Hillview Hard Rock Quarry

Visual Impact Assessment

Prepared for Coastwide Materials Pty Ltd 3 July 2024

Green Bean Design (GBD) was established as a landscape architectural consultancy in 1999 and has specialised in landscape and visual impact assessment over the past 18 years. As an independent consultancy, GBD provide professional advice to a wide range of commercial and government clients involved in large infrastructure project development.

GBD owner, and principal landscape architect Andrew Homewood, is a landscape architect and member of the Environmental Institute of Australia and New Zealand. Andrew has over 25 years continuous employment in landscape consultancy and has completed numerous landscape and visual impact assessments for a variety of large scale and state significant infrastructure, including transport projects, mines, transmission lines/substations, wind farms and solar power developments.

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The methodology adopted and sources of information used are outlined in this report. GBD has made no independent verification of this information beyond the agreed scope of works and GBD assumes no responsibility for any inaccuracies or omissions.

No indications were found during our investigations that information contained in this report as provided to GBD was false.

This report was completed between December 2022 and June 2024 and is based on the conditions encountered and information reviewed at the time of preparation. GBD disclaims responsibility for any changes that may have occurred after this time. This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

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Hillview Hard Rock Quarry

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Date

3 July 2024

Contents

Tables

Figures

This Visual Impact Assessment has adopted and the following definitions from Guidelines for Landscape and Visual Impact Assessment (2013) and the Transport for NSW (TfNSW) Guideline for Landscape Character and Visual Impact Assessment, Environmental Impact Assessment Practice Note EIA-N04 (June 2023).

Table 1 Glossary

Term	Definition
Cumulative effects	The summation of effects that result from changes caused by a development in conjunction with other past, present or reasonably foreseeable actions.
Landscape	A visible area of the earth's surface defined by natural or human induced change with discernible characteristic of landform, land use and human cultural overlays.
Landscape character	A distinct and consistent pattern of elements in the landscape that create an area of landscape visually different from other areas.
Magnitude	A combination of the scale, extent and duration of an effect.
Mitigation	Measures, including any processes, activity or design to avoid, reduce, remedy or compensate for adverse landscape and visual effects of a development project.
Sensitivity	Susceptibility of a receiver to a specific type of change.
Viewshed	The total landscape area seen from a location or path of travel
Visibility	A relative determination at which the proposal can be clearly discerned and described.
Visual amenity	The value of a particular area or view in terms of what is seen.
Visual effect	The change in character of an available view that results from a development or the changes in visual amenity of people living beyond the project.
Visual Assessment	A process of applied professional and methodical techniques to assess and determine the extent and nature of change to the composition of existing views that may result from a development.
View location	A place or situation from which a proposed development may be visible.
Visual receiver	Individual and/or defined groups of people who have the potential to be affected by a proposal.
Visual significance	A measure of the importance or gravity of the visual effect culminating from the degree of magnitude and receiver sensitivity.

Section 1. Introduction

Green Bean Design Pty Ltd (GBD) was commissioned by ADW Johnson Pty Ltd to undertake a Visual Impact Assessment (VIA) for a proposed hard rock quarry (Hillview Hard Rock Quarry) on behalf of Coastwide Materials Pty Ltd (the Proponent). The hard rock quarry would extract up to 1.5 million tonnes of rhyolite per annum as a component for the creation of aggregate, building materials and road base.

Section 2. SEAR's and Visual Impact Assessment objectives

This report has been prepared to address the Secretary's environmental assessment requirements (SEARs) for the project, issued 3rd June 2024. The SEARs include visual as a key requirement to:

'include a detailed assessment of the likely visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain, including with respect to any new landforms, and to minimising the lighting impacts of the development'

A key objective of this VIA is to determine the likely visual significance of the Project on people living and working in or travelling through the landscape surrounding the Project. This VIA has also been undertaken to:

- assess the existing visual character of the Project site as well as the surrounding landscape
- determine the extent and nature of the potential visual significance of the Project on surrounding receivers, and
- identify measures to mitigate and minimise any potential significant visual impacts including lighting impacts.

Section 3. Visual Impact Assessment guidance

This VIA has been prepared with regard to industry standards including:

- Guideline for landscape character and visual impact assessment, Environmental impact assessment practice note EIA–N04, Centre for Urban Design, TfNSW Version 2.3, June 2023 (TfNSW Practice note)
- Guidelines for Landscape and Visual Impact Assessment (Landscape Institute and Institute of Environmental Management & Assessment 2013).

Section 4. Project location

The Project (and associated disturbed area) would be located on approximately 48 acres of partially level to slightly undulating cleared pasture. The Project site also contains occasional moderate to steep vegetated sloping land around 1.6km west of The Bucketts Way road corridor.

The Project site, accessed via Maytoms Lane from The Buckett Way, is surrounded by a complex series of hills, ridgelines and gullies covered with dense native forest (refer Figure 2). The forests extend across the Project viewshed to the north, south and west within a broader regional extent of established Mid Coast National Parks.

Booral is the closest locality around 4km to the north east of the Project site which is around 7km south of the Stroud township.

Section 5. VIA Methodology

This VIA methodology included the following activities:

- desktop study addressing visual character and identification of view locations within the surrounding area
- site photograph review
- assessment and determination of the Project visual impact, and
- identification of recommended mitigation measures for the Project.

The level of visual impact that may result from the construction and operation of the Project has been determined by combining the assessment and determination of surrounding receiver sensitivity and the magnitude of the Project works when compared to the existing visual environment. The assessment and determination of visual impact has been determined in accordance with the TfNSW Practice note – N04).

Professional judgement in landscape and visual impact assessment

The process of landscape and visual impact assessment incorporates both qualitative and quantitative analysis; however, determinations of impacts are ultimately based on interpretations informed by professional judgement. The application of professional judgement is outlined in the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition 2013 (the UK Guideline, which notes that professional judgement is a very important part of landscape and visual impact assessment. The UK Guideline notes that professional judgement is applied to several other environmental topics (e.g., ecology and cultural heritage) and that judgements made should be:

- Reasonable and based on clear and transparent methods
- Based on training and experience and
- Made, in general, by suitably qualified and experienced landscape professionals.

The UK Guideline notes that qualified and experienced landscape professionals may not agree on various aspects of a landscape and visual impact assessment which may arise from the application of different approaches or criteria; however, the core principals of receiver sensitivity and magnitude of impact should provide some consistency in determinations of impact.

Section 6. Project description

Construction will involve the erection of temporary buildings and facilities, including light and heavy vehicle access and parking areas, equipment storage compounds, diesel generators, diesel compressors, services and amenities. It is anticipated the construction program will include:

- Site preparation including erosion and sediment control works
- Road upgrade works to Maytoms Lane and The Bucketts Way
- Establishment of internal access roads, including a single creek crossing
- Installation and / or upgrades to required infrastructure
- Establishment of ancillary site infrastructure, amenities and surface water management infrastructure

Extraction and processing:

After the site is made ready for extraction activities, these will commence from a highest point of reduced level (RL) 206m Australian Height Datum (AHD) down to RL 95m AHD. Up to 1.5m tpa is proposed to be extracted; however, in the initial years after construction commences this may be significantly less.

