiversity Conservation Act 2016* or a restriction on use (through a caveat) under Section 88B of the *Conveyancing Act 1919*. Any such agreement would require agreement on the terms of future maintenance of the land.

3.3.5 Conclusion

In summary, the expected outcome of the proposed modifications considered above with regards the SLMG may be summarised as follows.

- The offsetting obligations described in SSD 6084 relating to the SLMG create a perverse outcome by penalising proactive conservation of a threatened species that has been successfully established on land that was previously disturbed for extractive industry and subject to rehabilitation.

- Hy-Tec has demonstrated success in re-establishing this species and has done so over many years. Proven methods have been developed and the revegetation works are flourishing.
- It is considered that the provisions of Clause 17(1) of Schedule 5A of the LLS Act may reasonably be relied upon in retrospect to remove the requirement to offset impacts to SLMG that were planted by Hy-Tec on land that was subsequently the subject of planned extractive activity. It is considered that, in retrospect, approval to clear native vegetation that had been planted in rehabilitation areas was not required for SSD 6084.
- Notwithstanding the above, Hy-Tec would commit to establishing areas within the Quarry Site dedicated to SLMG planting and conservation that would be secured in perpetuity following closure of the Quarry. It is expected the SLMG that have been planted would have reached maturity and from the perspective of individual counts would far exceed those naturally occurring or those impacted under the Stage 2 Project (SSD 6084). Initial estimates of species credit generation indicate the number of plants would generate at least 3 248 species credits that more than satisfies the obligation for 1 402 credits (Niche 2021a). This approach to accounting for residual impacts to biodiversity through rehabilitation activities is already implemented for State significant mining developments in NSW and is a known and appropriate method of offsetting the impacts of development. However, for extractive industries, this commitment must sit outside the Biodiversity Offsetting Scheme.

3.4 STAGING OF REMAINING BIODIVERSITY OFFSETTING OBLIGATIONS

Hy-Tec now intends to satisfy the offset obligations of SSD 6084 through either the purchase of credits on the market or through direct payment to the BCT. To that end, it is proposed that offsetting obligations for ecosystem credits be staged to align with the progressive clearing of native vegetation for the development with the credits to be retired prior to the progression of disturbance within the nominated area. This is consistent with most major resource projects where a single offset site is not proposed. It is noted that the species credit obligations would not been staged. All SLMG credits would be retired prior to any further vegetation clearing.

The proposed staging of vegetation clearing is displayed on **Figure 6**. The area of vegetation disturbance and ecosystem credit requirements associated with each stage are provided in **Table 4** and **Table 5**, respectively. The biodiversity credit requirements for the proposed staging of vegetation clearing, have been calculated using the NSW Department of Planning, Industry and Environment's (DPIE) BAM Calculator and in accordance with the Biodiversity Assessment Method (BAM).

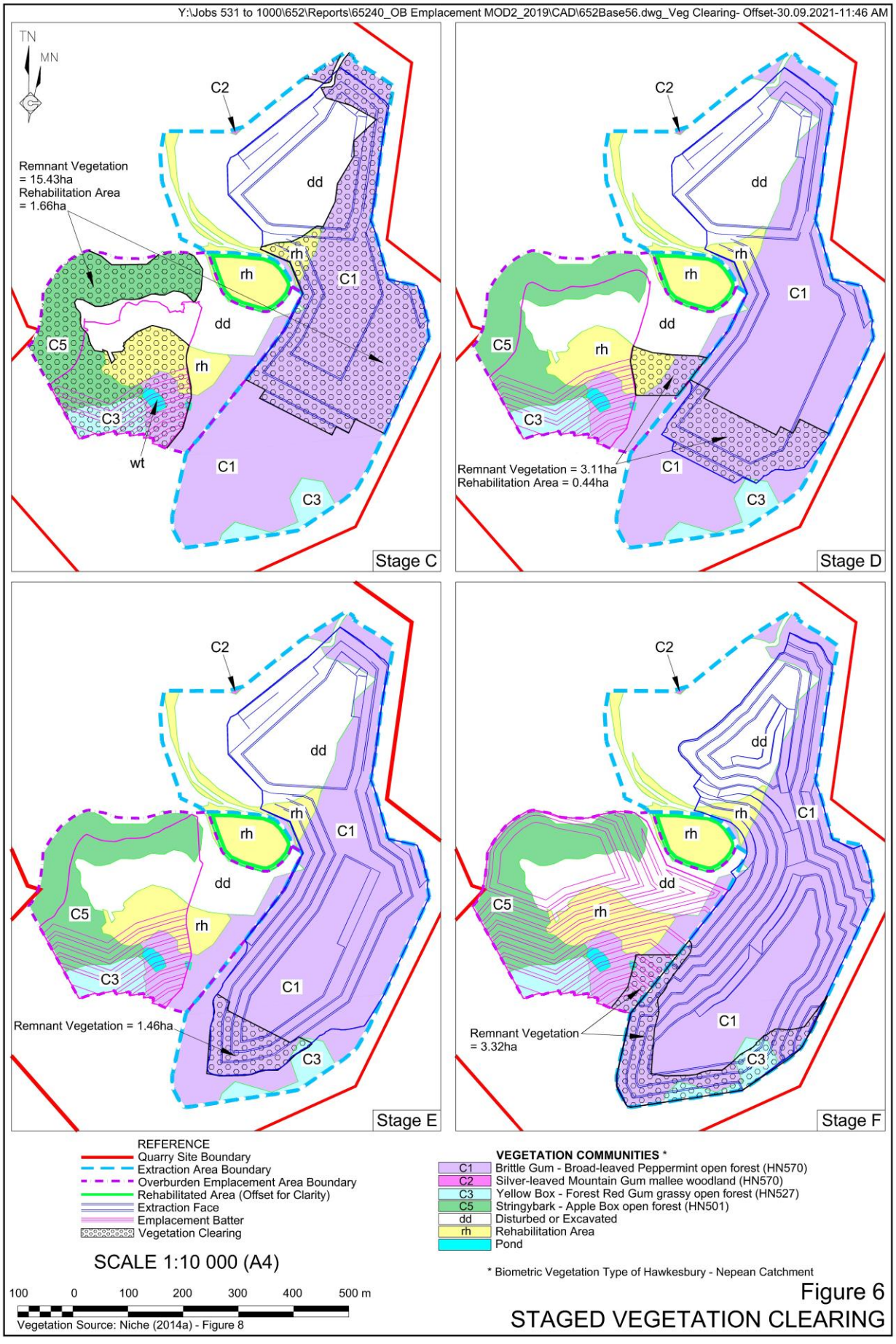


Figure 6
STAGED VEGETATION CLEARING

Table 4
Area of Plant Community Types (PCTs) within Vegetation Clearing Stages

Plant Community Type	Area of Direct Impact (ha)				
	Stage C	Stage D	Stage E	Stage F	Total
PCT 1093 (HN 570)	10.60	3.10	1.41	2.69	17.8
PCT 840 (HN 527)	0.77	0.01	0.05	0.63	1.46
PCT 649 (HN 501)	4.06	0	0	0	4.06
Total*	15.43	3.11	1.46	3.32	23.32
Source: Modified after Niche (2021b) – Table 2 * Total refers only to mapped PCT vegetation and not rehabilitation areas.					

Table 5
Ecosystem Credit Requirements within Vegetation Clearing Stages

Plant Community Type	BAM Credits				
	Stage C	Stage D	Stage E	Stage F	Total
PCT 1093 (HN 570)	382	112	51	97	642
PCT 840 (HN 527)	24	1	1	19	45
PCT 649 (HN 501)	90	0	0	0	90
Total	496	113	52	116	777
Source: Modified after Niche (2021b) – Table 2					

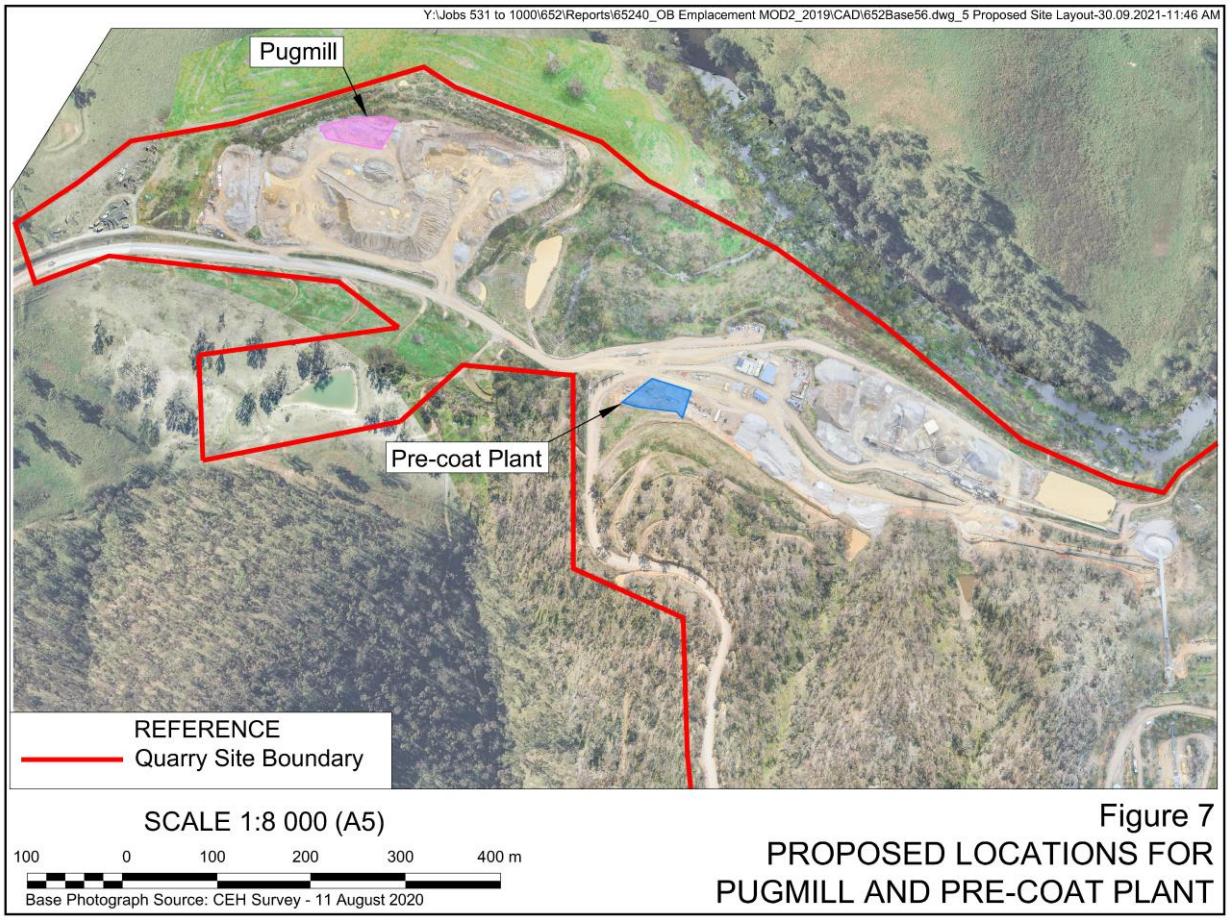
3.5 ADDITION OF PRE-COAT PLANT AND PUGMILL

3.5.1 Introduction

Hy-Tec proposes to install a pre-coat plant and pugmill within the Secondary Processing Area to allow for the supply of speciality products (e.g. pre-coated aggregates and specified and unspecified pugged road base) to nearby markets. The operation of the proposed equipment is relatively common within hard rock quarries and the management of potential environmental risks is well understood. **Figure 7** displays an aerial view of the Secondary Processing Area and Yorkey's Creek Stockpile Area including the indicative locations of the pre-coat plant and pugmill.

3.5.2 Pugmill

It is proposed that a pugmill would be located within the Yorkey's Creek Stockpile Area to produce specified and unspecified pugged road base. The pugmill would comprise a loading hopper in which quarry material would be placed. The material then moves along a conveyor to the mixing chamber where water and cementitious binder would be added (if needed). The mixed material would then be loaded onto trucks for delivery. It is envisaged that the pugmill would complete the required processing at a rate of up to 300tph. However, the use and size of the pugmill would be dependent on demand and may be higher.



3.5.3 Pre-Coat Plant

Pre-coat Plant Layout

The pre-coat plant would comprise the following key components, or similar.

- Pre-coat feeder bin (30 tonnes).
- Pre-coated material bins (200 tonnes).
- Product stockpile area (300 tonnes)
- Bitumen storage tank (approximately 28 000 litres).
- Diesel storage tank (1 000 litres).
- Oil and water separation system.

It is anticipated that the pre-coat plant would have a production capacity in the order of 200tph. **Figure 8** displays the indicative layout of the pre-coat plant and its aggregate bays.

