PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

Name of Proponent:	Darbay Pty Ltd	
Authorised person for proponent:	Darren House	
Position:	Director	
Postal address:	3 Oldaker Court, Miners Rest Vic 3352	
Email address:	Daren@spreadmaster.net.au	
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Person who prepared Referral:	John Mitas	
Position:	Managing Director	
Organisation:	John Mitas Consulting	
Postal address:	10 Weyburn Place, Avondale Heights Vic 3034	
Email address:	Johnmitas40@gmail.com	
Phone number:	0418506172	
Facsimile number:		
Available industry & environmental expertise:	Darren House has owned and operated a hard rock quarry in Victoria in the past and has a lot of experience in earthmoving projects in Australia and overseas.	
	 Consultants Environmental approvals: John Mitas Consulting Biodiversity: Ecology Australia Heritage: Cooper Heritage Management and Eco Logical Australia 	

1. Information on proponent and person making Referral

2. Project - brief outline

Project title:

Sand Quarry at 69 Barton Road Moyston

Project location:

The site is located at 69 Barton Road Moyston 5.6 km southwest of the township of Moyston and 2 km east of the Grampians National Park. The General Location Plan (**Figure 1**) shows the location of the site.

The Regional Plan (**Figure 2**) shows the boundaries of the Grampians National Park in relation to the site and other current work authorities in the area.

The Department of Jobs, Precincts and Regions have registered a Work Authority (WA) application for the proposed quarry in accordance with the *Minerals Resources (Sustainable Development) Act 1990* (MRSDA). The WA application area map is attached as **Figure 3**

The project coordinates are provided in Table 2.1

Table 2.1 Project coordinates:

Location point	Easting	Northing
North West corner	650900	5868670

North East corner	651481	5868572
South West corner	650774	5867915
South East corner	651354	5867818

Short project description:

Darbay Pty Ltd (Darbay) proposes to extract sand from 69 Barton Road Moyston. Drilling on the site has indicated a sand resource of 450,00 cubic metres, covering an area of 14.74 Ha. The depth of extraction will vary depending on the thickness of the sand resource. The maximum depth of the extraction will be at 10 metres (RL255) from the highest surface contours. The extraction will be carried out well above the ground water table, which is estimated at RL 245.

The extraction and rehabilitation will be carried out progressively with batters of one vertical to thee horizontal (1V to 3H). Topsoil will be stockpiled separately and will be used for rehabilitation. The sand can be extracted using a front- end loader or an excavator and does not require blasting.

The sand has no clay content and will not require washing. No slimes will be generated from the operation and no tailings or water dams will be required. The sand extracted will be screened using a mobile screening plant and stockpiled for dispatching to the market via Barton Road. The screening and loading area will be 1.5 Ha and will be located in a cleared area adjacent to the extraction area.

The quarry life is estimated at 24 years.

3. Project description

3.1 Aim/objectives of the project

The key objective of the project is to extract sand from the site in a manner that is compatible with the economic, social and environmental objectives set by the State of Victoria.

The extraction and rehabilitation of the site will be carried out progressively with the aim of rehabilitating the land to be safe and stable and to a standard agreed with the landowner and regulators.

This project will contribute to the raw materials required for the new infrastructure projects investments by the Victorian Government and the private sector in line with the Joint Ministerial Statement on extractive resources by the Minister for Resources and the Minister for Planning.

3.2 Background/rationale of project

An extensive search for a sand resource was carried out in the Ballarat Supply Interest Areas and surrounding areas. The two major sources of sand and gravel at Bacchus Marsh and White Hills are running out and new sand resources are required for the new infrastructure projects for west of Melbourne and regional Victoria.

The sand resource at 69 Barton Road is well located away from residential areas, is above the water table and with no clay content, the sand will not require washing. For the proposed sand quarry to be economically viable, the removal of native vegetation cannot be avoided.

The proposed sand quarry is adjacent to an operating sand quarry located on Barton Road

3.3 Main components of the project

The project site will include:

- An open pit quarry that covering an area of approximately 14.74 hectares (ha). An excavator will be use to remove the topsoil for use in rehabilitation and to extract the sand to be screened and stockpiled for sale.
- A screening and stockpiling area of approximately 1.4 ha. The processing plant comprising of a screen will be used for screening all materials on the site for any artefacts and to remove any impurities from the sand.
- A parking and site office facility covering an area of approximately 0.3 ha
- A proposed vegetation offset site covering an area of 14.61ha

The Site Plan (**Figure 5**) shows all the different components of the project and site layout **3.4 Ancillary components of the project**

There are no ancillary components or off-site resource processing

3.5 Key construction activities

Key construction activities include:

- Construct internal quarry access road
- Construct onsite parking area and set site office
- Construct screening, stockpile and loading area
- Construct extraction area diversion drains and water storage sump in stage 1
- Transport of construction equipment and materials to the site
- Strip and stockpiling of topsoil from all areas disturbed.

3.6 Key Operational activities

- The extraction area, vegetation offset site and the vegetation preservation areas have been surveyed and pegged. The pegs will be maintained until the site has been rehabilitated
- Removal of vegetation from extraction area progressively
- Strip and stockpile of topsoil initially
- Quarrying including the removal of and stockpiling of topsoil
- Screening and stockpiling of the sand
- Transporting the clean sand to markets
- Strip and place topsoil on extracted areas progressively
- Progressively rehabilitate the site
- Ongoing environmental management and report

3.7 Key decommissioning activities:

- Extracted areas will be progressively be rehabilitated.
- All batters will be extracted to 1 vertical to 3horizontal to ensure that the proposed vegetation offset site and the vegetation within the vegetation preservation and buffer zones will not be impacted during extraction, rehabilitation and decommissioning
- Topsoil were possible will be removed and spread over prepared batters to ensure that the area disturbed at any one time is minimised
- Infrastructure not required for farming activities will be removed

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

🗙 No

This project is not part of a staged development

Is the project related to any other past, current or mooted proposal in the region? $\pmb{\times}$ No

This project is not related to any past, current or mooted proposals in the region

4. Project alternatives

Brief description of key alternatives considered to date:

An extensive search for a sand resource was carried out in the Ballarat Supply Interest Areas and surrounding areas. The two major sources of sand and gravel at Bacchus Marsh and White Hills are running out and new sand resources are required for the new infrastructure projects for west of Melbourne and regional Victoria.