The quarry process will involve traditional drill and blasting techniques to produce rock fragments suitable for haulage to the crushing and screening plant. The quarry will have one working face that will advance generally in a north-west to south-east direction in 15m bench heights. Extraction will be carried out by mobile plant and equipment, including excavators and dump trucks, with the extracted material hauled from the pit to raw product stockpiles at the processing area.

Supporting infrastructure

Various items of ancillary infrastructure will be installed and operated to support the quarry, including:

- 2 weighbridges
- Crushing and screening plan for processing extracted hard rock material
- Pugmill and pre-coat plant for road base products
- Workshop
- Site office and amenities
- Parking areas
- Product storage areas
- Mobile lighting

The processing area will include raw material stockpiles and a crushing and screening plant for rock size reduction. The raw material extracted will not be washed and therefore the proposed development does not include a wash plant. The processed rock will be hauled in dump trucks to end product stockpiles in the product storage area.

Rehabilitation of the site will take place progressively over each stage of the development. The objective of the rehabilitating the site will be to return most of the excavated area to a revegetated state while leaving provision for an alternative ongoing use at the site. Given the timeframe for the extractive industry use at the site a future post-quarry use is not yet known; however, it is envisaged that a use which is already permitted in the zone will be explored and will be subject to a future DA.

Section 7. Viewshed

The viewshed is defined as the area of land surrounding and beyond the project site which may be potentially affected by the Project with regard to key view locations including dwellings. The distance of the viewshed can vary between projects and may be influenced and informed by several criteria including the height and types of infrastructure together with the nature, location and height of landform that may limit and influence the extent of Project visibility. In essence, the viewshed defines the VIA study area.

The viewshed for this Project has been illustrated at 3km extending across the landscape away from the Project site. This distance has been selected due to the overall limited Project scale within the landscape.

It is important to note that the Project may be visible from areas of the landscape beyond the 3km viewshed; however, within the general parameters of normal human vision, the Project would occupy a relatively small proportion of a person's field of view from distances more than 3km and result in a relatively low to negligible level of perceived visual significance.

Section 8. Site images

Figures 3 and 4 present images that illustrate views toward the Project locality and surrounding landscape areas which screen views toward the Project. The images are notated to identify the Project site location where not visible in the image. The site image locations are illustrated on Figure 1.

Section 9. Visual absorption capability

Visual Absorption Capability (VAC) is a classification system used to describe the relative ability of the landscape to accept modifications and alterations without the loss of character or deterioration of visual amenity. VAC relates to the physical characteristics of the landscape that are often inherent and quite static in the long term. In essence the VAC indicates the ability of a landscape setting to absorb development.

The VAC of a landscape is largely determined by inherent physical factors which include:

- the degree of visual penetration (view distance without obstruction) through surrounding landform and tree cover
- the complexity of the landscape through scale, form and line.

Landscapes with a low visual penetration will have higher visual absorption capability values. Complex landscapes which include a mix of scale, form and line (together with some degree of vegetative screening) will also have high visual absorption capability values. The VAC of the landscape surrounding the Project generally exhibits a high VAC due of topographic features, undulating landform, ridgelines and tree cover within and surrounding the Project site.

Section 10. Landscape Impacts

Overall landscape impact would be minimised by surrounding landscape characteristics which contain are defined with consistent patterns and colours, with recurrent hill and ridgeline landforms. Physical changes to the Project landscape would tend to be absorbed to a high degree through generally broad and strong landscape characteristics within and beyond the viewshed. Whilst some change to skyline (between hill and sky) would occur within the site, the overall level of screening and restricted view opportunities would limit the extent of landscape effect.

Section 11. Zone of Theoretical Visibility

ZTV diagrams are used to identify theoretical areas of the landscape from which the Project may be visible from areas surrounding the Project site. They are useful for providing an overview as to the extent to which the Project may be visible from surrounding areas.

The ZTV methodology is a purely geometric assessment where the visibility of the Project is determined from carrying out calculations based on a digital terrain model of the Project site and the surrounding terrain.

The ZTV assessment methodology is very conservative as the screening effects of any structures and vegetation (including extensive areas of trees within the surrounding landscape) above ground level are not considered in any way. Therefore, the Project may not be visible at many locations indicated on the ZTV diagrams due to the local presence of trees, buildings or other screening materials.

While the ZTV diagram is a useful visualisation tool, it is very conservative in nature and the level of visibility as illustrated in the ZTV diagram is unlikely to occur from all view locations within the viewshed. Figure 2 illustrates the ZTV diagram.

Section 12. Key views and visual effects

In accordance with the TfNSW practice note, the significance of visual impact that would result from the construction and operation of a project is a composite of the sensitivity of the view and magnitude of the project in that view.

The TfNSW practice note states that:

'Sensitivity refers to the qualities of an area, the type number and type of receivers and how sensitive the existing character of the setting is to the proposed change. For example a pristine natural environment would be more sensitive to change that a built up industrial area'.

'Magnitude refers to the nature of the project. For example a large interchange would have a very different impact on landscape character than a localised road widening in the same area'.

The combination of sensitivity and magnitude provide the rating of visual impact for a viewpoint. Table 1 sets out the TfNSW practice note relative visual impact grading values which combine sensitivity and magnitude.

Table 2 Project visual impact grading matrix

		Magnitude			
Sensitivity		High	Moderate	Low	Negligible
	High	High impact	High-Moderate	Moderate	Negligible
	Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
	Low	Moderate	Moderate-Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

The TfNSW practice note determines that *'a judgement must be made as to the quality and extent of the design solution in assessing magnitude and impact. Determining a low impact based on the assumption that the very highest quality design outcome would be achieved could be unrealistic and misleading. However it is equally misleading to determine impacts based on the very worst outcomes. A balance must be found but it is usually better to err on the side of caution'*. To be in accordance with the TfNSW practice note, this VIA has erred on the side of caution given that the assessment is based on a concept design that would be further refined during the following stages of the design process.

In accordance with the TfNSW practice note, this VIA has developed a schedule of representative viewpoints which are within a reasonable distance of the Project and within the viewshed. The representative viewpoints include rural residential properties and road corridors. The representative viewpoints are illustrated in Figure 1.

It should be noted that topography and ridgelines surrounding the Project would block views toward the Project from a significant proportion of landscape within the viewshed, and that areas illustrated with visibility (Figure 5) extend across extensive areas of mature dense tree planting. Therefore, most rural dwellings and other key view locations within the viewshed will have no view toward the Project.

Following selection, the receiver viewpoints have been rated as to their sensitivity to change by the Project. The TfNSW practice note states that 'visual sensitivity refers to the quality of the existing view and how sensitive the view is to the proposed change. Visual sensitivity is related to the direction of view and the composition of the view'.

- representative viewpoints and receiver types surrounding the Project
- the view direction and approximate distance to the Project from representative viewpoints
- description of the existing view from representative viewpoints
- an assessment of the visual sensitivity (erring on the side of caution) for each receiver viewpoint and
- an assessment of the visual magnitude (erring on the side of caution) for each receiver viewpoint.

In accordance with the TfNSW practice note magnitude is *'the measurement of scale, form and character of a development proposal when compared with the existing condition. In the case of visual assessment this also relates to how far the proposal is from the viewer'.*

The representative viewpoints are illustrated in Figure 6. The following assessment of potential visual effects considers rural dwellings where identified as having potential views toward the Project through ZVT mapping, which does not factor existing tree cover.