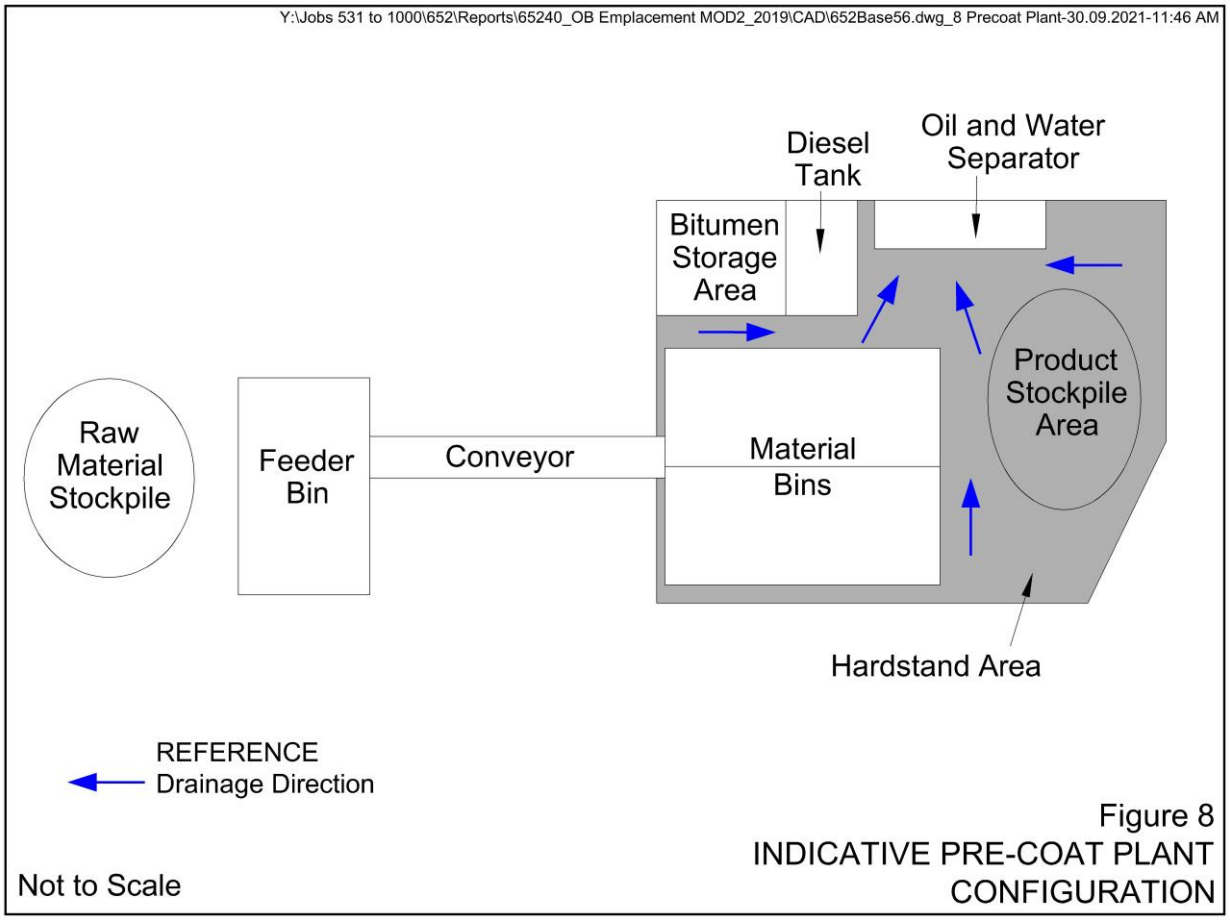


Figure 8
INDICATIVE PRE-COAT PLANT CONFIGURATION

Operational Overview

The operation of the pre-coat plant at the Quarry Site would comprise the following activities.

- Transport of aggregates from product stockpiles to the pre-coat plant. Aggregates would be loaded directly into the pre-coat feeder bin or stockpiled and loaded by front-end loader as required.
- Production storage of pre-coated aggregates in material bins prior to product curing in stockpiles.
- Asphalted curing area for stockpiling of pre-coated aggregates prior to loading and despatch.
- Storage of diesel in an above-ground steel tank located within a concrete bund or a self-bunded tank. Delivery of fuel would be required periodically.
- Storage of bitumen in steel tank located within a concrete bund or a self-bunded tank.
- Storage and reuse of separated water in processing operations.
- Ongoing management and maintenance of equipment and related infrastructure.

4. STATUTORY CONTEXT

4.1 INTRODUCTION

This section identifies the relevant statutory requirements that must be considered by the consent authority before the modification application may be determined. The relevant statutory requirements are described in terms of power to grant approval, permissibility, and other required approvals and includes a summary of the statutory context for vegetation clearing and biodiversity offsetting in NSW. The section concludes with the statutory compliance matters that must be considered by the consent authority.

4.2 EXISTING APPROVALS AND REGULATORY CONTROLS

A summary of the approval history of the Quarry is provided in Section 1.3.

4.3 STATUTORY REQUIREMENTS FOR THE PROJECT

4.3.1 Power to Grant Approval

The Project is approved as State significant development in accordance with Clause 8 of the *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP) under SSD 6084.

Section 4.55(2) of the EP&A Act permits modification to approved development under Part 4 of the EP&A Act as long the requirements of that subsection of the Act are satisfied. It is considered that the proposed modifications satisfy Section 4.55(2) of the EP&A Act. A detailed evaluation of the proposed modifications against the provisions of Section 4.55(2) of the EP&A Act is provided in Section 7.2.1.

In accordance with Section 4.5(a) of the EP&A Act the NSW Minister for Planning and Public Spaces is the consent authority for the proposed modifications.

4.3.2 Permissibility

The Lithgow Council Local Environmental Plan (LEP) was gazetted in 2014 and guides development in the local government area by encouraging the proper management, development and conservation of natural resources and the built environment. The Quarry is located on land zoned RU1 – Primary Production under the LEP. The objectives of this zone are as follows.

- *"To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

- *To minimise the environmental and visual impact of development on the rural landscape.*
- *To provide for recreational and tourist development and activities of an appropriate type and scale that do not detract from the economic resource, environmental or conservation value of the land.*
- *To maintain or improve the water quality of receiving water catchments."*

The proposed modifications would not limit the achievement of these objectives.

4.3.3 Vegetation Clearing and Biodiversity Offsetting in NSW

Local Land Services Act 2013

The *Local Land Services Act 2013* (LLS Act) describes the provisions for management and delivery of local land services which include natural resource management and planning which extends to native vegetation and biodiversity (separately)[4]. Therefore, it is considered that the LLS applies to the management of native vegetation including that within the Quarry Site. Schedule 5A of the LLS Act describes the different value of naturally occurring and planted native vegetation in specifying how this natural resource may be managed. That is, in permitting that the clearing of native vegetation that has been planted is permitted without approval.

A summary of the application of the LLS to the proposed modification to SLMG offsetting obligations is provided in Section 3.3.3 and in detail in **Appendix 3**.

Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017

The purpose of the *Biodiversity Conservation Act 2016* is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development. Under Section 7.14 of the *Biodiversity Conservation Act 2016* the consent authority is required to consider the likely impact of State significant development on biodiversity values as assessed in a biodiversity development assessment report. As there are no additional biodiversity impacts proposed, a biodiversity development assessment report is not required for the proposed modifications. Regardless, the consent authority must determine if the proposed ongoing management of SLMG is consistent with the principles of ecologically sustainable development. An evaluation of the proposed modifications against the principles of ecologically sustainable development is provided in Section 7.3 and relates principally to Hy-Tec's commitments to ongoing planting and management of the SLMG and the overall positive outcome expected as a result of the proposed modification to SLMG offsetting obligations.

The Biodiversity Offset Scheme provides the option described under Clause 6.2(2)(d) of the *Biodiversity Conservation Regulation 2017* for an offsetting obligation to be satisfied through a commitment to undertake rehabilitation and the subsequent biodiversity credit generation (where the credit generation has the same value as retirement of like-for-like biodiversity credits). This option currently only applies to State significant mining development (mining under a mining lease). However, regardless of the inherent similarity of mining and extractive

[4] This is assuming the definition applied in the LLS and is consistent with Clause 5 of the *Natural Resources Commission Act 2003*

industry development with regards to vegetation clearing and rehabilitation, the inclusion of this option in the Scheme explicitly recognises the biodiversity values generated in rehabilitation activities (progressive or final). It is considered that the fact that this option was considered in the policy planning process and approved for inclusion in the Biodiversity Offset Scheme supports the requested recognition of Hy-Tec's proactive efforts to establish and conserve SLMG at the Quarry Site in the determination of how the impacts of the Project on biodiversity values may be accounted for.

At the time of preparation of this document there were no SLMG species credits available for purchase on the market, nor had any ever been generated through the offsetting processes. Therefore, outside of establishing its own offset dedicated to this species, the only option for these species credits would be to pay money to the Biodiversity Conservation Trust (BCT). Preliminary investigations undertaken on behalf of Hy-Tec regarding the option to establish an offset on land outside the Quarry Site have indicated this would be unreasonably expensive compared to the price per credit for payments to the BCT. Should payment to the BCT be the most efficient option, then the requirement to satisfy this credit obligation would be passed to BCT that would need to find and establish an offset for the species in order to meet this obligation or rely upon variation rules that may not directly benefit the SLMG.

Section 7.14 (4) of the *Biodiversity Conservation Act 2016* acknowledges that where a biodiversity obligation applies to a stage of development, the requirement to satisfy that obligation is postponed until it is proposed to carry out that stage of development. This supports staging of biodiversity obligations consistent with the timing of disturbance. It is acknowledged that biodiversity offsetting obligations under this Section of the Act require offsetting obligations to be satisfied prior to commencement of the impact.

4.3.4 Other Approvals

4.3.4.1 Approvals that Cannot be Refused if Consent is Granted

In accordance with Section 4.42 of the EP&A Act, the following authorisation cannot be refused if it is necessary for carrying out an approved SSD and is to be substantially consistent with the development consent.

- An EPL under Chapter 3 of the *Protection of the Environment Operations Act 1997* (for any of the purposes referred to in section 43 of that Act).

Hy-Tec intends to seek a variation of EPL 12323 to incorporate the additional infrastructure (pre-coat plant and pugmill) in dust and noise sources within the Quarry Site.

There would be no change to water use requirements or matters of Aboriginal or historic heritage significance as a result of the proposed modifications.

4.3.4.2 Other Approvals

Environment Protection and Biodiversity Conservation Act 1999

As described in Section 1.3, Hy-Tec holds Approval EPBC 2013/6967 under the EPBC Act for the removal of 721 individual Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*) plants which is a 'controlled action' as the plant is listed as vulnerable under the EPBC Act. As

approval is required under the EPBC Act, biodiversity offsetting must be developed and implemented in accordance with the *EPBC Act Environmental Offsets Policy* (DSEWPaC, 2012).

There is no additional assessment of biodiversity impacts required for the proposed modifications and therefore reliance on the bilateral agreement between the NSW Government and the Commonwealth Government in relation to the assessment of Matters of National Environmental Significance will not be required.

Following an approval of the proposed modifications, Hy-Tec would seek a variation to EPBC 2013/6967 to ensure consistency with the offsetting outcomes of the NSW Government approval (SSD 6084).

Water Management Act 2000

As outlined in Section 1.3, Hy-Tec holds two water access licences for the Project to account for water taken from the Coxs River and groundwater removed from the groundwater setting during excavation of resource materials. There would be no change to these licences or the water use entitlements of the Project as a result of the proposed modifications.

4.3.5 Statutory Compliance

Statutory compliance matters relating to pre-conditions to exercise the power to grant approval, and the mandatory matters that must be considered by the consent authority, are listed in the following subsections.

4.3.5.1 Pre-condition to Granting Approval

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

This SEPP ("the Mining SEPP") was gazetted in recognition of the importance to New South Wales of mining, petroleum production and extractive industries and to provide proper management and orderly and economic use and development of land containing material resources. The Mining SEPP also establishes appropriate planning controls to encourage ecologically sustainable development through environmental assessment, and sustainable management.

The Mining SEPP describes the matters that the consent authority needs to consider when assessing a new or proposed modification. These matters are as follows.

- Clause 12AB Non-discretionary development standards for mining.
- Clause 12 Compatibility with other land uses.
- Clause 13 Compatibility with mining, petroleum production or extractive industry.
- Clause 14 Whether natural resource and environmental management will ensure that the development is undertaken in an environmentally responsible manner.

- Clause 15 Efficiency of resource recovery.
- Clause 16 Transportation on public roads and potential conflict with residential areas or schools.
- Clause 17 Plans to ensure the rehabilitation of the development.

The proposed modification would not modify existing operations to the extent that the satisfaction of the matters would be compromised.

4.3.5.2 Mandatory Considerations

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

Hazardous and offensive industries, and potentially hazardous and offensive industries, relate to industries that, without the implementation of appropriate impact minimisation measures, would, or potentially would, pose a significant risk in relation to the locality, to human health, life or property, or to the biophysical environment. As the only hazardous materials to be stored at the Quarry would be restricted to well managed diesel fuel and other hydrocarbon products, and the transport of ammonium nitrate for blasting does not exceed the relevant thresholds for Class 5.1 materials, the proposed modification is not classified as a potentially hazardous industry.

State Environmental Planning Policy No. 55 – Remediation of Land

SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. In particular, this policy requires consideration of whether a development requires a consent for remediation works or not and, where warranted, requires that remediation works meet certain standards and notification requirements.

The areas within the Quarry Site proposed for use for a pre-coat plant and pugmill have previously been disturbed for processing or stockpiling activities. Hy-Tec has confirmed that no activities have occurred in these locations that may have caused contamination of the land and that there is no contamination evident within the Quarry Site. Therefore, SEPP 55 is not likely to be relevant to the consideration of the Project.

5. ENGAGEMENT

Hy-Tec has consulted with DPIE to seek any assessment requirements for the proposed modification. Given that the proposed modification is predicted to result in only minor changes to the operation and its potential impacts, no broader community consultation has been undertaken.

6. ASSESSMENT OF ENVIRONMENTAL EFFECTS

6.1 INTRODUCTION

The following subsections provide an overview and assessment of the key environmental issues that have been identified as potential constraints on the proposed modification. This assessment is limited to potential impacts due to the addition of the pre-coat plant and pugmill as the proposed reduction and staging of biodiversity offsets would have no material impact above what is already approved under SSD 6084.

