

Our Ref: 21999_R01_Haerses Road Quarry MOD 5_RFI Response 190522

19 May 2022

Jessie Evans
Director, Resource Assessments
Department of Planning and Environment

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Dear Jessie

**RE: Haerses Road Quarry Modification 5 (DA 165-7-2005 MOD 5)
Relocation of Site Office, Workshop and Weighbridge**

I refer to the Department's request for additional information dated 13 May 2022 regarding Modification 5 (MOD 5) to DA 165-7-2005 for the Haerses Road Quarry (the Quarry) at Maroota in New South Wales (NSW).

In response to your request, an updated Consolidated Project Description (including updated supporting figures) is enclosed in **Appendix A**. For completeness, an updated Summary of Mitigation Measures is included in **Appendix B**. These are unchanged from the version previously submitted to the Department on 6 May 2022.

The updated Consolidated Project Description (**Appendix A**) includes the clarifications:

- Following MOD 5, extraction activities will continue to utilise both dozers and excavators consistent with approved operations, but with the addition of the enclosed drum saw attachment for sandstone cutting. To achieve compliance with the existing noise criteria, in instances where either the dozer or enclosed drum saw are operating in an exposed location or during noise-enhancing conditions, Dixon Sand will avoid operate both machines concurrently. This is consistent with commitments in **Appendix B**.
- The Development Layout Plan (**Figure 1**) has been updated to align with the Site Concept Plan, which is also included as **Figure 1A**. The Development Layout Plan indicates an overall building envelope for the relocated site office, workshop and weighbridge and associated concrete slab foundation and parking area. While the relocated building envelope is larger than that which is currently approved, it is noted that:
 - the building envelope is wholly located within the approved disturbance area for the Quarry and will be located further away from the closest sensitive receivers, relative to its approved location
 - noise and dust generated within the workshop shed (i.e. during stone cutting activities) will be managed through the implementation of the mitigation measures in **Appendix B** to maintain compliance with existing noise and air quality criteria, and

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- established erosion and sediment controls measures will be implemented during the construction of the site buildings and parking area and hardstand areas within the building envelope will be incorporated into the Quarry's approved surface water management system.

Accordingly, it is considered that the environmental impacts associated with the relocated site office, workshop and weighbridge would be generally consistent with those previously assessed and approved under DA 165-7-2005 (as modified).

Additionally, Dixon Sand has identified some minor errors in Figure 2 of Appendix 4 (Porters Road Offset Area) and Appendix 6 (Final Landform) of the current consolidated consent. These minor corrections are discussed below, with updated figures included in **Appendix A**. It is requested that these updated figures be included in the modified consolidated consent.

- The Porters Road Biodiversity Offset Area (see **Figure 5 of Appendix A**) has been amended to accurately reflect the executed BioBanking Agreement dated November 2017. Consistent with that Agreement, the offset area boundary in **Figure 5** now excludes an existing bushfire access road and potential future building envelope (subject to separate approvals).
- Appendix 6 (Final Landform) in the current consolidated consent contains a now-outdated inset which reflects the approved development prior to Modification 3. This inset has now been removed from the Modified Conceptual Final Landform figure (see **Figure 7 of Appendix A**) to avoid any confusion.

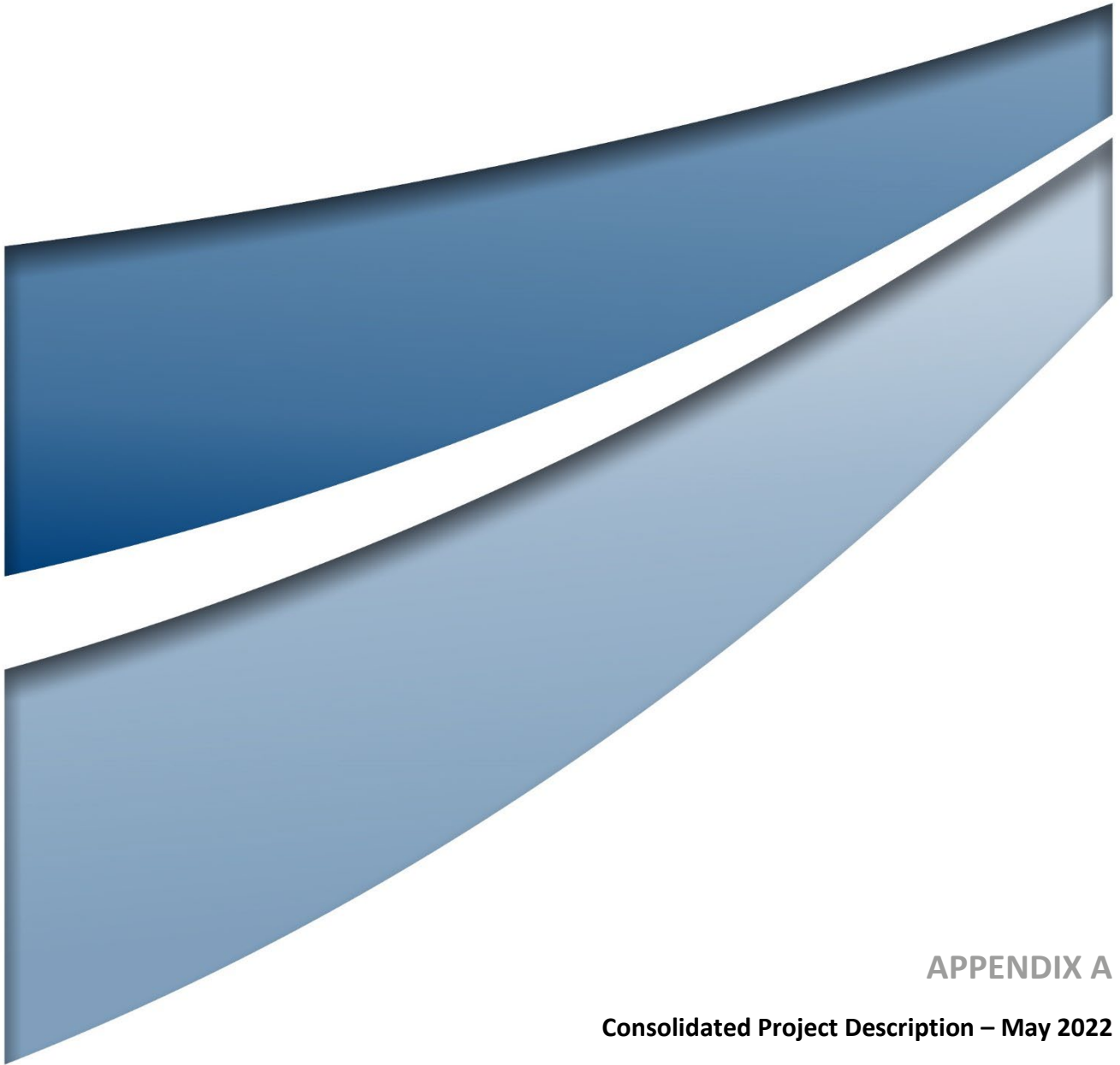
We trust this information meets with your current requirements. Please do not hesitate to contact the undersigned should you require clarification or further information.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'AI', is positioned above the printed name of the signatory.