The sand resource at 69 Barton Road is well located away from residential areas, and is adjacent to an operating sand quarry. The depth of extraction is above the water table and with no clay content, the sand will not require washing. For the proposed sand quarry to be economically viable, the removal of native vegetation cannot be avoided.

The initial direction and staging of extraction was travelling from North to South along the Eastern boundary as shown in Figure 4. The proposed extraction sequence will now be along the western boundary of the extraction area and this will reduce the visual impact of the quarry as shown in Figure 5.

The loss of native vegetation has also been minimised by site level planning by limiting the extraction area to the eastern section of the property. This area supports cleared areas, bracken regrowth and moderate quality sand forest. There are also fewer large trees within the proposed extraction area; 47 within the extraction area versus 143 within the offset area.

The change from the initial design of extraction and offsets as shown in Figure 8 has also resulted in the decrease of native vegetation removal from 14.191 ha to the current 12.116 ha and an increase of the vegetation offset area from 11.84 ha to 14.609 ha.

Vegetation losses have been further minimised by increasing the southern buffer zone from 20m to 30m. This has created a corridor of seven large trees and other vegetation that will be incorporated into site rehabilitation and greater connectivity for wildlife movement between the offset and Barton Road roadside.

The drilling results indicate a sand resource that extends to shallower depths across the site. The extraction footprint has been minimised to reduce the removal of native vegetation.

Brief description of key alternatives to be further investigated: 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: No parts of the project are to be excluded from this referral.

6. Project implementation

Implementing organisation: Darbay Pty Ltd (Darbay) 3 Oldaker Court Miners Rest Vic 3352 Implementation timeframe: The expected duration of quarrying will be 24 years, including preparation of the site, extraction, screening and rehabilitation. Work on the project will commence soon after receiving planning and work authority approvals.

Proposed staging: Not applicable

7. Description of proposed site or area of investigation

Has a preferred site for the project been selected?

× No XYes

The project site is shown in the Site Plan (Figure 5).

General description of preferred site:

The Project site is at 69 Barton Road Moyston covering an area of 45 ha located 5.6 km southwest of the township of Moyston and 2km east of the Grampians National Park. The Regional Plan (**Figure 2**) shows the boundaries of the subject site and its proximity to the Grampians National Park.

Site area: 45 hectares

Route length: Not applicable and width: Not applicable

Current land use and development:

The Project site is currently used for agricultural activities and has a history of grazing.

Description of local setting:

The adjoining land is zoned Farming and used for agriculture. There are two operating sand quarries near the Project site.

There are 6 houses within 2 kilometres of the proposed quarry as shown in **Figure 7**. The closest dwelling is approximately 530m from the work authority boundary and 600m from the extraction area. The 2km radius includes a current operating sand quarry.

Access to the Project site is from Barton Road, which also services an adjoining operating sand quarry.

Planning context:

The site is located in the Greater Grampians bioregion, the Wimmera Catchment Management Authority and the Ararat Rural City Council municipality. It is zoned farming and following planning overlays of the Ararat Rural City Council planning scheme are relevant to the site with consideration to permit requirements:

- Native Vegetation
- Vegetation Protection Overlay-Schedule 1 (VPO1)
- Significant Landscape Overlay-Schedule 1 (SLO1)
- Bushfire Management Overlay

Within the VPO1 the site is identified as Site of Biological Significance Site 61- which is noted for its "Sand Forest and Plains Grassy Woodland, Endangered Ecological Vegetation classes"

Parts of the site are also recognised as Areas of Aboriginal Cultural Heritage Sensitivity. Areas of "cultural heritage sensitivity" are defined under the Aboriginal Heritage Regulations 2007 and include landforms generally regarded as more likely to contain Aboriginal cultural heritage.

A Planning Property Report for 69 Barton road is included as Appendix D

Local government area:

The Project site is within the Ararat Rural City Council local government area.

8. Existing environment

Overview of key environmental assets/sensitivities in project area and vicinity:

8.1 Ecological Values:

Ecology Australia was engaged to undertake a native vegetation clearing and ecological assessment of the Project site. An ecological assessment of potential impacts, based on desktop and targeted surveys for selected threatened species was carried out. **Flora:**

Three vegetation communities (Ecological Vegetation Classes EVCs) were identified on the Project site, they include:

- Sand Forest (EVC134) the dominant vegetation type onsite, this EVC includes a canopy dominated by Rough-barked Manna-gum, scattered understorey trees and large shrubs comprising wattles and Prickly Tea-tree. The ground layer is dominated by Bracken but also supports indigenous grasses and other herbs
- Sedgy Riparian Woodland (EVC198) that occurs within a low-lying area in the south-west section of the Project site. It supports an open canopy of Swamp Gums and Red Gums, and an understory is dominated by sedges, rushes and ephemeral herbs
- Plains Grassy Woodland (EVC 55) that is confined to relatively small patches in the northern section of the Project site. It comprises a canopy of Red Gum and an understory dominated by exotic grasses and other herbs, with some native grasses scattered through out.

No species recorded during the initial site survey or seasonal targeted surveys are listed under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), Flora and Fauna Guarantee Act 1988* (FFG Act) or classified as rare or threatened in Victoria. **Fauna:**

The project site supports two main fauna habitat types: woodland/forest and open pasture.

- The woodland and forest habitats provide foraging and nesting resources for a diversity of bird species, and small mammals. Low lying areas that support wet depressions also provide potential habitat for amphibians.
- Areas of open pasture are dominated by introduced grasses and support relatively few fauna habitat values. These areas provide foraging habitat for open –country, groundfeeding bird species, raptors and large macropods.

