REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Eighth Edition, 2023). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

It will generally be useful for a proponent to discuss the preparation of a Referral with the Impact Assessment Unit (IAU) at the Department of Transport and Planning (DTP) before submitting the Referral.

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once IAU is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
    - a brief description of potential changes or risks to environmental assets resulting from the project;
    - available information on the likelihood and significance of such changes;
    - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A USB copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 10MB as they will be published on the Department's website.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

Minister for Planning
PO Box 500
EAST MELBOURNE VIC 8002

Couriers

Minister for Planning
Level 16, 8 Nicholson Street
EAST MELBOURNE VIC 3002

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to ees.referrals@delwp.vic.gov.au is required. This will assist the timely processing of a referral.

PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

1. Information on proponent and person making Referral

Name of Proponent:	**Boral Resources (VIC) Pty. Ltd.**
Authorised person for proponent: **Position:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Blair Mather **Planning and Development Manager** **251 Salmon St, Port Melbourne VIC** info@boral.com.au **1300 267 258** **-**
Person who prepared Referral: **Position:** **Organisation:** **Postal address:** **Email address:** **Phone number:** **Facsimile number:**	Dana Jeffrey **Associate Planner** **EMM Consulting Pty. Ltd.** **Suite 9.01, Level 9, 454 Collins Street, Melbourne VIC 3000** djeffrey@emmconsulting.com.au **03 9993 1904** **-**
Available industry & environmental expertise: (areas of 'in-house' expertise & consultancy firms engaged for project)	**Boral, an Australian owned, publicly listed company, has over 70 years' experience planning, constructing, operating and managing quarries in Australia. Boral is Australia's leading vertically integrated construction materials solution provider and currently operates 360 sites nationwide.** Boral received expert advice to support the conclusions in this referral from the following consultants: • EMM Consulting (Approvals specialists and Groundwater Dependent Ecosystems). • SLR (Noise, air quality and public health). • GHD (Geotechnical, Groundwater and surface water, staging and rehabilitation). • Ecology and Heritage partners (biodiversity). • Tract (visual impact). • Terrock (blast impact). • Extent Heritage (heritage).

2. Project – brief outline

Project title: Montrose Quarry Extension
Project location: (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context) Montrose Quarry is in Montrose, Victoria, at the foothills of the Dandenong Ranges, approximately 32 kilometres (km) east of Melbourne. The quarry is at the edge of Montrose, where it borders with Kilsyth, in the Yarra Ranges Shire Council area. The existing quarry and area for extension of the quarry pit is located at 56-72 Canterbury Road, Montrose (the site). The quarry is accessed by Fussell Road, which runs along the western boundary of the site. To the north, the site is bound by Canterbury Road, an arterial road that connects the outer east of metropolitan to inner Melbourne and the central business district. Residential properties abut the

eastern boundary of the site. South and south-east of the site is the Dr Ken Leversha Reserve and Bungalook Creek. The land surrounding the quarry is generally used for industrial or residential purposes.

The Montrose Quarry site and surrounds are illustrated in Figure 1 and 2 of the attached figure book.

Short project description (few sentences)**:**

The Montrose Quarry produces a variety of hard stone known as rhyolite and rhyodacite used for concrete aggregate, road construction, sealing aggregates and fill material for projects across the greater metropolitan Melbourne area.

Boral proposes to extend the existing extraction boundary of Montrose Quarry by increasing the pit footprint to the south and east, releasing approximately 26 million tonnes of resource to meet growing market demand for construction products.

The project proposes to extend the extraction extent, increasing the site operational footprint to 52 hectares (ha) within Boral's 78.1 ha landholding. The extension is proposed within Boral's work authority area (WA100) under the *Mineral Resources (Sustainable Development) Act 1990*.

3. Project description

Aim/objectives of the project (what is its purpose / intended to achieve?):

This project seeks to extend the existing extraction boundary of Montrose Quarry, releasing approximately 26 million tonnes of resource over 32 years to meet growing market demand for construction products.

Victoria is growing quickly with demand for extractives (quarry materials) set to double between 2015 and 2050. The construction materials relied upon by Victorians such as concrete, bricks, asphalt, paving, road base and aggregates are made from resources extracted from quarries like Montrose Quarry.

The subject site contains a geologically depleted resource type that is in relatively short supply across the State. The strategic value of this resource is underpinned by several characteristics that are not easily replicated elsewhere:

- **Quality**: The resource comprises high-grade, low-variability rock that exceeds market specifications, supporting its suitability for a wide range of end uses, including high-performance construction applications.
- **Economic viability**: The deposit is large and continuous, located close to the surface with minimal overburden, enabling efficient and cost-effective extraction.
- **Safety**: Favourable geological structures and rock mass conditions support the safe and sustainable extraction of the resource, reducing operational risk and enhancing long-term viability.

By extending Montrose Quarry, Victoria can secure access to a resource that meets future supply needs and supports regional development objectives.

The project also aims to explore alternative end use concepts that maximise community benefit. The current rehabilitation plan for Montrose Quarry's existing extraction area was approved by the Extractive Industries Board on 9th June 1994. As part of this proposal, Boral will explore new end use concepts that enable optimum value outcomes for Boral, its stakeholders and the community.

Background/rationale of project (describe the context / basis for the proposal, eg. for siting):

The demand for extractive resources in Victoria has been tracking at levels higher than previously forecast due to a ramp up in major transport infrastructure investment and strong underlying housing demands. Total extractives production in Victoria is expected to increase to more than 100 million tonnes per annum by 2050. While demand for extractive resources is at an all-time high, supply is constrained.

The proximity of Montrose Quarry to metropolitan Melbourne makes it an ideal site for competitive supply of extractives to Melbourne. Extractive resources are high volume, heavy, low value materials that are ideally extracted close to where they are needed to minimise transport costs as well as social and environmental impacts.

The Yarra Ranges local government area was identified in Victoria's 2018 Extractive Resources Strategy as a resource location critical to securing Victoria's cost-effective future supply of extractive resources. High quality extractive resources are finite and only exist in areas of favourable geology. The extension of Montrose Quarry proposes access to proven reserves of a variety of hard stone, within an existing quarry site that will use existing processing facilities and supply an area with strong demand.

The project would help secure a long-term supply of extractive resource materials at competitive prices close to existing demand centres, enabling construction of significant infrastructure, housing and other projects. Extending the current quarry extraction area rather than sourcing essential quarry products from a new greenfield site would result in significantly less environmental impact.

Alternative sites are located further from demand centres, or have less available resource, increasing the cost of the resource and threatening competitive supply.

Current operations at the Montrose Quarry are maximising the extractable resource by deepening the existing pit as much as possible within the existing pit extent. If the project does not go ahead, the current pit can supply resource for an additional 18 months. After which, if the project does not proceed, Boral will need to explore alternative sites for extraction.

In absence of the project, the market would prematurely lose a significant source of quality construction aggregates that is well located to serve the Melbourne market.

Main components of the project (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The Montrose Quarry includes the following key components: the quarry pit, which is currently 180 m below crest level; a stockyard where piles of quarried materials are stored for processing; and, the quarry plant where all quarried materials are transported for processing and crushing. These key components are shown in Figure 1.

The project proposes to extend the existing eastern and southern quarry faces further east and south, increasing the site operational footprint by approximately 12.7 ha. The final batter design is shown in Figure 3 and 4. The project does not propose to change the location or operational activities at the quarry plant and stockyard. The operating hours, loadout and blasting activities will also remain the same.

The extension is proposed within Boral's work authority area (WA100) under the *Mineral Resources (Sustainable Development) Act 1990*. The proposed extension respects the buffer limits and zones in relation to the WA100 boundary and nearby sensitive receptors. This is described in Table 6 of Attachment A Montrose Quarry Staging Plan and Rehabilitation Concept.

The proposed development of the pit extension is to be split into eight stages over a timeframe of approximately 32 years, subject to market forces. Over that period, Boral proposes an extraction rate of 800 thousand tonnes per year (kt/year) consistent with current operations. The milestones and summary of extraction per stage are described in Table 1 below.

Table 1 Project milestones

Stage	Timeframe (years from commencement)	Resource (t) (2.7t/m3)	Milestone
1	0.5	-	Upgrade of the western access track to 10 m wide and construction of the initial eastern and southern access tracks to allow for initial overburden extraction. Construction of a visual and acoustic attenuation bund in the south-west corner of the site.
2	2	740,880	Advance the overburden and product faces to the south from the eastern access road and to the east from the southern access road. Progressively establishing the quarry batters. The overburden required to be removed in the quarry extension is to be placed in an internal dump at the base of the pit and progressively filled in layers up to a final level.
3	5	2,619,540	
4	7	1,589,220	
5	10	3,335,850	
6	15	3,609,900	
7	22	5,758,830	
8	29	6,066,630	Commence filling the base of the pit with imported fill material.
Final	32	2,371,950	-
Total		26,076,600	-

Ancillary components of the project (eg. upgraded access roads, new high-pressure gas pipeline; off-site resource processing):

Not applicable.

Key construction activities:

The key construction activities associated with the project include:

- Site establishment and clearing. As part of the extension, Boral will need to clear the future extraction extent of vegetation and debris to create a clear environment to begin quarrying.
- The visual and acoustic attenuation bund will be built using topsoil and overburden from the site.
- The proposed access tracks will be established level by level using heavy vehicles so that safe and efficient access to and from the active quarry face can be maintained.

Quarrying activity will then commence.

Key operational activities:

The quarrying activity will occur progressively over a period of approximately 32 years and generally includes the following steps:

Table 2 Operational activities

Activity	Description
Soil stripping and storage	Removal of the topsoil and overburden, to be stored in the stockyard or used in the establishment of bunds on site.
Rock extraction	Extraction by drilling or blasting. Transport of the rock by truck to the primary crusher for processing in the existing material processing facility.
Rock processing	Processing through secondary, tertiary and quaternary crushing. The rock enters the main screen house for classification into distinct size fractions.
Stockpiling and dispatch	Processed material is transported to the stockyard for storage by trucks. The product is then dispatched to customers by trucks.
Site management	Ongoing operational environmental management activities like (drainage, dust suppression and buffer management)
Waste management	During quarrying activity, Boral proposes to develop an internal overburden dump in the quarry pit to manage mining waste from operations.

The existing processing plant manufactures a range of concrete, asphalt and road base aggregates. Boral currently operate ancillary concrete and asphalt batching plants at the site. No changes to these existing activities are proposed.

Key decommissioning activities (if applicable):

The *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act) provides the legal framework for quarrying operations in Victoria. Under the MRSD Act, there is a positive obligation on the holder of a work authority to rehabilitate land in accordance with an approved rehabilitation plan and their work authority conditions.

The rehabilitation plan for Montrose Quarry's current existing extraction area was approved by the Extractive Industries Board on 9th June 1994, when site context and community expectations were very different to today. The current rehabilitation plan outlines that benches above RL 159 will have tree planting following the placement of overburden to minimise visual impact. All benches below RL 159 will remain in their post-extraction condition. The above concept is considered to be sub-optimal and would prejudice possible end uses of the site, including the opportunity to provide a community asset at the end of extractive operations.

To resolve this issue Boral has developed a modernised end use concept for the site.

Attachment A Montrose Quarry Staging Plan and Rehabilitation Concept details the rehabilitation sequencing plans. Filling of the pit void would commence as soon as practicable, towards the completion of the extraction process. It is currently proposed that Boral will source the additional material required to complete the rehabilitation concept from external sources on the open market or from other Boral sites as required/available. Based on conservative fill volumes, backfill of the void space would take approximately 56 years to complete post completion of the project operations.

Attachment B Montrose Quarry End Use Concept Master Plan explores options for eventual end use. The end use concept for the site will be progressively refined throughout the quarry's operational life, incorporating community feedback to ensure the outcome is appropriate, feasible, and aligned with a positive long-term legacy for future generations. The end use concept seeks to improve community access, offer a point of difference and re-establish the biodiversity values of the site.

Is the project an element or stage in a larger project?

☒ No ☒ Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

Not applicable.

Is the project related to any other past, current or mooted proposals in the region?

☒ No ☒ Yes If yes, please identify related proposals.

The project is not related to any past, current or mooted proposals.

In 2004 Boral sought to extend the Montrose Quarry and was required by the then Minister for Planning to prepare an EES. The 2004 project included a different extraction boundary that increased the area to the south by 7.9 ha, over five stages. The then extension contained an estimated 12 million tonnes of reserves, extending the quarrying operational life by 12 years. Despite extracting less product, the 2004 project had the potential for greater environmental effects as it proposed a greater extent of native vegetation removal. The 2004 EES was not submitted for Minister's assessment and the project did not proceed.

This project is not related to the 2004 project. The current project proposes a different extraction area (including extension to the east and a different area of extension to the south), with different and reduced environmental impacts. The current regulatory framework applicable to the project has also significantly changed since 2004, with different legislative requirements governing extractive industry planning and environment approval outcomes.

The current project was designed through an iterative process, guided by first principles thinking and informed by environmental assessments considering avoidance or minimisation of impacts associated with biodiversity, water management, air quality (dust), and noise.

What is the estimated capital expenditure for development of the project?