Alex Irwin
Principal Environmental Consultant

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APPENDIX A

Consolidated Project Description – May 2022

Consolidated Project Description

The approved development, as modified, includes:

- carrying out quarrying operations until 14 February 2046
- extracting up to 495,000 tpa of Tertiary Sand and Friable Sandstone in stages
- dispatching a combined total of up to 495,000 tpa of quarry products by road, comprising:
 - up to 190,000 tpa dispatched to Old Northern Road Quarry, and
 - up to 495,000 tpa dispatched direct to market
- receiving up to 250,000 tpa of VENM and ENM for blending or resale and rehabilitation purposes
- up to 180 truck movements per day (combined inbound and outbound), with no more than 20 between 6.00 am and 7.00 am
- establishment of a site office, workshop, weighbridge and associated carparking area
- construction and use of ancillary infrastructure, including internal haul roads, water management infrastructure and acoustic bunds
- on-site mobile crushing, screening, dry and wet processing and sandstone cutting
- upgrades to internal roads and the intersection of Haerses Road with Wisemans Ferry Road
- progressive rehabilitation of the Quarry site to either Class 4 agricultural land or native vegetation (refer to **Figure 7**).

Table A1 below provides the key features of DA 165-7-2005 as modified (incorporating MOD 5).

Table A1 Key features of Approved Development (As Modified)

Aspect	Approved development (incorporating MOD 5)
Quarry life	14 February 2046
Extraction limit	495,000 tpa
Transport limit	Combined limit of 495,000 tpa, comprising: • Up to 190,000 tpa to Old Northern Road Quarry • Up to 495,000 tpa direct to market.
Truck movements	Up to 180 truck movements per day (total in and out), including up to 20 vehicle movements (total in and out) between 6.00 am and 7.00 am
Total disturbance footprint	Approximately 75.5 ha (see Figure 1 , Figure 1A and Figure 2)
Overburden	Used for acoustic barriers or stockpiled and used to fill voids
Importation of material	Receival of up to 250,000 tpa of VENM and ENM for landform construction or reprocessing and sale

Aspect	Approved development (incorporating MOD 5)	
Infrastructure	• Site office, workshop, weighbridge concrete slab foundation and gravel car parking area • Internal haul roads • Water management structures, including diversion banks and channels, contour banks and drains and sediment basins • Acoustic bunds (see Figure 3) • Upgrading of Haerses Road and the intersection of Haerses Road and Wisemans Ferry Road as required under Conditions 20 to 24 of Schedule 3 of the development consent	
Plant & Equipment	• Front end loader (4) • 40 t excavator (2)* • 40 t trucks (2) • water cart (1) • dozer* • grader • service vehicle • mobile dry screen • mobile jaw and rotary crushers • wet and dry processing plant • enclosed drum saw (attached to excavator)* • stone cutting saws (to be enclosed in workshop) <i>* Equipment may be operated concurrently, subject to the implementation of the noise mitigation measures in Appendix B</i>	
Hours of operation	Quarrying operations (excluding truck arrival, loading and dispatch)	• 7.00am to 6.00pm Monday to Saturday • At no time on Sundays or public holidays
	Truck arrival, loading and dispatch	• 6.00am to 6.00pm Monday to Saturday • At no time on Sundays or public holidays
	Acoustic bund construction and road and intersection works on Haerses Road and Wisemans Ferry Road	• 8.00am to 5.00pm Monday to Friday • At no time on Saturdays, Sundays or public holidays

Aspect	Approved development (incorporating MOD 5)	
	Maintenance	At any time, provided that these activities are not audible at any privately-owned residence outside of permissible hours for quarrying operations
Extraction depth	No extraction within 2 metres (m) of the highest recorded wet weather groundwater level of the Maroota Tertiary Sands Groundwater Source (MTSGS) or Sydney Central Basin Groundwater Source (SCBGS), as defined on the most recent Maximum Extraction Depth Map approved by the Secretary (see Conditions 19 to 22 of Schedule 2 of the development consent)	
Biodiversity Offset Strategy	Establishment of the Haerses Road Offset Area (see Figure 4), Porters Road Offset Area (see Figure 5) and staged retirement of residual credits as required under Conditions 30 to 33 of Schedule 3 of the development consent	
Pollution Control	Prevention of discharge of polluting water and adherence to emissions criteria for air and noise at receivers surrounding the Quarry (see Figure 6)	
Rehabilitation	progressive rehabilitation of the Quarry site to either Class 4 agricultural land or native vegetation (refer to Figure 7)	
Employment	Up to 16 people full time	