Key view location assessment

Dwelling R6 is located around 2.5km south east of the Project site. An area of dense tree cover extends north west from the dwelling location which would screen views from the dwelling toward the Project site.

Table 3 Visual effect grading – Dwelling R6

Sensitivity of visual receiver	High
Magnitude of visual effects	Negligible
Visual Effect	Negligible

Dwelling R7a is located around 1.9km south east of the Project site. Views toward the Project site would be partially screened and/or filtered by sloping hillside and tree cover across surrounding hills.

Table 4 Visual effect grading – Dwelling R7a

Sensitivity of visual receiver	High
Magnitude of visual effects	Low Moderate
Visual Effect	Moderate

Dwelling R7b is located around 2km south east of the Project site. Views toward the Project site would be partially screened and/or filtered by sloping hillside and tree cover across surrounding hills.

Table 5 Visual effect grading – Dwelling 7b

Sensitivity of visual receiver	High
Magnitude of visual effects	Low Moderate
Visual Effect	Negligible

Dwelling R8 is located around 2.2km south east of the Project site. Views toward the Project site would be screened by trees to the west of the dwelling.

Table 6 Visual effect grading – Dwelling R8

Sensitivity of visual receiver	High
Magnitude of visual effects	Negligible
Visual Effect	Negligible

Dwelling R9 is located around 1.9km south east of the Project site. Views toward the Project site would be partially screened and/or filtered by sloping hillside and tree cover across surrounding hills.

Table 7 Visual effect grading – Dwelling R9

Sensitivity of visual receiver	High
Magnitude of visual effects	Negligible
Visual Effect	Negligible

Dwelling R10 is located around 2.4km south east of the Project site. Views toward the Project site would be partially screened and/or filtered by sloping hillside and tree cover across surrounding hills.

Table 8 Visual effect grading – Dwelling R10 (2 dwellings)

Sensitivity of visual receiver	High
Magnitude of visual effects	Negligible
Visual Effect	Negligible

The Bucketts Way is located around 1.6km to the east of the Project site in a general north south alignment. Indirect line of sight views toward the Project site from the road corridor would be largely screened by landform and/or tree cover alongside the road corridor.

Table 9 Visual effect grading – The Bucketts Way

Sensitivity of visual receiver	Moderate
Magnitude of visual effects	Low
Visual Effect	Negligible (through screening)

Lighting

The proposed hours of operation would require lighting installation for night time work. Lighting is proposed to include mobile lighting units powered from on-site power generation. Lighting would be installed to address the Australian Standard AS4282: 1997 – Control of Obtrusive Effects of Outdoor Lighting. Whilst night lighting may be visible through 'glow' rather than direct illumination, mitigation measures including shielding light illumination and appropriate directional light control (responding to reported issues from property owners) would assist in minimising potential impacts.

Section 13. Cross sections

Cross sections have been prepared from sensitive view locations to illustrate potential line of sight toward the Project site. These include dwellings R7 (cross section A-A1), R9 (cross section B-B1) and R18/R19 (cross section C-C1). The cross section locations are illustrated in Figure 7. Cross sections A and B extend from north west to south east, through the Project site, cut embankments, quarry and processing pad to dwellings west of The Bucketts Way. Cross section C extends from south west to north east, through the Project site, cut embankment, quarry and processing pad to dwellings located on elevated land north east of the Project site.

The individual cross sections, illustrated in Figure 8, highlight topographical variations within the surrounding landscape as well as the extent of tree cover/forested areas extending across hills, slopes and ridgelines. Whilst cross section A and B indicate sightlines extending toward the Project site, actual visibility will be marginal given potential

screening through landform and tree cover. Cross section C demonstrates the Project site will be screened by tree cover south west of dwellings R18 and R19.

Section 14. Cumulative assessment

A cumulative visual impact could result from the Project being constructed in conjunction with other existing or proposed developments which could be either associated or separate to it. Separate developments could occur or be located within a local context where visibility is dependent on a journey between each site or within the Project viewshed.

The Project is considered to have a very limited potential to increase the significance of cumulative visual impact which is largely due to visual screening surrounding the Project site from most view locations (dwellings and roads), as well as the location of the Project relative to existing infrastructure within the broader viewshed.

Section 15. Mitigation measures

The Project has been designed to minimise the potential visual impacts on surrounding viewing locations,

however, the following mitigation and management measures will further reduce impacts:

- To the greatest extent practicable, the Project site will be quarried in a manner that enables mobile equipment to remain shielded behind the active edge of the processing pad.
- Vegetated areas will be retained around the disturbance area and along road frontages.
- Lighting will be directed downwards and away from residential dwellings and public roads in accordance with relevant Australian Standards (AS 4282 – Control of the Obtrusive Effects of Outdoor Lighting).
- The Project site will always be maintained in a clean and tidy condition.

Section 16. Conclusions

This VIA determined the overall landscape character sensitivity to be low to moderate; however, distinguishable characteristics of the landscape character area are unlikely to be significantly altered by the Project. Amendments to landform following extraction would be largely screened from view from most key view locations and are unlikely to result in significant residual visual effects.

Existing landscape character within and surrounding the Project site will have a relatively high capability to absorb change. The Project would not result in the introduction of prominent elements to the surrounding landscape character.

The Project will not form a significant visual element within the viewshed and will not be visible from most key view locations, including areas of rural dwellings, local road corridors and The Bucketts Way. Potential views toward the Project from dwellings illustrated with potential visibility are likely to be partially screened and/or filtered by sloping hillsides with existing dense mature tree cover.

Overall, this VIA has determined the Project would be screened from most key view locations, including dwellings and from vehicles traveling along The Bucketts Way. Where potentially visible the Project is unlikely to form a significant visual element, with the Project resulting in a low to moderate visual effect.

This VIA has assessed the potential visual effect of the Project against relevant policies and guidelines, and has determined that in our professional opinion, the level of visual effect associated with the Project is acceptable.

Andrew Homewood qualifications and experience

This VIA has been prepared by Andrew Homewood, Director and Principal Landscape Architect of Green Bean Design (GBD) Pty Ltd (ABN 866 035 75702). Andrew has held this position for the past 18 years.

Andrew holds post graduate, graduate and tertiary qualifications:

- Graduate Diploma Landscape Management (Sheffield University 1995)
- Bachelor Science (Dual Honours) Landscape Design and Archaeology (Sheffield University 1991-1994)
- National Diploma Amenity Horticulture (Writtle University College 1986-1989)

Andrew is a Landscape Architect and a member of the Environmental Institute of Australia and New Zealand. Andrew has been directly employed or engaged in landscape related work/studies for the past 37 years in the United Kingdom and Australia.

Andrew has prepared numerous landscape and visual impact assessments across a range of state significant developments including renewable energy, mining, electricity transmission, waste management and transport.

Green Bean Design Pty Ltd (GBD) is a highly experienced landscape architectural consultancy specialising in landscape and visual impact assessment. Established in 2006 as an independent consultancy, GBD provide professional advice to a range of commercial and government clients involved in large infrastructure project and policy development.

GBD Director Andrew Homewood is a Landscape Architect and a member of the Environmental Institute of Australia and New Zealand. Andrew has over 35 years' continuous employment in landscape consultancy and has completed numerous landscape and visual impact assessments for a range of state significant developments including wind energy, solar, mining, industrial and transport developments.