As the project is the extension of an existing quarry pit, the costs associated with development of the project are primarily captured in ongoing operational costs. On average, operational costs for the quarry are $14 per tonne of aggregate, equating to approximately $365 million over the life of the project. Future capital investment for development over the life of the project is expected to be $10 to $15 million for improvement to plant and equipment over the operational life.

The total cost of the project is therefore anticipated to be approximately $380 million.

4. Project alternatives

Brief description of key alternatives considered to date ((eg. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Boral has investigated alternative project designs, which seek to maximise the extractable resource while avoiding and minimising the potential for environmental effects. Alternative designs increase the potential for environmental impacts or are not worth pursuing because of the limited extraction yield or the cost of relocating site infrastructure. For example, extending the quarry further south (beyond what is currently proposed) increases the native vegetation removal impacts and landscape and visual impacts. While, extending to the north would require the relocation of existing plant and equipment.

If the project does not go ahead, Boral would continue to process product from other quarries, like Coldstream, using the existing facilities at Montrose Quarry. This is because Montrose Quarry has the capacity to produce a range of concrete, asphalt and road base aggregates close to demand centres. The increase in transport of product to Montrose Quarry would likely have a greater effect on amenity than the project which sources product on site for processing.

Boral would also need to explore alternative sites for the extraction of aggregates. Alternative greenfield sites are not considered feasible due to a range of factors including:

- Conflicting surrounding land uses or environmental constraints
- Limited access to extractive resources
- Resource depletion from existing quarry activities
- Proximity to demand centres
- Time and cost associated with establishing a new quarry.

Brief description of key alternatives to be further investigated (if known)**:**

Given the unique geological attributes of the site, no key alternatives will be further investigated.

5. Proposed exclusions

Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

The existing plant operations are excluded from this proposal as they are not proposed to change as a result of project works.

6. Project implementation

Implementing organisation (ultimately responsible for project, ie. not contractor)**:**

Boral Resources (VIC) Pty Ltd are the implementing organisation and proponent for the project.

Implementation timeframe:

The proposed timeframe for delivery of the project is outlined in Table 3 below, noting that these timeframes are linear and do not overlap. These timeframes are indicative only and subject to the successful completion of the regulatory approvals process.

Table 3 Project schedule

Activity	Timing
Construction	0.5 years
Operations	32 years
Rehabilitation and closure	56 years

There are some minor differences in the reported timeframes for the project within the technical assessments attached to this referral. This is a reflection of the time period in which the reports have been prepared. The timeframes in Table 3 above are accurate and should be relied upon. Where there is a difference in the timeframes, it is not considered that this ultimately changes any of the reports' findings.

Proposed staging (if applicable):

The project is not proposed to be staged. While the extension of the pit is proposed to be undertaken in eight stages, these stages are part of the overall construction, operation and rehabilitation of the project and are considered one project, consistent with the nature of extractive industry.

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

☐ No ☒ Yes If no, please describe area for investigation.
If yes, please describe the preferred site in the next items (if practicable).

General description of preferred site, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The following assessments characterise the site effected by the project:

- Attachment C Biodiversity Impact Assessment (Ecology and Heritage Partners, 2024)
- Attachment D Noise Impact Assessment (SLR, 2024).
- Attachment E Air Quality Impact Assessment (SLR, 2023).
- Attachment F Surface Water and Groundwater Assessment (GHD, 2025).
- Attachment G Preliminary Groundwater Dependent Ecosystem Assessment (EMM, 2025).
- Attachment H Landscape and Visual Assessment (Tract 2024).
- Attachment I Blast Impact Assessment (Terrock, 2024).
- Attachment J Public Health Risk Assessment (SLR, 2024).
- Attachment K Phase 3 Groundwater Dependent Ecosystem Assessment (GHD,2025).
- Attachment L Heritage Impact Assessment (Extent Heritage, 2024).

These studies involved a range of assessment methods, including desktop and field investigations.

Site context

The Montrose Quarry site and surrounds are illustrated in Figure 1 and 2. The current quarry operates on Boral's 78.1 ha landholding at 56-72 Canterbury Road, Montrose (the site).

The quarry plant and stockyard are located along the northern boundary of the site, abutting Caterbury Road and Fussell Road. The former work authority area previously set the limit for the quarry pit, which extends south into the site from the plant area and stockyard. The southern and eastern most extents of the site are currently undisturbed, acting as an environmental buffer to assist in maintaining the amenity of the immediate area.

As shown in Figure 1, the work authority area (WA100 area) has been extended to include the entirety of the site. While the work authority area has been extended to include the entirety of the site, the project only proposes activity within the proposed project footprint shown in Figure 1.

Topography
The quarry has been established on the north-western foothills of Mount Dandenong. The topography surrounding the site is generally flat or gently undulating to the west.

The site is located at approximately 180 m from the edge of the Dandenong Ranges which rise to the east and south-east of the site. The Dandenong Ranges peak at Mount Dandenong, 633 m above sea level, is located approximately 2 km from the site.

The north-western corner of the site lies at an elevation of around 135 m AHD. The east of the site is approximately 20 m greater in elevation than the west. The southern parts of the site, which constitute the proposed extension area for the quarry rise to over 200 m AHD.

Bungalook Creek drains the northern slopes of Mount Dandenong, within the south-eastern boundary of the site.

Meteorology
The nearest available automatic weather stations collecting data is operated by the Bureau of Meteorology (BoM) located at Scoresby, approximately 9 km south-east of the project and is likely subject to similar conditions as the site.

Mean maximum temperatures range from 13.1°C in winter to 26.5°C in summer, while mean minimum temperatures range from 5.8°C in winter to 13.9°C in summer.

The average monthly rainfall is highest in autumn with the highest average monthly rainfall of 86 mm/month in May and an average of 12 rain days recorded in this month. The lowest average of 52 mm/month, and 6 days of rain occurs in February.

Morning humidity levels range from an average of around 67% in summer to around 85% in winter. Afternoon humidity levels are lower, at around 68% in summer dropping to around 46% in winter.

Overall, winds from the north to north-east are predominant, with few winds from the east. Spring and autumn have similar distributions to the annual distribution. Summer months see more winds from the south.

Sensitive Receptors
As defined in the *Environment Protection Regulation 2021* sensitive receptors include dwellings, hospital wards, accommodation centres, prisons, tourist establishments, retirement villages, childcare centres, kindergartens.

Industrial land uses are located directly north and west of the quarry, with residences beyond on Cherylnne Cresent and Liverpool Road respectively. Other sensitive receptors are located directly east on Ash Grove, to the south on Jeanette Maree Court and south-east on Sheffield Road.

The closest sensitive receptor to the project is approximately 55 m east from the existing quarry extraction limit. This separation distance would not be reduced under the proposed extraction limit. To the south, the nearest sensitive receptor is approximately 220 m from the existing quarry extraction limit which would reduce to approximately 120 m under the proposed extraction limit.

Waterways
The site is within the Melbourne Water catchment area. There are three nearby named waterways in the vicinity of the quarry. Bungalook Creek on the southern boundary of the site is a small perennial or intermittent creek and the only waterway potentially affected by the project. The creek commences further north-east of the quarry, flows west and southwest towards the quarry, before it ultimately confluences with Dandenong Creek approximately 7 km further to the west to south-west. Its catchment includes urbanised and peri-urban areas. The dominant land use within the catchment is urban, but some areas are used for grazing and industrial land uses. The Bungalook Creek flow records indicates typical daily flow rates ranging from around 0.1 ML/day to 30 ML/day.

Groundwater
The groundwater is typically fresh and although groundwater use occurs in the region, bore densities are not great. The depth to groundwater is variable across the site, owing to the steep topography. In the southern and eastern parts of the site, groundwater levels can be over 50 m below surface, however, closer to Bungalook Creek, groundwater can be within 5 m of the ground surface.

Vegetation Cover
The majority of the site is void of vegetation due to the existing quarry. However, to the east and south, there are areas of undisturbed vegetation further described in Part 2 of this referral.

Site area (if known): …78.1 ha……. (hectares)

The project is located on the existing Montrose Quarry site, which is approximately 78.1 ha.

This project proposes to extend the extraction boundary of the quarry pit to the south and east of the existing quarry operations. The proposed project footprint is shown in Figure 1. It has an area of approximately 52 ha which includes the existing quarry pit, plant and stockyard and the area for extension of the extraction boundary. The project footprint is within the WA100 area.

There are some minor differences in project footprint within the technical assessments attached to this referral. The site area described above and shown in Figure 1 is accurate and should be relied upon. It is not considered that these minor differences change the findings of the assessments.

Route length (for linear infrastructure) ……N/A……. (km) **and width** ……N/A…….. (m)

Current land use and development:

The site is currently used for extractive industry and has been used in that way since 1953. The project extends the existing site activities further south and east on the land.

Description of local setting (eg. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The land surrounding the quarry is generally used for industrial or residential purposes to the north, west and east. South and south-east of the quarry there is bushland reserve and a Melbourne Water retarding basin.

The local area surrounding the site is dominated by industrial use and residences. Industrial land uses are located directly north and west of the quarry, with residences beyond on Cherylnne Cresent and Liverpool Road respectively. Other sensitive receptors are located directly east on Ash Grove, the south on Jeanette Maree Court and south-east on Sheffield Road.

Pinks Reserve and the Montrose Recreation Reserve provide recreational space to the local community, offering sporting facilities (football, cricket, netball, tennis) and children's playgrounds.

The quarry is withing 1 km of Gladesville and Billanook primary schools, with both private industrial and residential land uses located in between the schools and the site. There is currently minimal commercial centres in close proximity to the site. Montrose's commercial centre is

located further along Canterbury Road, where it intersects with Mount Dandenong Tourist Road.

The closest natural area is Dr Ken Leversha Reserve located 130 m east of the site boundary. The Doongalla Forest and Dandenong Ranges National Park are located approximately 1 km from the site boundary.

Planning context (eg. strategic planning, zoning & overlays, management plans):
Add planning context (zone overlays & pathway)

Figure 6 shows the applicable zones and overlays for the site.

The subject site is affected by the following planning controls under the Yarra Ranges Planning Scheme:

- Special Use Zone Schedule 1 (SUZ1 - Earth and Energy Resources Industry).
- Special Use Zone Schedule 6 (SUZ6 - Extractive resource environmental buffer).
- Green Wedge Zone A Zone Schedule 1 (GWAZ1).
- Environmental Significance Overlay Schedule 1 (ESO1 - Highest biodiversity habitat areas and biolink corridors).
- Significant Landscape Overlay Schedule 1 (SLO1 - Dandenong Ranges Landscape).
- Bushfire Management Overlay (BMO).

The northern part of the site, within which the current extent of the quarry is located, is included in the SUZ1. The use of the land for a quarry, categorised as an *extractive industry* under the planning scheme is consistent with the purposes of the SUZ1 and is a Section 2 permit required use.

The southern part of the site, into which the quarry is proposed to be extended, is located within the SUZ6. The purposes of the SUZ6 include:

- *"To protect properties in proximity to an extractive industry use from noise, dust, visual intrusion and other adverse impacts.*
- *To maintain the amenity of the immediate area, by protecting remnant vegetation and by using extensive landscaping and visual screening.*
- *To preserve the option of future exploitation of stone deposits and ensure the detailed environmental and other assessment of any future stone extraction proposal through a planning scheme amendment process.*
- *To prevent the intrusion of uses into the area which are incompatible with an extractive industry use."*

The third bullet point of the SUZ6 purposes demonstrates that the expansion of the quarry into the SUZ6 area is clearly contemplated, and that a planning scheme amendment process is considered to be an appropriate approval process to consider potential environmental assessments. Consistent with this specific purpose, and the identified requirement for a planning scheme amendment process, in theSUZ6, the use of the land for extractive industry is a prohibited use. Therefore a planning scheme amendment would be required to facilitate the project in the SUZ6.

A portion of the land in the south-west corner, which forms part of the expanded WA100 area but which will not form part the extension footprint, is included in the GWAZ1. This area of the site will be retained as part of a buffer area to the expanded quarry pit.

There is State planning policy that supports the extraction of natural resources subject to appropriate buffers being put in place and acceptable environmental outcomes.

Local policy is more measured in its support for extractive industry. Some policies support extractive industry resources subject to protecting environmentally sensitive areas whilst others seek to prevent the expansion of existing quarry operations into established buffer areas that protect sensitive uses even though policy also acknowledges that the stone resources are finite.

Key policy directions also seek to minimise environmental impacts including in relation to flora and fauna, cultural heritage, waterways and groundwater.

The need to manage incompatible land uses and off site amenity impacts also form key policy

directions, as does the significant landscape values of the Yarra Ranges, as evidenced through the application of the ESO and SLO.

As noted above, a planning scheme amendment would be required, consistent with the purpose of the SUZ6, to facilitate the proposed extension. An accompanying planning permit may also be required, depending upon the nature of the planning controls proposed for the quarry site. These pathways would be explored in collaboration with the State government as part of a future approvals process.

Local government area(s):

The site is located wholly within the Yarra Ranges Local Government Area and governed by the Yarra Ranges Planning Scheme.