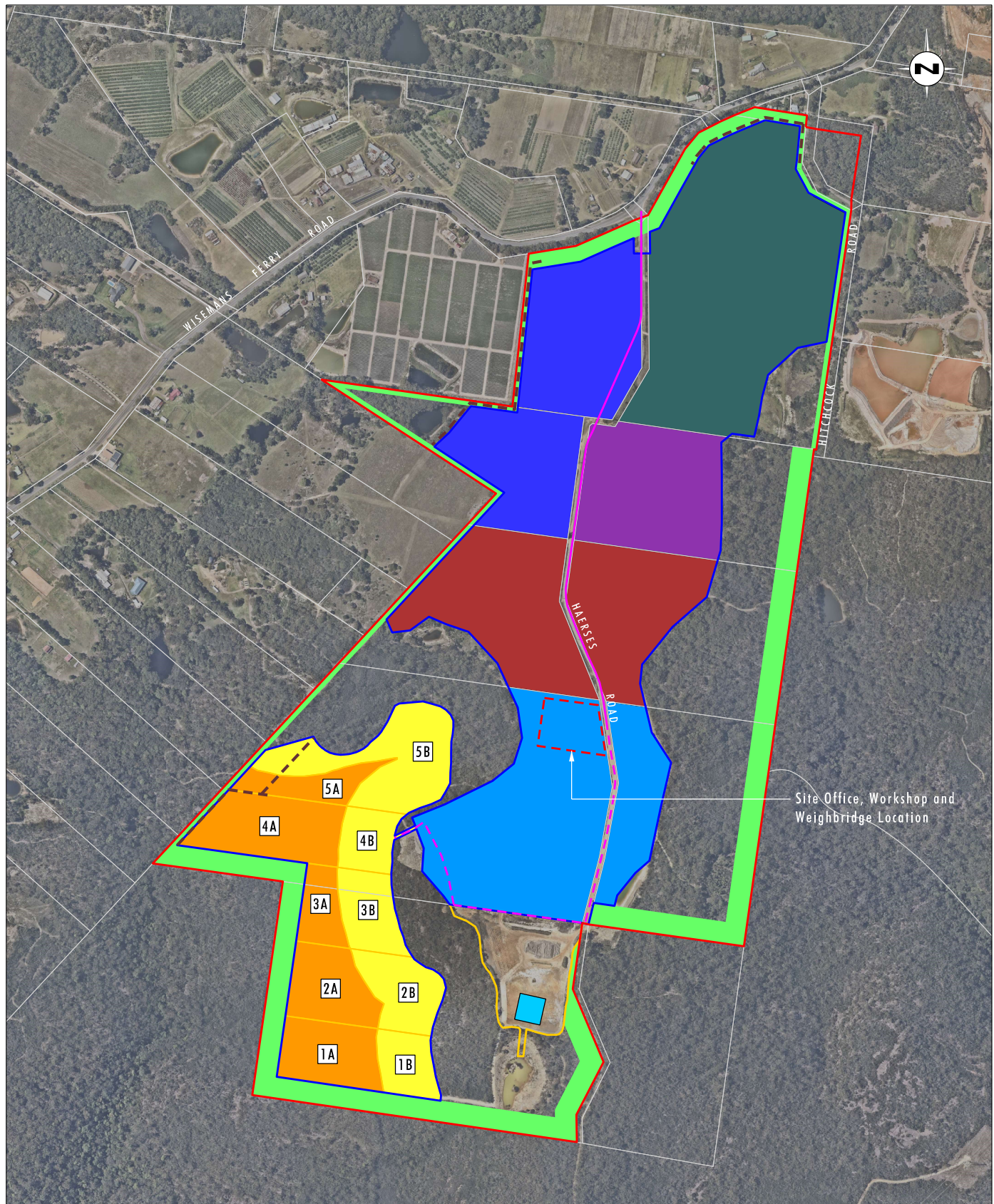


Image Source: Nearmap (Dec 2018)

Data Source: Mc Kinlay Morgan & Associates Pty Ltd (2019)

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Legend

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|---|--|---|
| Haerases Road Quarry Site | Tertiary Sands Extraction Area Stage 1 | Site Office, Workshop and Weighbridge Location |
| Processing and Stockpiling Area | Tertiary Sands Extraction Area Stage 2 | |
| Buffer Zone | Tertiary Sands Extraction Area Stage 3 | |
| Approved Extraction Area | Tertiary Sands Extraction Area Stage 4 | |
| Sandstone Extraction Area A | Tertiary Sands Extraction Area Stage 5 | |
| Sandstone Extraction Area B | Indicative Unsealed Haul Road | |
| 1 Extraction Cell Number | Approved Acoustic Bund | |
| Wet Processing Plant | Sealed Access Road | |

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FIGURE 1
Development Layout Plan