GBD has been commissioned for large scale renewable energy projects across New South Wales, Victoria, South Australia, Queensland and Tasmania.

GBD have prepared Expert Witness Statements and been engaged as a peer reviewer of renewable energy landscape and visual impact assessments in Victoria and New South Wales.

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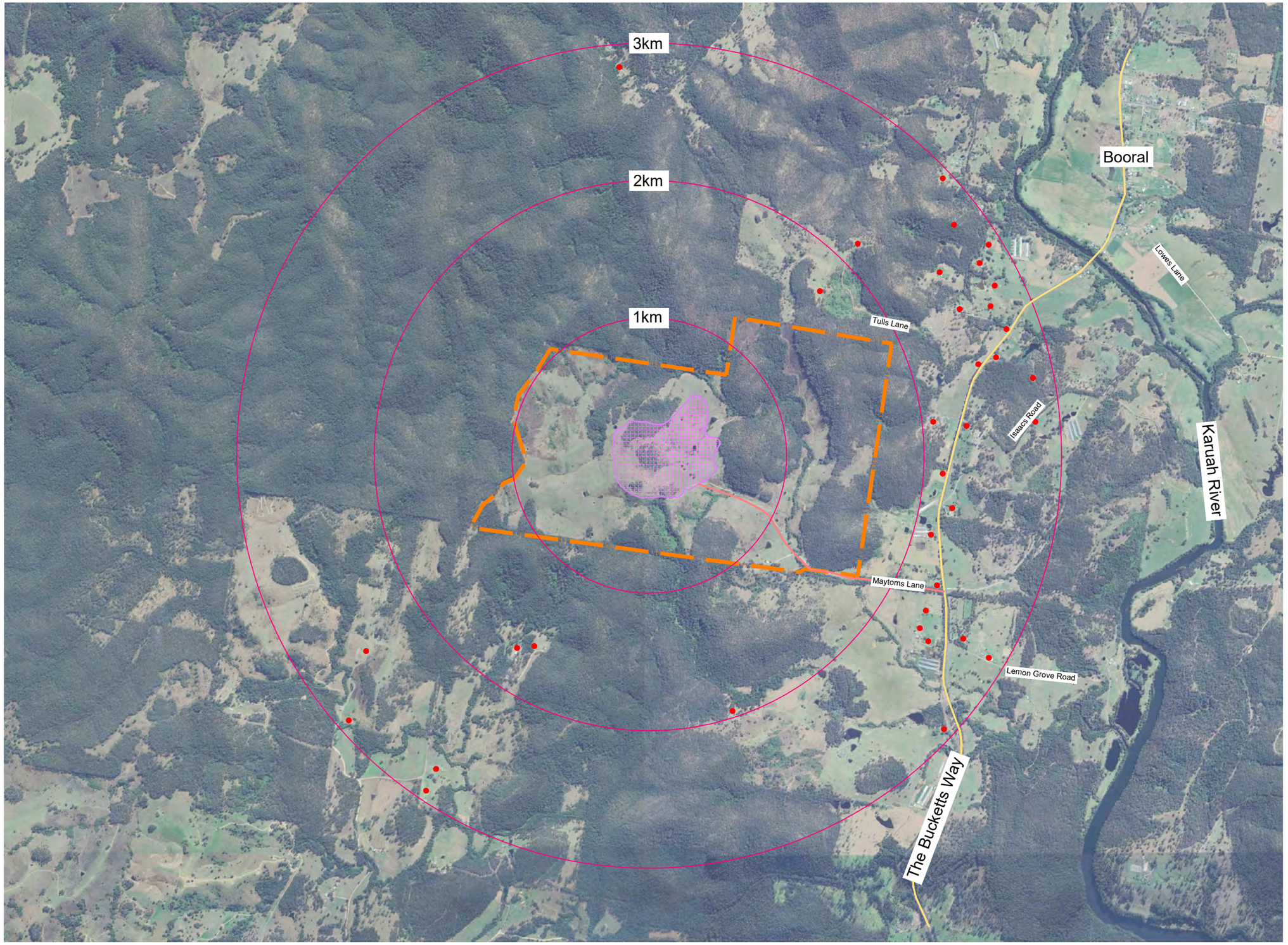
Figures



Legend

Project site (quarry and processing pad)

Site boundary

External haul road/ Maytoms Lane

Dwelling within 3km of Project site

Existing vegetation

0m 1km

Project location plan

Figure 1
Project location plan

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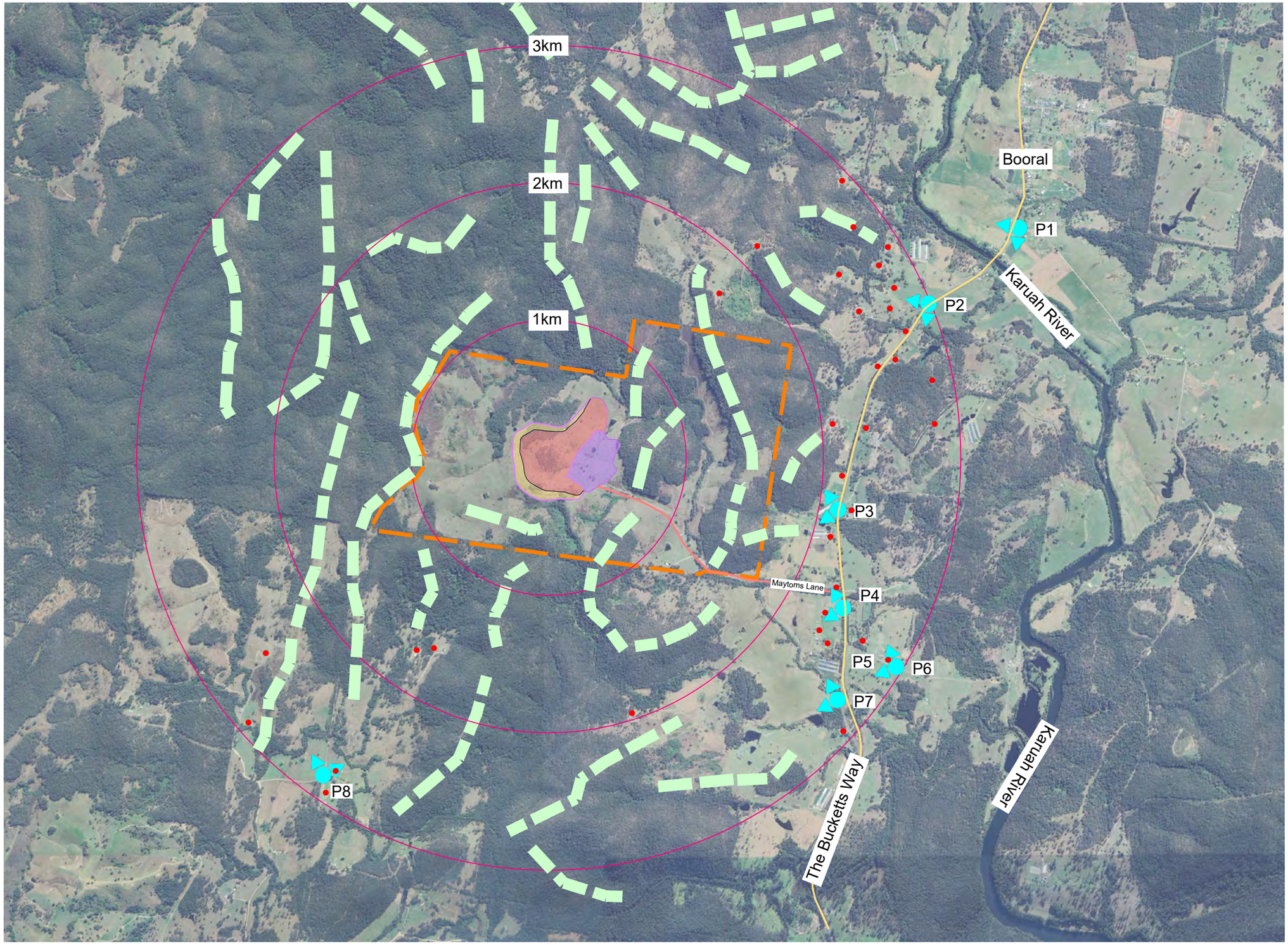