6.2 WATER RESOURCES

6.2.1 Existing Environment

The Quarry Site is located within the Mid Coxs River catchment of the Hawkesbury-Nepean catchment which forms part of the Sydney Drinking Water Catchment, as defined by the *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*. Locally, runoff flows into the Coxs River, either directly by ephemeral watercourses or via Yorkeys Creek.

Rainfall recharges the elevated and isolated fractured rock aquifer which is subsequently discharged to the surface on the lower slopes providing some base flow to local watercourses and the Coxs River.

Water resources are currently managed in accordance with the approved *Water Management Plan* for the Quarry (Groundwork Plus, 2019). The implementation of surface water management procedures and erosion and sediment control methods would continue generally in accordance with this plan under the proposed modification.

6.2.2 Potential Impacts

Potential impacts to groundwater and surface water resources could arise from the operation of a pre-coat plant at the Quarry Site from contamination due to hydrocarbon leaks and spills.

6.2.3 Mitigation and Management Measures

The pre-coat plant would be located on the southern side of Secondary Processing Area in the vicinity of the weighbridge and administration centre. It would therefore be located to limit the potential for spills to travel to the natural environment. The design and operational safeguards that would be adopted to manage potential environmental impacts relating to the pre-coat plant would be largely based on containing potentially polluting substances. Environmental management would focus on constructing and maintaining an appropriate range of structures to control potential leaks and spills. Proposed mitigation measures are as follows.

- Bitumen would be stored in a steel storage tank (indicative storage of 28 000L) within a concrete bunded area or a self-bunded tank. If a bund is used, then this bitumen storage area would be roofed to divert rainfall and ensure the capacity of the bunded area is maintained.

- Diesel would be stored in an above-ground steel storage tank within the same concrete bunded area as the bitumen tank or a self-bunded tank may be used.
- All bunded areas would be designed to contain 110% of the total volume of the storage tank.
- The walls and floors of bunded areas would be constructed of impervious materials and walls would have a minimum height of 250mm.
- Floors within bunded areas would be graded to a collection sump to prevent overflow of contaminants.
- All operational components of the pre-coat plant would be located on hardstand concrete.
- All pre-coated aggregates would be stockpiled within designated concrete and asphalt hardstand areas. Pre-coated aggregates would be loaded and despatched directly from the hardstand stockpile area with no pre-coated aggregates stockpiled in unsealed areas.

In addition to specific management measures, Hy-Tec has a PIRMP as an Emergency Response Plan for the Quarry operation. These plans would guide incident management.

Existing surface water monitoring provides a baseline for any changes to water quality. Consideration of results against the current assessment criteria specified in EPL12323 would continue to provide guidance on water quality performance.

6.2.4 Residual Risk Assessment

The risks associated with the operation of the proposed pre-coat plant are well understood given that the operation of a pre-coat plant is generally consistent with existing operations. For the purposes of this document, residual risks have been assessed following the implementation of the mitigation measures identified in Section 6.2.3.

In the event of a hydrocarbon spill or leak from the pre-coat plant, the impacts would be likely to result in temporary minor impact to the environment. However, given the considerable mitigation and management measures that would be implemented, it is considered that the occurrence of this type of event would be highly unlikely. As such, the residual environmental impacts associated with the operation of the proposed pre-coat plant are considered negligible.

6.3 NOISE

6.3.1 Existing Environment

6.3.1.1 Existing Noise Sources

Existing noise levels in the vicinity of the Quarry Site are influenced by a range of sources including the following.

- Traffic on Jenolan Caves Road and local roads.
- Use of agricultural equipment.

- The flow of water in the Coxs River.
- Environmental sources such as stock, wind in trees or wildlife.
- Noise associated with existing Austen Quarry operations.

The Quarry Site is also subject to a range of potentially noise-enhancing meteorological conditions including light winds in a direction from source to a residence or temperature inversion conditions.

6.3.1.2 Monitoring Summary

Both attended and unattended compliance noise monitoring for the Project has been undertaken for the Quarry operations since August 2017 as required by Conditions 3(3) and 3(4) of SSD 6084, EPL 12323 and the approved Noise Management Plan (RWC, 2019b). The results of monitoring indicate that Quarry noise contributions have complied with the operational criteria of 35dB $LA_{eq(15min)}$ and the sleep disturbance criteria of 52 LA_{max} at all monitoring locations. This is consistent with the predictions made in the Noise Assessment (MAC, 2018) that accompanied the Modification 1 application.

6.3.2 Potential Impacts

The proposed modification would result in equipment operating within the Quarry Site not previously assessed for noise impacts. Indicative sound power levels of the pre-coat plant and pugmill are provided in **Table 6**.

Table 6
Noise Source Sound Power Levels

Noise Source / Item	Number	Sound Power Level dB(A) $L_{eq(15min)}$[1]
Pre-coat Plant	1	99
Pugmill	1	108
Note 1 – Data is indicative and sourced from MAC database of monitoring records		

6.3.3 Mitigation and Management Measures

Noise impacts would continue to be managed in accordance with the approved Noise Management Plan (RWC, 2019b) with all equipment to be regularly serviced to ensure sound power levels remain at or below that nominated in the specifications for each item of equipment.

6.3.4 Residual Risk Assessment

The operation of a pre-coat plant and pugmill is relatively common within hard rock quarries and the management of potential environmental risks is well understood. Hy-Tec anticipates that the addition of this equipment would not significantly alter the outcomes of previous noise

impact assessments undertaken for the Quarry. It is noted that the sound power levels for both the pre-coat plant and pugmill would be considerably less than other processing equipment such as the primary crusher (122 dB(A) $L_{eq(15min)}$), secondary crusher (120 dB(A) $L_{eq(15min)}$) and primary screen (118 dB(A) $L_{eq(15min)}$) [5].

In light of the above, and the significant distances and intervening topography between the Quarry site and surrounding residences, Hy-Tec contends that the impact of the proposed modification on the existing acoustic environment would be negligible and the operation would continue to satisfy the assessment criteria prescribed in SSD 6084 in relation to noise management.

6.4 AIR QUALITY

6.4.1 Existing Environment

6.4.1.1 Existing Dust Sources

Dust generation is the main air quality issue relevant to the Quarry. Whilst the Quarry is considered to be a significant potential source of dust in the local area, dust is also generated by grazing and cropping activities, vehicles using Jenolan Caves Road and other local roads as well as residential activities such as wood-fired heating.

Existing approved operational activities that would generate particulate emissions include the following.

- Extraction activities (ripping, pushing, loading, drilling, blasting, trucks and rock haulage).
- Crushing and screening (dry only).
- Transfer of materials using conveyors.
- Vehicle movements on unsealed roads.
- Product loading and despatch.
- Wind erosion from disturbed areas.

6.4.1.2 Monitoring Summary

Deposited dust has been monitored at three sites since 2003 as required by SSD 6084, EPL 12323 and the approved Air Quality Management Plan (AQMP) (RWC, 2019c). Particulate matter less than 10 microns in diameter (PM_{10}) has also been measured at the nearest residence using a continuous real time monitor (E-Sampler) since 14th March 2017. Total Suspended Particulates (TSP) is calculated from the PM_{10} fraction with a surrogate $PM_{2.5}$ fraction also calculated from PM_{10} results in accordance with the AQMP.

Deposited dust montiroing data indicate that annual averages are well under the monthly criterion of 4.0g/m^2/month. The available PM_{10} monitoring data indicate levels well below the annual criterion of 25µg/m^3 excluding results from extraordinary events (e.g. bush fires, dust storms).

[5] The sound power level of each noise source for the Project is available in Table 5-1 of Benbow (2014a).

6.4.2 Potential Impacts

The proposed modification would result in equipment operating within the Quarry Site not previously assessed for air quality impacts.

6.4.3 Mitigation and Management Measures

Air quality impacts would continue to be managed in accordance with the approved AQMP.

6.4.4 Residual Risk Assessment

Hy-Tec anticipates that the addition of the pre-coat plant and pugmill would not significantly alter the outcomes of previous air quality impact assessments undertaken for the Quarry noting that historical air quality monitoring results are well below the relevant criteria. It is further noted that the operation of the pre-coat plant is a "wet" process and dust generation would be negligible with dust generation principally restricted to the loading of aggregates into the pre-coat feeder bin. Likewise, the operation of the pug mill would be consistent with existing approved operations with dust principally caused by the transfer and loading of materials.

Given the above, and the significant distances between the Quarry site and surrounding residences, Hy-Tec contends that the impact of the proposed modification on dust generation would be negligible, and the operation would continue to satisfy the assessment criteria prescribed in SSD 6084 in relation to air quality management.

6.5 GENERAL ASSESSMENT OF ENVIRONMENTAL EFFECTS

Hy-Tec considers that the remaining environmental impacts associated with the ongoing operations under SSD 6084, as modified, would remain generally consistent with existing approved operations. It is proposed that there would not be any changes to environmental impacts associated with the following matters as a result of the proposed modification.

- Aboriginal Cultural Heritage
- Historic Heritage
- Traffic
- Agricultural Resources
- Social and Economic Impacts
- Waste Management

7. EVALUATION OF MERITS

7.1 INTRODUCTION

As a conclusion to the *Modification Report*, the Project is evaluated and justified through consideration of its potential impacts on the environment and potential benefits to the local and wider community.

The evaluation of the Project is undertaken by firstly assessing the statutory requirements that apply to the modification through consideration of:

- Section 4.55(2) of the EP&A Act in relation to the permissibility of modification to development consent for State significant development; and
- Section 4.15(1) of the EP&A Act in relation to the evaluation of applications for development in general.

The Project is then evaluated as a whole against the principles of Ecologically Sustainable Development (ESD) in order to provide further guidance as to the acceptability of the Project.

Section 7.4 presents the justification of the Project and revisits any residual impacts on the biophysical and social environment as a result of the proposed modification and reviews the Project against the objects of the EP&A Act.

7.2 STATUTORY REQUIREMENTS

7.2.1 Section 4.55(2) Considerations (EP&A Act)

As described in Section 1.1, the proposed modification is being made under Section 4.55(2) of the EP&A Act. Section 4.55(2) of the EP&A Act is provided in full below.

> *(2)* ***Other modifications.*** *A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if -*
>
> *a) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and*
>
> *b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 4.8) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and*
>
> *c) it has notified the application in accordance with:*
>
> *(i) the regulations, if the regulation so require, or*
>
> *(ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and*

d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.

The following subsections provide an evaluation of the proposed modification against these provisions.

Substantially the Same Development

Under the proposed modification, the Project would remain 'substantially' the same development as that currently approved under SSD 6084 for the following reasons.

- There would be no additional impacts to threatened flora or fauna as a result of the proposed modification and no new vegetation communities or habitat types impacted.
- There is no proposed change to the existing extraction methods, volumes, primary processing or transportation.
- It is not proposed to extend the life of the Quarry (currently approved to 30 June 2050).
- Operating hours would not change.
- Environmental management of the Quarry Site and community engagement would remain consistent with existing approved operations.

Consultation for the Application

This is a matter for DPIE to consider. However, it is assumed that during a public exhibition period, the application would be referred to relevant Government agencies in satisfaction of this requirement.

Notification of the Application

This is a matter for DPIE to consider.

Submissions Regarding the Proposed Modification

This is a matter for the DPIE to consider. However, Hy-Tec would be pleased to respond to any submissions received by DPIE during the assessment process.

7.2.2 Section 4.15(1) Considerations (EP&A Act)

Section 4.15(1) of the EP&A Act sets out the matters for consideration by a consent authority when determining an application for development consent.

*(1) **Matters for consideration—general***

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

(v) (Repealed)

that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest.

The following subsections provide an evaluation of the proposed modification against these provisions.

Environmental Planning Instruments, Plans and Regulations (Section 4.15(1a))

All relevant environmental planning instruments, plans and regulations are addressed in Section 4. In summary, the proposed modification is permissible under the relevant local and State environmental legislation and guidelines.

Likely Impacts of the Development (Section 4.15(1b))

Section 6 provides an assessment of the environmental factors potentially impacted by the proposed modification. The proposed management and mitigations measures would limit potential environmental impacts and the modification would not generate adverse environmental impacts beyond those already approved for the Quarry.

Suitability of the Site (Section 4.15(1c))

Quarrying has been undertaken at the location of the Quarry Site since 2002 and the existing operation is approved to continue operating until 30 June 2050.

Submissions (Section 4.15(1d))

It is anticipated that DPIE will take any submissions into consideration during the assessment of this application.

The Public Interest (Section 4.15(1e))

Although the proposed modification is requesting a reduction to obligations to offset the clearing of SLMG individuals, it is considered that the proposed alternative presents a higher level of biodiversity outcome and removes a perverse outcome that was enabled through the

original approval of the Stage 2 Project and conditioning of SSD 6084. Initial estimates of species credit generation indicate the proposed planting area would generate at least 3 248 species credits which would more than satisfy the existing obligation for 1 402 credits (Niche 2021a). The higher level of biodiversity outcome is ultimately considered to be in the public interest as it provides a better alternative for the long-term conservation of the SLMG and maintains the in-perpetuity nature of commitments.

The proposed staging of biodiversity offsetting obligations represents an example of the orderly development of land which would be enabled under the proposed modification. This is one of the Objects of the EP&A Act and is therefore considered to be in the public interest.

Hy-Tec considers that the proposed modification to on-site infrastructure serves the public interest as it would allow for additional speciality products to be produced at the Quarry which would generate downward pressure on market prices.

The Quarry has an important role in the local community and currently employs between 20 and 29 full-time local operational personnel and approximately 60 transportation contractors. Ten people are employed as part-time or full-time contractors. Employment of local personnel provides additional flow-on benefits to the local community.