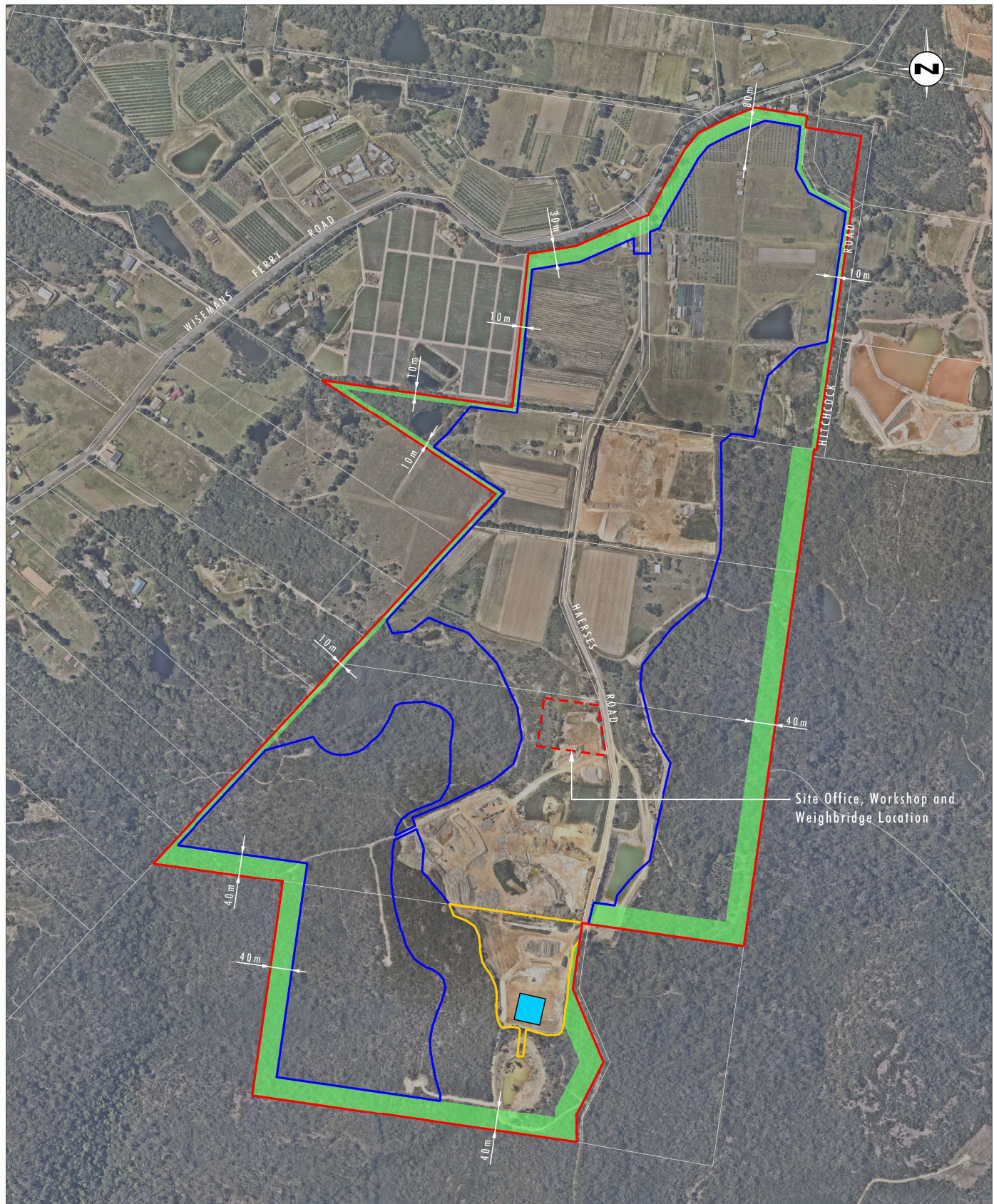


Image Source: Nearmap (Dec 2018)
Data Source: Mc Kinlay Morgan & Associates Pty Ltd (2014)

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Legend

- Haerses Road Quarry Site
- Processing and Stockpiling Area
- Buffer Zone
- Approved Extraction Area
- Indicative Unsealed Haul Road
- Sealed Access Road
- Wet Processing Plant
- - - Site Office, Workshop and Weighbridge Location

FIGURE 2
Buffer Zones

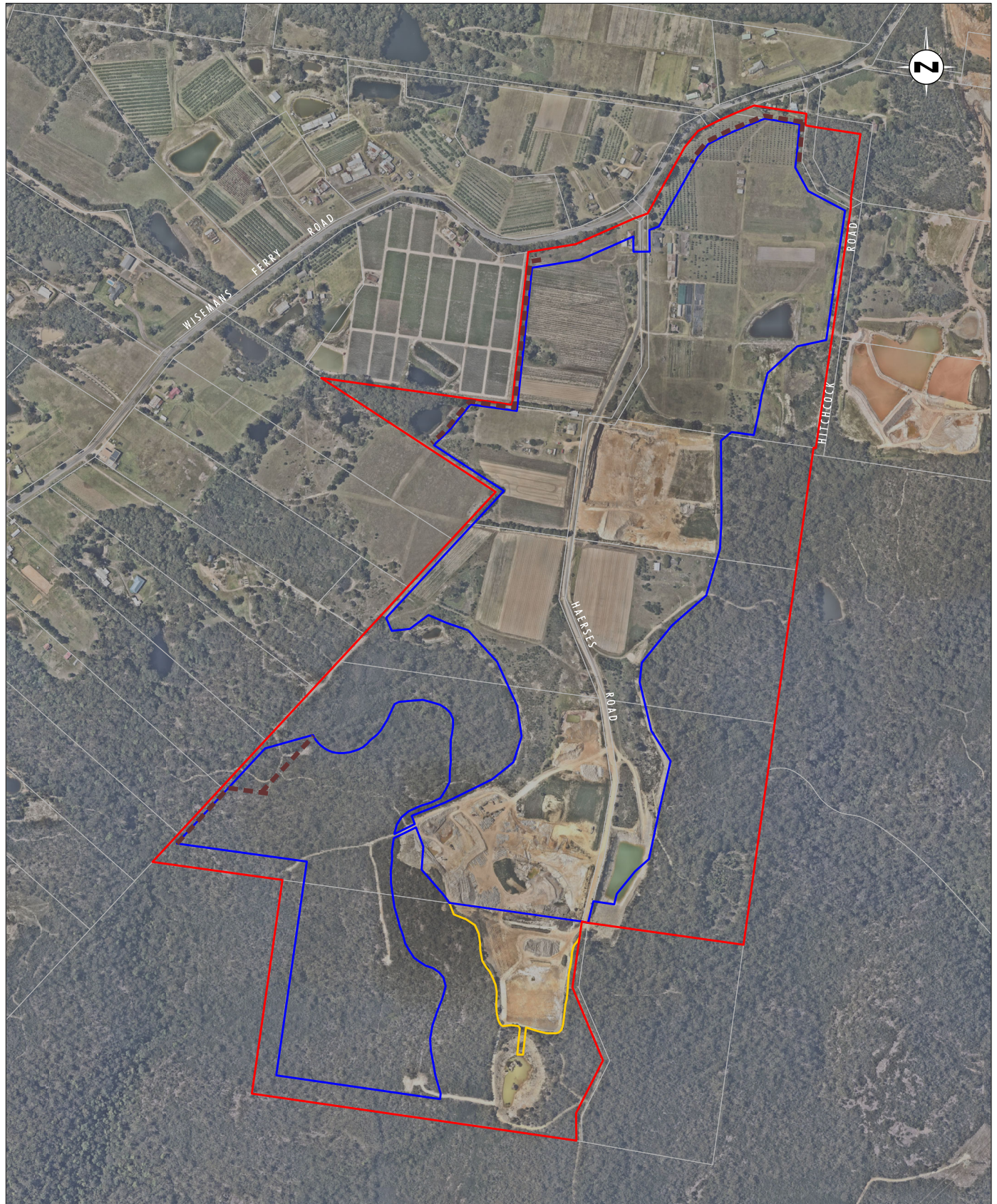


Image Source: Nearmap (Dec 2018)
Data Source: Mc Kinlay Morgan & Associates Pty Ltd (2019)