Site image location plan

Legend

- Project site quarry
- Project site processing pad
- Project site cut embankment
- Site boundary
- P2 Photo location
- Dwelling within 3km of Project site
- Principal ridgeline or hill slope with screening potential
- Existing forest vegetation

0m 500m

GBD

Landscape architecture

Figure 2
Site image location plan

The Bucketts Way

Views toward the proposed Project site
are blocked by ridgeline hills and vegetation

Site image P1 View south west from Lowes Lane

Google Earth December 2023 Lowes Lane, NSW E:402161 N:6406420 <http://www.google.com/earth/index.htlm>

The Bucketts Way

Views toward the proposed Project site
are blocked by ridgeline hills and vegetation

Site image P2 View south west from The Bucketts Way

Google Earth December 2023 The Bucketts Way, NSW E:401510 N:6405822 <http://www.google.com/earth/index.htlm>

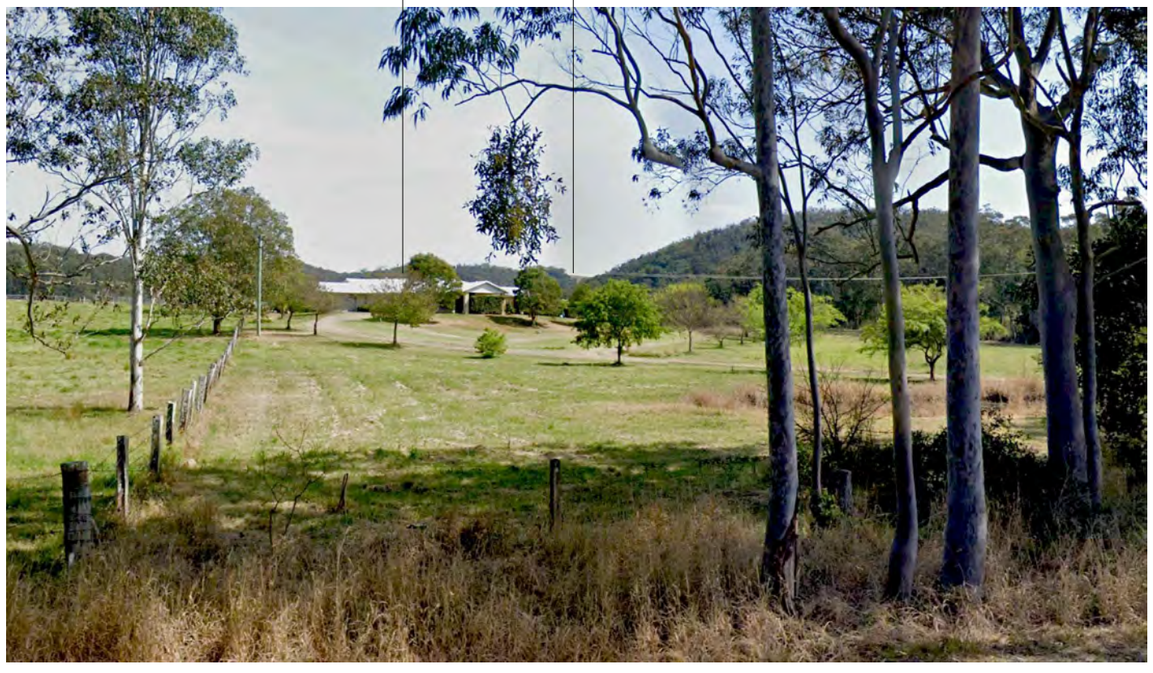
Views toward the proposed Project site
are blocked by ridgeline hills and vegetation

Site image P3 View west from The Bucketts Way

Google Earth December 2023 The Bucketts Way, NSW E:400831 N:6404195 <http://www.google.com/earth/index.htlm>

Dwelling R9

Project site (partial glimpse)

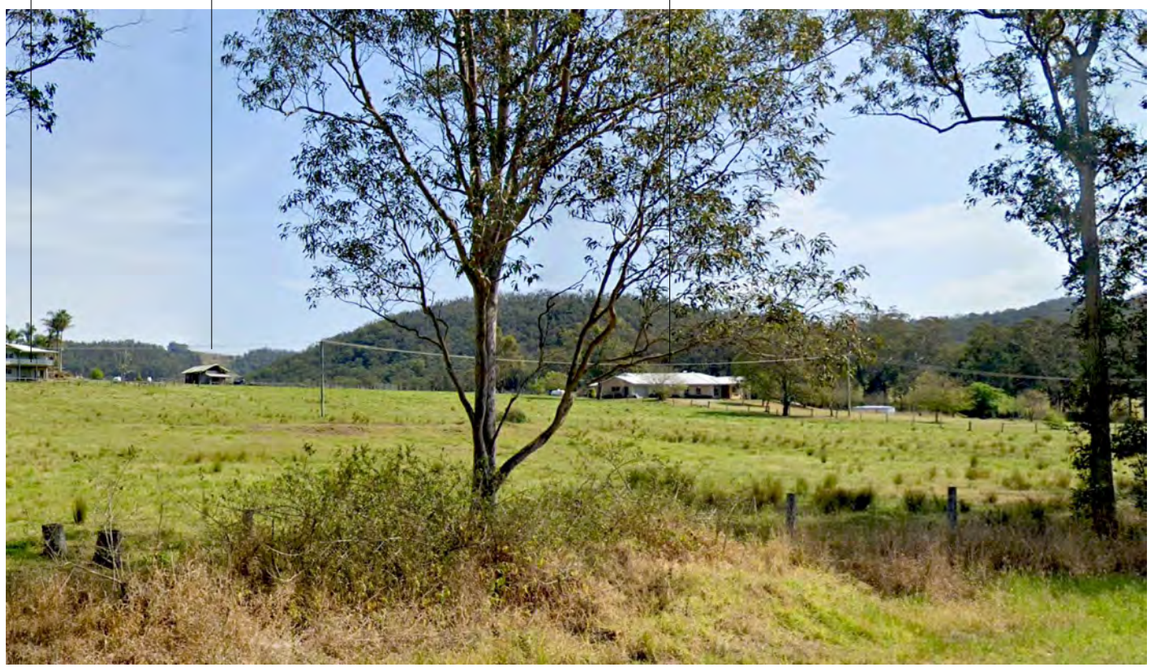


Site image P4 View west north west from The Bucketts Way

Google Earth December 2023 The Bucketts Way, NSW E:400885 N:6403559 <http://www.google.com/earth/index.htlm>