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity
(cf. general description of project site/study area under section 7)**:**

The following assessments characterise the existing environment of the site:

- Attachment A Montrose Quarry Staging Plan and Rehabilitation Concept
- Attachment C Biodiversity Impact Assessment (Ecology and Heritage Partners, 2024).
- Attachment D Noise Impact Assessment (SLR, 2024).
- Attachment E Air Quality Impact Assessment (SLR, 2023).
- Attachment F Surface Water and Groundwater Assessment (GHD, 2023).
- Attachment G Preliminary Groundwater Dependent Ecosystem Assessment (EMM, 2025).
- Attachment H Landscape and Visual Assessment (Tract 2024).
- Attachment I Blast Impact Assessment (Terrock 2024).
- Attachment J Human Health Impact Rick Assessment (SLR 2024).
- Attachment K Phase 3 Groundwater Dependent Ecosystem Assessment (GHD,2025).
- Attachment L Heritage Impact Assessment (Extent Heritage, 2024).

These studies involved a range of assessment methods, including desktop and field investigations.

Native vegetation
The Montrose quarry site is predominately within the Highlands – Southern Fall bioregion which covers approximately three-quarters of the eastern side of the site, and the Gippsland Plain bioregion which covers the western quarter of the site.

The biodiversity study area (Attachment C) covers 32.737 hectares, including the vegetated areas east and south of the existing quarry pit within the site boundary. A total of 28.471 hectares of native vegetation was identified during the habitat hectare assessment, with 323 large trees present within patches within or close to the proposed extraction limit. The remainder of the study area comprised introduced planted vegetation, present as pasture grass and ornamental garden species. A total of 139 flora species were recorded within the study area, including 62 indigenous and 77 non-indigenous species.

Native vegetation in the study area is representative of two Ecological Vegetation Classes (EVCs): Herb-rich Foothill Forest (EVC23) and Shrubby Gully Forest (EVC938). The presence of these EVCs is generally consistent with the modelled 2005 native vegetation mapping.

Of the 323 large trees, all were located in patches of Herb-rich Foothill Forest (EVC23) and included Messmate Stringybark, 18 Red Stringybark, 17 Bundy and 13 dead eucalypts.

Groundwater and surface water
The area around the quarry is comprised of a two-aquifer system that includes alluvial sediments associated with Bungalook Creek and other waterways, and the fractured Palaeozoic rocks that form part of the Mount Dandenong Volcanics Complex. The alluvial sediments may have higher permeability than the underlying fractured bedrock, although the permeability of the bedrock may

have increased in areas that have been subject to faulting, shearing, or weathering. There are three named waterways near the quarry, the closest and most significant being the 13 km long Bungalook Creek that drains the northern slopes of Mount Dandenong. Bungalook Creek is the nearest waterway to the quarry and lies on the southern boundary of the site. Its catchment includes urbanised and peri-urban areas. The dominant land use within the catchment is urban, but some areas are used for grazing and industrial land uses. The Bungalook Creek flow records indicates typical daily flow rates ranging from around 0.1 ML/day to 30 ML/day.

Interactions between groundwater and surface water in the area are complex.
The depth to groundwater is variable across the site owing to the steep topography. In the southern and eastern parts of the site groundwater levels can be over 50 m, however, closer to Bungalook Creek, groundwater can be within 5 m of the ground surface. Streamflow in Bungalook Creek is likely to recharge the water table, via leakage from the stream bed.

Historical extraction at the quarry is likely to have resulted in some drawdown towards Bungalook Creek, albeit temporary and limited to periods of low flow when there is insufficient leakage to top up the water table.

GDEs
The BoM GDE Atlas suggests that Bungalook Creek has a high potential of being a GDE, downstream of the site, and that there are some areas of vegetation in the vicinity of the quarry with low to moderate potential of being GDEs.

EMM prepared a Groundwater Dependent Ecosystem Assessment (Attachment G) to identify the extent of ecohydrological function of groundwater dependent ecosystems (GDEs) within the Montrose Quarry site. The assessment relied on results from field assessment in February 2025 which included leaf isotope analysis to determine dependence on groundwater. The results suggest there are no terrestrial GDEs within the site and the terrestrial ecology values rely on soil moisture sustained by rainfall and creek flows.

Human receptors (amenity)
The quarry site, including the existing operational area and proposed extension area, is adjacent to residential housing to the north-east and south-west, with the closest dwelling approximately 55 m east of the current extraction area. This separation distance would not be reduced under the proposed extraction limit. To the south, the nearest sensitive receptor is approximately 220 m from the existing quarry extraction limit which would reduce to approximately 120 m under the proposed extraction limit.

Dandenong Ranges National Park
Dandenong Ranges National Park is located approximately 1 km south-east of the quarry site at its closest point, rising steeply on the sides of the Dandenong Ranges. The park serves as an important leisure and conservation zone with high tourism and recreational value due to its scenic values, providing a picturesque backdrop and city views from designated scenic viewpoints.

Aboriginal cultural heritage
The site is on Wurundjeri land. There is one registered Aboriginal place within the extension area which comprises a series of findspots on hillsides across the south-western corner of the site. The low densities identified indicate that stone artefacts have been either casually discarded by Aboriginal people as they traversed the gently sloping land or dispersed throughout the landscape via natural processes or as a result of historic land use.

Historic heritage
Three places are registered on the Victorian Heritage Inventory on the subject site south of the existing quarry pit. Of these places, two are within the footprint of the proposed quarry extension – one site is the former location of a WWII homestead and the other an artefact scatter.

9. Land availability and control

Is the proposal on, or partly on, Crown land?

☒ No ☐ Yes If yes, please provide details.

Current land tenure (provide plan, if practicable):

Boral own the land proposed for the project. The existing quarry site spans 17 land parcels, with the proposed extension extending across a further two land parcels.

The land parcels within Borals ownership relevant to the project are:

Lot 3 LP28407 3\LP28407
Lot 4 LP28407 4\LP28407
Lot 5 LP28407 5\LP28407
Lot 6 LP28407 6\LP28407
Lot 2 LP33736 2\LP33736
Lot 4 LP33736 4\LP33736
Lot 5 LP33736 5\LP33736
Lot 6 LP33736 6\LP33736
Lot 7 LP33736 7\LP33736
Lot 1 LP33792 1\LP33792
Lot 1 TP186055 1\TP186055
Lot 1 TP186056 1\TP186056
Lot 1 TP237908 1\TP237908
Lot 1 TP240397 1\TP240397
Lot 1 TP244371 1\TP244371
Lot 1 TP247561 1\TP247561
Lot 1 TP320315 1\TP320315
Lot 1 TP339840 1\TP339840
Lot 1 TP386740 1\TP386740
Lot 1 TP557828 1\TP557828
Lot 1 TP585781 1\TP585781
Lot 1 TP631632 1\TP631632
Lot 1 TP840679 1\TP840679
Lot 1 TP876683 1\TP876683
Lot 2 TP876683 2\TP876683
Lot 3 TP876683 3\TP876683
Lot 4 TP876683 4\TP876683
Lot 5 TP876683 5\TP876683
Lot 6 TP876683 6\TP876683
Lot 1 TP885943 1\TP885943
Lot 1 TP898839 1\TP898839
PARISH OF MOOROOLBARK
Allot. 38B 38B\PP3176

Intended land tenure (tenure over or access to project land):

No changes to the land tenure are proposed as part of the project.

Other interests in affected land (eg. easements, native title claims):

There are no other interests are held over the affected land.

10. Required approvals

State and Commonwealth approvals required for project components (if known):

The primary approvals required for the project are:

- a Work Plan Variation approved under the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act).
- a planning scheme amendment (PSA) and potentially an accompanying planning permit under the *Planning and Environment Act 1987*.
- a development licence under the *Environment Protection Act 2017*.
- a cultural heritage management plan (CHMP) under the *Aboriginal Heritage Act 2006*.

An assessment against the relevant significant impact thresholds for the identified Matters of National Environmental Significance (MNES) is currently being undertaken to determine the need for assessment and referral under the *Environment Protection and Biodiversity Conservation Act 1999*. Should referral under the *Environment Protection and Biodiversity Conservation Act 1999* be required, Boral will prepare and lodge the relevant referral documentation.

Approvals under the *Water Act 1989, Heritage Act 2017, Catchment and Land Protection Act 1994* and *Wildlife Act 1975* may also be required.

The necessary approvals and available approval pathways will be explored in full and obtained by Boral before extension of the quarry commences. The legislative framework applicable to the

project is well equipped to oversee the management of potential impacts that could arise as a result of the project.

Have any applications for approval been lodged?

☒ No ☐ Yes If yes, please provide details.

Approval agency consultation (agencies with whom the proposal has been discussed):

Boral has engaged with Earth Resources Regulator and hosted an on-site meeting with referral agencies who will input into the Work Plan Variation for the site.

During development of the project, Boral has met with the following regulatory agencies:

- Yarra Ranges Shire Council
- Environment Protection Authority (EPA)
- Department of Energy, Environment and Climate Action (DEECA)
- Melbourne Water
- Southern Rural Water
- Heritage Victoria
- First Peoples State Relations
- Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation.

Other agencies consulted:

Nil

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

Boral has iteratively designed the project to avoid significant environmental impacts. Based on the criterion within the *Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act 1978 (DTP, Eighth Edition 2023)* the potential impacts are not considered to be significant and could be appropriately managed under the regulatory framework that applies to the project to ensure avoidance, minimisation and management.

Native vegetation

The project will result in the direct removal 8.779 ha of native vegetation including 262 large trees recorded within the patches of native vegetation. Based on the findings of the biodiversity assessment, Boral refined the pit design to reduce the amount of native vegetation removal as far as reasonably practicable while still making the project viable.

Of the vegetation to be removed, the Herb-rich Foothill Forest (EVC23) (listed as 'least concern' in the Highlands – Southern Fall bioregion) will be impacted.

The potential for indirect native vegetation loss as a result of changes to the groundwater and surface water environment along Bungalook Creek is considered low. With mitigation and monitoring measures implemented, it is unlikely that significant indirect effects on native vegetation would occur.

Threatened species or communities

No nationally or State-significant threatened ecological communities are affected by the project.

Three State-significant flora species were observed within the proposed extraction boundary during the initial biodiversity assessment (Attachment C) and will be affected by the project:

- one specimen of the Sticky Wattle (vulnerable)
- two specimens of Dandenong Wattle (endangered)
- 105 Mountain Bird-orchid plants (vulnerable).

It is not considered likely that the impacts to threatened flora would result in the potential loss of a significant portion of habitat or population.

The projects footprint will result in forest loss that contains large trees with a variety of hollow sizes which are likely habitat for important fauna such as the Gang-gang Cockatoo, Southern Greater Glider, Powerful Owl, Barking Owl and Sooty Owl.

However, given there is approximately 48 ha of mature forest outside of the project footprint both within and directly adjoining the site, the loss of 8.779 ha of forest and removal of hollows within the project footprint is not considered to be a comparatively large loss of critical habitat. It is also unlikely to result in the potential loss of a genetically important or significant species, or the potential loss of critical habitat for significant species.

The State-significant Dandenong Burrowing crayfish has been recorded as being present in Bungalook Creek upstream of the site. Targeted surveys for the burrowing crayfish were undertaken in accordance with DEECA validated surveying methods. Two specimens of the non-threatened Central Highlands Burrowing Crayfish were recorded; however, no Dandenong Burrowing crayfish or Foothill Burrowing crayfish were identified during the survey period. Notwithstanding the survey findings, Bungalook Creek is expected to support low abundances of burrowing crayfish.

Potential changes to the streamflow of Bungalook Creek associated with the quarry extension

may affect the burrowing crayfish habitat. The risk to burrowing crayfish may increase as quarry operations proceed, then decrease during decommissioning and manifest during dry periods when Bungalook Creek flows are low. The level of impact is uncertain, as there are knowledge gaps for the species in terms of presence, existing distribution, their use of existing habitat and how they may react to drying conditions or a drying climate. To mitigate this potential impact, Boral is proposing to return the volume of groundwater captured at the quarry to Bungalook Creek (as currently occurs) to maintain the streamflow of Bungalook Creek and reduce potential impacts on burrowing crayfish, assuming they are present. With this mitigation and ongoing monitoring of the creek, the residual impact on the species is considered medium.

The potential impacts are, therefore, unlikely to result in a significant impact on this species habitat or population.

Water Resources

The extension of the quarry may have an effect on the surrounding groundwater and surface water environments over the operational life of the project. However, the potential impacts are not considered extensive or major on the use and environmental values of water resources.

The risks to groundwater and surface water environments from the project are associated with:

- Dewatering reducing groundwater levels around the quarry.
- Dewatering reducing baseflow contributions to Bungalook Creek.
- Changes in the catchment size/surface conditions impacting run-off and streamflows in Bungalook Creek.

These risks were identified using a numerical groundwater model to quantify the magnitude, spatial extent and duration of potential groundwater related change arising from the proposed extension.

The predicted drawdown along Bungalook Creek by the end of the project's operational life is around 10 m or less unmitigated. It is limited to this because when the watertable is lowered below the creek level and there is sufficient surface flow, recharge to the watertable occurs from the creek due to this increase in hydraulic gradient. Flow may continue to occur as it could be generated from runoff within the broader catchment during high rainfall events.