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Legend

- Haerses Road Quarry Site
- Processing and Stockpiling Area
- Approved Extraction Area
- - - Approved Acoustic Bund

FIGURE 3
Acoustic Bunds

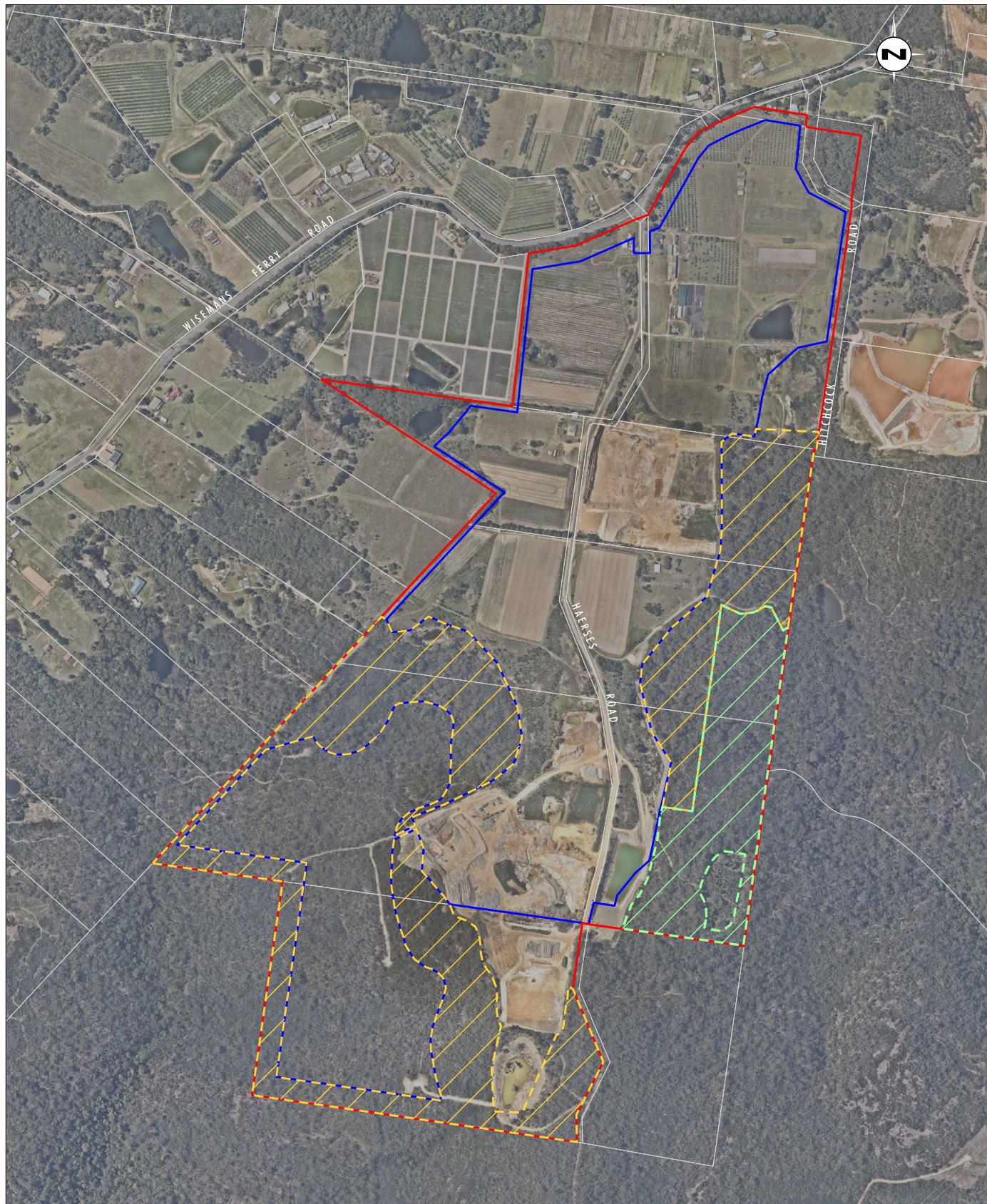


Image Source: Nearmap (Dec 2018)
Data Source: Mc Kinlay Morgan & Associates Pty Ltd (2019)

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Legend

- Haerses Road Quarry Site
- Approved Extraction Area
- Biodiversity Offset Area for Old Northern Road Quarry
- Biodiversity Offset Area for Haerses Road Quarry

