Mining Proposal

Date:	1 July 2025
Version Number	1
Name of Applicant(s):	TN & BR Modra Pty Ltd ATF TN & BR Modra Family Trust
Name of Proposed Operation:	Modra's Quarry
Mineral Claim Number:	MC 4579
Commodity Type	☒ Extractive Minerals Lease ☐ Industrial minerals ☐ Industrial minerals (prescribed purpose)
Mineral Claim Size (Ha):	21.18 ha
Proposed lease application size (ha) If applying over a reduced area)	21.18 ha
Contact details for application:	Name: Trent Modra Phone: 0427 766 035 Email: modraearthmoving@bigpond.com

Section 1: Description of the Existing Environment

<table>
<tr><th colspan="2">1. Existing Environment</th></tr>
<tr><td>1.1 Location</td><td>The nearest town, Cummins, is located approximately 31.7 kilometres (km) south of the proposed Site.

The distance from the mineral claim to the nearest house is approximately 0.45 km, refer to Drawing No. 5199.DRG.004 – Land Access Map.</td></tr>
<tr><td>1.2 Land use</td><td>The local council area is: District Council of Lower Eyre Peninsula.
or
☐ Mineral claim is not located within a council area.

The zoning as defined by the planning and design code or relevant council development plan is: Zone ID Z5404 – Rural (Ru)

The land use (historical and current) for the application area is: limited agricultural grazing / rocky outcrop area. Surrounding area is utilised for agricultural cropping.</td></tr>
<tr><td>1.3 Land access</td><td>Mineral claim is located on free-hold land ☒ Yes ☐ No

Certificate of Title details: CT 5456/325

☒ There are no land restrictions / easement(s) listed on the title.
or
The following land restrictions/easements are listed on the property title: Not Applicable.

☐ There is no exempt land with the claim.
Or
The following exempt land has been identified within the mineral claim: Cropping land as per Drawing No. 5199.DRG.007 – Exempt Land Map.

Provide details of any waivers of exemption(s) and/or status of negotiation of any waivers:

<table>
<tr><th>Certificate of Title or Crown Land Details</th><th>Feature</th><th>Reason for Exemption</th><th>Data Waiver Registered / Obtained</th><th>Any Relevant Conditions</th></tr>
<tr><td>CT 5456/325</td><td>Cropping land</td><td>Land that is lawfully and genuinely used as a cultivated field,</td><td>Waiver obtained from landowner 15/02/2025</td><td>Not Applicable.</td></tr>
</table>
</td></tr>
</table>

	<table><tr><td></td><td></td><td>plantation, orchard or vineyard.</td><td></td><td></td></tr></table> Provide details of any Native Title land, if relevant: Not Applicable. ***Native Title land*** *means land where native title does or might exist but does not include land where native title has been extinguished (as found or declared by an appropriate court). Land held under certain titles (including freehold and some perpetual leases) is not native title land.*
1.4 Heritage	A search of the Register of Aboriginal Sites and Objects has been included in **Appendix 7**. ☒ There are no registered Aboriginal, Non-Aboriginal or geological heritage sites located in or adjacent to the Mineral Claim ☐ Heritage site/s have been identified within or adjacent to the Mineral Claim

1.5 Groundwater	A search of Department for Environment and Water (DEW) database, WaterConnect (2025) within five (5) km of the Site identified no water wells, reflective of a lack of groundwater users within the area. Consultation with the landowner and adjoining landowners confirm water for domestic and industrial use is accessed via the mains pipeline that runs along Tod Highway. A search on DEW application '*NatureMaps*' (2025) confirmed the Site is not located within an area prescribed under the *Landscape South Australia Act 2019*. Additionally, the search identified there are no aquatic groundwater dependant ecosystems (GDEs) located under the proposed Site. A terrestrial GDE is located outside of the northern edge of the proposed Tenement in a *Eucalyptus* mallee forest and mallee woodland (SARIG 2025), refer to **Drawing No. 5199.DRG.015 – Topographic Map**. Despite there being no water wells within five (5) km, wells outside of this area with similar topographic elevation (mAHD) to the proposed pit floor elevation (mAHD) have been reviewed for groundwater data in an attempt to gain further understanding of groundwater level in the area:

Well No.	Distance from Site (km)	Direction from Site	SWL (m)	Ground Elevation (mAHD)	RSWL (mAHD)	Pit Floor Level (mAHD)	Buffer (m)	TDS (mg/L)	EC (µS/cm)
6029-1020	6.68	SW	2.63	51	48.37	50	1.63	40,600	58,000
6030-802	10.69	NW	15	57.1	42.1	50	8.9	Unreported	Unreported
6030-55	11.48	W	5.18	38.6	33.42	50	17.58	7968	13,801

(WaterConnect, 2025)

Note that wells that are listed as abandoned or contain no water depth data have been excluded from this table. The existing depth to groundwater based on available water data is estimated at 41.3 mAHD, which has been determined from an average of the Reduced Standing Water Level (RSWL) of the three (3) wells listed in the table above.