It is therefore concluded that the proposed modification is in the public interest through the continued operation of the Quarry in a safe and environmentally responsible manner and the provision of ongoing local economic benefits.

7.3 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Sustainable practices by industry, all levels of government and the community are recognised to be important for the future prosperity and well-being of the world. The principles of Ecologically Sustainable Development (ESD), recognised for over two decades, 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.

The four principles of sustainable development are as follows.

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

The approach taken in planning the Project as originally proposed was multi-disciplinary, involved consultation with potentially affected local residents and various government agencies and incorporated the application of safeguards to minimise potential environmental, social and economic impacts. It was concluded that the Project would achieve a sustainable outcome for the local and wider environment. As the modification would result in minimal environmental harm, it is anticipated that the Project would continue to achieve sustainable outcomes into the future.

It is noted that over 2 800 SLMG have been planted in revegetation activities since the commencement of operations under SSD 6084 which would not be subject to future clearing. Hy-Tec also intends to continue to collect seed, germinate seedlings and plant tubestock of the SLMG in revegetation activities with a target of some 2 000 to 3 000 SLMG depending on available planting areas in the rehabilitation domains. These measures would minimise any impacts to the SLMG population within the Quarry Site and demonstrate Hy-Tec's continued commitment to ecologically sustainable development.

7.4 JUSTIFICATION OF THE MODIFICATION

7.4.1 Introduction

In assessing whether the proposed modifications are justified, consideration has been given to the achievement of the aims of biodiversity offsetting and the residual impacts to the biophysical and social / economic outcomes of staging offsetting obligations and the addition of processing infrastructure.

7.4.2 Biodiversity Offsetting of SLMG

The position of Hy-Tec and the expected outcome of the proposed modifications with regards offsetting of residual impacts to the SLMG may be summarised as follows.

- The offsetting obligations described in SSD 6084 relating to the SLMG create a perverse outcome. The obligations effectively penalise past efforts at proactive conservation of a threatened species that has been successfully established on land that was previously disturbed for extractive industry and subject to rehabilitation.
- Hy-Tec has demonstrated success in re-establishing this species and has done so over many years. Proven methods have been developed and the revegetation works are flourishing.
- It is considered that the provisions of Clause 17(1) of Schedule 5A of the LLS Act may reasonably be relied upon in retrospect to remove the requirement to offset impacts to SLMG that were planted by Hy-Tec on land that was subsequently the subject of planned extractive activity. It is considered that, in retrospect, approval to clear native vegetation that had been planted in rehabilitation areas was not required for SSD 6084.
- Notwithstanding the above, it is acknowledged that impacts to the SLMG would have been an important consideration in the consent authority's original determination that the Stage 2 Project was in the public interest and should be approved. To ensure there is an overall net benefit to the species, pending approval of the proposed modifications Hy-Tec would commit to establishing areas within the Quarry Site dedicated to SLMG planting and conservation that would be secured in perpetuity following closure of the Quarry. Over the remainder of the life of the existing consent Hy-Tec would plant an additional 2 000 to 3 000 plants and it is expected the SLMG that have been planted would have reached maturity.

- From the perspective of individual counts the number of individual plants would far exceed those naturally occurring or those impacted under the Stage 2 Project (naturally occurring and planted). It has been estimated that the number of plants proposed by Hy-Tec would generate at least 3 248 species credits that more than satisfies the existing obligation for 1 402 credits (Niche 2021a).
- This approach to accounting for residual impacts to biodiversity through rehabilitation activities is already implemented for State significant mining developments in NSW and is a known and appropriate method of offsetting the impacts of development. However, for extractive industries, this commitment must currently sit outside the Biodiversity Offsetting Scheme.

The merit of this approach for both the SLMG population and the NSW community in general is demonstrated in the intended outcome. That is, maintenance of the existing planted individual plants, planting of 2 000 to 3 000 additional plants and the conservation of all of these plants in perpetuity. This is considered a better outcome than is likely within the Biodiversity Offset Scheme and would achieve a standard of 'no net loss' of biodiversity. Compared to the naturally occurring plants within all areas of disturbance (since approval of the Stage 1 development), this outcome is a significant improvement in terms of species number, condition and conservation status.

The alternative to the above is for Hy-Tec to pay a price per credit to the BCT. The BCT would then need to seek to satisfy this offset obligation or rely upon variation rules which may not have the same benefit to SLMG as expected by retiring species credits for this plant or directly planting and maintaining / conserving them as is proposed. The lack of credits available for purchase or trade now or in the past casts significant doubts over future availability and the achievement of a standard of 'no net loss' of biodiversity under existing arrangements.

The dedication of funds to these payments would directly affect rehabilitation activities at the Quarry Site into the future and the current proactive approach taken by Hy-Tec may no longer receive the same financial support it currently benefits from.

In terms of benefits to the community of NSW, the approach taken by Hy-Tec, using an established regeneration method, would ensure that a greater number of SLMG individuals would be conserved in perpetuity, methods for regeneration would be better understood and areas of representative habitat would be created that ensure the species continues to contribute to the biological diversity of the flora of NSW.

7.4.3 Biophysical Considerations

The principal residual biophysical impacts under the proposed modification principally relate to the operation of the pre-coat plant and pug mill, as described in the following subsections.

There is no change proposed to the direct impacts to individuals of the SLMG as a result of the proposed modifications. The only matter changing is how Hy-Tec accounts for this residual impact (both in relation to offsetting planted individuals and in staging offsetting obligations).

Water Resources

The principal risk to the biophysical environment would be a potential hydrocarbon spill or leak from the pre-coat plant. In the event of a spill or leak the impacts would be likely to result in temporary minor impacts. However, given the considerable mitigation and management measures that would be implemented, it is considered that the risk of occurrence of this type of event would be highly unlikely. As such, the residual environmental impacts associated with the operation of the proposed pre-coat plant are considered negligible.

Noise

Hy-Tec anticipates that the addition of the pre-coat plant and pugmill equipment would not significantly alter the outcomes of previous noise impact assessments undertaken for the Quarry. Given that the sound power levels for both the pre-coat plant and pugmill would be considerably less than other processing equipment and the significant distances and intervening topography between the Quarry site and surrounding residences, Hy-Tec contends that the impact of the proposed modification on the existing acoustic environment would be negligible and the operation would continue to satisfy the assessment criteria prescribed in SSD 6084 in relation to noise management.

Air Quality

Hy-Tec anticipates that the addition of the pre-coat plant and pugmill would not significantly alter the outcomes of previous air quality impact assessments undertaken for the Quarry noting that historical air quality monitoring results are well below the relevant criteria. It is further noted that the operation of the pre-coat plant is a “wet” process and dust generation would be negligible with dust generation principally restricted to the loading of aggregates into the pre-coat feeder bin. Likewise, the operation of the pug mill would be consistent with existing approved operations with dust principally caused by the transfer and loading of materials.

Given the above, and the significant distances between the Quarry site and surrounding residences, Hy-Tec contends that the impact of the proposed modification on dust generation would be negligible, and the operation would continue to satisfy the assessment criteria prescribed in SSD 6084 in relation to air quality management.

Other Environmental Impacts

Hy-Tec considers that the remaining environmental impacts associated with the ongoing operations under SSD 6084, as modified, would remain generally consistent with existing approved operations. It is proposed that there would not be any changes to environmental impacts associated with the following matters as a result of the proposed modification.

- Aboriginal Cultural Heritage
- Historic Heritage
- Traffic
- Agricultural Resources
- Social and Economic Impacts
- Waste Management

7.4.4 Social and Economic Considerations

Hy-Tec considers that the following economic benefits would continue to be generated under proposed modification.

- Ongoing employment of between 20 and 29 full-time local operational personnel, approximately 60 transportation contractors, and 10 part-time or full-time contractors.
- Supply of products to local markets including specialty products such as pre-coated aggregates and specified and unspecified pugged road base.

The management of operations at the Quarry, including environmental management, would remain largely unchanged. Ongoing community engagement through Hy-Tec's engagement with the local community, the Hy-Tec website, blasting notifications and the ease of access to the complaints phone line would continue to provide the local community with access to Quarry management to express any concerns they may have on an ongoing basis.

It is recognised that there is a social value to the preservation of threatened species and the maintenance of ecological diversity in NSW and Australia. The listing of the SLMG as a threatened plant under the *Biodiversity Conservation Act 2016* and the EPBC Act recognises the status of this plant as *at risk* and the value placed on conserving it. It is considered that proposed modifications and associated commitments made by Hy-Tec would result in a better conservation outcome for the SLMG and therefore an improved social outcome in relation to the management of the State's threatened species.

7.4.5 Consequences of Not Proceeding with the Proposed Modifications

The proposed modifications would result in a reduction to the species credits for SLMG required to be retired under SSD 6084. However, as discussed in Section 3.3, this reduction would only apply to planted SLMG, with naturally occurring SLMG to be accounted for and offset in accordance with the provisions of the *Biodiversity Conservation Act 2016*.

The consequences of not proceeding with the proposed modifications are the lost opportunity to produce a higher level of biodiversity outcome through the ongoing proactive establishment and conservation of the SLMG. While the biodiversity offsetting obligations currently within SSD 6084 are likely to generate a benefit for the SLMG, under this scenario the most likely outcome is for Hy-Tec to transfer the obligation to the BCT through the option of financial payment. The feasibility of the BCT to satisfy this obligation is unknown due to the lack of species credits and opportunities for credit generation. In addition, the ongoing conservation within the Quarry Site is not secure.

Hy-Tec has demonstrated its ability to successfully produce better outcomes than natural establishment and is proposing to formalise its current rehabilitation program to ensure the current outcomes are continued into the future and conservation is secured in perpetuity. Furthermore, it is considered that both historical (some 5 000 plants to date) and future rehabilitation activities, including the planting of 2 000 to 3 000 SLMG in addition to what has already been successfully planted on site, would more than offset for the clearing of 701 SLMG for the development (611 of which we previously planted by Hy-Tec).

The consequences of not proceeding with the proposed modification also relate to the range of additional quarry specialty products (i.e. pre-coated aggregates, specified and unspecified pugged road base) that would be produced on site. The following consequences would result.

- Increased production costs of specialty products would result in either reduced supply, or the requirement for producers to source pre-coated aggregates and specified and unspecified road base further from the greater Sydney region.
- Customers would not be able to take advantage of the Austen Quarry's proximity to the Great Western Highway and direct access to Lithgow, the Sydney metropolitan region and central NSW.
- Higher levels of greenhouse gases would be generated as specialty products would potentially need to be transported further.

Should the proposed modification not proceed, the additional very minimal impacts on the local biophysical environment would not eventuate.

It is considered that the benefits of proceeding with the proposed modification therefore far outweigh the very minor impacts on the environment that would result.

7.4.6 Objects of the Environmental Planning and Assessment Act 1979

The EP&A Act provides the framework for the assessment and approval of development in NSW. This subsection provides a justification for the proposed modification based on review of the objects of the EP&A Act, which include the following.

(a) "to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,

(ii) the promotion and co-ordination of the orderly and economic use and development of land,

(iii) the protection, provision and co-ordination of communication and utility services,

(iv) the provision of land for public purposes,

(v) the provision and co-ordination of community services and facilities, and

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species and ecological communities, and their habitats, and

(vii) ecologically sustainable development, and

(viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment."

The proposed modification would not limit the achievement of these objects.

The proposed modification would provide Hy-Tec with the opportunity to continue operations in an orderly, economically efficient manner while providing increased competition for the extended range of quarry products.

Environmental management at the Quarry would also continue in a manner generally consistent with the existing approved operation and consistent with Hy-Tec's reputation for environmental and social responsibility.

Ongoing operations under the proposed modification would remain generally consistent with the existing approved operations and therefore would remain consistent with the principles of ecologically sustainable development.

7.5 CONCLUSION

The primary purpose of offsetting is to facilitate development in an environmentally sustainable manner and to ensure development does not have unacceptable impacts on native ecosystems and species. It ensures that impacts to native flora and fauna are accounted for in approving and implementing development. In this case, the proposed modification to biodiversity offsetting obligations relating to the SLMG would remove a perverse outcome, result in a better biodiversity outcome and due to the ongoing commitments to conservation of the species, ensure that the approved impacts remain acceptable.

Staging of biodiversity offsetting obligations is consistent with the provisions of the *Biodiversity Conservation Act 2016* and would ensure an orderly approach to vegetation clearing and the offsetting of residual impacts to biodiversity values such that it does not require onerous upfront costs and provides encouragement to further minimise vegetation clearing (as occurred under Modification 1 to SSD 6084).

The addition of a pre-coat plant and pugmill to the processing infrastructure utilised at the Quarry Site would be consistent with many similar quarry developments in NSW, would result in only minor changes to potential environmental impacts and would enable Hy-Tec to continue to develop and operate the Quarry in a manner that would satisfy all relevant statutory goals and criteria, environmental objectives and reasonable community expectations.

8. REFERENCES

Benbow Environmental (Benbow) (2014) – *Austen Quarry Stage 2 Extension Project Noise Assessment. Part 4 of the Specialist Consultant Studies Compendium* prepared on behalf of Hy-Tec Industries Pty Limited.

Department of Environment, Climate Change and Water (DECCW) (2008) *BioBanking Assessment Methodology and Credit Calculator Operational Manual.*

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Groundwork Plus (2019) – *Water Management Plan,* prepared for Hy-Tec Industries Pty Ltd.

Lithgow City Council (LCC) (2011) – *Lithgow Land Use Strategy 2010-2030.*

Niche Environment and Heritage (Niche) (2014) – *Austen Quarry – Stage 2 Extension, Biodiversity Impact Assessment – Terrestrial Ecology*, prepared for Hy-Tec Industries Pty Ltd. August 2014.