FIGURE 4

Haerses Road Biodiversity Offset Areas

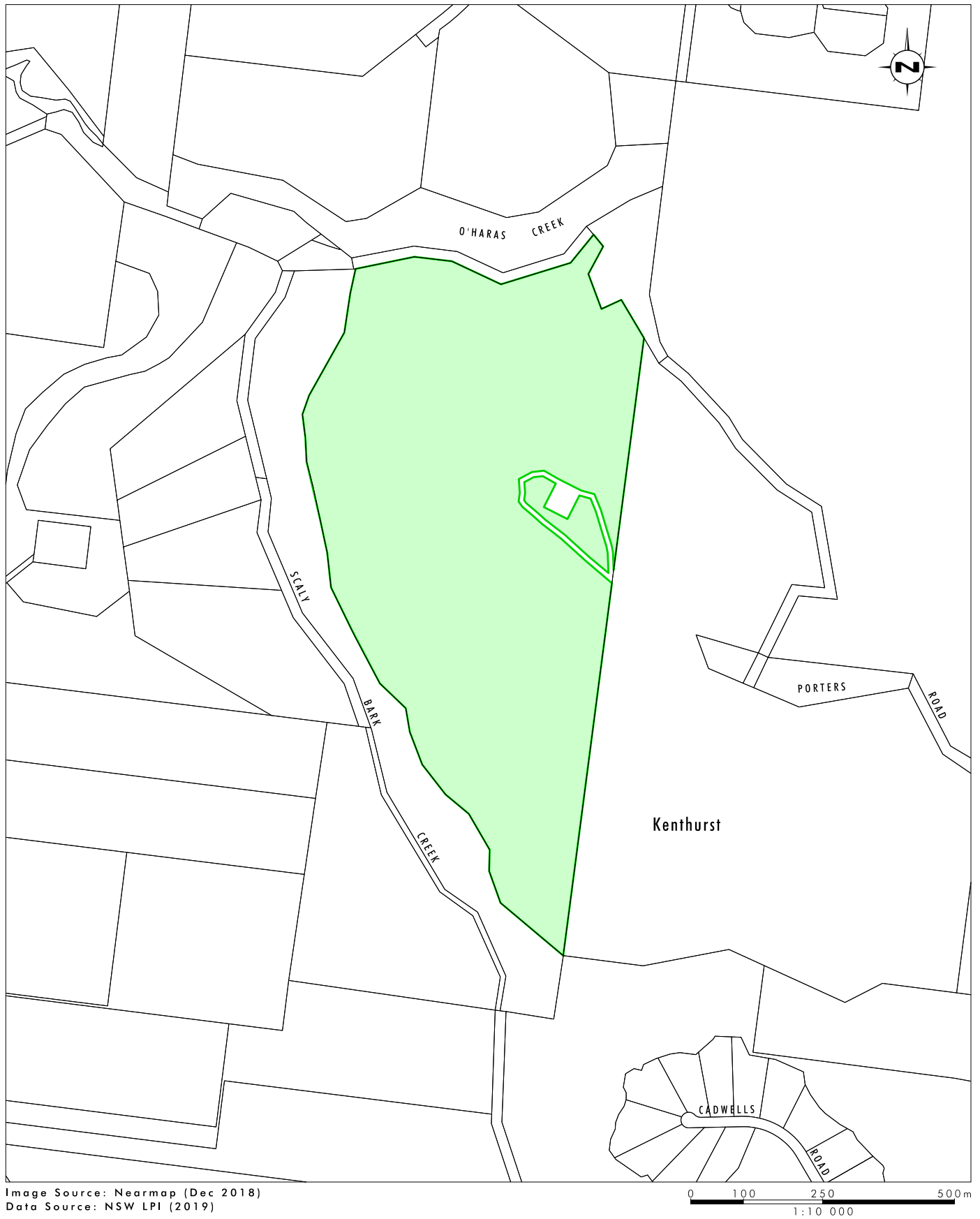


FIGURE 5

Porters Road Biodiversity Offset Area

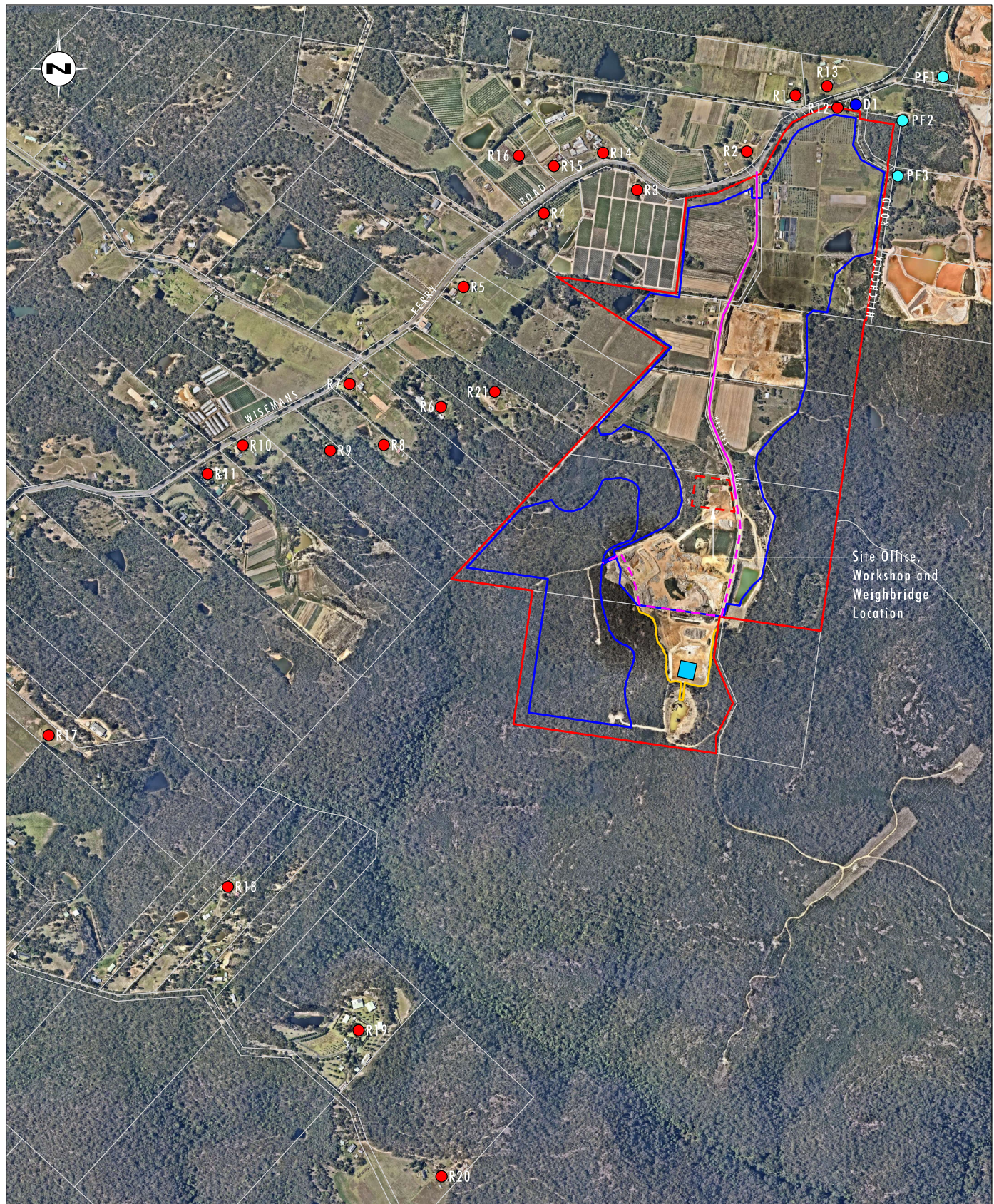


Image Source: Nearmap (Dec 2018)