Site investigations included digging two (2) test pits within the Site via an excavator to a depth of 7 m below ground level, of which did not intersect groundwater at 49 mAHD for Hole 1 and 48 mAHD for Hole 2. With the lowest pit elevation proposed to reach 50 mAHD, an appropriate buffer of at least two (2) m from the highest seasonal groundwater level (mAHD) is demonstrated. Locations of the test pits are outlined within **Drawing No. 5199.DRG.016 – Groundwater Investigation Map**. Refer to **Figure 1 – Investigation hole 1**, **Figure 2 – Investigation hole 1 depth**, **Figure 3 – Investigation hole 2** and **Figure**

4 – Investigation hole 2 depth for photographic evidence of the groundwater investigation. The table below provides a summary of the groundwater investigation results:

Name	Surface Elevation (mAHD)	Depth (m)	Depth Elevation (mAHD)	Buffer from Pit Elevation (m)	Groundwater Intersected? (Y/N)
Hole 1	56	7	49	1	N
Hole 2	55	7	48	2	N

Figure 1 – Investigation hole 1.

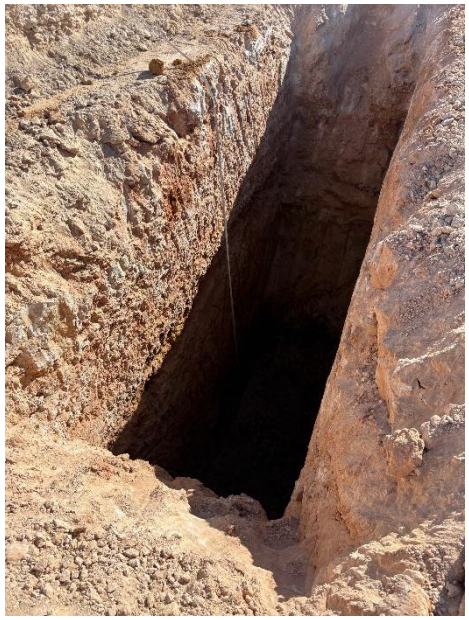

Figure 2 – Investigation hole 1 depth.

Figure 3 – Investigation hole 2.

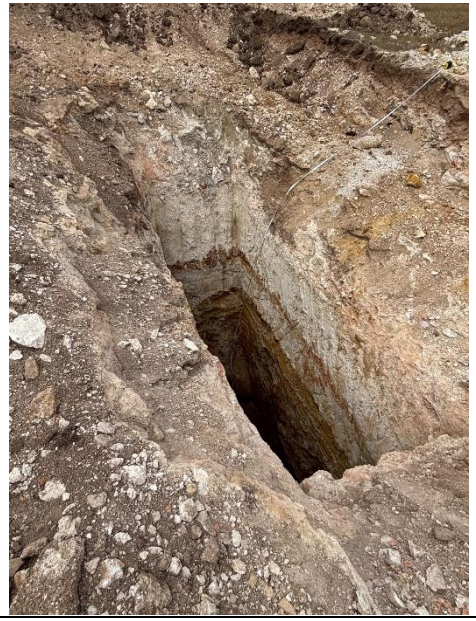

Figure 4 – Investigation hole 2 depth.