Figure 3
Site images sheet 1

GBD
Landscape architecture



Site image P5 View north west from The Bucketts Way

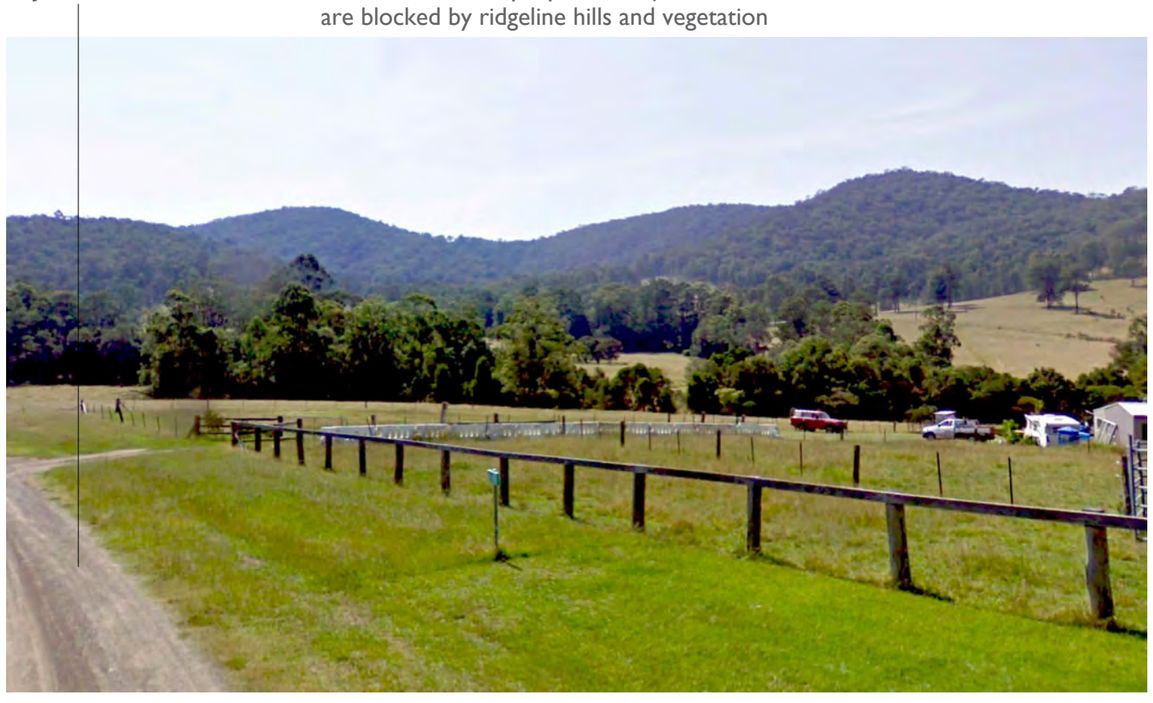
Google Earth December 2023 The Bucketts Way, NSW E:400878 N:6403426 <http://www.google.com/earth/index.htlm>

Site image P6 View north west from Lemon Grove Road

Google Earth December 2023 Lemon Grove Road, NSW E:401196 N:6403215 <http://www.google.com/earth/index.htlm>

Site image P7 View west from The Bucketts Way

Google Earth December 2023 The Bucketts Way, NSW E:400860 N:6403065 <http://www.google.com/earth/index.htlm>

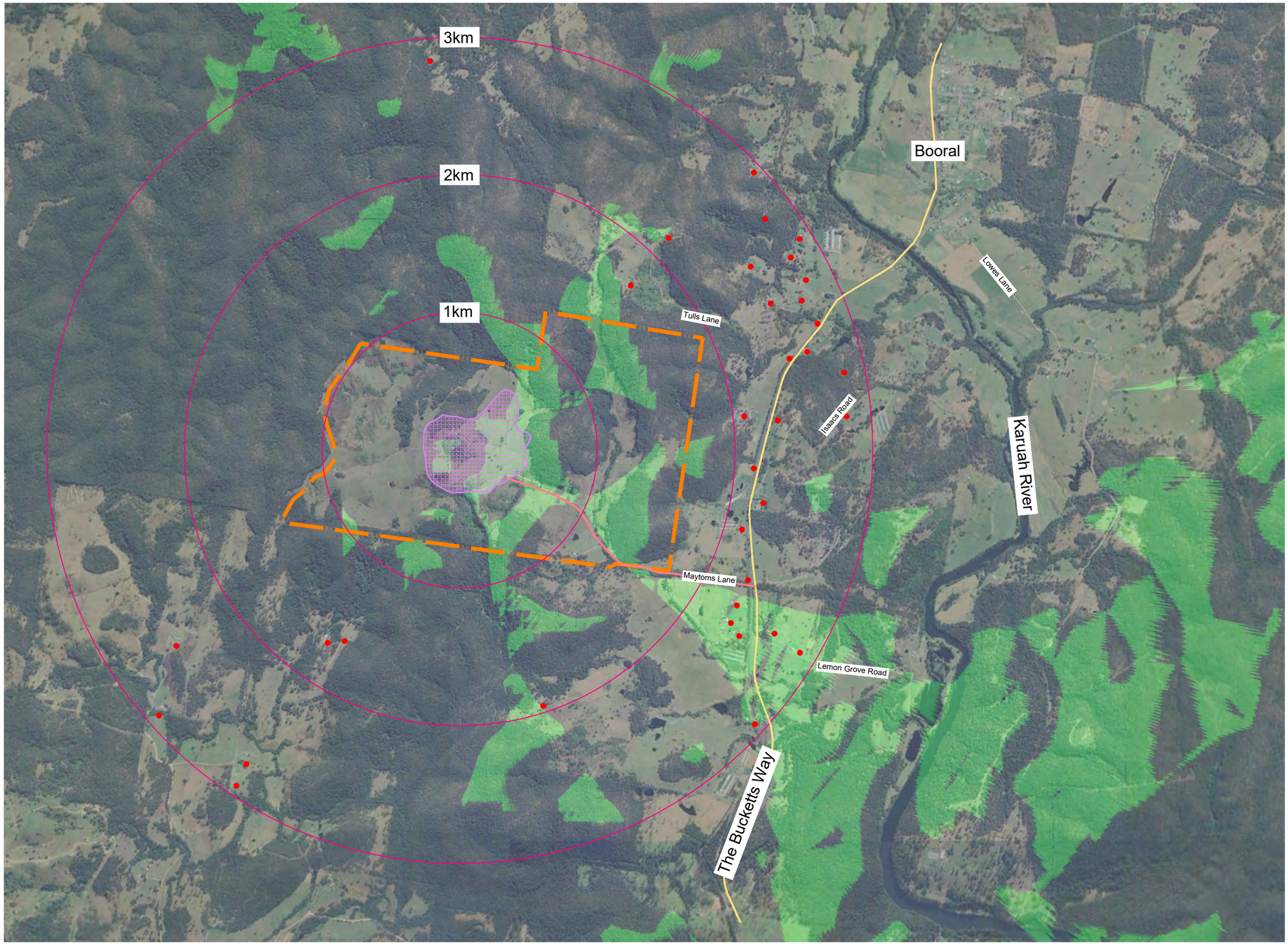


Site image P8 View north east from Julia Road

Google Earth December 2023 Julia Road, NSW E:397118 N:6402443 <http://www.google.com/earth/index.htlm>

Figure 4
Site images sheet 2

GBD
Landscape architecture



Project viewshed

Legend

- Project site (quarry and processing pad)
- Site boundary
- External haul road/ Martoms Lane
- Dwelling within 3km of Project site
- Existing vegetation
- Indicative extent of Project visibility (discounting tree cover screening)

Note:
The Project viewshed has been established from the site highpoint at around 206m AHD plus 2 metres.