However, the water table drawdown is sensitive to prevailing climate. During dry periods when Bungalook Creek streamflows are less than 10L/s, potential exists for streamflows to be lost via leakage. This loss has the potential for greater groundwater drawdowns, as there is insufficient streamflow to recharge the water table.

Boral recognises the importance of maintaining the condition of Bungalook Creek and its associated habitat, as well as the terrestrial vegetation of the Dr Ken Leversha Reserve, as these form buffers between the operations of the site, and neighbouring residential areas.

Boral currently reuses groundwater seepage water for onsite industrial uses before returning it to Bungalook Creek under their existing EPA discharge licence. Returning the volume of groundwater captured at the quarry to Bungalook Creek can maintain the streamflow and locally offset the modelled drawdown via streambed leakage. Direct recharge of the water via a series of injection bores could also be an effective mitigation to maintain stream flows and offset drawdown, although this would require further assessment. The modelling suggests that with mitigation, drawdown would be no greater than 5 m under Bungalook Creek.

The existing water discharge has license conditions requiring Boral to monitor the quality of water being discharged to Bungalook Creek. Boral intends to monitor the quality of this water with automated monitoring equipment. The risk of changes in the catchment size/surface conditions effecting run-off and stream flows in Bungalook Creek are considered low.

Boral will implement a surface water and groundwater management plan to establish baseline conditions prior to the quarry extension. This adaptive management plan would also include monitoring triggers for Boral to implement additional actions depending upon the groundwater level response to quarrying.

With appropriate mitigation, the potential surface water and groundwater impacts are unlikely to result in extensive or major effects on the environmental values of nearby water ways.

There is also no potential for change to the ecological character of a wetland listed under the Ramsar Convention or Directory of Important Wetlands in Australia.

Human health

There is no potential for extensive or major effects to human health or the environment or displacement of residents.

Potential impacts on air quality are minor or insignificant in construction and operation. The risk of adverse impacts to air quality at the nearest sensitive receptors is predicted to be low and within the relevant reference standards.

Measured and modelled respirable crystalline silica (RCS) emissions posed no significant risk of harm and thus the risk of silicosis in the population living around Montrose Quarry due to RCS exposure is low.

The site and surrounds have an extremely low probability and very low likelihood of acid sulphate soils occurring. Appropriate erosion and sediment controls would be put in place to reduce and risks associate with land stability, project induced erosion, hazardous materials and run-off.

The extension of the quarry is proposed to occur on private land and would not displace any residents or recreational facilities, nor would it sever or affect access to community resources in the area.

Amenity

The quarry is unlikely to have a significant effect on the amenity of a substantial number of residents.

Like other metropolitan quarries, numerous residences are located within a few kilometres of Montrose Quarry. There is estimated to be 150-200 residences (occupied houses) within 500 m of proposed future operations, the closest located at Ash Grove and Kirkwood Court to the immediate north-east.

The effective noise levels of all proposed future extension operational scenarios are below the Noise Protocol limits at all sensitive receptors during the proposed day-time operating hours.

The future blasting activities must comply with the current Earth Resources Regulator limits as a condition of the Work Plan and are therefore considered acceptable. The potential change of amenity impact levels from recent blasting operations will be only a moderate increase in peak particle velocity (PPV) and airblast levels from upper-level blasts near the north-east, south and south-west Limit of Blasting.

Significant Landscapes

The project does not pose any extensive or major effects on the amenity of a substantial number of residences due to visual changes or effects on landscape values of regional importance.

The site and surrounding properties are recognised as significant landscapes and of environmental significance under the Yarra Ranges Planning Scheme. However, the site has not been identified in a landscape value study of regional or State significance.

The existing quarry pit has low level of visibility within the surrounding area, including Dandenong Ranges National Park. Where views of the quarry pit or building facilities exist, they are partial views only that are visually recessive as a result of the size of the view and the more dominant visual effect of other structures and land use patterns within the field of view.

The project will have minimal effect on the surrounding environment and impacts to the viewpoints were assessed as low. Existing on-site and offsite vegetation (street trees, shelter belt

tree plantations and private gardens) function as the primary visual impact mitigation measure at this time and have the capacity to provide this function into the future.

Heritage
The project does not propose an extensive or major effect on Aboriginal cultural heritage or historical heritage places.

There is one registered Aboriginal place within the proposed pit boundary, found through the complex assessment completed for the project. Boral has been engaging with the Wurundjeri Woiwurrung Cultural Heritage Aboriginal Corporation to inform their approach to Aboriginal heritage assessments and management.

The project will impact upon two heritage places on the Victorian Heritage Inventory. The heritage inventory sites comprise a former homestead site and artefact scatter. Approval from Heritage Victoria to disturb these VHI listed sites is required. It is not expected that impact to either of these sites will represent an extensive or major effect on heritage sites.

12. Native vegetation, flora and fauna

Native vegetation

Is any native vegetation likely to be cleared or otherwise affected by the project?

☒ NYD ☒ No ☒ Yes If yes, answer the following questions and attach details.

What investigation of native vegetation in the project area has been done? (briefly describe)

Ecology and Heritage Partners prepared a Biodiversity Impact Assessment for the proposed extension of Montrose Quarry (Attachment C). The assessment identified the extent and type of native vegetation present and determined the likely presence of significant flora and fauna species and/or ecological communities within the Montrose Quarry site. Field assessments were undertaken in 2020 and 2021 to obtain information on the flora and fauna values within the site. The field assessments were completed using the habitat hectare assessment methodology by an accredited assessor.

Based on the results of field assessments, efforts to minimise impacts to native vegetation as much as reasonably practicable were undertaken through three iterations of the proposed extraction boundary. The proposed extraction boundary was initially proposed to effect 10.798 ha of native vegetation, which was reduced to 9.77 ha and then finally 8.779 ha.

The Biodiversity Impact Assessment (Attachment C) was based on terrestrial impacts and did not account for any potential impacts to groundwater dependent ecosystems.

EMM prepared a Preliminary Groundwater Dependent Ecosystem Assessment for the proposed extension (Attachment G) to identify the extent of ecohydrological function of groundwater dependent ecosystems (GDEs) within the Montrose Quarry site. The assessment relied on results from field assessment in February 2025 which included leaf isotope analysis to determine terrestrial flora dependence on groundwater.

GHD prepared a Phase 3 Groundwater Dependent Ecosystem Assessment (Attachment K) in August 2025, which assessed the groundwater dependent ecological values at the site and along Bungalook Creek. This assessment relied on the surface water and groundwater modelling predictions to determine the level of risk to GDEs associated with the proposed expansion while also considering EMM's GDE results.

In March 2025, a bushfire beginning in Dr Ken Leversha Reserve burnt approximately 33 ha of land including the south-eastern part of the Montrose Quarry site. To quantify the impact to tree health post bushfire at the Montrose Quarry site, ecologists conducted a site walkover.

It is estimated ten percent of trees were killed by the March 2025 bushfire or are not yet showing signs of recovery in June 2025. Overall, tree health declined across the three transects, mostly likely the result of the bushfire, with many trees showing reduction in canopy extent and canopy density, scorched or dead leaves.

The below results are based off the Biodiversity Impact Assessment (Attachment C) and GDE assessments (Attachment G and K), which relied on results collected prior to the bushfire. Due to the loss of native vegetation from the fire, the actual impacts from the project are predicted to be lesser than the pre-fire ecology conditions described below.

What is the maximum area of native vegetation that may need to be cleared?

☒ NYD Estimated area ……8.779 ……(hectares)

How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?

☒ N/A …… approx. percent (if applicable)

Which Ecological Vegetation Classes may be affected? (if not authorised as above)

☒ NYD ☒ ~~Preliminary~~/detailed assessment completed. If assessed, please list.

The project will result in the direct removal 8.779 ha of native vegetation including 262 large trees

all recorded within the patches of native vegetation. The native vegetation impacted by the project is shown in Figure 5, and is based on the proposed extraction limit boundary extension area and the outer edge of the tree canopy that just falls outside this boundary.

Of the vegetation to be removed, only the Herb-rich Foothill Forest (EVC23) listed as 'least concern' in the Highlands – Southern Fall bioregion will be impacted. Figure 5 provides an overview of ecological features on the site, including the native vegetation proposed for removal as part of the extension to the existing extraction boundary.

The vegetation removal area is not within an area determined as 'critical habitat' under the *Flora and Fauna Guarantee Act 1988*, and removal will not result in loss of a significant proportion of known remaining habitat or population of a threatened species in Victoria.

Attachment K, Phase 3 Groundwater Dependent Ecosystem Assessment prepared for the project identified a further five EVCs present along Bungalook Creek. The potential for indirect impacts to these EVCs associated with the predicted groundwater drawdown and potential changes to Bungalook Creek streamflows were also assessed. The assessment of groundwater reliance of these species determined that the vegetation is not accessing groundwater and are preferentially utilising the higher nutrient soil moisture that is recharged by rainfall. The risk of indirect loss of EVCs along Bungalook Creek is therefore considered low.

Have potential vegetation offsets been identified as yet?

☐ NYD ☒ Yes If yes, please briefly describe.

Appendix 3 of Attachment C includes a native vegetation removal report in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation.*

It is anticipated that 8.779 ha of native vegetation and 262 Large Trees will need to be removed. As such, a permit application would fall under the detailed assessment pathway. The removal of native vegetation is regulated through Earth Resources Regulator through the mining and extractive industry work approvals process. The *Guidelines for the removal, destruction or lopping of native vegetation* must be followed.

The offset requirement for native vegetation removal is:

- 10.910 species units of habitat for Swamp Bush-pea *Pultenaea weindorferi*
- 10.910 species units of habitat for Wine-lipped Spider-orchid *Caladenia oenochila*
- 10.910 species units of habitat for Dandenong Wattle *Acacia strictophylla*
- 262 large trees

The above clearing scenario is based on the proposed extraction limit boundary extension area and the outer edge of the tree canopy that just falls outside this boundary, including outside the proposed extraction limit boundary extension area into the existing extraction limit boundary (Figure 2 of Appendix C).

According to DEECAs Native Vegetation Offset Register there is one offset site within the Melbourne Water Catchment Management Authority or Yarra Ranges Local Government Area that can be used to satisfy the entire species habitat units and large tree offset requirements. There is a second offset site that can satisfy the species habitat units for Swamp Bush-pea and the large trees.

Appendix 5 of Attachment C 'native vegetation offset report' also examines using the balance of the site as a first party offset.

Approximately one-third (31%) of the species Habitat Units for the three species listed on the NVR report (Section 3.3.2; Appendix 3 of Attachment C) can be attained on-site should Boral choose to establish the native vegetation proposed to be retained as a registered offset site. The assessment also identifies 48 Large trees suitable for inclusion in any first party offset. These trees are detailed in Figure 5 'Tree for potential offset' in the attached figure book for this referral.

It should be noted that the offset strategy for the site is not yet finalised; however, based on the assessment there are several options available to satisfy the requirement.

Other information/comments? (eg. accuracy of information)

Due to the predicted changes in the groundwater environment as a result of the project, the potential for indirect loss of native vegetation that is reliant on groundwater (i.e. groundwater dependent ecosystems) was also assessed.

It was determined that trees prefer soil moisture as a source of water rather than groundwater, while other threatened water dependent flora species such as *Pteris epaleata* (Netted Brake) and *Senecio campylocarpus* (Bulging Fireweed) were not detected in the study site during targeted surveys.

It is not considered that any groundwater dependent ecosystems exist in within the site and therefore the likelihood of indirect loss is negligible.

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the project area have been done?
(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

Ecology and Heritage Partners prepared a Biodiversity Impact Assessment for the proposed extension of Montrose Quarry (Attachment C). Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the quarry site.

Biodiversity field assessments were undertaken 2020 and 2021 to obtain information on the flora and fauna values within the site. All commonly observed vascular flora species were recorded, significant records mapped, and the overall condition of vegetation and habitats noted. The site was visually assessed and active searching under and around ground debris for reptiles, frogs and small mammals was undertaken. Binoculars were used to scan the area for birds and observers listened for calls and searched for other signs of fauna such as nests, remains of dead animals, droppings and footprints. Potential habitat for fauna was assessed, with an emphasis on habitats that may provide shelter, food or other resources for significant species.

Suitable habitat for nationally significant White Star-bush, Gang-gang Cockatoo and Southern Greater Glider was observed as part of the biodiversity field assessments.

Targeted surveys for the White Star-bush and seven State-significant flora were undertaken on 19 and 20 October and 1 November 2023 by three experienced ecologists.

Targeted surveys for Gang-gang Cockatoo were undertaken across the site by two ecologists experienced in the detection and identification of the species over three days between 6 and 8 September 2023.

Nocturnal Southern Greater Glider surveys were undertaken across the study area by two experienced zoologists. A total of three replicate transects, each surveyed twice over the survey period were completed over four nights from 7 to 8 February 2022 and 9 to 10 May 2022 during weather conditions considered suitable for Southern Glider activity.

Additional survey information, including a detailed outline of the methodology that was followed, can be found in Section 2.2 of Attachment C.

In addition to the EHP report, GHD prepared a Phase 3 Groundwater Dependent Ecosystem Assessment (Attachment K) using desktop, preliminary site assessment and targeted surveys to confirm the presence of GDEs at the Montrose Quarry site and along the predicted groundwater drawdown extent of Bungalook Creek.