A total of 59 vertebrate fauna species were recorded during field surveys, including 42 birds 12 mammal, 3 amphibian and 2 reptile species of which 6 were exotic. None of these species are listed as threatened under the EPBC Act or the FFG Act

8.2 Cultural heritage:

Two registered Aboriginal cultural heritage places are located within the activity area:

- 69 Barton Road Moyston LDAD1 (VAHR 7423-0804), comprising 7 surface artefacts
- Tallingareea Artefact Scatter 1(VAHR7423-0808), comprising 14 surface artefacts and 765 subsurface artefacts.

Cooper Heritage Management and Eco logical Australia undertook a complex Cultural Heritage Management Plan (CHMP) assessment in two phases respectively.

The CHMP was approved by the Department of Premier and Cabinet pursuant to Section 65(2) of the *Aboriginal Heritage Act 2006* on 17 December 2019.

8.3 Noise:

Ambient noise is currently generated from the adjacent sand quarry and associated traffic on Barton Road, local traffic, breeze through trees, birds, insects and agricultural activity.

8.4 Surface and ground water:

A shallow drainage line within the vegetation-offset area provides some surface water run off into an established water dam in the North West part of the project site. Another water dam in the North East of the Project site collects run off from the rest of the Project site.

Georges Creek is located near the Project site, approximately 200 m at the closest point from the North East corner of the Project site and running North South and East of Barton Road.

8.5 Air quality:

Existing key sources of air emissions are expected to include the operating sand quarries, current

agricultural activities, local traffic, dust storms, controlled burning and domestic wood heating.

8.6 Visual amenity:

The Project site is well screened from the Moyston-Dunkeld Road and the progressive extraction and rehabilitation combined with the buffer zones and vegetation preservation areas will minimise the visual impact from Barton Road and nearby elevated areas

9. Land availability and control

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

🗙 No

There is no crown land present on the Project site.

Current land tenure:

The land tenure in the Project site is freehold land used for grazing. The Property details are: Crown description: Allotment 12 Parish of Moyston Standard Parcel Identifier (SPI): 12\PP3207 Council Property Number: 628133.1810000 Planning Scheme: Ararat

Intended land tenure:

Darbay Pty Ltd has leased the freehold land within the Project site

Other interests in affected land:

Native title does not apply to any part of the Project site

10. Required approvals

State and Commonwealth approvals required for project components: In addition to this EES referral process Darbay will require the following approvals to operate the project:

- Under the MRSDA Darbay will require:
 - A Work authority
 - An approved Work Plan which includes a rehabilitation plan
 - A rehabilitation bond
 - An approved environmental offset plan
 - Public liability insurance
 - Land owners consent
- Under the *Aboriginal Heritage Act 2006,* Cultural Heritage Plan (CHMP) 15950 has been approved on 17 December 2019
- Ararat Rural City Council may require Darbay to contribute to the maintenance of council owned roads via a road maintenance agreement under the *Local Government Act 1989*.
- Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Flora and Fauna Guarantee Act 1988* (FFG Act):
 - No ecological communities listed under the EPBC or FFG Acts have been recorded or are considered likely to occur within the study area.
 - No flora or fauna species listed under the EPBC or FFG Acts are considered to have a moderate or higher likelihood of occurrence within the site.
 - Targeted surveys were undertaken for two flora species listed under the EPBC Act; however these species were not recorded (Spiny Rice-flower and Clover Glycine)
 - Targeted surveys were also undertaken for the Trailing Hop-bush, Swamp Diuris and Annual Buttons, however none of these species were detected within the site.
 - Targeted surveys were undertaken for the EPBC Act listed Southern Brown Bandicoot within the study area; two surveys carried out one, in spring 2018 and a second in autumn 2019 failed to record the species on site.
 - o Targeted surveys were undertaken for two species listed under the FFG Act-the

Barking Owl and Brown Toadlet. These species were not recorded within the property. Environmental conditions during the Brown Toadlet surveys were suboptimal due to below average rainfall, but the site is not considered to support important or critical habitat for the species, based on the quality of the habitat.

On the basis of the results from the ecological assessment carried out by Ecology 0 Australia (Appendix B), the proposed project is not considered likely to have significant impact on any matter of national environmental significance listed under the EPBC Act, referral of the project to the Federal Department of Environment and Energy is not considered necessary

Have any applications for approval been lodged?

No XYes

The Department of Jobs, Precincts and Regions have registered a Work Authority (WA) application for the proposed quarry. The WA application area map is attached as Figure 3

Approval agency consultation:

Darbay has decided that early engagement with the community and other stakeholders was essential to understand any community and stakeholder concerns and to address them in the referral to the Minister for Planning and the subsequent work authority application. Consultation to date has included:

- An initial application information package for the proposed sand extraction has been prepared and distributed to all the relevant Government agencies, the Ararat Rural City Council and residents and landowners within a two-kilometre radius of the proposed quarry
- A pre-referral meeting was held on 4 September 2018 with the Impact Assessment Unit from the Department of Environment, Land, Water and Planning (DELWP).
- A pre- work plan consultation meeting was held on 18 September 2018 at the Project site with the following government agencies:
 - o Ararat Rural City Council
 - DELWP
 - Wimmera Catchment Management Authority
 - Grampians Wimmera Mallee Water
 - Department of Jobs, Precincts and Regions
 - Department of Premier and Cabinet (DPC) 0
- Representatives from DPC and DELWP and the three Traditional Owner Groups Martang Pty Ltd, Eastern Maar Aboriginal Corporation and Barengi Gadjin Aboriginal Corporation Land Council have been consulted and participated in the preparation of the CHMP
- All residents and landowners within 2km of the proposed guarry have been invited to a site meeting organised in consultation with the Ararat Rural City and after the proposed quarry operation was explained, the neighbours were given an opportunity to ask questions and outline any concerns

A draft Community Engagement Plan is attached as Appendix A

Other agencies consulted:

Not applicable.

PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

11. Potentially significant environmental effects

Overview of potentially significant environmental effects:

11.1 Ecological Values:

Ecology Australia was engaged to undertake a native vegetation clearing and ecological assessment of the Project site. An ecological assessment of potential impacts, based on desktop and targeted surveys for selected threatened species was carried out. The targeted surveys for these species and additional flora species requested by DELWP were undertaken in accordance the Federal and Victorian survey guidelines within the seasons recommended for each threatened species. Comments as to the timing for each survey are outlined below. A copy of the report is attached as **Appendix B**

Flora:

Three vegetation communities (Ecological Vegetation Classes EVCs) (Figure 6) were identified on the Project site, they include:

- Sand Forest (EVC134) the dominant vegetation type onsite, this EVC includes a canopy dominated by Rough-barked Manna-gum, scattered understorey trees and large shrubs comprising wattles and Prickly Tea-tree. The ground layer is dominated by Bracken but also supports indigenous grasses and other herbs
- Sedgy Riparian Woodland (EVC198) that occurs within a low-lying area in the southwest section of the Project site. It supports an open canopy of Swamp Gums and Red Gums, and an understory is dominated by sedges, rushes and ephemeral herbs
- Plains Grassy Woodland (EVC 55) that is confined to relatively small patches in the northern section of the Project site. It comprises a canopy of Red Gum and an understory dominated by exotic grasses and other herbs, with some native grasses scattered through out.

The current clearing proposal for the proposed sand quarry would result in the loss of 12.116ha of native vegetation, which has a conservation status of Endangered. The loss of native vegetation has been minimised by limiting the extraction area to the eastern section of the property. This area supports cleared areas, bracken regrowth and moderate quality sand forest. There are also fewer large trees within the proposed extraction area; 47 within the extraction area versus 143 within the proposed offset area of 14.609 ha. The proposed vegetation offset site contains all Sedgy Riparian Woodland (EVC 198) and better quality Sand Forest (EVC134).

Potential clearing of 10 ha or more of native vegetation that is endangered is one of the criteria for the EES referral

A total of 75 flora taxa were recorded during the site assessment, of which 23% (17) were exotic. No species recorded during the initial site survey or seasonal targeted surveys (in spring) are listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Flora and Fauna Guarantee Act 1988* (FFG Act) or classified as rare or threatened in Victoria.

A total of 24 rare or threatened flora species have been previously recorded within 5km of the site, and an additional nine species listed under the EPBC Act and/or the FFG Act have been recorded within 10 km.

Seven threatened species were given a moderate likelihood of occurrence within the project site, prior to undertaking targeted flora surveys. These included Trailing hop –bush (*Dodonaea procumbens*) that is listed under the EPBC Act. Additional flora species were included for targeted survey at the request of DELWP; these included Spiny-rice –flower (*Pimelea spinescens*), Clover Glycine (*Glycine latrobeana*), Swamp Diuris (*Diuris polustris*) and Annual Buttons (*Leptorhynchos orientalis*).

Targeted surveys for threatened flora species were undertaken on October and November 2018. The proposed extraction area was searched in 5m wide transects throughout.

None of these species or other threatened flora species were recorded. Consequently their

likelihood of occurrence has been revised to low or unlikely to occur.

An offset area of 14.069ha proposed within the Project site and adjacent to extraction area will provide 2.894 general habitat units and all of the large tree requirements for the offset. An additional offset area of 5.571 general habitat units will be sourced locally prior to clearing of any native vegetation.

Fauna:

The project site supports two main fauna habitat types: woodland/forest and open pasture:

- The woodland and forest habitats provide foraging and nesting resources for a diversity of bird species, and small mammals. Low lying areas that support wet depressions also provide potential habitat for amphibians.
- Areas of open pasture are dominated by introduced grasses and support relatively few fauna habitat values. These areas provide foraging habitat for open –country, groundfeeding bird species, raptors and large macropods.

A total of 59 vertebrate fauna species were recorded during field surveys, including 42 birds 12 mammal, 3 amphibian and 2 reptile species of which 6 were exotic: the Common Blackbird, Red Deer, Cat, European Hare, European Rabbit and the Red Fox. None of these species are listed as threatened under the EPBC Act or the FFG Ac

A total of eight threatened fauna species have previously been recorded within 5 km of the study area, and another 12 threatened fauna species have previously been recorded within 10km of the study area. The EPBC Act Protected Matters Search Tool identified a further 16 species listed under the EPBC Act which may occur, or for which potential habitat may occur, within 5 km of the study area. Of these species, three were considered to have moderate likelihood of occurrence within the study area; they included the EPBC Act listed Southern Brown Bandicoot *isoodon obesulus obesulus*; and the FFG Act listed Barking Owl *Ninax connivens connivens* and Brown Toadlet *Pseudophryne bibroonii*.

Targeted surveys for threatened owl species, in particular the Barking Owl, were undertaken using call playback. Three repeat surveys were undertaken by two observers on 24 October 2018, 26 March and 16 March and 16 April 2019, commencing approximately 1 hour after sunset on nights with little or no wind or rain.

In accordance with the EPBC Act survey guidelines for the Southern Brown Bandicoot, two repeat surveys of approximately 21 days duration were undertaken, one in spring (24 October to 15 November 2018) and one in autumn (26 March to 16 April 2019)

Surveys for the Brown Toadlet were undertaken on 26 March and 16 April 2019, and involved quite listening for calling males and visual search. Surveys commenced approximately one hour after dark and were undertaken between 19:45 and 21:30 AEST. Conditions during the survey were largely suitable; however rainfall for March and April 2019 were below average. Rainfall was recorded within 24 hours of the first survey but no rainfall was recorded in the 72 hours preceding the second survey, and there was no standing water on the property.

None of these species, or any other species listed as threatened under the EPBC Act or the FFG act was recorded and consequently, their likelihood of occurrence has been revised to low based on the results of the surveys and habitat suitability.