0m 1km

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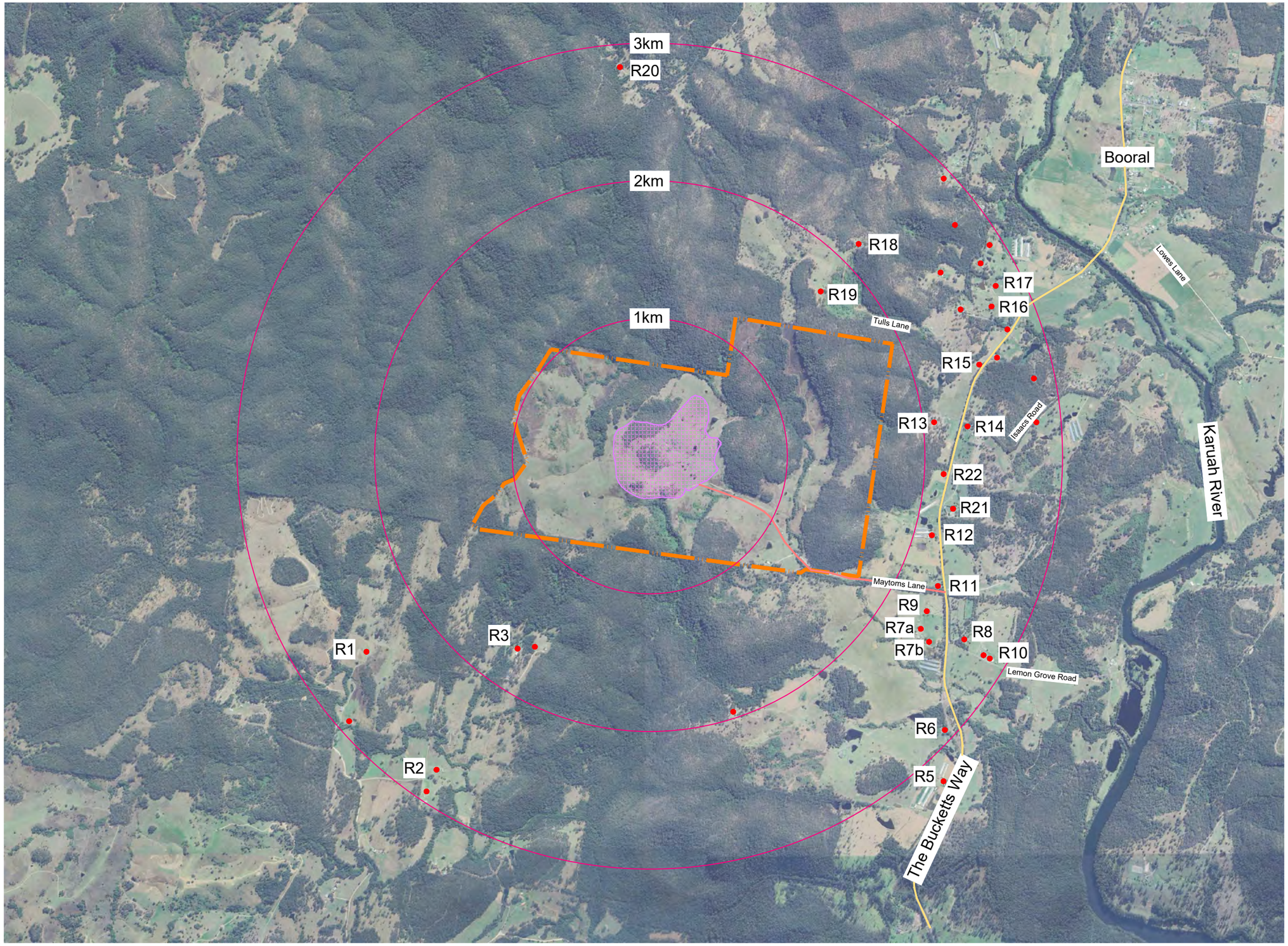
Figure 5
Project viewshed



Legend

- Project site (quarry and processing pad)
- Site boundary
- External haul road/ Martoms Lane
- Dwelling within 3km of Project site
- Existing vegetation

0m 1km

Key view locations

Figure 6
Key view locations

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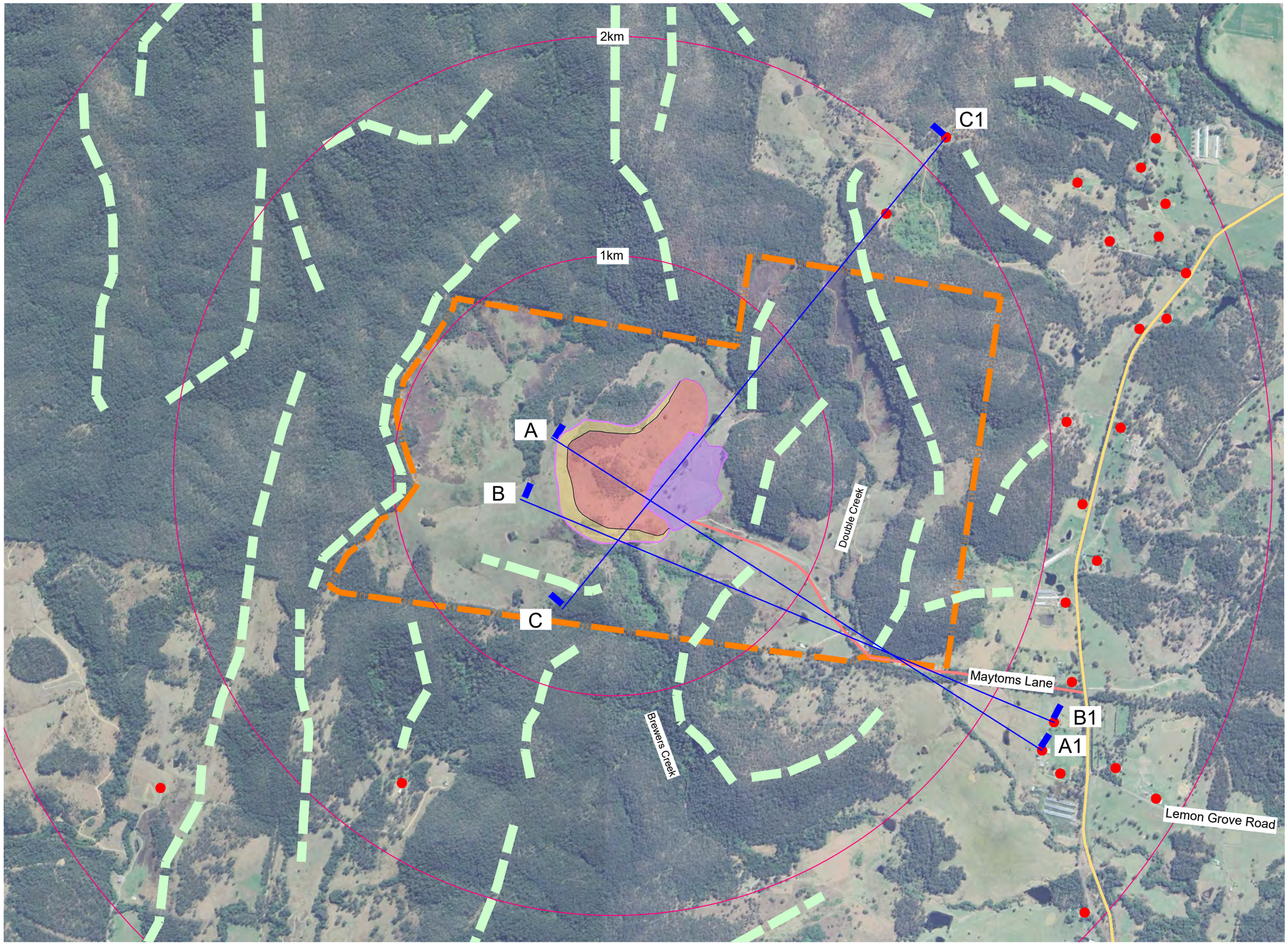