1.6 Weeds and pests	The following weeds and pests currently exist on the Mineral Claim. A search on *NatureMaps* (2025) did not identify any records of introduced fauna species within one (1) km of the Site. Multiple records of *Asparagus asparagoides* (Bridal Creeper) have been noted within one (1) km of the Site in the past 20 years, which is a Weed of National Significance (WoNS). Additionally, there have been records of *Schinus molle* (Pepper-tree). There are no records of phytophthora presence within or nearby to the Site. A Site inspection undertaken by Groundwork Plus on 16 June 2023 identified the presence of weeds onsite to consist of *Carrichtera annua* (Ward's Weed), *Avena barbata* (Bearded Oat) and *Asphodelus fistulosus* (Onion Weed).
1.7 Native vegetation	☐ Native vegetation does not exist within the Mineral Claim or ☒ The following native vegetation exists within the Mineral Claim: Much of the Site has been historically cleared of native vegetation for agricultural grazing purposes. An *Environment Protection and Biodiversity Act 1999* (*EPBC Act)* Protected Matters Search (2025) of the Site and immediate surrounds identified two (2) Listed Threatened Ecological Communities as potentially occurring within one (1) km of the MC: • Drooping sheoak grassy woodland on calcrete of the Eyre Yorke Block Bioregion (Critically Endangered) • Eyre Peninsula Blue Gum (*Eucalyptus petiolaris*) Woodland Refer to **Appendix 6 – EPBC Search** for the entirety of data provided by the search. A search on SARIG (2025) identified potential Groundwater Dependant Ecosystems (GDEs) to be located in proximity to MC 4579, on the northern edge and south eastern corner of the Tenement, refer to **Drawing No. 5199.DRG.015 – Topographic Map**. A Site inspection undertaken on 16 June 2023 by Groundwork Plus determined the native vegetation within the Site to consist of *Acacia spinecens* +/- *Bursaria spinosa ssp.* Very open shrubland over *Acrotriche patula* and *Lepidosperma viscidum* in very poor condition and five (5) medium to large Red Mallee (*Eucalyptus oleosa*) trees in poor health. A Significant Environmental Benefit (SEB) is required for approval to clear under the *Native Vegetation Regulations 2017*. The payment amount required (including admin fee of $87.66) is $1,681.39 into the Native Vegetation Fund (NVF), refer to **Appendix 5 – Native Vegetation Data Report**.
1.8 Native fauna	The following native fauna may be present in the area:

An *EPBC Act* Protected Matters Search (2025) conducted within one (1) kilometre (km) of the area identified the following threatened fauna species which may be present:

Common Name	Scientific Name	Threatened Category
Southern Whiteface	*Aphelocephala leucopsis*	Vulnerable
Australasian Bittern	*Botaurus poiciloptilus*	Endangered
Sharp-tailed Sandpiper	*Calidris acuminata*	Vulnerable
Curlew Sandpiper	*Calidris ferruginea*	Critically Endangered
Grey Falcon	*Falco hypoleucos*	Vulnerable
Latham's Snipe, Japanese Snipe	*Gallinago hardwickii*	Vulnerable
Malleefowl	*Leipoa ocellata*	Vulnerable
Blue-winged Parrot	*Neophema chrysostoma*	Vulnerable
Plains-wanderer	*Pedionomus torquatus*	Critically Endangered
Australian Painted Snipe	*Rostratula australis*	Endangered
Diamond Firetail	*Stagonopleura guttata*	Vulnerable
Common Greenshank, Greenshank	*Tringa nebularia*	Endangered
Sandhill Dunnart	*Sminthopsis psammophila*	Endangered

Refer to **Appendix 6 – EPBC Search** for the entirety of data provided by the search.

As the land has mostly been historically cleared for agricultural grazing, it is not likely that the proposed extraction activities will cause a significant impact to any of the listed threatened fauna species.

Section 2: Proposed Mining Operations

2. Proposed Mining Operations	
2.1 Resource description, production and mine life.	Following is a geological description of the resource: A search on DEM South Australian Resources Information Gateway (SARIG) identified the entirety of the Site geology to consist of the Bridgewater Formation, being described as 'Coastal barrier and shallow sub-tidal sediments; bioclastic and aeolian cross-bedded calcarenite, palaeosol horizons, often capped by calcrete.' Refer to **Drawing No. 5199.DRG.014 – Regional Geology Map** for an illustration of the regional geology for the Site. The resource / commodity from the SA Commodities List to be extracted and sold is: Limestone The mined resource will be used for the following products / end use: a limestone PM 2 – 20 mm, PM 2 – 40 mm and as a general bulk fill product / construction material. The estimated resource reserve onsite is 2,185,000 tonnes (t), based on calculations at a density of 2.5 t/m^3 and via the use of Surpac. The table below describes the resource reserve at each stage of mining: **Stage** / **Volume (m^3)** / **Tonnes** Stage 1 / 104,000 / 260,000 Stage 2 / 277,000 / 692,500 Stage 3 / 231,000 / 577,500 Stage 4 / 73,000 / 182,500 Stage 5 / 189,000 / 472,500 Total / 874,000 / 2,185,000 The estimated annual production is 15,000 – 30,000 tonnes per annum (p/a). Based on this annual production, the estimated mine life is: 73 years, dependant on market demand.
2.2 Processing	Following is a description of proposed processing: Extraction will be predominantly undertaken through the use of a bulldozer. However, blasting may be required where the material is too hard for extraction via a bulldozer. When required, blasting will not occur within 600 m of the residential dwelling located west of the Site, as per **Drawing No. 5199.DRG.006 – Blasting Areas Map**. Here, the rock is able to be extracted through the use of a bulldozer. A mobile crushing plant will be transported to the Site when required for processing and located within the extent of the pit floor. The following equipment will be used for operations at the Site: • Excavator • Loader • Bulldozer