Niche Environment and Heritage (Niche) (2021a) – *Austen Quarry Stage 2 Silver-leaved Mountain Gum (Eucalyptus pulverulenta) credit estimates for proposed replanting area,* prepared for Hy-Tec Industries Pty Ltd.

Niche Environment and Heritage (Niche) (2021b) – *Austen Quarry Stage 2 Project-Staging Credit Obligation,* prepared for Hy-Tec Industries Pty Ltd.

R.W. Corkery & Co. Pty Limited (RWC) (2014) – *Environmental Impact Assessment for the Austen Quarry Stage 2 Extension Project,* prepared for Hy-Tec Industries Pty Ltd.

R.W. Corkery & Co. Pty Limited (RWC) (2018) – *Austen Quarry Stage 2 Extension Project (MOD 1 – SSD 6084) Statement of Environmental Effects,* prepared for Hy-Tec Industries Pty Ltd.

R.W. Corkery & Co. Pty Limited (RWC) (2019a) – *Austen Quarry Stage 2 Extension Project (MOD 2 – SSD 6084) Statement of Environmental Effects,* prepared for Hy-Tec Industries Pty Ltd.

R.W. Corkery & Co. Pty Limited (RWC) (2019b) – *Noise Management Plan,* prepared for Hy-Tec Industries Pty Ltd.

R.W. Corkery & Co. Pty Limited (RWC) (2019c) – *Air Quality Management Plan (AQMP),* prepared for Hy-Tec Industries Pty Ltd.

Appendices

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Appendix 1

Statement of Assessment of Reasonable Equivalence of Biodiversity Credits

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DOC19/874994-1

Statement of assessment of reasonable equivalence of biodiversity credits

A delegate of the Chief Executive of the Office of Environment and Heritage has determined that the number of biodiversity credits required to be retired under the *Threatened Species Conservation Act 1995* (**TSC Act**) as part of the development consent listed in Part 1, are reasonably equivalent to the number and class of biodiversity credits under the *Biodiversity Conservation Act 2016* (**BC Act**) set out in Part 2.

This document outlines that determination, made in accordance with clause 22(3) of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*.

Part 1 Existing statutory obligation to retire credits

Request made by:	Hy-Tec Industries Pty Ltd
Date received	18/06/2019
Development Consent number	SSD 6084 August 2018 modification
Development name	Austen Quarry Extension

Existing statutory obligation reference	Biodiversity credit name (Plant Community Type name and ID, or threatened species name)	IBRA sub region	Number of credits
SSD 6084	PCT 1093 (HN 570) Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	Bathurst-Hawkesbury Nepean	649
SSD 6084	PCT 840 (HN 527) Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin Bioregion and South Eastern Highlands Bioregion	Bathurst-Hawkesbury Nepean	60
SSD 6084	PCT 649 (HN 501) Apple Box - Broad-leaved Peppermint dry open forest of the South Eastern Highlands Bioregion	Bathurst-Hawkesbury Nepean	131
SSD 6084	Silver-leaved Mountain Gum *(Eucalyptus pulvuralenta*)	NA	10,784

Part 2 Determination of reasonable equivalence

The number and class of biodiversity credits that are reasonably equivalent under the BC Act are:

Ecosystem Credits

1. **Name of Plant Community Type:** PCT 1093 (HN 570) Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion

Number of ecosystem credits required	642
Offset trading group	Southern Tableland Dry Sclerophyll Forests with a percent cleared value ≥50% and <70%
Hollow bearing trees	Vegetation containing hollow bearing trees
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
IBRA[1] subregion	Bathurst and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

2. **Name of Plant Community Type:** PCT 840 (HN 527) Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin Bioregion and South Eastern Highlands Bioregion

Number of ecosystem credits required if applicant pays into Biodiversity Conservation Fund	60[2]
Number of ecosystem credits required if applicant retires credit from offset site BA owned by Hy-Tec Industries Pty Ltd [3]	45
Offset trading group	Southern Tableland Dry Sclerophyll Forests with a percent cleared value ≥50% and <70%

[1] Interim Biogeographic Regionalisation for Australia
[2] Credits matching the Like for Like credits (credit calculator reference 0047/2012/0076D) are available on the BioBanking Public Registers e.g. from BA 116). In accordance with the approved policy a recalculation of credit numbers has not been undertaken. Please note the list of like for like credits is extensive and a full list of matching credits has not been provided.
[3] The applicant should provide the consent authority with proof that they are the owner of a Biodiversity Stewardship Site and that the ecosystem credits from that site, match the obligation.

Hollow bearing trees	Vegetation containing hollow bearing trees
Vegetation class	Central Gorge Dry Sclerophyll Forests
Vegetation formation	Dry Sclerophyll Forests (Shrub/grass sub-formation)
IBRA[4] subregion	Bathurst and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

3. **Name of Plant Community Type:** PCT 649 (HN 501) Apple Box - Broad-leaved Peppermint dry open forest of the South Eastern Highlands Bioregion

Number of ecosystem credits required if applicant pays into Biodiversity Conservation Fund	131[5]
Number of ecosystem credits required if applicant retires credit from offset site owned by Hy-Tec Industries Pty Ltd	90
Offset trading group	Southern Tableland Dry Sclerophyll Forests with a percent cleared value <50%
Hollow bearing trees	Vegetation containing hollow bearing trees
Vegetation class	Southern Tableland Dry Sclerophyll Forests
Vegetation formation	Dry Sclerophyll Forests (Shrubby sub-formation)
IBRA[6] subregion	Bathurst and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[4] Interim Biogeographic Regionalisation for Australia
[5] Credits matching the Like for Like credits (credit calculator reference 0047/2012/0076D) are available on the BioBanking Public Registers e.g. from BA 410, BA 447). In accordance with the approved policy a recalculation of credit numbers has not been undertaken. Please note the full list of like for like credits is extensive and a complete list of matching credits has not been provided.
[6] Interim Biogeographic Regionalisation for Australia

Species Credits

1. **Name of threatened species:** Silver-leaved Mountain Gum *(Eucalyptus pulvuralenta*)

Number of species credits required	1402

This statement was issued on 30 October 2019.

Authorised by:

DEREK RUTHERFORD
Director Conservation Programs
Environment Energy and Science
Department of Planning Industry and Environment
Delegate of the Environment Agency Head

Appendix 2

Austen Quarry Stage 2 Project-Staging Credit Obligation

prepared by

Niche Environment and Heritage

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Excellence in your environment

Nick Warren
Senior Environmental Consultant

RW Corkery & Co Pty Limited
PO Box 239
BROOKLYN NSW 2083

22 July 2021

Via email: nick@rwcorkery.com

RE: Austen Quarry Stage 2 Project–Staging Credit Obligation (Niche ref #4500)

Dear Nick,

The offset for the Austen Quarry Hartley Stage 2 Extension project (the project) was approved by NSW Office of Environment and Heritage (OEH) and Commonwealth Department of Environment and Energy (DoEE) in July 2015 (under Development Consent SSD 6084). The offsetting requirements for the project are detailed in Table 1.

Table 1: Offset requirements for the project

PCT	BAM Credits required
Ecosystem Credits	
PCT 1093 (HN 570) Red Stringybark - Brittle Gum -Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	642
PCT 840 (HN 527) Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin Bioregion and South Eastern Highlands Bioregion	45
PCT 649 (HN 501) Apple Box - Broad-leaved Peppermint dry open forest of the South Eastern Highlands Bioregion	90
Species credits	
Silver-leaved Mountain Gum (*Eucalyptus pulvuralenta*)	1,402

It is understood that RW Corkery & Co Pty Limited (RWC) and Hy-tec are interested in splitting the offsetting obligation into stages so that progressive credit retirement occurs to match progressive vegetation clearing. Niche have been commissioned by RWC to stage the offset obligations (for ecosystem credits only), based on the staging plan provided by RWC (Figure 1). The offsetting obligations for each stage have been calculated based on number of credits required per hectare of impact (see Table 2).

Niche has also been commissioned to calculate the species credits that would be required based on the number of naturally occurring Silver-leaved Mountain Gum (SLMG) that would be impacted (as per Figure 2). Niche have calculated the number of BAM credits required to offset impacts to the naturally occurring SLMG, using percentage impacted (percentage of BAM credits required equates to percentage of naturally occurring SLMG impacted) (see Table 3). Species credits have not been staged as above for the ecosystem credits.

Table 2: Staging of ecosystem credit requirements

PCT	Area of direct impact (ha)					BAM Credits required				
	Stage C	Stage D	Stage E	Stage F	Total	Stage C	Stage D	Stage E	Stage F	Total
Ecosystem credits										
PCT 1093 (HN 570) Red Stringybark - Brittle Gum -Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	10.60	3.10	1.41	2.69	17.8	382	112	51	97	642
PCT 840 (HN 527) Forest Red Gum - Yellow Box woodland of dry gorge slopes, southern Sydney Basin Bioregion and South Eastern Highlands Bioregion	0.77	0.01	0.05	0.63	1.46	24	1	1	19	45
PCT 649 (HN 501) Apple Box - Broad-leaved Peppermint dry open forest of the South Eastern Highlands Bioregion	4.06	0	0	0	4.06	90	0	0	0	90
Total	15.43	3.11	1.46	3.32	23.32	496	113	52	116	777

Table 3: Silver-leaved Mountain Gum (*Eucalyptus pulvuralenta*) credit requirements

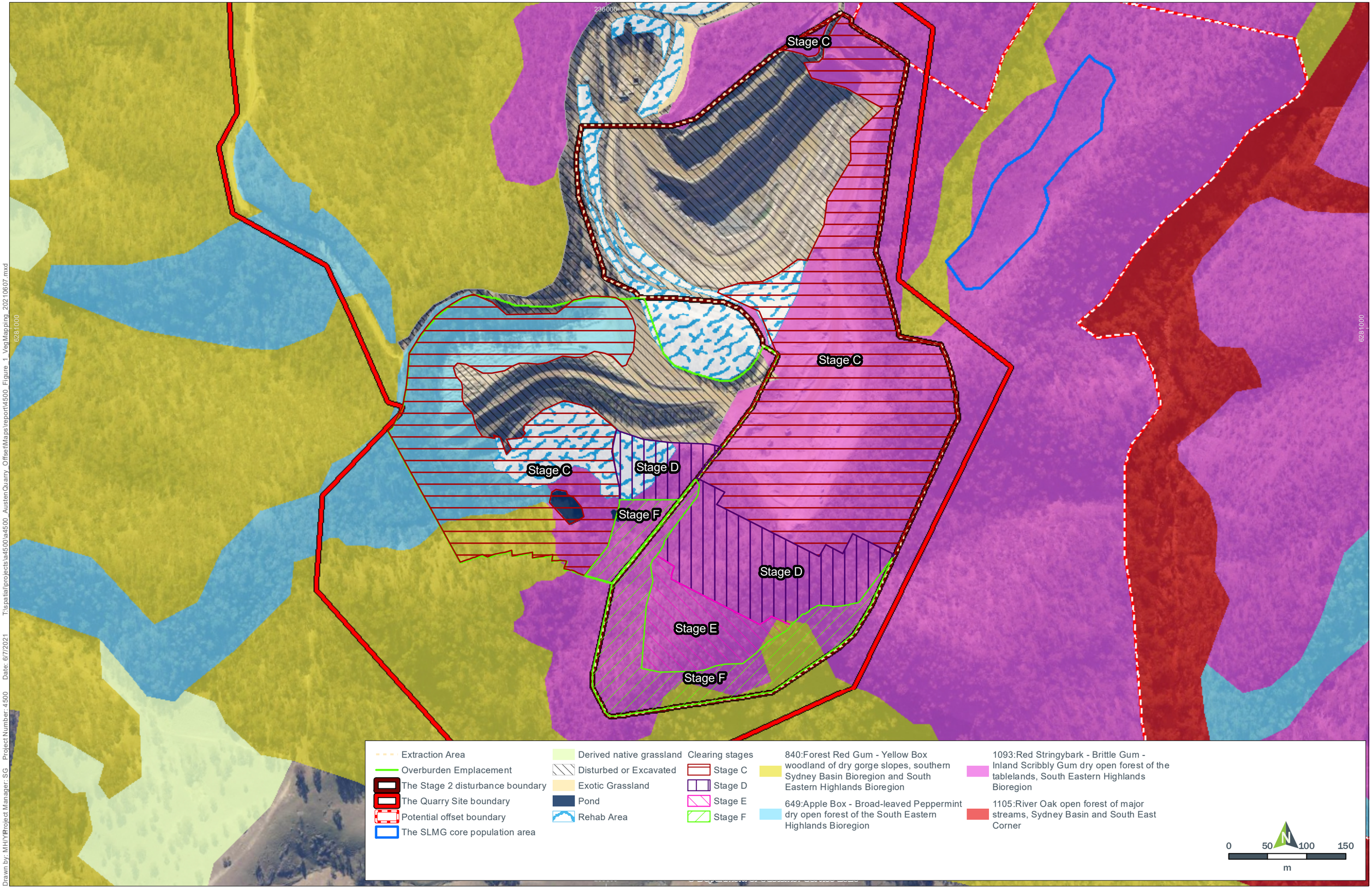
Species		No. SLMG Impacted	Percentage Impacted	BAM Credits required
Silver-leaved Mountain Gum (*Eucalyptus pulvuralenta*)	Planted	611	87%	1,220
	Naturally occurring	90	13%	182
	Total impacted	701	100%	1,402

I trust that the information provided is suitably detailed, however, should you require any further information please do not hesitate to contact me.