Two species listed under the Victorian Temperate Woodland Bird Community were recorded on the property during field surveys undertaken between August 2018 and April 2019: Yellow-tufted Honeyeater and Black chined Honeyeater. A number of other species listed within this community have been previously recorded within 10km of the property, but most of these have low likelihood of occurrence on-site. The majority of the property supports Sand Forest EVC, which is dominated by Rough-barked Manna Gum, with only scattered occurrences of Red Gum and Yellow-box which are characteristic of habitats utilised by the Woodland Bird Community. The property is therefore not considered to provide important habitats in the Victorian Temperate Woodland Bird Community.

11.2 Cultural heritage

Cooper Heritage Management and Eco logical Australia undertook a complex Cultural Heritage Management Plan (CHMP) assessment in two phases respectively. A total of three-1x1 m manual test pits and 23 mechanical test pits were excavated across the two phases. The test pits displayed deep deposits of unconsolidated sands to depths exceeding 1.9 m on the dune. Aboriginal stone artefacts were identified in 23 excavations, all of which were located on the dune landform.

Two registered Aboriginal cultural heritage places are located within the activity area:

- 69 Barton Road Moyston LDAD1 (VAHR 7423-0804), comprising 7 surface artefacts
- Tallingareea Artefact Scatter 1(VAHR7423-0808), comprising 14 surface artefacts and 765 subsurface artefacts.

The CHMP was approved by the Director Heritage services Aboriginal Victoria, acting under authority delegated by the Secretary, Department of Premier and Cabinet pursuant to Section 65(2) of the *Aboriginal Heritage Act 2006* on 17 December 2019. The approved CHMP is attached as **Appendix C**

11.3 Noise:

Sand extraction and screening will be carried on a campaign basis to stockpile sand, which will be loaded and carted from the site using Baron Road. A single screen will be used and no crushing of the loose sand will be required. A front-end loader will be used to load the trucks.

In the absence of appropriate management measures noise emissions from the quarrying operations and project related traffic have the potential to affect sensitive receptors beyond the boundary of Project site.

There are 6 houses within 2 kilometres of the proposed quarry as shown in **Figure 7**. The closest dwelling is approximately 530m from the work authority boundary and 600m from the extraction area. The 2km radius includes a current operating sand quarry.

Noise levels at the nearby sensitive receptors will not exceed the applicable standards set under the EPA Guideline 1411-Noise from Industry in Regional Victoria (NIRV)

The following management practices and controls will minimise offsite impacts:

- Maintain separation distance between the noise source at the quarry and the nearest sensitive receptor of 600m
- Locate mobile screen in the quarry hole. This will occur soon after the first campaign of sand extraction. The product stockpile of sand will be placed to act as a sound attenuating barrier in line with the nearest sensitive receptor.
- Where practicable and consistent with manufacturer's specifications, fit (or retain) mobile noise-generating equipment, pneumatic equipment and/ fixed internal combustion engines with noise attenuation devices (e.g. enclosures, baffles, silencers, mufflers etc.) and maintain equipment in good repair
- Turn off mobile equipment when not in use
- Mobile equipment to be fitted with low frequency reversing sirens
- Restricted operating hours:
 - o 7 am 6 pm Mon to Fri
 - 7 am 1 pm Sat
 - No work on Sun or public holidays

11.4 Ground water:

The maximum depth of the extraction will be at RL255 (10m from the highest surface contours). The extraction will be carried out well above the ground water table, which is estimated at RL 245. The ground water gradient is sloping towards George Creek at the North East corner of the site. The project will not impact on ground water quality, and ground water dependent ecosystems.

11.5 Surface water:

The project will not impact on any onsite or offsite flow paths of surface water. There is very little run off generated within the proposed extraction area, which is comprised of an unconsolidated sand deposit. All the rainwater that falls within the proposed extraction area soaks into the sand dune. The drainage line within the proposed vegetation offset area will not be impacted by the proposed sand extraction.

All drainage from the site and surrounding areas lead to George Creek, which runs away from the Grampians National Park. The project will not change the hydrological regime or impact receptor water bodies within the project site or downstream.

The following management practices and controls will prevent erosion and sediment runoff from onsite activities, minimise offsite impacts of erosion and sediment run-off on the surrounding environment and protect the beneficial uses of water environments as defined in the State Environment Protection Policy (Waters) SEPP (Waters):

- Plan and stage vegetation clearing and earthworks to limit, to the extent practicable given operational requirements, the total surface area of land exposed at one time
- Install interception drains upstream and downstream of areas of disturbed ground, including stockpiles and unsealed roads, to minimise any surface water flow onto such areas. Contain water-carrying sediments from roads or other disturbed areas for suitable treatment
- Construct and maintain sediment control ponds to retain water until all sediment from the design storm event has fallen out of suspension
- Plan and construct the final landform to minimise erosion and sediment run-off

11.6 Air quality:

There are 6 houses within 2 kilometres of the proposed quarry as shown in **Figure 7**. The closest dwelling is approximately 530m from the work authority boundary and 600m from the extraction area. The 2km radius includes a current operating sand quarry.

Assessment of air emissions arising from extractive industries must be managed in accordance with SEPP (AQM). The level of assessment required is depended on:

- The scale or size of the operation
- The location of the site

Under The Protocol for Environmental Management: Mining and Extractive Industries No.1191, no assessment of air emissions is required for rural areas for small quarries up to 150,000 tonnes per year extraction and more than 500m from the extraction area and the nearest sensitive receptor.

The following management practices and controls will reduce or prevent dust generation from onsite activities and materials transport, to the extent practicable:

- Maintain separation between the dust source and the property or activity boundary of the nearest sensitive land uses of more than 500 m
- A water truck will be used on internal roads and hard stand areas
- Cover vehicles carrying dusty materials (soil, sand, rocks etc.) when transferring material to/from the site or treat with water or other dust suppressant to minimise dust generation
- Use water sprays on mobile crushing plan

11.7 Visual impact:

The quarry site is screened from general view by distance, topography and trees. The site has extensive natural buffer zones from any other domestic or commercial activities. There are very few dwellings in the vicinity of the site.