	• Haulage trucks • Water cart • Mobile processing plant.
2.3 Product Transport	The estimated size of haulage trucks are: Rigid, Semi and Road Train (HR, HC and MC). The estimated truck movements per operational day is: Up to 15 truck movements per day during campaigns, dependent on market demand. During periods of low market demand, there may be 0-2 truck movements per day. As per the Location Plan, Mine trucks are proposed to access the Site via the following route: An existing road off of Tod Highway will be utilised, with the route then entering the Site at the north western corner of the Tenement, refer to **Drawing No. 5199.DRG.008 – Site Access Map**.
2.4 Water Use	The amount of water required for mine operations is estimated to be approximately 5000 kilolitres (kL) p/a, being limited to dust suppression activities where required. Water will be sourced from: Watermains supply through the council standpipe, which will be paid for when required.

2.5 Mining staging and progressive rehabilitation

A staged mining plan(s) showing how mining and progressive rehabilitation will occur over the life of the mine has been included within **Appendix 8 – Drawing Set**.

The plans and detail provided below demonstrate that there is a reasonable prospect that the land in respect of which the lease is sought could be effectively and efficiently mined.

The proposed final depth of mining below the existing ground level is not greater than five (5) metres.

The proposed maximum area of un–rehabilitated land will be less than three (3) hectares (ha) at any one time.

Following is a description of how mining will occur over the life of the mine using a staged approach:

Mining will consist of one (1) extraction pit and five (5) stages in total.

Stage 1 – refer to **Drawing No. 5199.DRG.009A – Quarry Development Plan**. Prior to commencement of extraction activities, topsoil will be stripped and stockpiled within the centre of the Site as a linear bund to a maximum of two (2) m in height. Topsoil will not be seeded due to the progressive rehabilitation nature of quarry development at the Site. However, growth will be encouraged to naturally regenerate on the bund to assist with mitigating erosion impacts.

Following stripping of topsoil, mining will begin in the south west corner of the Tenement, moving in a northerly direction as indicated by the direction arrows within the Quarry Development Plan (QDP). This stage will be extracted via the use of a bulldozer, with no blasting to be undertaken as per **Drawing No. 5199.DRG.006 – Blasting Areas Map**.

The mobile processing plant and product stockpiles will be located within the extraction area.

Once available, topsoil will be removed from the bund and applied to the pit area available for progressive rehabilitation. Topsoil stripping and exposure of new ground is to occur in a manner that ensures a maximum of three (3) ha of ground is exposed at any one (1) time. Mining in this stage will continue until met up with the topsoil area running through the centre of the Site.

Stage 2 – refer to **Drawing No. 5199.DRG.009A – Quarry Development Plan**. Stage 2 will commence once Stage 1 is completed. Prior to commencement of extraction activities, topsoil will be stripped and stockpiled within the centre of the Site as a linear bund to a maximum of two (2) m in height. Topsoil will not be seeded due to the progressive rehabilitation nature of quarry development at the Site. However, growth will be encouraged to naturally regenerate on the bund to assist with mitigating erosion impacts.

Following stripping of topsoil, mining will begin from the south east edge of the Tenement, moving in a westerly direction as indicated by the direction arrows within the QDP. Majority of this stage will be extracted via drill and blast techniques, as per **Drawing No. 5199.DRG.006 – Blasting Areas Map**.

The mobile processing plant and product stockpiles will be located within the extraction area.

Once available, topsoil will be removed from the bund and applied to the pit area available for progressive rehabilitation. Topsoil stripping and exposure of new ground is to occur in a manner that ensures a maximum of three (3) ha of ground is exposed at any one (1) time. Mining in this stage will continue until met up with the rehabilitated footprint of Stage 1.

Stage 3 – refer to **Drawing No. 5199.DRG.009A – Quarry Development Plan** Stage 3 will commence once Stage 2 is completed. Prior to commencement of extraction activities, topsoil will be stripped and stockpiled within the centre of the Site as a linear bund to a maximum of two (2) m in height. Topsoil will not be seeded due to the progressive rehabilitation nature of quarry development at the Site. However, growth will be encouraged to naturally regenerate on the bund to assist with mitigating erosion impacts.