The preliminary ecological site assessment was undertaken by a range of GHD specialists (i.e., botanists, zoologists and aquatic ecologists) in 2023 to provide a baseline understanding of potential GDEs, where they may occur, a classification of ecosystem type and a conceptualisation of groundwater and surface water interactions with GDEs and other ecological values. A range of

surveys techniques were also used in the targeted surveys which are detailed in Appendix B of Attachment K.

Based on findings from the desktop and preliminary site assessment, the likelihood of the presence of GDEs and each species or community of conservation significance occurring within the wider GDE study site was assessed. The preliminary GDE potential map identified high potential areas primarily along Bungalook Creek, based on the assumption that groundwater is shallow (<5 mbgl) and therefore accessible to vegetation.

Based on the results of GHD's preliminary ecological site assessment, EMM completed a field survey to characterise the nature, groundwater dependence and risk posed to potential GDEs caused by the project (Attachment G). The assessment was completed using methods and assessments outlined the Independent Expert Scientific Committee (IESC) Guidelines Explanatory Note for assessing GDEs. This assessment included stable isotope analysis to identify the source, or sources of moisture utilised by trees within the GDE study area.

The results of all three assessments (Attachment C, G and K) are summarised in the sections below.

Have any threatened or migratory species or listed communities been recorded from the local area?

☒ NYD ☒ No ☒ Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

Flora

The Victorian Biodiversity Atlas (VBA) contains records of 8 *Environment Protection and Biodiversity Conservation Act 1999* listed (nationally significant) and 56 *Flora and Fauna Guarantee Act 1988* listed (State-significant) fauna species previously recorded within 10 km of the quarry site. The Protected Matters Search Tool (PMST) nominated an additional 14 nationally significant species which have not previously been recorded but have the potential to occur.

One national and seven State-significant species were observed within or considered to have the highest likelihood of being present within or adjacent to the site, including:

- Nationally significant:
  - White Star-bush (critically endangered)
- State-significant:
  - Sticky Wattle (vulnerable)
  - Dandenong Wattle (endangered)
  - Mountain Bird-orchid (vulnerable)
  - Netted Brake (endangered)
  - Veined Spear-grass (endangered)
  - Velvet Apple-berry (endangered)
  - Wine-lipped Spider-orchid (critically endangered).

These species generally have widespread distribution range, and the potential removal of individuals within the site are unlikely to result in long-term loss of a significant portion of known remaining habitat or population of these species within Victoria.

No nationally significant flora were recorded during field assessments and no specimens of the White Star-bush were observed during targeted survey.

Two specimens of the State-significant Dandenong Wattle were observed within the proposed extraction boundary. One specimen of State-significant Sticky Wattle was observed.

The Mountain Bird-orchid was recorded approximately 105 times within the extraction boundary, towards the north-eastern end of the site.

The other four State-significant species that were considered to have the highest likelihood of being present within or adjacent to the site were not observed during targeted flora surveys. However, these species have previously been recorded within 10 km of the site.

The Phase 3 GDE Assessment (Attachment K) identified additional flora species with potential to occur along Bungalook Creek. Most of the species are terrestrial dry or damp species and thus unlikely to be dependent on direct use of groundwater. Two state-listed threatened flora species were identified, Nettle Brake (endangered) and Bulging Fireweed (endangered), as potentially occurring and species which favour stream banks and damp flats. These species were not recorded during targeted surveys and are therefore not considered present.

Fauna

The VBA contains records of 24 nationally significant and 44 State-significant fauna species previously recorded within 10 km of the quarry site. The PMST nominated an additional 22 nationally significant species which have not been recorded but have the potential to occur in the locality.

Two nationally significant and ten State-significant species were considered to have the highest likelihood of utilising habitat within or adjacent to the site, including:

- Nationally significant:
    - Gang-gang Cockatoo (endangered)
    - Southern Greater Glider (endangered)
- State-significant:
    - Barking Owl (critically endangered)
    - Lace Monitor (endangered)
    - Powerful Owl (vulnerable)
    - Sooty Owl (endangered)
    - Southern Toadlet (endangered)
    - Speckled Warbler (endangered)
    - Dandenong Burrowing Crayfish (endangered)
    - Turbercle Burrowing Crayfish (endangered)
    - Foothill Burrowing Crayfish (endangered)
    - Depressed Mussel (endangered)

There are 158 records of the nationally significant Gang-gang Cockatoo within 10 km of the site. A targeted survey for this species was undertaken to primarily assess the condition and suitability of vegetation within the site for foraging, nesting and breeding purposes, with tree hollows being mapped. A Gang-gang Cockatoo feather was found in the site, however no birds were observed or heard. 121 hollows were recorded within the site of various sizes.

There are 55 records of the nationally significant Southern Greater Glider within the Dandenong Ranges National Park, within 10 km of the site. Due to the presence of mature eucalypts which contain hollows of all sizes within the site that provide suitable habitat, the contiguous nature of the canopy between the site and Dandenong Ranges National Park and abundant records in the local vicinity, there is a high likelihood the Southern Greater Glider occupies the site. A targeted survey was undertaken for this species during suitable weather conditions, however no Southern Greater Gliders were detected during the survey.

There are three records of the State-significant Powerful Owl within the site. The site contains 57 hollows that were considered potential suitable habitat for Powerful Owls. Based on the presence of previous records, presence of large hollows and habitat suitability, the Powerful Owl is likely to use habitat resources within the site for nesting, roosting and foraging.

There are three records of State-significant Barking Owl from the local area, with one record approximately 600 m south-west of the site. There is potential habitat within the site, most likely on the fringes of the forested areas where they interface with grassland areas. The Barking Owl may occupy habitats within the site on rare occasions.

There are 51 records of State-significant Sooty Owl within 10 km radius of the site. The site does not contain the preferred habitat for the species, but the forested habitat along Bungalook Creek may be used infrequently.

The State-significant Dandenong Burrowing crayfish is considered present in Bungalook Creek upstream of the project site, as burrows were observed during the field assessment with evidence of fresh activity. Surveys for the species were undertaken in optimum conditions (i.e. warm

temperatures and following rainfall) but no species were found. It was determined the creek likely supports low abundance of Burrowing crayfish.

There were a small number of Eastern Grey Kangaroos observed in the site. The Eastern Grey Kangaroo home range is likely to encompass most of the site, due to a presence of water sources, suitable habitat and palatable grass species.

Areas of forest provide suitable habitat for a diversity of small mammals, birds, reptiles and frogs. Microbats are likely to forage for insects within and around this vegetation and small native mammals such as Bush Rat are likely to use these areas either as residents or visitors. Habitat within the site is contiguous with areas of habitat adjoining the site. The potential for threatened fauna along Bungalook Creek that could be potentially impacted by the project was also assessed in Attachment K. It was determined that there is low risk of indirect impacts on the habitat of potential threatened fauna that may be present along the creek.

Ecological communities

Two nationally listed ecological communities are predicted to occur within 10 km of the site, being the Natural Damp Grassland of the Victorian Coastal Plains and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland. However, within the site the vegetation did not meet condition thresholds that define nationally or State-significant communities due to the absence of key indicator species.

If known, what threatening processes affecting these species or communities may be exacerbated by the project? (eg. loss or fragmentation of habitats) Please describe briefly.

Potential threats to conservation significant flora and fauna may include:

- Direct loss of remnants of flora and fauna habitat from vegetation clearance.
- Indirect disturbance or degradation to flora, vegetation and fauna habitat, reducing vigour and capacity of vegetation, resulting in a long-term decline or loss over time.
- Potential injury or death of fauna from vegetation clearing, earthworks, vehicle movements or entrapment in trenches.
- Incursion of pest species.
- Disturbance of fauna due to dust, noise, vibration and light during construction.
- A loss of surface water habitat due to changes in Bungalook Creek streamflow
- Decrease in groundwater levels leading to indirect impacts on habitat

Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?

☒ NYD ☒ No ☒ Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

Flora

Three State-significant flora species were observed in the proposed extraction boundary during the initial biodiversity assessment and will be affected by the project:

- one specimen of the Sticky Wattle (vulnerable)
- two specimens of Dandenong Wattle (endangered)
- 105 Mountain Bird-orchid plants (vulnerable).

Figure 5 shows the location of these species within the proposed extraction boundary. No other national or State-listed significant flora species were observed during the field assessment.

There is potential that other national and State-significant species occupy the site based the findings of previous studies within or adjacent to the site and the proximity of previous records. These species are not directly reliant on groundwater and therefore potential impacts to these species is limited to direct changes in the quality of habitat. If these species occupy the site, they are considered unaffected by the proposal because they are not located within the proposed extraction boundary.

Fauna
The projects footprint will result in forest loss that contains large trees with a variety of hallow sizes which are likely habitat for important fauna.

The nationally significant Gang-gang Cockatoo has the potential to forage opportunistically within the site and wider locality and are not expected to rely on vegetation present within the site for their needs. The targeted Gang-gang Cockatoo surveys recorded 60 trees within the proposed extraction boundary proposed for removal that are potentially suitable for nesting purposes.

An assessment against the relevant significant impact thresholds for the identified MNES is planned to determine the need for assessment and referral under the *Environment Protection and Biodiversity Conservation Act 1999.*

The State-significant Powerful Owl has previously been recorded in the site, although was not found during field assessments undertaken for this project. There are 26 hollows that could be potentially suitable habitat for the Powerful Owl within the proposed extraction boundary proposed for removal.

Given there is approximately 48 ha of mature forest outside of the project footprint within and directly adjoining the site, the loss of 8.779 ha within the project footprint is not considered to represent a large loss of critical habitat, comparatively. Furthermore, as the Dandenong Ranges National Park is situated approximately 1 km east of the site, there is considered ample contiguous mature forest in close proximity which could provide habitat for protected fauna.

The State-significant Dandenong Burrowing crayfish have previously been identified in Bungalook Creek. Potential changes to the streamflows of Bungalook Creek associated with the quarry extension may affect their habitat. The risk to burrowing crayfish may increase as quarry operations proceed, then decrease during decommissioning and manifest during dry periods when Bungalook Creek flows are low. Crayfish burrows will continue to benefit from being wetted by surface water runoff. Crayfish are also known to be extremely adaptive and mobile and are likely to adopt survival strategies such as relocating their burrows, reducing surface activity and sealing of burrows to maintain moisture.

The level of impact on Burrowing crayfish is uncertain, as there are knowledge gaps for the species in terms of presence, existing distribution, their use of existing habitat and how they may react to drying conditions or a drying climate. To mitigate this potential impact, Boral is proposing to return the volume of groundwater captured at the quarry to Bungalook Creek to maintain the streamflow of Bungalook Creek and reduce potential impacts on burrowing crayfish, assuming they are present. With this mitigation and ongoing monitoring of the creek, the residual impact on the species is considered medium.

Ecological communities

No nationally or State-significant threatened ecological communities are affected by the project.

Is mitigation of potential effects on indigenous flora and fauna proposed?
☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

Efforts to avoid and minimise impacts to indigenous flora and fauna have been undertaken as much as reasonably practicable. Due to the nature of the site and extractive industry, the complete avoidance of native vegetation is not feasible. The proposed project footprint accounts for indirect construction works and proposes no greater than 8.779 ha of native vegetation removal. The project footprint has been refined based on the findings of the Biodiversity Assessment (Attachment C) to further avoid impacts to terrestrial flora and fauna where possible.

As part of the Work Plan variation process under the *Mineral Resources (Sustainable Development) Act 1990* additional measures to further reduce biodiversity impacts will be implemented, such as activities to reduce run-off, rehabilitation works and planting within buffer areas.

The Biodiversity Assessment (Attachment C) recommended best practice mitigation measures,

including (but not limited to):

- Minimising impacts to native vegetation and habitats through construction and micro-siting techniques, including fencing retained areas of native vegetation.
- Removal of habitat trees and shrubs (particularly hollow-bearing trees or trees/shrubs with nests) between February and September to avoid breeding seasons for most fauna species and under the supervision of an appropriately qualified zoologist to salvage and translocate any displaced fauna.
- A Fauna Management Plan to guide the salvage and translocation process.
- Any trees containing hollows should be lopped or felled in a way that retains hollows, which can then be relocated to another location within the site.
- Seed collections and/or plant cuttings could be taken from known occurrences of State-significant species within the proposed project footprint for propagation.
- Ensure best practice sedimentation and pollution control measures are undertaken at all times.
- Monitoring of groundwater levels at monitoring bores, especially where groundwater is shallower than Bungalook Creek.
- Undertake targeted surveys for potential aquatic ecology species to ensure appropriate measures to avoid/minimise species is developed.

Boral also plans to continue discharging treated groundwater from the quarry pit into Bungalook Creek, as described under the water environments section of this referral. The discharge of water into Bungalook Creek will mitigate against potential habitat impacts on the burrowing crayfish.

The above measures are expected to be captured under the risk management plan required to be prepared under the *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019* for the project.

Other information/comments? (eg. accuracy of information)

13. Water environments

Will the project require significant volumes of fresh water (eg. > 1 Gl/yr)?

☐ NYD ☒ No ☐ Yes If yes, indicate approximate volume and likely source.

The Surface Water and Groundwater Assessment (Attachment F) prepared by GHD details the quarry's existing water management practices and future site water balance needs.