Yours sincerely,

Sian Griffiths
Senior Associate and Accredited BAM Assessor

sgriffiths@niche-eh.com, Mobile: 0409 483 72



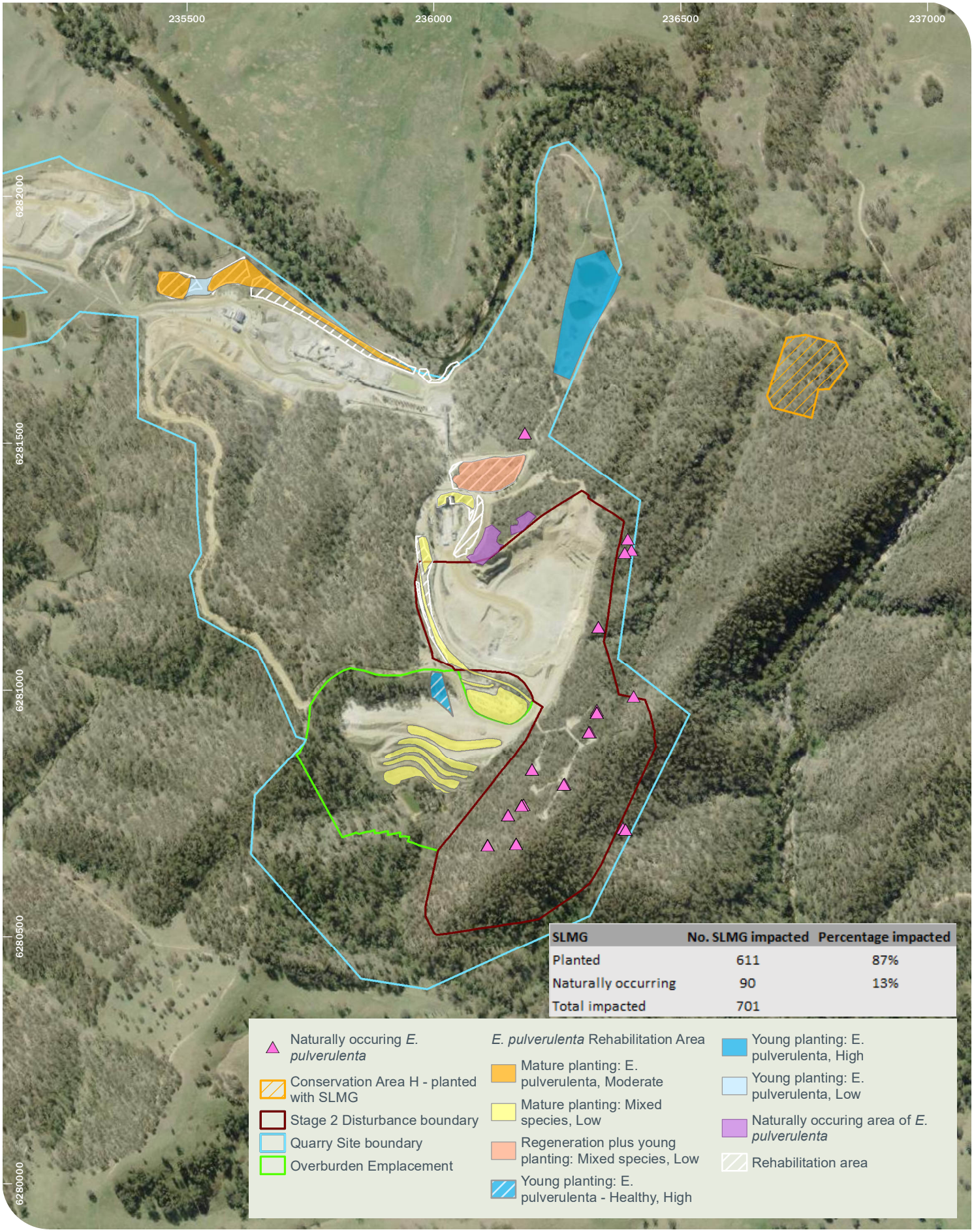
niche Environment and Heritage

Vegetation Mapping

Austen Quarry Offset Area Investgations

FIGURE 1

Imagery: (c) public/NSW_Imagery



SLMG	No. SLMG impacted	Percentage impacted
Planted	611	87%
Naturally occurring	90	13%
Total impacted	701	

- Naturally occuring *E. pulverulenta*
- Conservation Area H - planted with SLMG
- Stage 2 Disturbance boundary
- Quarry Site boundary
- Overburden Emplacement

E. pulverulenta Rehabilitation Area

- Mature planting: E. pulverulenta, Moderate
- Mature planting: Mixed species, Low
- Regeneration plus young planting: Mixed species, Low
- Young planting: E. pulverulenta - Healthy, High
- Young planting: E. pulverulenta, High
- Young planting: E. pulverulenta, Low
- Naturally occuring area of *E. pulverulenta*
- Rehabilitation area

niche Environment and Heritage

0 200 m

GDA 1994 MGA Zone 56

Silver-leaved Mountain Gum at Austen Quarry

Austen Quarry

Niche PM: Sian Griffiths
Niche Proj. #: 4500
Client: RWC and Hy-Tec

Figure 2

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Appendix 3

Management of Silver-leaved Mountain Gum at Austen Quarry, Hartley NSW

prepared by

McPhee Kelshaw

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DEANNE COLE BEc, LLB, MLLR

Our Ref: TC:DC:146361

Your Ref:

21 October 2020

Mr Nicholas Warren
Principal Environmental Consultant
RW Corkery & Co Pty Limited
PO Box 239
Brooklyn NSW 2083

By email: nick@rwcorkery.com

Dear Mr Warren,

Management of Silver-Leaved Mountain Gum at Austen Quarry, Hartley NSW

Background and Advice Summary

1. We are instructed to advise RW Corkery & Co Pty Limited ("RWC") on behalf of Hy-Tec Industries Pty Limited ("Hy-Tec") concerning issues that have arisen in relation to the management of Silver-leaved Mountain Gum ("SLMG") found in or adjacent to the approved extraction area of the Austen Quarry at Hartley New South Wales ("Quarry").

2. RWC have asked following questions in relation to the management of SLMG at the Quarry. The questions relate to SLMG that has been planted by Hy-Tec within the Quarry site, not to SLMG that naturally occurs within that site:

   Q1 Whether it is reasonable to assume that Clause 17 of Schedule 5A of the *Local Land Services Act 2013* ('LLS Act') should have applied to the SLMG that were planted [by Hy-Tec]? That is, approval to clear those plants that had been planted was not required as part of the original application for [the grant of development consent] SSD-6084.

   Q2 Is it then reasonable to submit an application to DPIE to seek to have biodiversity offsetting obligations associated with those plants that were planted by Hy-Tec removed from the consent [SSD-6084]? What is the most likely pathway for this, as a modification under 4.55(1), noting the inclusion as an error?

3. In summary, our answers to Q1 and Q2 are as follows:

   Q1 Yes, subject to the qualification set out in paragraphs 23 to 30 below. Clause 17 of Schedule 5A of the LSA Act does apply to the SLMG that were planted by Hy-Tec. However, Hy-Tec did propose to remove SLMG that it had planted and that matter was appropriately disclosed to the consent authority on the issue of SSD-6084 and to the Commonwealth in relation to the approval noted in paragraph 10 below. Hy-Tec failed to appreciate the significance of the *Local Land Services Act 2013* ("LLS Act"), in relation to the clearing of planted SLMG, and did not rely upon the opportunities available to it under the LLS Act to clear planted SLMG or rely upon those rights in its application (as we understand our instructions).

   Q2 Yes, it is reasonable for Hy-Tec to submit an application to DPIE to seek recognition, by reduction in the biodiversity offsetting obligations imposed by condition 25 of SSD-6084, that a significant number of the SLMG individual plants found within the extraction area, and specifically Stage 2 of the extraction area, were planted by Hy-Tec. For the reasons set out in paragraphs 34 to 38 below, further consideration should be given to the basis upon which any such modification application is lodged with the consent authority.

4. We understand that the RWC questions are asked in the context of each of development consent SSD-6084 granted by the Minister for Planning (through the Minister's delegate on 15 July 2015) in relation to the Quarry ("SSD-6084") and the approval granted by the Commonwealth under the *Environment Protection and Biodiversity Conservation Act 1999* ("EPBC Act"), on 19 October 2015 ("EPBC approval").

Development Consents and Project Approvals

5. We are instructed that the first consent for the Quarry was granted on 22 March 1995 ("1995 consent") by Lithgow City Council ("LCC"). The 1995 consent was granted for the establishment of a hard rock Quarry.

6. The 1995 consent was issued subject to 18 conditions. The copy of the 1995 consent made available to us is partly obscured. However, we understand that condition 7 related to Flora and Fauna.

7. We are instructed that the Quarry was established and conducted in accordance with the 1995 consent until that consent was surrendered under SSD-6084, which was itself granted on the basis that the Quarry is a State significant development.

8. With the surrender of the 1995 consent, SSD-6084 became the sole development consent, under the *Environmental Planning and Assessment Act 1979* ("EP&A Act"), regulating the conduct of the Quarry. Consent SSD-6084 was modified, following the original grant on 15 July 2015, in August 2018 and July 2019.

9. Conditions 25, 26, 27 and 29 of SSD-6084 relate to the retirement of biodiversity credits, rehabilitation of the Quarry site and the development of a Landscape and

Rehabilitation Management Plan respectively. Conditions 30 and 31 regulate the Conservation and Rehabilitation Bond to be posted by Hy-Tec.

10. The EPBC approval was granted in respect of a development described as the proposed extension of rhyolite extraction area and overburden emplacement and the continuing of processing operations at the Quarry (referred to as the Stage 2 Extension).

11. The EPBC approval is focussed on the SLMG. Conditions 1, 2 and 3 of the approval read as follows:

> *"1. The approved holder must not remove more than 721 individuals of Silver-leaved Mountain Gum within the Austin Quarry boundary depicted at Schedule 1.*
>
> *2. To mitigate the impacts of the action on the Silver-leaved Mountain Gum, the approval holder must prepare and submit at least three (3) months prior to the commencement of the action, a mine site Silver-leaved Mountain Gum Management Plan (SLMGMP) for the Minister's approval.*
>
> *3. To compensate for the loss of 721 individuals of Silver-leaved Mountain Gum, the approval holder must prepare and submit at least three (3) months prior to the commencement of the action, a Biodiversity Offset Management Plan (BOMP) for the proposed offset area, for the Minister's approval. The BOMP must be prepared by a suitably qualified person ..."*

12. **Attached** to this letter is a copy of Schedule 1 to the EPBC approval. The boundary of the Quarry is identified in red outline ("Quarry site"). Also **attached** is a copy of Schedule 2 to that approval with the boundary of the offset area depicted by a broken yellow and black line.

SLMG

13. We are instructed that SLMG was listed as a vulnerable species under the now repealed *NSW Threatened Species Conservation Act*. SLMG is currently listed as a vulnerable species under each of the *Biodiversity Conservation Act 2016* ("BCA") and under the EPBC Act.

14. In October 2016, Niche Environment and Heritage ("NEH") prepared the document titled *"Silver-leaved Mountain Gum Management Plan"* ("SLMGMP") for the Quarry. The document was prepared to assist Hy-Tec to comply with each of SSD-6084 and the EPBC approval. In particular, the SLMGMP was prepared to address condition 2 (and relevant components of conditions 3 and 4) of the EPBC approval and to address specific requirements within conditions 25, 26 and 29 of the development consent, as granted on 15 July 2015.

15. We understand that the information provided in Section 3.3 of the SLMGMP reflects the results of the NEH Biodiversity Impact Assessment ("BIA") conducted by NEH for Hy-Tec to support the applications for each of SSD-6084 and the EPBC approval. In that regard, we note condition 1 in the EPBC approval, set out in

paragraph 11 of this advice, which provides that Hy-Tec must not remove more than 721 individuals of SLMG within the Quarry boundary depicted at Schedule 1.

16. We understand that the SLMGMP was submitted to the Commonwealth for approval and that this approval was given.

LLS Act and Mapping of the Quarry Site

17. We have reviewed the mapping of the Quarry site that is available through the Department of Planning, Industry and Environment ("DPIE"). Our review has confirmed the designation of most of the Quarry site as "Category 2 - vulnerable regulated land" ("Category 2 land").

18. Division 3 within Part 5A Land management (native vegetation) of the LLS Act identifies allowable activities for the clearing of native vegetation and reads as follows:

> ***"60Q Allowable activities clearing—Schedule 5A***
>
> *(1) Schedule 5A sets out the clearing of native vegetation in regulated rural areas for allowable activities that is authorised without any approval or other authority under this Part for the clearing.*
>
> *(2) Schedule 5A does not permit clearing or any other activity—*
>
> *(a) without an approval or other authority required by or under another Act or another Part of this Act (or in anticipation of the grant of any such approval or other authority), or*
>
> *(b) in contravention of any provision of or made under (or in contravention of any agreement made under) another Act or another Part of this Act."*

19. For present purposes, clauses 17 and 35 in Schedule 5A are relevant. However, when addressing those provisions it is important to note s60Q(2). The advice that we now give in relation to the LLS Act must be considered in the context of the requirements of each of SSD-6084 and the EPBC approval.

20. Within Schedule 5A, clause 1 states:

> ***"Schedule 5A Allowable activities clearing of native vegetation***
>
> *(Section 60Q)*
>
> ***Part 1 Preliminary***
>
> ***1 Application***
>
> *(1) This Schedule sets out the clearing of native vegetation for allowable activities that is authorised without any other approval*

under Part 5A of this Act in a regulated rural area (that is, an area of the State to which that Part applies that is category 2-regulated land on the native vegetation regulatory map).