Cross section locations

Legend

- Project quarry
- Project processing pad
- Cut embankment
- Site boundary
- B — Cross section location
- Dwelling within 3km of Project site
- Principal ridgeline or hill slope with Project screening potential
- Existing vegetation

0m 500m

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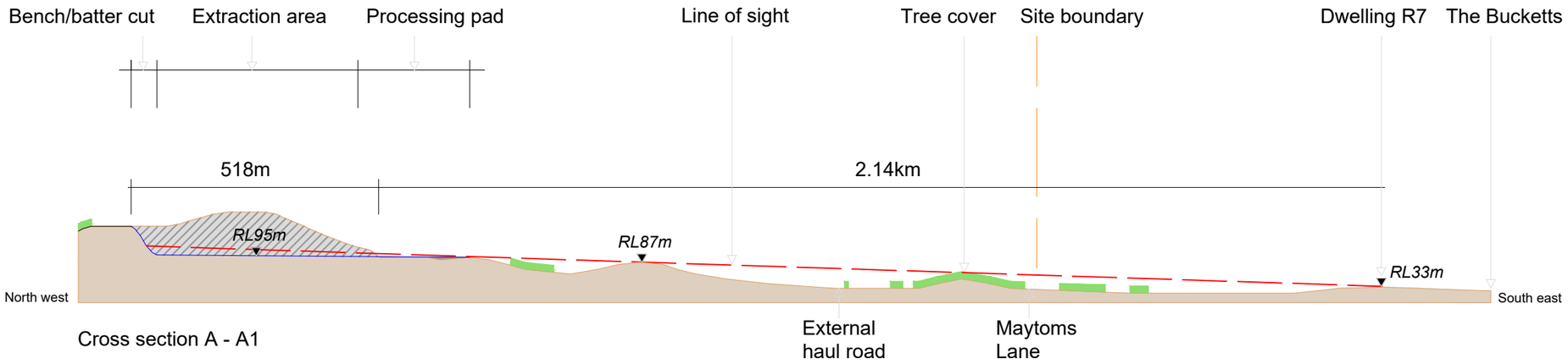
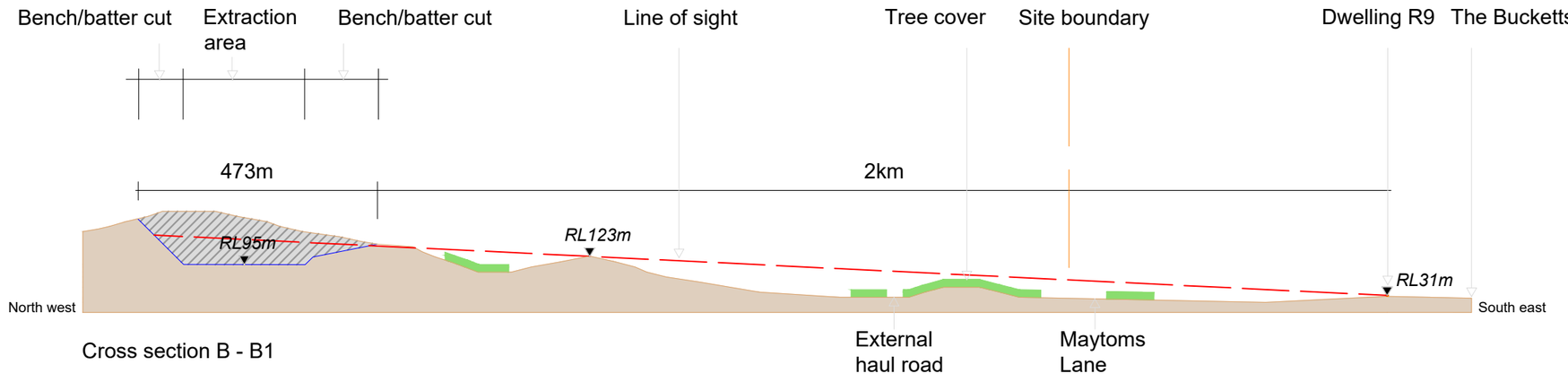
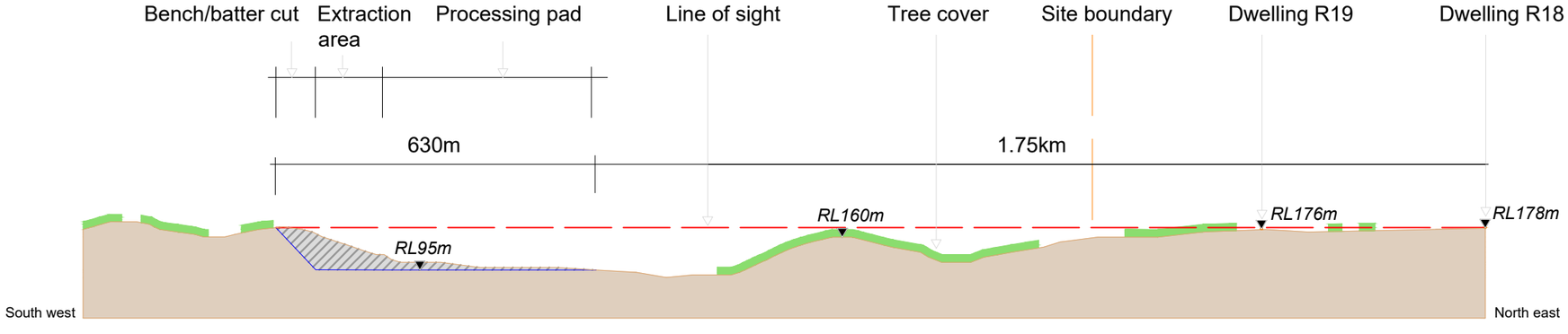
Figure 7
Cross section locations



Cross section A - A1



Cross section B - B1



Cross section C - C1

Figure 8
Cross sections

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