Water is used widely throughout the quarry for a range of industrial applications such as dust suppression and processing of the quarry product. Water is pumped from the sump at the base of the quarry to storage water tanks at the surface, before being reused throughout the site. The sump comprises a combination of surface water runoff and groundwater. Water usage on site equate to 380,000 litre per (operational) day or 109ML/y.

The quarry will not therefore require significant volumes (eg. > 1 GL/yr) of freshwater.

Will the project discharge waste water or runoff to water environments?

☐ NYD ☐ No ☒ Yes If yes, specify types of discharges and which environments.

Boral currently holds EPA Licence 17685 (volume of 0.86 ML/d) to discharge treated waste water to surface water under the *Environment Protection Act 2017.* Attachment F includes a copy of this licence.

Key sources of water to the quarry are:

- Rainfall landing on the pit (approximately 291 ML/yr), which is assumed to be impervious in the Surface and Groundwater Assessment.
- Runoff from the process area (approximately 65 ML/yr), which is also assumed to be impervious in the Surface and Groundwater Assessment.
- Groundwater seeping into the pit (approximately 219 ML/yr), which is mostly into the sump at the base of the quarry.
- Potable supply from Yarra Valley Water to the site office and fire fighting stations.

This water is used widely throughout the quarry for a range of industrial applications such as dust suppression and processing of the quarry product.

Water is currently pumped from the sump at the base of the quarry to storage water tanks located in the processing area, before being reused throughout the site and discharged.

The industrial water runs through a treatment system before it is discharged indirectly to Bungalook Creek under the EPA Water Licence. The discharge point is located on Fussell Road. Water can also be returned following treatment to the pit lake.

In recent times (2021 – present), Boral has been actively dewatering the quarry to enable access to the bottom of the pit. During this period, the average daily discharge from the site is approximately 740 kL/day, which is under the 860 kL/day licence amount. Prior to that, the recorded average daily discharge was around 270 kL/day. Once the pit lake has been drawn down to its final level, pumping discharges from the site will decrease over time, as the pit is progressively backfilled and the system moves towards a new a state of equilibrium.

As the extraction boundary increases as part of the project, groundwater seepage will increase as will surface water runoff from the extended pit footprint. This increase will be proportional to the increase in the pit area. There will be a small sump which would store some seepage and rainfall runoff, with the balance to be pumped for on-site reuse or discharge via the current discharge point. During the project construction and operations, waste water discharge would continue in accordance with EPA Licence 17685.

Are any waterways, wetlands, estuaries or marine environments likely to be affected?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments, answer the following questions and attach any relevant details.

The extension of the quarry may have an effect on groundwater and surface water environments, as described in Attachment F Surface Water and Groundwater Assessment. However, the effects

are unlikely to be extensive or major.

There are three nearby named waterways that are in the vicinity of the quarry, however potential impacts are only foreseen for Bungalook Creek. It is a small perennial or intermittent creek. The creek commences further north-east of the quarry, flows west and southwest towards the quarry, before it ultimately confluences with Dandenong Creek approximately 7 km further to the west to south-west. As previously noted, this catchment includes urbanised and peri-urban areas. The dominant land use within the catchment is urban, but some areas are used for grazing and industrial land uses.

The Bungalook Creek flow records indicates typical daily flow rates ranging from around 0.1 ML/day to 30 ML/day.

During dry periods, the flow rate of Bungalook Creek typically falls below the gauge threshold of around 0.1 ML/d and over 90% of the time, the creek has less than 0.2 m of water above gauge zero. This indicates generally limited groundwater baseflow contribution. This is supported by the field observations during dry periods. Stream flows in Bungalook Creek are predominately from runoff, post a rainfall event.

The risks to groundwater and surface water environments from the project are associated with:

- Dewatering reducing groundwater levels around the quarry, which may in turn effect terrestrial flora and fauna.
- Dewatering reducing baseflow contributions to Bungalook Creek.
- Changes in the catchment size/surface conditions effecting run-off and stream flows in Bungalook Creek.

These risks are described in further detail below, including the potential effects on Bungalook Creek. A numerical groundwater modelling report was produced by GHD (2025) to quantify the magnitude, spatial extent and duration of potential groundwater related change arising from the proposed extension (Attachment F).

Are any of these water environments likely to support threatened or migratory species?

☐ NYD ☐ No ☒ Yes If yes, specify which water environments.

The key waterway habitat follows the Bungalook Creek. Overall, the waterway is generally narrow and shallow with the substrate dominated by silt, sand and clay. Except for isolated areas, there was little instream vegetation with many areas dominated by terrestrial weeds.

Upstream of the Dr Ken Leversha Reserve, the waterway is typically weedy and degraded, and offers low value habitat for terrestrial fauna. Some sections through the forest/woodland habitat are of higher value but also weedy, while other sections are fringed by dense native understorey vegetation and provide high value habitat for ground-dwelling fauna.

There are more open areas where the creek-line forms larger pools, but the pools generally do not appear to be large enough to support regular visits by waterbirds such as ducks or cormorants.

Downstream of the quarry, Bungalook Creek opens out into a large expanse of Tall Marsh in Colchester Road Retarding Basin.

GHD completed field assessments in 2023 to investigate the quarry site and instream habitat and stream structure of Bungalook Creek, as described above and in Attachment K.

The State-significant Dandenong Burrowing crayfish is considered present in Bungalook Creek, as burrows were observed during the field assessment with evidence of fresh activity, although the species itself was not confirmed.

The surface and groundwater reductions predicted for the project may limit habitable area for the species. Opportunities to minimise impacts have been identified, including through ongoing discharge of treated groundwater indirectly into Bungalook Creek.

Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?

☐ NYD ☒ No ☐ Yes If yes, please specify.

The Biodiversity Assessment (Attachment C) concluded there are no wetlands within 10 km of the site; therefore, the project will not likely impact any wetlands.

The nearest Ramsar site is Edithvale-Seaford Wetlands which is located approximately 35 km south-west of the site.

Could the project affect streamflows?

☐ NYD ☐ No ☒ Yes If yes, briefly describe implications for streamflows.

There is a risk that dewatering the quarry pit reduces baseflow contributions to Bungalook Creek. Most of the flow in Bungalook Creek is from runoff. During dry periods when runoff reduces, there is greater potential for the flow of Bungalook Creek to temporarily reduce or cease as a result of the extension.

The groundwater modelling predicts that when drawdowns extend such that the groundwater level falls below the streambed, there will be no groundwater contribution to flow in the waterway.

Flow may continue to occur as it could be generated from runoff within the broader catchment. However, if there is flow in the waterway but the groundwater level has been drawn down under the streambed, this will create a hydraulic gradient, causing a proportion of this flow to leak downwards and recharge the groundwater system. This in turn influences groundwater behaviour elsewhere. That is, if some flow is lost through leakage, it results in less flow further downstream being available to leak and recharge groundwater in these areas.

The predicted drawdown along Bungalook Creek by the end of the project operational life is around 10 m or less. It is limited to this because when the watertable is lowered below the creek level and there is sufficient surface flow, recharge to the watertable occurs from the creek via seepage.

The numerical modelling indicates that during dry periods, when the total streamflow of Bungalook Creek is less than 10 L/s, all of the streamflow would be lost as leakage due to the extension of the quarry and associated drawdown of the water table.

During these low flow periods, the loss of streamflow in the upstream section of Bungalook Creek results in localised drawdown along the downstream section of Bungalook Creek.

Boral recognises the importance of maintaining the condition of Bungalook Creek and its associated habitat, as well as the terrestrial vegetation of the Dr Ken Leversha Reserve, as these form buffers between the industrial operations of the site, and neighbouring residential areas.

As previously mentioned, Boral currently reuses groundwater seepage water for onsite industrial uses before treating it and returning it to Bungalook Creek under their existing EPA discharge licence. Boral propose to continue this regime throughout the quarry expansion.

Returning groundwater seepage to Bungalook Creek (downstream of the quarry) is beneficial to maintaining stream flows (and associated aquatic ecosystems), however, it is recognised that only a proportion of these returned flows could become groundwater recharge (via leakage from the waterway).

It is noted that Boral's monitoring bores adjacent to the creek currently have groundwater levels similar to those recorded 19 years previously, despite a significant increase in the quarry depth over this period. Implementation of a monitoring program to verify groundwater behaviour adjacent to Bungalook Creek is therefore necessary to understand the potential impacts of the quarry expansion.

Returning the volume of groundwater captured at the quarry to Bungalook Creek was modelled and considered to maintain the streamflow and locally offset drawdown via leakage. Ongoing field

assessments to determine the effectiveness of this potential mitigation strategy are proposed.

The risk of changes in the catchment size/surface conditions effecting runoff and stream flows in Bungalook Creek are considered low.

A hazardous material directly reaching a receiving water way, like Bungalook Creek, and impacting the quality of water downstream is also unlikely as part of the quarry operations would require bunding to be established to that run-off within the quarry is contained to the quarry. This would also include areas where overburden stripping is required in the proposed extension areas to the south of the existing quarry.

Erosion of ground surfaces and increased sediment load in run-off as a result of exposed soil has the potential to impact surface water and the quality of receiving waterways. However, appropriate erosion and sediment controls would be put in place to avoid, minimise and manage this potential impact.

Boral will implement a surface water and groundwater management plan to establish baseline conditions prior to the quarry extension. This adaptive management plan would also include monitoring triggers for Boral to implement additional actions depending upon the groundwater level response to quarrying. Boral will consult with Melbourne Water and Southern Rural Water regarding potential impacts and approval for changes to the floodplain catchment or Bungalook Creek.

Could regional groundwater resources be affected by the project?

☒ NYD ☒ No ☒ Yes If yes, describe in what way.

The depth to groundwater is variable across the site, owing to the steep topography. In the southern and eastern parts of the site, groundwater levels can be over 50 m below surface, however, closer to Bungalook Creek, groundwater can be within 5 m of the ground surface. The groundwater gradient is from the northeast to the southwest, and is roughly aligned with the orientation of Bungalook Creek and is likely to mimic ground topography.

It is assumed that existing disturbance to the groundwater environment has been caused by historical and current quarry operations. Streamflow in Bungalook Creek is likely to recharge the water table, via leakage from the stream bed, especially in the more upreach areas. Historical extraction at the quarry is likely to have resulted in some drawdown towards Bungalook Creek, albeit temporary and limited to periods of low-flow when there is insufficient leakage to top up the water table.

Boral hold a groundwater extraction licence for 120 ML/year. The licence is included in Attachment F Surface Water and Groundwater Assessment. As the quarry extends, Boral will be required to apply for an increased annual entitlement subject to approval under the *Water Act 1989*.

Groundwater drawdown from operations of the project are considered likely based on the modelling. These drawdowns are progressive over the operational phase of the project and would be centred around the quarry with a cone of depression extending across Bungalook Creek. The modelling suggests that with mitigation, drawdown would be no greater than 5 m under Bungalook Creek.

Victoria's Water Measurement Information System (WMIS) was searched as part of the Surface Water and Groundwater Assessment (Attachment F) to identify groundwater bores in the area and characterise groundwater use near the proposed site.

The groundwater is typically fresh and although groundwater use occurs in the region, bore densities are not high and the area is considered to be 'unincorporated' from a groundwater management perspective. Most bores are registered for stock and domestic purposes; however, industrial uses have been identified, although the licensing status of such bores is not known.

There are existing groundwater users within the estimated zone of dewatering. The yield is generally low, although data on yields in the aquifer is limited. Most users are stock and domestic and estimated as having less than 5 m loss in available drawdown. A range of mitigation

measures are available if potential interference impacts eventuate.

Could environmental values (beneficial uses) of water environments be affected?
☐ NYD ☒ No ☐ Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)

Could aquatic, estuarine or marine ecosystems be affected by the project?
☐ NYD ☒ No ☐ Yes If yes, describe in what way.

Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?
☒ No ☐ Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.

Is mitigation of potential effects on water environments proposed?
☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

It is proposed that a surface water and groundwater management plan would establish baseline conditions prior to the project commencing. This plan would detail monitoring triggers for Boral and would be prepared to be adaptive for Boral to implement additional actions depending upon the groundwater level response to quarrying.

Boral has a bore monitoring network, as detailed in Attachment F Surface Water and Groundwater Assessment that have been sited principally around the southern and eastern parts of the quarry and along Bungalook Creek. These bores could be used to monitor groundwater and surface water flows prior to and during the project to inform mitigation approaches.

Returning the volume of groundwater captured at the quarry to Bungalook Creek could maintain the streamflow and locally offset drawdown via leakage. Direct recharge of the water via a series of injection bores could also be an effective mitigation to maintain stream flows (by reducing baseflow reduction) and offset drawdown.

Erosion and sediment controls are proposed to avoid, minimise and manage impacts on the water quality of Bungalook Creek due to run-off or potential pollution.

Other information/comments? (eg. accuracy of information)

14. Landscape and soils

Landscape

Has a preliminary landscape assessment been prepared?

☐ No ☒ Yes If yes, please attach.

Is the project to be located either within or near an area that is:

- **Subject to a Landscape Significance Overlay or Environmental Significance Overlay?**

☐ NYD ☐ No ☒ Yes If yes, provide plan showing footprint relative to overlay.