The following management practices and controls will further reduce the visual impact of the proposed quarry operation:

- Maintain vegetation within the buffers of the Project site
- Locate the mobile screening plant within the quarry hole when it is practical to do it.
- Plant additional native vegetation in the proposed buffer zone along Barton Road.

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11.8 Traffic and transport:

Traffic volumes in the general area will increase as a result of project related traffic. This may result in safety and amenity impacts.

It is estimated that three truckloads of sand will be carted from the proposed quarry per day Monday to Saturday carted during restricted hours outlined in section 11.3 above. This equates to 48,000 tonnes annually.

11.9 Fire:

The Project site is within a Bushfire Management Overlay. The following management practices and controls will ensure that any fire ignitions originating within the project site are contained within it and any grass or bushfires burning onto the Project site do not cause health or safety incidents and result in minimal environmental harm:

- Provide fire-fighting equipment in all on-site vehicles and mobile plant and maintain the equipment in good working order
- Internal-combustion engines will be fitted with exhaust pipes, mufflers and spark arresters (where consistent with manufacturers specifications) and maintained in good working order
- Flammable and combustible wastes are removed from the site as soon as practicable
- Consult with the Country Fire Authority annually prior to fire season on the bushfire management controls outlined for the Project site.

11.10 Soils and rehabilitation:

In the absence of appropriate management measures, there is the potential for Project –related activities to result in a reduction in topsoil/subsoil quantity and/or quality which may in turn impact on the rehabilitation success.

The following management practices and controls will be implemented and mitigate the risk:

- Salvage top soil for use in rehabilitation
- Stabilise topsoil stockpiles by seeding and mulching using some of the native vegetation removed from the extraction area.
- After the initial topsoil removal and stockpiling, topsoil will be removed and spread directly on areas extracted and prepared for rehabilitation.
- Storage of topsoils would ideally be less than 12months
- Avoid stripping topsoil when saturated

12. Native vegetation, flora and fauna

Native vegetation

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

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

What investigation of native vegetation in the project area has been done?

Ecology Australia was engaged to undertake a native vegetation clearing and ecological assessment of the Project site. An ecological assessment of potential impacts, based on desktop and targeted surveys for selected threatened species was carried out. A copy of the report is attached as **Appendix B**

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

× NYD Estimated area 12.116 hectares

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

× N/A

Which Ecological Vegetation Classes may be affected?

Three vegetation communities (Ecological Vegetation Classes EVCs) were identified on the Project site, they include:

- Sand Forest (EVC134)
- Sedgy Riparian Woodland (EVC198)

• Plains Grassy Woodland (EVC 55)

Have potential vegetation offsets been identified as yet?

× NYD × Yes

An offset area of 14.069ha proposed within the Project site and adjacent to extraction area will provide 2.894 general habitat units and all of the large tree requirements for the offset. An additional offset area of 5.571 general habitat units will be sourced locally prior to clearing of any native vegetation. All of the large tree offset requirements can be met within the proposed offset area as shown in **Figure 6**, noting that consideration of edge-effects associated with the extraction will be taken into account when formalising the additional offsets required from a third party.

Extraction of sand at batter of a slope of 1vertical to 3 horizontal along the vegetation offset boundary will minimise the edge -effects associated with extraction site. The propose vegetation offset site will be fenced and protected in perpetuity on the title of the property.

Other information/comments?

No

NYD = not yet determined

Flora and fauna

What investigations of flora and fauna in the project area have been done?

Ecology Australia was engaged to undertake a native vegetation clearing and ecological assessment of the Project site. An ecological assessment of potential impacts, based on desktop and targeted surveys for selected threatened species was carried out

Seven threatened flora species were given a moderate likelihood of occurrence within the project site, prior to undertaking targeted flora surveys. These included Trailing hop –bush that is listed under the EPBC Act. Additional flora species were included for targeted survey at the request of DELWP; these included Spiny-rice –flower, Clover Glycine, Swamp Diuris and Annual Buttons No species recorded during the initial site survey or seasonal targeted surveys are listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), *Flora and Fauna Guarantee Act 1988* (FFG Act) or classified as rare or threatened in Victoria

Three threatened fauna species were considered to have moderate likelihood of occurrence within the study area; they included the EPBC Act listed Southern Brown Bandicoot; and the FFG Act listed Barking Owl and Brown Toadlet.

Targeted surveys for threatened owl species, in particular the Barking Owl, were undertaken using call playback. Three repeat surveys were undertaken by two observers on 24 October 2018, 26 March and 16 March and 16 April 2019, commencing approximately 1 hour after sunset on nights with little or no wind or rain.

In accordance with the EPBC Act survey guidelines for the Southern Brown Bandicoot, two repeat surveys of approximately 21 days duration were undertaken, one in spring (24 October to 15 November 2018) and one in autumn (26 March to 16 April 2019)

Surveys for the Brown Toadlet were undertaken on 26 March and 16 April 2019, and involved quite listening for calling males and visual search. Surveys commenced approximately one hour after dark and were undertaken between 19:45 and 21:30 AEST. Conditions during the survey were largely suitable; however rainfall for March and April 2019 were below average. Rainfall was recorded within 24 hours of the first survey but no rainfall was recorded in the 72 hours preceding the second survey, and there was no standing water on the property. Environmental conditions during the Brown Toadlet surveys were sub-optimal due to below average rainfall, but the site is not considered to support important or critical habitat for the species, based on the quality of the habitat

None of these species, or any other species listed as threatened under the EPBC Act or the FFG act was recorded and consequently, their likelihood of occurrence has been revised to low based on the results of the surveys and habitat suitability.

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

 \times NYD \times No **x Yes**

Two species listed under the Victorian Temperate Woodland Bird Community were recorded on the property during field surveys undertaken between August 2018 and April 2019: Yellow-tufted Honeyeater and Black chined Honeyeater. A number of other species listed within this community have been previously recorded within 10km of the property, but most of these have low likelihood of occurrence on-site.