Data Source: Mc Kinlay Morgan & Associates Pty Ltd (2019)

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Legend

- Haerses Road Quarry Site
- Processing and Stockpiling Area
- Approved Extraction Area
- Wet Processing Plant
- Indicative Unsealed Haul Road
- Sealed Access Road
- Site Office, Workshop and Weighbridge Location

Noise Receiver Locations:

- Residential
- Owned by Dixon Sand
- Owned by PF Formation

FIGURE 6

Sensitive Receivers Locations



FIGURE 7

Modified Conceptual
Final Landform

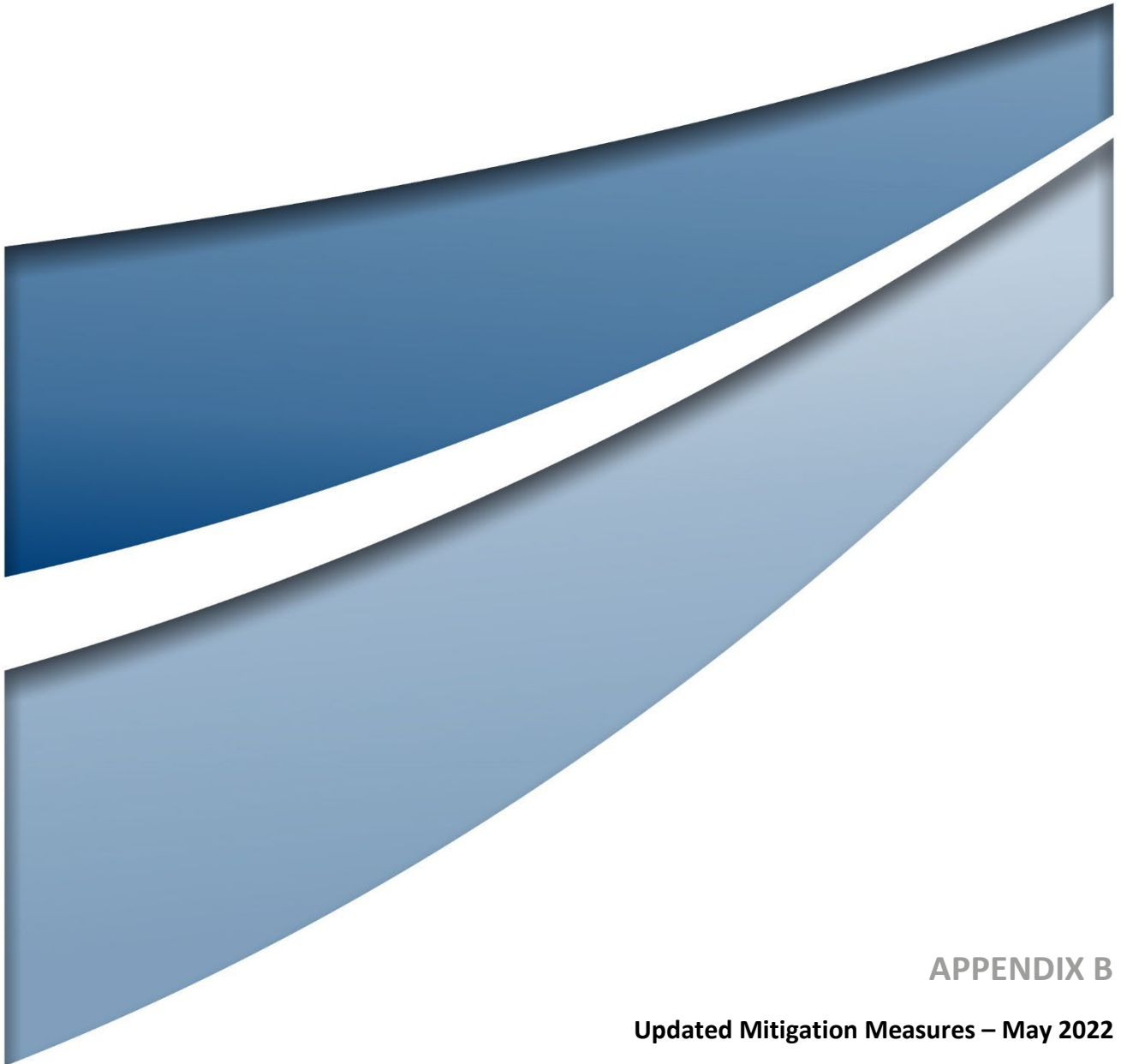
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Image Source: ERM (2016)

Data Source: Mc Kinlay Morgan & Associates Pty Ltd (2014)

Note: The identified Site boundary presented on the figure reflects that approved by DA 165-7-2005

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APPENDIX B

Updated Mitigation Measures – May 2022

Updated Mitigation Measures

Table B1 below provides an updated summary of mitigation measures for DA 165-7-2005 as modified (incorporating MOD 5).