The site and surrounding properties are recognised as significant landscapes and of environmental significance under the Yarra Ranges Planning Scheme.

Figure 6 includes the relevant zones and overlays applicable to the site, including the extents of the Significant Landscape Overlay Schedule 1 and Environmental Significance Overlay Schedule 1. Analysis of the project in the context of the overlays is provided below.

Significant Landscape Overlay

The southern part of the site is affected by the Significant Landscape Overlay – Schedule 1 (Dandenong Ranges Landscape - SLO1) at Clause 42.03. The site is also adjacent to land affected by the Significant Landscape Overlay – Schedule 22 (Foothills and Rural Townships) to the east and the Significant Landscape Overlay – Schedule 6 (Rolling Hills and Bushy Agriculture Landscape) to the south.

The statement of nature and key elements of landscape in section 1.0 of the schedule to Clause 42.03 states:

> *"The Dandenong Ranges are prominent hills close to Melbourne, with dense forested scenery and intimate fern gullies. They provide an iconic and largely uninterrupted forest backdrop to most long distance views across Melbourne's outer eastern suburbs.*
> *…*
> *Vistas are a combination of enclosed views shortened by the dense vegetation and long views framed by vegetation, from the ranges to Metropolitan Melbourne or the Great Dividing Range.*
>
> *Several micro landscapes occur within the SLO1 area including:*
>
> *… Eastern Face of Dandenong Ranges – extends from Monbulk in the north to Ferntree Gully in the south is characterised by steep forested slopes which include areas of dry woodland and are largely part of the Dandenong Ranges National Park."*

The objectives of the SLO1 include retaining forest dominated landscape, a mix of trees which contribute to the landscape and ensuring dwellings, commercial buildings and other structures are inconspicuous elements within the landscape.

A Landscape and Visual Impact Assessment was prepared by Tract for the project (Attachment H). The Landscape and Visual Assessment assessed the baseline conditions of the site and surrounds, reviewing the relevant planning controls, landscape policies, character, condition and value against the project. It was found that the project is likely to have minimal effect on the surrounding environment and presents and acceptable change. The proposed extension of the quarry pit will be similar in nature to the existing quarry impacts but cover a greater area. The overall landscape impacts of the project are considered low, on the basis of the size of the change and the potential for partial mitigation through revegetation.

Based on the findings of the Landscape and Visual Impact Assessment (Attachment H), it is considered that the projects visual outcomes will not have a significant effect on the Dandenong Ranges Landscape as protected by the SLO1. The project would need to address the requirements of the SLO as part of the approval process under the *Planning and Environment Act 1987*.

Environmental Significance Overlay

The eastern edge and southern portion of the site is also affected by the Environmental Significance Overlay – Schedule 1 (Highest Biodiversity Habitat Areas and Biolink Corridors -

ESO1) at Clause 42.01.

The statement of environmental significance at Section 1.0 of the schedule states:

> *"Yarra Ranges contains an extensive network of bushland remnants that are an integral part of the municipality's unique landscape and environmental character. These bushland areas comprise a wide range of different ecosystems that provide habitats for a rich diversity of flora and fauna.*
>
> *The value of habitat areas in Yarra Ranges' network of flora and fauna habitats is enhanced where there are opportunities for birds and other wildlife to shelter while moving between them. The connectivity between habitat areas increases their long term sustainability and value in biodiversity protection by reducing the risk of creating isolated and vulnerable habitat areas. This connectivity enables native species to respond to adverse climatic changes, providing greater opportunities for breeding and foraging, and allowing native species to recolonise areas following major disturbances such as bushfires.*
>
> *The biolink corridors that have been identified in Yarra Ranges generally follow waterways although they also include some roadsides and other areas containing indigenous vegetation remnants. In some areas the extent and condition of indigenous vegetation within these habitat corridors has been fragmented and degraded by past land management practices. There are many opportunities to improve the habitat value of Yarra Ranges' network of flora and fauna habitats through the rehabilitation of these degraded areas especially along watercourses."*

The schedule's environmental objective as stated at Section 2.0 is "*to protect and manage the larger patches of remnant highest biodiversity bushland from fragmentation and incremental loss so that they continue to provide high quality biolink corridors and sustainable habitat for indigenous flora and fauna.".*

The ESO protects and manages the extensive network of bushland remnants that are integral to the Yarra Ranges. The project seeks to minimise impacts on native vegetation, flora and fauna, landscape values and amenity by proposing a pit design with the least environmental impacts. Impacts on native flora and fauna have been avoided and minimised as far as reasonably practicable. Native vegetation removal proposed as part of the project would be undertaken in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DEECA, 2017) and the Yarra Ranges Planning Scheme.

- **Identified as of regional or State significance in a reputable study of landscape values?**
  ☒ NYD ☒ No ☒ Yes If yes, please specify.

The site has not been identified in a landscape value study of regional or State significance.

The Upper Yarra Valley and Dandenong Ranges (UYDR) Regional Strategy Plan applies to protect the special features and character of the region. This control is unique to Yarra Ranges and has been in place in the Yarra Ranges (in various forms) since the early 1980. While the UYDR Regional Strategy Plan is not a study of landscape values, it does place additional land use and development requirements onto the land in the Yarra Ranges to enable increased protection for the special features and character of the region.

The key role of the Regional Strategy Plan (as stated in the Yarra Ranges Localised Planning Statement) is in considering amendments to the Yarra Ranges Planning Scheme. This is implemented via Section 46F of the *Planning and Environment Act 1984* which states that the Minister for Planning may not approve an amendment to the Yarra Ranges Planning Scheme which is inconsistent with the Regional Strategy Plan.

The Planning Scheme Amendment to be sought for the project will need to demonstrate compliance with the general State, regional and local policies and zone and overlay controls of the Planning Scheme, as well as the UYDR Regional Strategy Plan.

- **Within or adjoining land reserved under the *National Parks Act 1975* ?**
  ☐ NYD ☒ No ☐ Yes If yes, please specify.

The site is not within land reserved under the *National Parks Act 1975.* The Dandenong Ranges National Park is approximately 1 km east of the site.

- **Within or adjoining other public land used for conservation or recreational purposes ?**
  ☐ NYD ☐ No ☒ Yes If yes, please specify.

The Dr Ken Leversha Reserve immediately east and south of the site is land used for conservation purposes within the Public Conservation and Resource Zone of the Yarra Ranges Planning Scheme.

The reserve holds botanical significance and aims to protect natural resources and maintain ecological processes and genetic diversity of the region. The site also provides screening and buffer for the quarry.

As noted earlier, in March 2025, a bushfire beginning in Dr Ken Leversha Reserve burnt approximately 33 ha of land including the south-eastern part of the Montrose Quarry site. The extent of native vegetation loss within the reserve is yet to be quantified.

As part of the project Boral will maintain landscape screening on the eastern and southern boundary of their site, limiting impacts on the adjoining Dr Ken Leversha Reserve.

Is any clearing vegetation or alteration of landforms likely to affect landscape values?
☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

A Landscape and Visual Impact Assessment was prepared by Tract for the project (Attachment H). It was found that the project is likely to have minimal effect on the surrounding environment and presents and acceptable change.

The Assessment identifies that existing on-site and offsite vegetation (street trees, shelter belt tree plantations and private gardens) function as the primary visual impact mitigation measure at this time and have the capacity to provide this function into the future.

Is there a potential for effects on landscape values of regional or State importance?
☐ NYD ☒ No ☐ Yes Please briefly explain response.

The Landscape and Visual Assessment (Attachment H) assessed 14 viewpoints hat provided a range of views to the existing Montrose Quarry from the surrounding landscape, including Dandenong Ranges National Park.

The existing quarry pit has low level of visibility within the surrounding area. Where views of the quarry pit or building facilities exist, they are partial views only that are visually recessive as a result of the size of the view and the more dominant visual effect of other structures and land use patterns within the field of view. These minimal visual impacts are not expected to worsen as a result of the project.

The project will have minimal effect on the surrounding environment and impacts to the viewpoints were assessed as low. The project will not have an impact on landscape values of regional or State importance.

Is mitigation of potential landscape effects proposed?
☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

As noted in the previous section, existing on-site and offsite vegetation (street trees, shelter belt tree plantations and private gardens) function as the primary visual impact mitigation measure at this time and have the capacity to provide this function into the future. Attachment H Landscape and Visual Assessment further summarises potential mitigation measures.

Other information/comments? (eg. accuracy of information)

Note: A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?

☐ NYD ☒ No ☐ Yes If yes, please briefly describe.

CSIRO's Atlas of Australian Acid Sulfate Soils was interrogated, and the mapping indicated that the site and surrounds have an extremely low probability and very low likelihood of acid sulfate soils occurring.

The geology of the quarry consists of the Coldstream Rhyolite and Mount Evelyn Rhyodacite. GHD notes that the bedrock (indurated Siluro-Ordovician age turbiditic sediments) may contain disseminated sulfides, however, whilst such materials are found in the broader region, they have not been identified at the quarry. Similarly, water quality testing of water in the sump has also not identified the elevated Ph level that would indicate the presence of acid sulphate soils.

To further mitigate any potential risks, appropriate erosion and sediment controls and measures to reduce soil disturbance will be put in place before overburden stripping begins and monitored and maintained throughout the development of the extension area.

Upon rehabilitation and closure, the establishment of vegetation will reduce the long-term erosion rate of rehabilitated batters to achieve relevant Commonwealth guidelines.

Are there geotechnical hazards that may either affect the project or be affected by it?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

A geotechnical assessment was prepared by GHD for the Montrose Quarry in 2021 and relied upon in Attachment A. The geotechnical assessment identified potential geotechnical hazards that were then used to help inform the pit design and recommended quarry operational methods (i.e. blast and scaling options.

The potential geotechnical hazards include:

- Structural instabilities – falling
- Structural instabilities – sliding / toppling
- Structural instabilities due to water ingress
- Slumping of residual soils and extremely weathered rock and stockpile material
- Large scale slope instability.

A risk assessment of the potential hazards was complete and in all instances the residual risk was defined as low (i.e. an acceptable level of risk provided the risk cannot be eliminated).

The geotechnical assessment will inform the Work Plan Variation for the project and a Ground Control Management Plan has also been prepared to ensure that the risk associated with quarry are reduced as far as reasonably practicable.

Other information/comments? (eg. accuracy of information)

15. Social environments

Is the project likely to generate significant volumes of road traffic, during construction or operation?

☐ NYD ☒ No ☐ Yes If yes, provide estimate of traffic volume(s) if practicable.

Traffic movements associated with the project are not projected to increase as a result of the quarry extension. Material from the quarry is proposed to be extracted on an ongoing basis at a steady rate of 800 kt/year, with the resulting traffic movements proportionately steady.

Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

Like other metropolitan quarries, numerous residences are located within a few kilometres of Montrose Quarry. There is estimated to be 150-200 residences (occupied houses) within 500 m of proposed future operations, the closest located at Ash Grove and Kirkwood Court to the immediate north-east.

The project is not expected to result in significant effects on the amenity of residents, as described below.

Visual amenity

The quarry is most visible from a small number of public viewpoints rather than private dwellings. Its extension would not have significant effects on the visual amenity of residents and is contained to a site already used for quarrying. The site is also adjacent to other industrial land uses and does not propose a significant change in landscape character, as assessed in the Landscape and Visual Impact Assessment (Attachment H).

Noise

SLR prepared a Noise Impact Assessment for the project (Attachment D). The assessment determined the effective noise levels of all proposed future extension operational scenarios are below the Noise Protocol limits at all sensitive receptors during the proposed day-time operating hours.

Blasting

The future blasting activities must comply with the current Earth Resources Regulator limits as a condition of the Work Authority and are therefore considered acceptable.

Terrock prepared a Blast Impact Assessment for the project (Attachment I), which took into consideration the proposed extension footprint and its separation from the closest houses. The blast assessment found that the potential change of amenity impacts levels from recent operations will be only a moderate increase in peak particle velocity (PPV) and airblast levels from upper-level blasts near the north-east, south and south-west extraction limits.

Dust or odours

SLR prepared an Air Quality Impact Assessment for the project (Attachment E). The impacts on air quality are expected to be minor or insignificant in construction and operation. The risk of adverse impacts to air quality at the nearest sensitive receptors is predicted to be low with the PM_{10} and $PM_{2.5}$ 24-hour average and annual average air pollution assessment criteria met in all cases except in unusual cases where background 24-hour average PM_{10} conditions approach the APAC.

Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the hazards and possible implications.

The project does not propose significant effects on the amenity of residents, including any safety hazards or risks to human health. SLR completed a Public Health Risk Assessment (Attachment J) for potential future residential exposure to respirable crystalline silica (RCS) in proximity to the quarry. The risk of silicosis, and hence other health effects, due to RCS arising from the assumed

current and proposed operations at Montrose Quarry is considered to be low. This is consistent with the overall consensus in the scientific literature that to date, there are no known adverse health effects associated with non-occupational exposure to RCS.

Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?

☐ NYD ☒ No ☐ Yes If yes, briefly describe potential effects.

The extension of the quarry does not have the potential for extensive or major effects on the social or economic well-being of non-residential land use activities.

The extension of the quarry is proposed to occur on private land and would not displace any local residents' living or recreational facilities, nor would it sever or affect access to community resources in the area.