If known, what threatening processes affecting these species or communities may be exacerbated by the project?

The majority of the property supports Sand Forest EVC, which is dominated by Rough-barked Manna Gum, with only scattered occurrences of Red Gum and Yellow-box which are characteristic of habitats utilised by the Woodland Bird Community. The property is therefore not considered to provide important habitats in the Victorian Temperate Woodland Bird Community.

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

 \times NYD **X** No \times Yes If yes, please:

Is mitigation of potential effects on indigenous flora and fauna proposed?

Darbay will implement the following measures to minimise potential impacts on flora and fauna:

- The loss of native vegetation has been minimised by limiting the extraction area to the eastern section of the Project site with cleared areas, bracken regrowth and moderate quality sand forest.
- There are fewer large old trees within the proposed extraction area; 47 within the extraction area versus 143 within the offset area.
- Vegetation losses have been further minimise by creating a wider buffer zone on the southern boundary. This has a greater connectivity for wildlife movement between the offset area and the eastern buffer zone.
- No additional vegetation will be removed for stockpile, screening and other amenities
- Salvage all the topsoil for use in rehabilitation
- Undertake progressive rehabilitation
- Undertake weed management and pest control programs in consultation with surrounding landholders
- The native vegetation offset area located adjacent to the extraction area with a higher quality EVC and with a lot more mature old trees will provide refuge for fauna.
- Removal of vegetation from the extraction area will be timed to avoid nesting periods
- Salvage supervision by wildlife handlers will be provided during removal of hollow bearing trees

Biodiversity offsets will be provided to compensate for vegetation clearance that cannot be avoided.

Other information/comments? No

13. Water environments

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

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

 \times NYD **x** No \times Yes Are any waterways, wetlands, estuaries or marine environments likely to be affected? \times NYD X No X Yes Are any of these water environments likely to support threatened or migratory species? \times NYD **x No** × Yes Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'? **X** No X Yes \times NYD Could the project affect stream flows? \times NYD \times No \times Yes Could regional groundwater resources be affected by the project? \times NYD \times No \times Yes Could environmental values (beneficial uses) of water environments be affected? 🗙 NYD 🗙 No 🗙 Yes Could aquatic, estuarine or marine ecosystems be affected by the project? \times NYD **X No** X Yes Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term? X No × Yes Is mitigation of potential effects on water environments proposed? \times NYD × No **× Yes** If yes, please briefly describe. Darbay will operate under an Environmental Management plan (EMP), which is a key component of an approved work plan, required under the MRSDA. All sand extraction will be well above the ground water table. The project will not impact on any onsite or offsite flow paths of surface water. There is very little run off generated within the proposed extraction area, which is comprised of an unconsolidated sand deposit. All the rainwater that falls within the proposed extraction area soaks into the sand dune. The drainage line within the proposed vegetation offset area will not be impacted by the proposed sand extraction. The project will not change the hydrological regime or impact receptor water bodies within the project site or downstream. Mitigation measures for potential effects from surface water have been outlined in section 11.5 above. Other information/comments? No 14. Landscape and soils 14.1 Landscape Has a preliminary landscape assessment been prepared? **\times No** \times 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 X No X Yes

Identified as of regional or State significance in a reputable study of landscape values? NYD X No Yes If yes, please specify.		
 Within or adjoining land reserved under the National Parks Act 1975 ? NYD X No Yes 		
• Within or adjoining other public land used for conservation or recreational purposes ?		
X NYD X No X Yes		
Is any clearing vegetation or alteration of landforms likely to affect landscape values?		
X NYD X No X Yes		
Is there a potential for effects on landscape values of regional or State importance?		
🗙 NYD 🗙 No 🗙 Yes Please briefly explain response.		
Is mitigation of potential landscape effects proposed?		
🗙 NYD 🗙 No 🗙 Yes If yes, please briefly describe.		
The following management practices and controls will reduce the visual impact of the proposed quarry operation:		
Maintain vegetation within the buffers of the Project site		
• Locate the mobile screening plant within the quarry hole when it is practical to do so		
Plant additional native vegetation in the proposed buffer zone along Barton Road		
Extraction and rehabilitation is carried out progressively		
Other information/comments?		
ΝΟ		

14.2 Soils

Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?		
NYD No X Yes		
The following management practices and controls will prevent erosion and sediment runoff from onsite activities, minimise offsite impacts of erosion and sediment run-off on the surrounding environment and protect the beneficial uses of water environments as defined in the State Environment Protection Policy (Waters) SEPP (Waters):		
 Plan and stage vegetation clearing and earthworks to limit, to the extent practicable given operational requirements, the total surface area of land exposed at one time Install interception drains upstream and downstream of areas of disturbed ground, including stockpiles and unsealed roads, to minimise surface water flow onto such areas. Contain water-carrying sediments from roads or other disturbed areas for suitable treatment 		
 Construct and maintain sediment control ponds to retain water until all sediment from the design storm event has fallen out of suspension 		
Plan and construct the final landform to minimise erosion and sediment run-off		
Are there geotechnical hazards that may either affect the project or be affected by it?		
\times NYD \times No \times Yes If yes, please briefly describe.		
All working batters within the extraction area will be at 1 vertical to 3 horizontal. Any impact from slope failure will be confined to the Project site.		
Other information/comments?		
No		