...

Note—
Section 60Q provides that this Schedule does not authorise clearing or other activities without obtaining any authority required by or under, or in contravention of, other Acts (including provisions of this Act other than Part 5A)."

21. Part 2 of Schedule 5A to the LLS Act reads as follows:

> *"17 **Planted native vegetation***
>
> *(1) The clearing of native vegetation that has been planted.*
>
> *(2) Clearing for that purpose is not authorised if the native vegetation was planted with the assistance of public funds granted for any purpose other than for forestry purposes.*
>
> *(3) If the land is subject to a private native forestry plan, clearing is not authorised if native vegetation has been planted as part of stocking or regeneration requirements—*
>
> *(a) under a relevant private native forestry code of practice, or*
>
> *(b) as a result of a direction given or requirement made by the Chief Environmental Regulator of the Environment Protection Authority,*
>
> *and the stocking and regeneration requirements are not met."*

22. For the purposes of this advice, clause 17(1) applies, subject to the qualification imposed by clause 35(10). The SLMG that is the subject of RWC question (1) was planted by or on behalf of Hy-Tec.

23. Clauses 17(2) and 17(3) do not override clause 17(1). We are instructed that the subject SLMG was not planted with the assistance of public funds granted for any purpose other than forestry purposes. Similarly, the Quarry site is not subject to a private native forestry plan.

24. Clause 35 within Schedule 5A is also relevant for the purpose of this advice. Clause 35 regulates clearing that is authorised under the LLS Act. Relevantly, clause 35(10) provides:

> *"35 **Clearing that is authorised***
>
> *(1) ...*
>
> *(10) **Planted native vegetation** The clearing, in accordance with clause 17, of native vegetation that has been planted, but not within a buffer distance from a water body as set out in the Land Management (Native Vegetation) Code 2018 as in force on the commencement of this subclause."*

25. As noted above, the majority of the land within the Quarry site is mapped as Category 2 land, with the result that clause 35(10) applies. Clearing of *planted* native vegetation is permitted on such land, unless the land is within any applicable buffer zones. If the land was not Category 2 land, or land within another protected category, then clause 17 of Schedule 5A would have been applicable to all of the Quarry site, without the qualification imposed by clause 35(10).

26. Under the NSW *Land Management (Native Vegetation) Code 2018* ("LMNV Code") buffer zones are imposed to protect water bodies. The width of those buffer zones is determined by the size and classification of the water body concerned. In this regard, we note clause 15 of the LMNV Code. The width of buffer zones depends upon the stream order applicable to the water body concerned. That order is determined in accordance with Part 1 of Schedule 2 of the *Water Management (General) Regulation 2011*.

27. The minimum buffer zone is 10m, for an unmapped first order stream. The maximum buffer zone is 50m in respect of 6th order streams and above. Further enquiries should be made to determine the appropriate stream order for the Cox's River adjacent to the Quarry site. For the purposes of this advice we will assume that the Cox's River in that location is a 6th order stream and that a buffer of 50m from the bank of the Cox's River is required.

28. On that basis, the clearing of planted native vegetation, including planted SLMG, beyond the 50 metre buffer from the Cox's River bank would be permissible under the LLS Act. However, clearing within 50 metres of the bank of the river would not be permissible without approval.

29. Before this matter is further considered, please let us know whether any of the studies undertaken by NEH, or by any other environmental consultant, identifies whether planted SLMG is located within the applicable buffer zone for the Cox's River, adjacent to the Quarry site. If that information is not available, we **recommend** that further enquiries be made to determine the applicable category for the Cox's River adjacent to the Quarry and then to determine the appropriate buffer from the river for the purpose of clearing under the LLS Act.

30. Although our advice is confined to SLMG that has been planted by Hy-Tec, we note the only purpose for which naturally occurring SLMG (and any other native vegetation) on Category 2 land may be cleared is for the purpose of boundary or internal fencing. In this regard we note clauses 35(5) and 35(6) of Schedule 5A of the LLS Act.

31. The conduct of Quarry activities is not, in itself, an allowable activity under Schedule 5A.

32. We therefore **recommend** that no naturally occurring SLMG (in other words, individual examples of SLMG that have not been planted by Hy-Tec), and no other naturally occurring native or non-native plant species, present in the Quarry site, be cleared unless prior approval is secured for that clearing work.

Conclusion

33. Against the background set out above, and noting the summary of our advice set out in paragraph 3 above, we confirm our advice as follows:

    (1) By operation of s60Q, and clauses 17 and 35(10) in Schedule 5A, of the LLS Act, Hy-Tec is able to clear individual SLMG planted by Hy-Tec, provided that the SLMG concerned is not located within the buffer area for the Cox's River, adjacent to the Quarry site.

    (2) It is reasonable to assume that Hy-Tec and its consultants were not aware of the possible application of the LLS Act, and specifically the provisions identified in (1) above, when applications were submitted to secure the grant of SSD-6084 and the EPBC approval.

    (3) It is also reasonable to assume that if the application of the nominated provisions of the LLS Act had been known, then the vegetation surveys carried out by NEH, specifically in relation to the SLMG, would have differentiated between naturally occurring SLMG and planted SLMG for the purpose of determining biodiversity credits.

    (4) In our assessment, it is reasonable for Hy-Tec to submit an application to DPIE, identifying the extent of planted SLMG within the Quarry site and submitting that DPIE, when determining the biodiversity credits that must be retired, in accordance with condition 25 of SSD-6084, should have been appropriately informed of the relevant matters and invited to recognise that planted SLMG could be cleared from the Quarry site in accordance with the relevant provisions of the LLS Act.

    (5) Hy-Tec would appropriately seek the modification of SSD-6084 to adjust the biodiversity credits that must be retired, with the adjusted credits calculated on the basis of naturally occurring SLMG that has been cleared or that will be cleared from the Quarry site, and disregarding planted SLMG.

    (6) The provision of the EP&A Act, pursuant to which the modification application is submitted, merits further consideration.

34. In relation to the matter addressed in 33(6) above, we note s4.55(1) of the EP&A Act which reads:

*"4.55 **Modification of consents--generally***

(cf previous s 96)

(1) Modifications involving minor error, misdescription or miscalculation A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify a development consent granted by it to correct a minor error, misdescription or miscalculation. Subsections (1A), (2), (3), (5) and (6) and Part 8 do not apply to such a modification.

***Note :** Section 380AA of the Mining Act 1992 provides that an application for modification of development consent to mine for coal can only be made by or with the consent of the holder of an authority under that Act in respect of coal and the land concerned.*

(1A) Modifications involving minimal environmental impact A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if—

(a) it is satisfied that the proposed modification is of minimal environmental impact, and

(b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and

(c) it has notified the application in accordance with--

(i) the regulations, if the regulations so require, or

(ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and

(d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.

Subsections (1), (2) and (5) do not apply to such a modification."

35. The issue for consideration is whether the development application submitted by Hy-Tec, which resulted in the grant of SSD-6084, did include *"a minor error, misdescription or miscalculation"* which would be appropriately corrected.

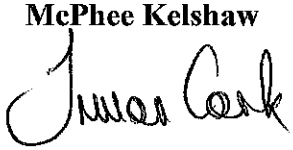
36. We understand that the development application was supported by studies undertaken by NEH, including the BIA. We also understand that the SLMGMP reflects information put forward by NEH through the BIA.

37. If our understanding of the latter point is correct, then NEH was aware of the extent of the planted SLMG within the Quarry site. In that regard, we note Section 3 of the SLMGMP. Any error in presentation of material to the consent authority appears to have arisen not in relation to the presence of planted SLMG, in addition to naturally occurring SLMG, but from a failure to take into account the provisions of the LLS Act that allow Hy-Tec to clear some planted SLMG from the site. The misunderstanding involved could have arisen from the fact that SLMG surveys were apparently carried out in calendar year 2013 but the LLS Act did not come in to force and effect until 1 January 2014.

38. The appropriate course to follow, in relation to the proposed modification application, may be determined by the attitude of the consent authority. A practical way forward may be to put the background information to the consent authority and foreshadow the submission of a modification application on the basis of s4.55(1), having regard to the fact of planted SLMG and the clearing rights available under the LLS Act. The response of the consent authority would then determine whether the application is submitted under s4.55(1) or under s4.55(2) of the EP&A Act. As a further possibility, we note that as the modification application will relate to planted SLMG, the consent authority may be open to considering whether s4.55(1A) is applicable.

39. Apart from these matters, the action to be taken in relation to the EPBC approval should also be considered. In particular, Hy-Tec will also need to consider condition 1 of that approval and the way in which the requirements of that condition, given that it prevents the removal of more than 721 individuals of SLMG, will be addressed.

Yours faithfully
McPhee Kelshaw



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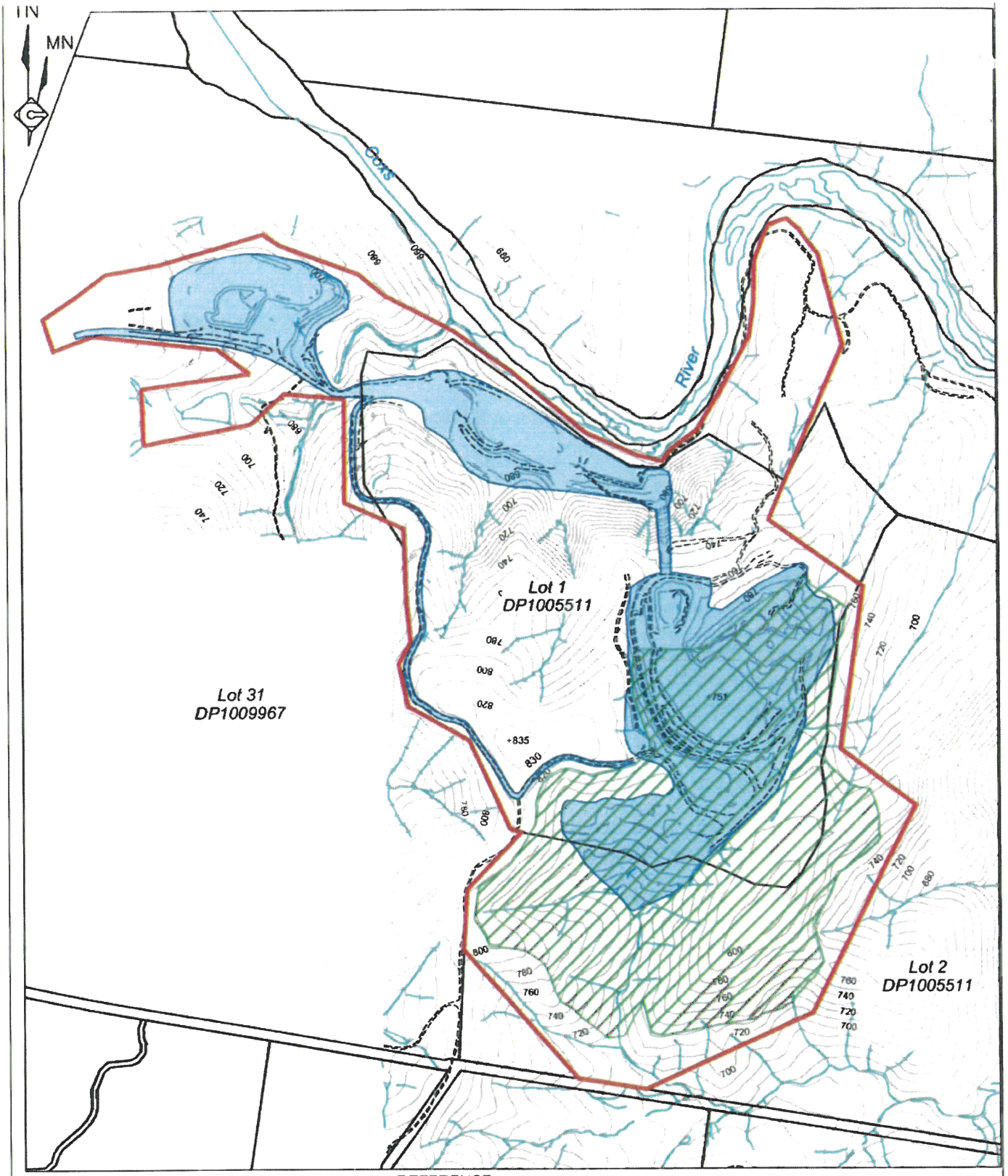

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Base Source: GeoSpectrum Australia Pty Ltd - Date: 13 April 2012