Traffic movements associated with the project are not projected to increase or be substantially amended due to the exansion of the quarry, and therefore the ability for local residents to move around the local area would not be further impacted.

Are non-residential land use activities likely to be displaced as a result of the project?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the likely effects.

Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?

☐ NYD ☒ No ☐ Yes If yes, briefly describe the potential effects.

Is mitigation of potential social effects proposed?

☐ NYD ☐ No ☒ Yes If yes, please briefly describe.

As described in Attachments D, E and H, mitigation measures are proposed to minimise the potential effects from noise, dust or visual impacts. Real time continuous monitoring for management purposes will be implemented to minimise the potential risks of impacts at sensitive receptors.

Dust emission mitigation measures will be employed for all aspects of the project operations including use of water sprays and water trucks. Wheel generated dust from haul roads has been identified as the primary potential source of dust emissions, therefore preparing and maintaining level and well finished haul road surfaces will be considered a priority.

Acoustic and visual amenity will be protected by installing a bund in the south-west corner of the extension.

Other information/comments? (eg. accuracy of information)

Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?

☐ No If no, list any organisations that it is proposed to consult.
☒ Yes If yes, list the organisations so far consulted.

The Wurundjeri Woiwurrung Cultural Heritage Aboriginal Corporation is the Registered Aboriginal Party (RAP) and the project is located on Wurundjeri land.

Consultation with the RAP and heritage advisors has been undertaken, including through the preparation and approval of a Cultural Heritage Management Plan (CHMP) for the project.

A copy of the approved CHMP has been provided to and acknowledged by First Peoples – State Relations.

The CHMP activity area encompasses the proposed project footprint.

What investigations of cultural heritage in the project area have been done?
(attach details of method and results of any surveys for the project & describe their accuracy)

A CHMP was prepared in accordance with *Aboriginal Heritage Regulations 2018* and in in consultation with the Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation. The approved CHMP (No. 18510) included desktop assessment, standard and complex components.

The standard assessment did not identify any Aboriginal cultural heritage. Archaeological potential was assessed as low to moderate for low numbers of subsurface stone artefacts.

The complex assessment excavated a total of 333.25 m^2. A total of 45 m^2 contained 23 subsurface stone artefacts. The stone artefacts were registered as LDAD VAHR 7922-1828 (Montrose Quarry LDAD).

The approved CHMP sets out the circumstances by which the activity can be conducted in compliance with the *Aboriginal Heritage Act 2006*. As the Sponsor of the CHMP, Boral is responsible for ensuring all works are undertaken in accordance with the CHMP.

Is any Aboriginal cultural heritage known from the project area?

☒ NYD ☒ No ☒ Yes If yes, briefly describe:

- Any sites listed on the AAV Site Register
- Sites or areas of sensitivity recorded in recent surveys from the project site or nearby
- Sites or areas of sensitivity identified by representatives of Indigenous organisations

There is one registered Aboriginal place within the activity area, found through the complex assessment completed for the project.

The site comprises a series of findspots on hillslopes across the southwestern corner of the CHMP activity area. The low densities identified indicate that stone artefacts have been either casually discarded by Aboriginal people as they traversed the gently sloping land or dispersed throughout the landscape via natural processes or as a result of historic land use. Due to the low densities, disturbance associated with historic land use and lack of high integrity deposits, a scientific significance rating of low was attributed to the site.

The artefact scatter cannot be avoided as it is located within the proposed pit boundary. As part of the CHMP conditions relating to the repatriation of cultural heritage, soil retention and RAP observation of topsoil stripping have been included. As the Sponsor of the CHMP, Boral is responsible for ensuring all works are undertaken in accordance with the CHMP.

Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?

☒ NYD ☒ No ☒ Yes If yes, please list.

Three places are registered on the Victorian Heritage Inventory on the subject site south of the existing quarry pit:

- BQ HOUSE SITE 4 - H7922-0294
- MONTROSE QUARRY HOUSE SITE - H7922-0295
- MONTROSE QUARRY HISTORIC ARTEFACT SCATTER - H7922-0296.

Of these places, the Historic Artefact Scatter and Quarry House site is within the footprint of the proposed quarry pit boundary. The proposed works involve the removal of the archaeological sites in their entirety. Approval from Heritage Victoria to disturb these VHI listed sites is required.

A Heritage Impact Assessment (Attachment L) was submitted to Heritage Victoria in January 2025 recommending that H7922-0295 and H7922-0296 are removed from the Heritage Inventory as the sites no longer meet the definition of an archaeological site (Threshold A) and do not provide a meaningful contribution to the place history (Threshold B) (*Policy for determining low archaeological value*).

If the sites are determined by the Executive Director, Heritage Victoria, to be of low historical and

archaeological significance the sites will be removed from the Victorian Heritage Inventory, and a Consent will no longer be required.

In any event, it is not expected that impact to either of these sites will represent an extensive or major effect on heritage sites.

Is mitigation of potential cultural heritage effects proposed?

☒ NYD ☒ No ☒ Yes If yes, please briefly describe.

The CHMP provides for the salvage and relocation of known Aboriginal artefacts within the subject site to ensure they are out of the path of the proposed quarry extension. As part of the CHMP conditions relating to the repatriation of cultural heritage, soil retention and RAP observation of topsoil stripping have been included. As the Sponsor of the CHMP, Boral is responsible for ensuring all works are undertaken in accordance with the CHMP.

Other information/comments? (eg. accuracy of information)

16. Energy, wastes & greenhouse gas emissions

What are the main sources of energy that the project facility would consume/generate?

- ☒ Electricity network. If possible, estimate power requirement/output …….
- ☒ Natural gas network. If possible, estimate gas requirement/output ……...
- ☒ Generated on-site. If possible, estimate power capacity/output …….
- ☒ Other. Please describe.

Please add any relevant additional information.

The project will use 1,845,769 kWh/year of electricity. Emissions from explosives, on-site diesel use, and natural gas combustion make up the majority of scope 1 emissions (99%). Scope 1 relates to direct emissions from sources within the boundary of an organisation (or project), and as a result of the organisation's activities. Over the life of the project, the estimated scope 1 greenhouse gas emissions relate to:

- 78,138 t CO_2-e fuel combustion from on-site diesel use over the life of the project
- 59,505 t CO_2-e natural gas combustion over the life of the project
- 80,663 t CO_2-e explosive use over the life of the project.

What are the main forms of waste that would be generated by the project facility?

- ☒ Wastewater. Describe briefly.
- ☒ Solid chemical wastes. Describe briefly.
- ☒ Excavated material. Describe briefly.
- ☒ Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

All wastes associated with the project would be managed through existing processes established on the site as part of current quarry operations. All waste would be appropriately treated and disposed of throughout construction, operation and rehabilitation.

Excavated material

The removal of the topsoil and overburden will be stored in the stockyard or used in the establishment of bunds on site. During quarrying activity, Boral propose to develop an internal overburden dump in the quarry pit to manage mining waste from operations. At the completion of quarrying operations, Boral propose to fill the pit void with imported fill material.

Waste water

As described above, Boral currently holds EPA Licence 17685 (volume of 0.86 ML/d) to discharge treated waste water to surface water under the *Environment Protection Act 2017.* Attachment F includes a copy of this licence.

Water collected from the site is used widely throughout the quarry for a range of industrial applications such as dust suppression and processing of the quarry product. Water is currently pumped from the sump at the base of the quarry to storage water tanks located in the processing area, before being reused throughout the site and discharged.

As previously discussed, the industrial water runs through a treatment system before it is discharged indirectly to Bungalook Creek under the EPA Water Licence. The discharge point is located on Fussell Road and water can also be returned following treatment to the pit lake.

What level of greenhouse gas emissions is expected to result directly from operation of the project facility?

- ☒ Less than 50,000 tonnes of CO_2 equivalent per annum
- ☒ Between 50,000 and 100,000 tonnes of CO_2 equivalent per annum
- ☒ Between 100,000 and 200,000 tonnes of CO_2 equivalent per annum
- ☒ More than 200,000 tonnes of CO_2 equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

The maximum GHG emission for all scopes for any one year of the Project is 9,3117 t CO_2-e. The total estimated GHG emission for all scopes is 262,322 t CO_2.

GHG emissions from the Project have not been estimated to exceed the 200,000 t CO_2-e per annum.

17. Other environmental issues

Are there any other environmental issues arising from the proposed project?

☒ No ☒ Yes If yes, briefly describe.

18. Environmental management

What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)

☒ Siting: Please describe briefly

The Yarra Ranges local government area was identified in Victoria's 2018 Extractive Resources Strategy as a resource location critical to Victoria's cost-effective future supply of extractive resources. The Montrose Quarry is in an area where the supply of resources is unable to meet strong demand.

The extension of Montrose Quarry proposes access to proven reserves of a variety of hard stone, within an existing quarry site that will use existing processing facilities and is ideally located close to existing demand centres.

The project would help secure a long-term supply of extractive resource materials at competitive prices close to existing demand centres, enabling construction of significant infrastructure, housing and other projects. Extending the current quarry extraction area rather than sourcing essential quarry products from a new greenfield site will result in significantly reduced environmental impact.

☒ Design: Please describe briefly

Efforts to minimise impacts to native vegetation as much as reasonably practicable were undertaken through three iterations of the proposed extraction boundary. The proposed extraction boundary was initially proposed to effect 10.798 ha of native vegetation, which was reduced to 9.77 ha and then finally 8.779 ha.

Furthermore, Boral has sought to design the project so that minimal change to the existing stockyard, processing plant and operations is required to limit potential impacts on community amenity, dust and noise emissions.

The proposed project has been iteratively designed to avoid and minimise impacts as far as reasonably practicable.

☒ Environmental management: Please describe briefly.

Environmental technical studies have been completed to inform this referral and ensure appropriate management and mitigation measures are developed and implemented for the proposed extraction extension area.

Mitigation measures are described throughout this referral and seek to avoid, minimise and manage the potential effects associated with biodiversity, surface and groundwater, landscape and visual, soils and erosion, heritage, noise and air quality.

The potential for significant environmental effects are limited and in all instances manageable through a combination of standard and bespoke mitigation measures that can be implemented and overseen through the regulatory framework that applies to the quarry.

Importantly, the measures are expected to be captured under the risk management plan required to be prepared under Reg 7(c) of the *Mineral Resources (Sustainable Development) (Extractive Industries) Regulations 2019.*

☒ Other: Please describe briefly

19. Other activities

Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?

☒ NYD ☒ No ☒ Yes If yes, briefly describe.

Within the Yarra Ranges Shire Council, Boral are aware of two recent projects undergoing approvals that could have potential for cumulative effects. This includes the Silvan Reservoir high security fence by Melbourne Water and the Yarra Valley Quarry by Dandy Premix Quarries Pty Ltd. Both projects did not require an Environment Effects Statement, but do require the preparation of an environment report completed to the satisfaction of the Minister for Planning.

The Silvan Reservoir high security fence project is approximately 7 km from the Montrose Quarry and includes the removal of native vegetation and impacts on threatened flora and fauna, some of which have the potential to also occur within the Montrose Quarry site.

The Yarra Valley Quarry project is approximately 28 km from the Montrose Quarry and and includes the removal of native vegetation and impacts on threatened flora and fauna, some of which have the potential to also occur within the Montrose Quarry site.

There may be potential for cumulative effects on biodiversity values associated with these projects – however further assessment would be required to determine the extent, magnitude and duration of potential effects. All projects are sited in locations that have extensive forest in immediate proximity to the proposed works and include mitigation measures to avoid and reduce the impacts as far as reasonably practicable. Given this, the potential for cumulative effects is not expected to be significant.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project?

☒ No ☒ Yes If yes, please list here and attach if relevant.

Has a program for future environmental studies been developed?

☒ No ☒ Yes If yes, briefly describe.

A program of future environmental studies has not yet been developed in full, but future monitoring for noise, air quality, surface water and groundwater is proposed as described above.

Consultation program

Has a consultation program conducted to date for the project?

☒ No ☒ Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

Information regarding Boral's intention extend the current pit to the east and south was included as part of a community open day tour of the site in November 2024. Over 250 people attended the event and were shown the existing pit and operations, and information was provided to visitors about future development at the site.

Has a program for future consultation been developed?

☐ NYD ☐ No ☒ Yes If yes, briefly describe.

Attachment M Montrose Quarry Community Engagement Plan identifies the relevant stakeholders and engagement channels for the Montrose Quarry.

To support successful community engagement, Boral makes use of multiple mechanisms and channels which are selected on an individual site basis. Factors influencing the chosen options include the site context, feedback from stakeholders about preferences, and any legislated requirements or planning conditions. The engagement channels include basic mechanisms for engagement, like email and general correspondence, in-person and interactive mechanisms, like site visits and open days, written channels and media.

As the project progresses, Boral plan to keep relevant stakeholders identified in the plan informed of proposed changes.

Authorised person for proponent:

I, ……Blair Mather……(full name),

……Planning and Development Manager at Boral……(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature ____  _____

Date 19 September 2025

Person who prepared this referral:

I, ……Dana Jeffrey……(full name),

……Associate, Major Projects and Approvals at EMM Consulting……(position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature _____  _____

Date 19 September 2025