Table B1 Updated Mitigation Measures

Environmental Management Measures
Traffic and Transport
Continue to implement the latest version of the <i>Traffic Management Plan</i> approved by the Secretary Continue to enforce the Maroota Local Traffic Management Policy
Noise
Continue to implement the latest version of the Noise Management Plan approved by the Secretary Undertake noise monitoring at the potentially most affected locations near the south-western end of the site, such as Location R6 and R8, when extraction operations are being conducted in the additional extraction area Prepare a Noise Management Protocol prior to commencing campaign works such as clearing of the extraction cells, early pre-stripping works and construction of the noise bunds. Measures to be included in the Protocol are: - consultation with the nearest residents prior to work commencement advising them of the potential for elevated noise levels, the timing of works, duration and taking into consideration times that might be of least disturbance to them - provision of a contact and telephone number to raise any concerns during the works <u>Maintain noise agreement with Landowner of Receiver R02 (extended following MOD 3)</u> Install dump truck noise mitigation (of at least 6 dB(A)) prior to commencement within Stage 4 of the Tertiary Sand Extraction Area (or equivalent on-site noise mitigation and management) <u>Sandstone cutting within the Friable Sandstone Extraction Area will be limited to an enclosed drum saw only (MOD 5)</u> <u>The concurrent operation of the dozer and enclosed drum saw will be avoided if either machine is operating in an exposed location or during noise-enhancing conditions (MOD 5). If the machine has localised shielding from the pit face or from an earth bund (i.e. blocking line of sight to receivers along Wisemans Ferry Road, irrespective of any vegetation), it is not considered to be in an exposed location).</u> <u>The shed structure will be designed, engineered and constructed (in consultation with a suitably qualified noise specialist) to ensure that it provides the necessary noise attenuation to maintain compliance with the existing noise criteria in Condition 3 of Schedule 3 of the development consent.</u>

Environmental Management Measures
Air Quality
Continue to implement the latest version of the <i>Air Quality Management Plan</i> approved by the Secretary Use of a water cart to control emissions from haul roads (unsealed) Enforcement of speed limits onsite Progressive rehabilitation of exposed areas Minimising drop height of material during truck loading and unloading where possible Management of dust-generating activities during unfavourable meteorological conditions <u>Sandstone cutting will not occur concurrently with:</u> • <u>excavator loading in the Friable Sandstone Extraction Area or</u> • <u>hauling of friable sand to the processing area.</u>
Greenhouse Gas and Energy
Regularly tuning and maintaining mobile and fixed equipment to minimise exhaust and greenhouse gas emissions Reviewing opportunities for improvement in diesel use and energy efficiency when purchasing or replacing equipment at the quarry to reduce greenhouse gas emissions.
Groundwater
Maintain the maximum extraction depth at least 2 m above the wet weather groundwater level The wet weather groundwater level will be reviewed at least every three years and extraction levels modified as required Develop and implement a Trigger Action Response Plan (TARP) for which identifies appropriate trigger and response actions for the management or mitigation of any unpredicted groundwater impacts Continue to implement the latest version of the <i>Soil and Water Management Plan</i> approved by the Secretary
Surface Water
Continue to operate the Water Management System (WMS) in accordance with latest version of the <i>Soil and Water Management Plan</i> approved by the Secretary Following the completion of construction works, inspect work areas monthly and after any rainfall events generating runoff until revegetation and stabilisation of drainage structures are complete During operations, inspect water management controls on a monthly basis and after storm events (i.e. greater than 50 mm in 24 hours) Monthly surface monitoring of the in-pit sump will be undertaken to provide for ongoing monitoring of site water quality Monthly monitoring of site water usage and changes in dam water volumes to determine an annual site water balance

Environmental Management Measures
Visual Amenity
Relocation of the 5 m high earth bund to the revised northern perimeter of the extraction area and revegetate with stabilising groundcover and fast-growing shrub and tree species prior to the commencement of extraction within the extension area Tree screens will be planted along the remaining northern perimeter of the Quarry site Progressive rehabilitation of the Quarry to limit the area of exposed surfaces at any one time Dust suppression to limit visibility of dust Direct lighting away from residences and vantage points
Biodiversity
Fence and/or signpost areas of biodiversity value outside the proposed extraction area extension Implement a tree felling procedure to minimise the potential for impacts on native fauna species (focusing on threatened species) as a result of the clearing of hollow-bearing trees Provide employee education and training including inductions for staff, contractors, and visitors to the site, to inform personnel of the biodiversity issues present at the site and their role and responsibilities in relation to the protection and/or minimisation of impacts to biodiversity Implement traffic control measures/speed limits/signage on haul roads and access roads to minimise fauna injury/road kills Minimise vegetation clearance to that required for operational purposes Inspect and clean (if required) vehicles or equipment brought onto, or leaving the Quarry for ground disturbance activities or travelling throughout the site to limit the spread of plant material between sites Clearly demarcate area to be cleared to ensure no unnecessary disturbance is undertaken outside of these areas Complete regular inspections to monitor the spread of weed species Provide environmental with relevant training on the identification of target weed species Complete weed control and eradication as required Complete progressive rehabilitation and stabilisation of disturbed land with native vegetation
Heritage
All persons working on site that are involved in ground disturbing works should be made aware of their obligations under the NPW Act and the Heritage Act In the unlikely event that an Aboriginal object is identified whilst carrying out the proposed works, all activities in the immediate vicinity of the identified Aboriginal object should cease and a suitably qualified archaeologist should be contacted to confirm the validity of the object

Environmental Management Measures
Rehabilitation and Final Landform
Complete progressive rehabilitation of the Quarry Produce a final landform which can sustain ongoing agricultural land uses As part of the detailed quarry planning process, a detailed Quarry Closure Plan will be developed approximately three years prior to cessation of quarrying activities. The Quarry Closure Plan will describe in detail the proposed operational and progressive rehabilitation procedures for the remainder of the quarry life and subsequent to the quarry closure
Social
Continued implementation and enforcement of the <i>Maroota Local Traffic Management Policy</i> Continue toolbox talks, inductions, and other training to remind personnel and drivers of obligations under the <i>Maroota Local Traffic Management Policy</i> Conduct random monitoring of trucks along the internal haul route Prepare and distribute documentation on matters of key environmental concern to the CCC over the life of the Quarry

Note: Mitigation measures which have been superseded by conditions of consent and more recent environmental assessment documents have been omitted from this table.