Schedule 1

DEVELOPMENT FOOTPRINT

AUSTEN QUARRY EPBC 2013/6967

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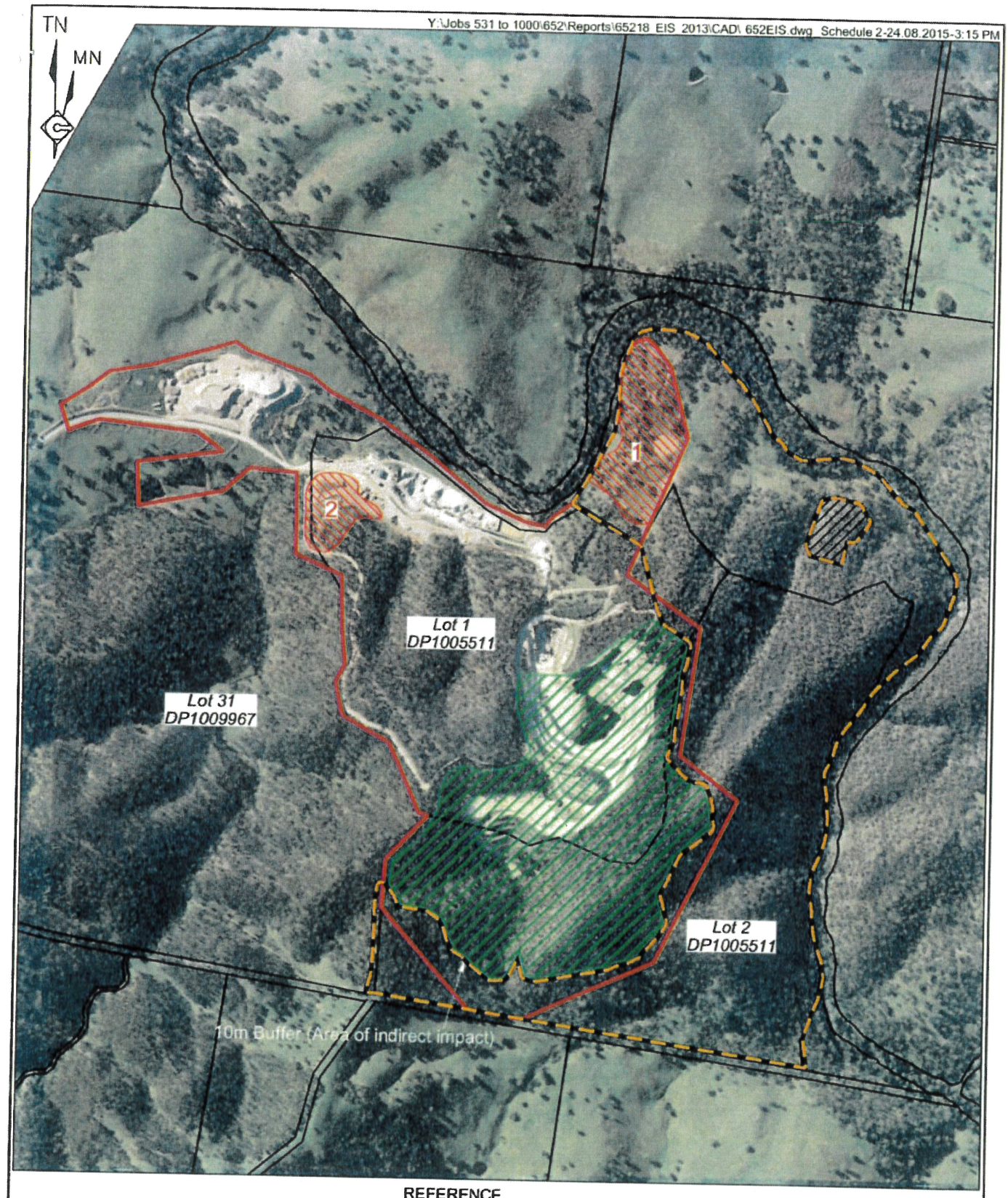

REFERENCE

- Austen Quarry Boundary
- Cadastral Boundary
- Limit of Disturbance Stage 2
- Proposed Biodiversity Offset Boundary
- Existing Easement for Conservation Maintenance Work (Excluded from Offset)
- *Eucalyptus pulverulenta* Replanting Area

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Base Photograph Source: GeoSpectrum Australia Pty Ltd - Date: 13 April 2012

Schedule 2
OFFSET AREA AUSTEN QUARRY
EPBC 2013/6967

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Appendix 4

Austen Quarry Stage 2 Silver-leaved Mountain Gum (Eucalyptus pulverulenta) Credit Estimates for Proposed Replanting Area

prepared by

Niche Environment and Heritage

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RW Corkery & Co Pty Limited
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1 October 2021

Via email: nick@rwcorkery.com

RE: Austen Quarry Hartley Stage 2 Extension project – Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*) credit estimates for proposed replanting area (Niche Ref. #4500)

Dear Nick,

RW Corkery & Co Pty Limited (RWC) are seeking the advice of Niche Environment and Heritage (Niche) regarding the Austen Quarry Hartley Stage 2 Extension (the project) offset obligation for Silver-leaved Mountain Gum (SLMG, *Eucalyptus pulverulenta).* The statement of assessment of reasonable equivalence of biodiversity credits, issued by the NSW Office of Environment and Heritage (OEH, dated 30 October 2019), indicated that 1,402 credits of SLMG would be required to offset the impacts of the project.

HY-TEC Group (HY-TEC) are proposing to establish a planting area of SLMG within the site boundary of Austen Quarry (see Figure 1). The existing SLMG planting area (shown on Figure 1), which is currently estimated to support 1,909 plants (Niche 2020), is planned to be expanded by a further 2,000 -3,000 SLMG plantings. Niche have been engaged to estimate the likely credit generation assuming the existing 1,909 SLMG plants and an additional 2,000 SLMG plants and establish a set of performance criteria that would represent the objective/target for the planting area to be achieved prior to the generation of SLMG credits, to ensure a self-sustaining population of SLMG.

Method

SLMG is listed as a count species in the Threatened Species Data Collection database, which means species credits are generated based on the number of individuals recorded or estimated to occur. The extent of SLMG was mapped within Austen Quarry planting areas in June 2020, and 10 metre (m) x 10 m count plots and transects were also undertaken (Niche 2020). The data was then extrapolated to gain an estimate of the number of SLMG in each area surveyed. This data was entered into the Biodiversity Assessment Method (BAM) Calculator to give an estimate of the number of SLMG credits that would be generated in each area (see Niche 2020 for results).

Results

The existing 1,909 SLMG plantings within the planting area shown in Figure 1 (known as Area 6 in Niche 2020) were determined in Niche (2020) to be the most appropriate for a SLMG offset given that the plantings represented a larger area of SLMG plantings (1.75 hectares) directly connected to adjoining bushland, which enables better protection of the offset area from quarry operations and

minimises edge effects. These 1,909 SLMG plantings were estimated to generate 1,586 SLMG species credits (based on BAM Calculator outputs) (Niche 2020).

HY-TEC are proposing to plant an additional 2,000-3,000 SLMG plants in the proposed replanting area (Figure 1), which directly adjoins the existing 1,909 plantings. An additional 2,000 SLMG plants would generate 1,662 species credits (based on BAM Calculator outputs).

Therefore, if HY-TEC were successful at establishing a healthy population of SLMG of 3,909 plants (2,000 proposed, plus 1,909 already established), this would be estimated to generate a total of 3,248 species credits for SLMG. This would more than satisfy the project offset requirement of 1,402 SLMG species credits.

These credit estimates are based on current legislation and polices and the NSW Biodiversity Offsetting Scheme and associated supporting tools (such as the BAM and the BAM Calculator) and do not consider the threatened status of the plant or any legislative changes in the future.

Performance criteria

Prior to generation of species credits from a planted population of SLMG, it is important that the plantings meet a set of performance criteria to ensure the plants are established, mature, healthy and self-sustaining, enabling the successful in-perpetuity conservation of the planted population of SLMG to be achieved. The performance criteria detailed in Table 1 represent the objective/target for the SLMG planting area which is to be achieved prior to the generation of SLMG credits.

Table 1. Performance criteria to be met by planting areas prior to the generation of SLMG credits

Performance criteria	Target
Number of individuals	Successfully planted an additional 2,000-3,000 SLMG plants, to accompany the estimated 1,909 plants already established in the planting area, totalling at least 3,909 SLMG plants, generating an estimated 3,248 species SLMG credits.
Condition	Condition defined using a combination of factors, including the percent cover of leaves, colour of leaves and the presence or absence of fruit or flowers, rating condition from 0 to 6, or from very poor condition to excellent condition (Appendix 1). Majority of plants (>75%) to have a condition rating of 3 (moderate), 4 (good), 5 (very good) or 6 (excellent), with >50% of plants rating 4 or above. .
Maturity	The majority of plants (>50 %) should have reached reproductive maturity and be self-seeding.
Percent foliage cover (PFC) of weeds	Less than 5% PFC in all structural layers across the planting area.

Recommendation

It is understood that Hy-Tec is seeking to make a commitment under SSD 6084 that the planting area and SLMG individuals contained within it would be secured for biodiversity conservation at a time

when the SLMG within the area have reached the above performance criteria. To achieve this it is recommended that Hy-Tec:

- Implement a management plan and monitoring program for the planning area to track the progress of the SLMG plantings and ensure performance targets are reached.
- Continue to consult with BCT between approval of the modification application and securing the area to ensure that that approach remains appropriate.

I trust that the information provided is suitably detailed, however, should you require any further information please do not hesitate to contact me.

Yours sincerely,

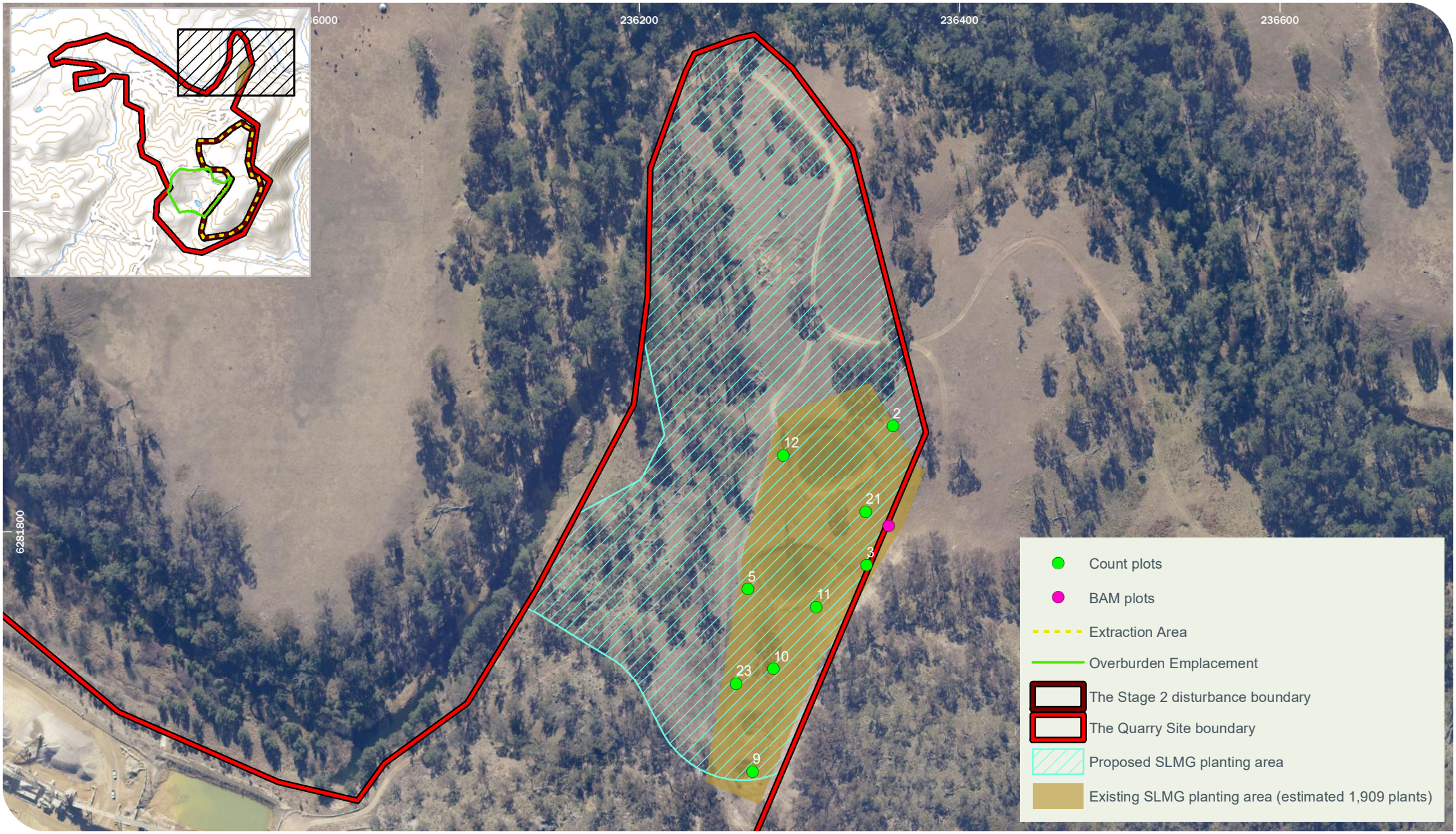
Sian Griffiths
Senior Botanist and Accredited BAM Assessor

sgriffiths@niche-eh.com

Mobile: 0409 483 727

References

Niche (2020) Austen Quarry Biodiversity Stewardship Site Assessment Report – Silver-leaved Mountain Gum (*Eucalyptus pulverulenta*) Investigations (Niche Ref. #4500). Prepared for RW Corkery & Co Pty Ltd. Dated 13 July 2020.



niche Environment and Heritage

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m
GDA2020 MGA Zone 56

Niche PM: Austen Quarry
Niche Proj. #: 4500
Client: Sian Griffiths

Proposed SLMG planting area
Austen Quarry Offset Area Investgations

Figure 1

Appendix 1: Rating system used to determine the condition of SLMG individuals

Rating	Condition	Determinants
0	Very Poor	0-15% cover of leaves 100% of leaves dull or browning No fruits or flowers
1	Poor	15-30% cover of leaves >75% of leaves dull or browning No fruits or flowers
2	Fairly Poor	30-45% cover of leaves >50% of leaves dull or browning No fruit or flowers
3	Moderate	45-60% cover of leaves 50% of leaves dull or browning Some fruits or flowers
4	Good	60-75% cover of leaves <50% leaves dull or browning Presence of fruits or flowers
5	Very good	75-90% cover of leaves <25% of leaves dull or browning Presences of fruits or flowers
6	Excellent	90-100% cover of leaves 0% leaves dull or browning Presence of fruits or flowers

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