15. Social environments

In the market Black, to measure classific and the burner of more that the file should be construction on		
is the project likely to generate significant volumes of road traffic, during construction or		
operation ?		
NYD NO X Yes If yes, provide estimate of traffic volume(s) if practicable.		
It is estimated that 30,000 cubic metres of sand will be transported from the site every year. This		
will require three truckloads per day depending on demand. Other traffic will be in relation to		
supplies, employees and contractors.		
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 X Yes		
In the absence of appropriate management measures noise emissions, dust traffic and changes		
to visual amonity from the guarning operations and project related traffic bays the potential to		
offset experience sectors have dealed by a project related traine have the potential to		
anect sensitive receptors beyond the boundary of Project site.		
Section 11 above has outlined management practices and control to minimise these impacts.		
is there a potential for exposure of a numan community to nealth or safety hazards, due to		
emissions to air or water or noise or chemical hazards or associated transport?		
🗙 NYD 🗙 No 🗙 Yes		
Is there a potential for displacement of residences or severance of residential access to		
community resources due to the proposed development?		
× NYD × No × Yes		
Are non-residential land use activities likely to be displaced as a result of the project?		
NYD No X Yes If yes briefly describe the likely effects.		
Some existing farming activities within the extraction area will be temporally displaced until the		
rehabilitation is finalised		
Do any expected changes in non-residential land use activities have a potential to cause		
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A draft Community Engagement Plan is attached as Appendix A

15.2 Cultural heritage

Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?		
What investigations of cultural heritage in the project area have been done?		
Cooper Heritage Management and Eco logical Australia undertook a complex Cultural Heritage Management Plan (CHMP) assessment in two phases respectively.		
The CHMP was approved by the Department of Premier and Cabinet pursuant to Section 65(2) of the <i>Aboriginal Heritage Act 2006</i> on 17 December 2019.		
A copy of the approved CHMP is attached as Appendix C		
Is any Aboriginal cultural heritage known from the project area? NYD NO X Yes Two registered Aboriginal cultural heritage places are located within the activity area: • 69 Barton Road Moyston LDAD1 (VAHR 7423-0804), comprising 7 surface artefacts • Tallingareea Artefact Scatter 1(VAHR7423-0808), comprising 14 surface artefacts and 765 subsurface artefacts		
Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the <i>Heritage Act 1995</i> within the project area?		
🗙 NYD 🗙 No 🗙 Yes If yes, please list.		
Is mitigation of potential cultural heritage effects proposed? NYD NO X Yes All the conditions and recommendations of the approved CHMP will be implemented		
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 5,000 kWh.
- × Natural gas network. If possible, estimate gas requirement/output
- × Generated on-site. If possible, estimate power capacity/output
- X Other. Please describe.
- Please add any relevant additional information.

The project facility will not be a high user of energy. The administrative office will be connected to the network and the electricity usage will be equivalent to a small residence

The mobile screen will be powered by a small diesel generator which will be operated intermediately

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.

Non-hazardous waste will be collected for recycling or collected disposed offsite by a licensed contractor.

Hazardous waste will be transported offsite for disposal by licensed contractor.

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

- **x** Less than 50,000 tonnes of CO_2 equivalent per annum
- \times Between 50,000 and 100,000 tonnes of CO₂ equivalent per annum
- \times Between 100,000 and 200,000 tonnes of CO₂ equivalent per annum
- \times More than 200,000 tonnes of CO₂ equivalent per annum

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

17. Other environmental issues

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

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
- X Design: Please describe briefly

Revironmental management: Please describe briefly. The site will operate under an environmental management plan (EMP), which is a key component of an approved work plan required under the MRSDA. The EMP will outline additional mitigation measures and environmental criteria outlined in this submission.

X Other: Please describe briefly

Add any relevant additional information.

19. Other activities

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

 \times NYD \times No \times Yes If yes, briefly describe.

20. Investigation program

Study program

Have any environmental studies not referred to above been conducted for the project? X No X Yes If yes, please list here and attach if relevant.

Has a program for future environmental studies been developed? X No X Yes If yes, briefly describe.

21 Consultation program

Has a consultation program conducted to date for the project?

× No 🗙 Yes

Darbay has decided that early engagement with the community and other stakeholders was essential to understand any community and stakeholder concerns and to address them in the referral to the Minister for Planning and the subsequent work authority application. This has included:

- An initial application information package for the proposed sand extraction has been prepared and distributed to all the relevant Government agencies, the Ararat Rural City Council and residents and landowners within a two-kilometre radius of the proposed quarry
- A pre-referral meeting was held on 4 September 2018 with the Impact Assessment Unit with the Department of Premier and Cabinet
- A pre- work plan consultation meeting was held on 18 September 2018 at the Project site with the following government agencies:
 - Ararat Rural City Council
 - Department of Environment Land, Water and Planning (DELWP)
 - Wimmera Catchment Management Authority
 - o Grampians Wimmera Mallee Water
 - Department of Jobs, Precincts and Regions
 - Department of Premier and Cabinet (DPC)
- Representatives from DPC and DELWP and the three Traditional Owner Groups Martang Pty Ltd, Eastern Maar Aboriginal Corporation and Barengi Gadjin Aboriginal Corporation Land Council have been consulted and participated in the preparation and approval of the CHMP
- All residents and landowners within 2km of the proposed quarry have been invited to a site meeting organised in consultation with the Ararat Rural City and after the proposed quarry operation was explained, the neighbours were given an opportunity to ask questions and outline any concerns

Has a program for future consultation been developed?

 \times NYD \times No \times Yes If yes, briefly describe.

A programme of future consultation is outlined in the draft Community Engagement Plan which is attached as **Appendix A**

Authorised person for proponent:

I, Darren House Director (Darbay Pty Ltd), confirm that the information contained in this form is, to my knowledge, true and not misleading

Signature

Date 14 January 2020

Person who prepared this referral:

I, John Mitas, Managing Director (John Mitas Consulting), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date 14 January 2020

Figures and Appendices

Figure 1	General Location Plan
Figure 2	Regional Plan
Figure 3	Work Authority Application WA6972
Figure 4	Initial Staging of Extraction Design
Figure 5	Site Plan
Figure 6	Ecological Vegetation Classes and Large Trees and Offset Area
Figure 7	Houses within 2km of Barton Road
Figure 8	Initial Design of Extraction and Offset Area
Appendix A	Draft Community Engagement Plan
Appendix B	Ecological Assessment - 69 Barton Road, Moyston
Appendix C	Sand Quarry, 69 Barton Road Moyston Cultural Heritage Management Plan 15950