Following stripping of topsoil, mining will begin in the eastern portion of the Tenement, moving in a westerly direction as indicated by the direction arrows within the QDP. The entirety of this stage will be extracted through drill and blast techniques, as per **Drawing No. 5199.DRG.006 – Blasting Areas Map**.

The mobile processing plant and product stockpiles will be located within the extraction area.

Once available, topsoil will be removed from the bund and applied to the pit area available for progressive rehabilitation. Topsoil stripping and exposure of new ground is to occur in a manner that ensures a maximum of three (3) ha of ground is exposed at any one (1) time. Mining in this stage will continue until met up with the footprint of Stage 4.

Stage 4 – refer to **Drawing No. 5199.DRG.009A – Quarry Development Plan**. Stage 4 will commence once Stage 3 is completed. Prior to commencement of extraction activities, topsoil will be stripped and stockpiled within the centre of the Site as a linear bund to a maximum of two (2) m in height. Topsoil will not be seeded due to the progressive rehabilitation nature of quarry development at the Site. However, growth will be encouraged to naturally regenerate on the bund to assist with mitigating erosion impacts.

Following stripping of topsoil, mining will begin from the northern area of the Tenement, moving in a southerly direction as indicated by the direction arrows within the QDP. The entirety of this stage will be extracted through drill and blast techniques, as per **Drawing No. 5199.DRG.006 – Blasting Areas Map**.

The mobile processing plant and product stockpiles will be located within the extraction area.

Once available, topsoil will be removed from the bund and applied to the pit area available for progressive rehabilitation. Topsoil stripping and exposure of new ground is to occur in a manner that ensures a maximum of three (3) ha of ground is exposed at any one (1) time. Mining in this stage will continue until met up with the topsoil area running through the centre of the Site.

Stage 5 – refer to **Drawing No. 5199.DRG.009A – Quarry Development Plan**. Stage 5 will commence once Stage 4 is completed. Prior to commencement of extraction activities, topsoil will be stripped and stockpiled within the centre of the Site as a linear bund to a maximum of two (2) m in height. Topsoil will not be seeded due to the progressive rehabilitation nature of quarry development at the Site. However, growth will be encouraged to naturally regenerate on the bund to assist with mitigating erosion impacts.

Following stripping of topsoil, mining will begin from the western boundary of the Tenement, moving in an easterly direction as indicated by the direction arrows within the QDP. The beginning of this stage will be required to be extracted via the use of a bulldozer, until met up with the acceptable blasting area outlined within **Drawing No. 5199.DRG.006 – Blasting Areas Map**, where drill and blast techniques will be used.

The mobile processing plant and product stockpiles will be located within the extraction area.

Once available, topsoil will be removed from the bund and applied to the pit area available for progressive rehabilitation. Topsoil stripping and exposure of new ground is to occur in a manner that ensures a maximum of three (3) ha of ground is exposed at any one (1) time. Mining in this stage will continue until met up with the rehabilitated footprint of Stage 4.

Staged progressive rehabilitation is planned in the following sequence to achieve the post mining landform design and allow for the proposed land use:

Progressive rehabilitation will occur in accordance with the Conceptual Quarry Development Plans.

Rehabilitation will be progressively occurring as extraction moves through each stage following the direction of mining indicators. The maximum area of combined extraction area, overburden stripping area and area under rehabilitation will remain under three (3) ha. This is broken down into a maximum of two (2) ha of area being extracted and one (1) ha to be under rehabilitation.

Each stage will not progress until the prior stage has been rehabilitated.

The final rehabilitated areas will be return to the land use of agricultural grazing purposes.

The maximum final landform development will consist of batters no steeper than 1V:3H to allow for safe grazing activities to reoccur post extraction.

The following drawings outline the proposed post mining land use and landform:

- **Drawing No. 5199.DRG.010A – Conceptual Final Landform Plan**
- **Drawing No. 5199.DRG.010B – Conceptual Final Landform Plan – Sections A-A' to C-C'**
- **Drawing No. 5199.DRG.011 – Quarry Development Cross Section**

The following is a description of the proposed post mining land use and landform:

At the completion of mining, the Site will be returned to the current land use of rocky agricultural land used for grazing.

2.7 Hours of operation	
☐ Regular / continuous / ongoing Mining will occur on a regular / continuous / ongoing basis with the following operating hours: Monday – Friday: N/A Saturday: N/A Sunday: N/A Public Holidays: N/A	☒ Campaign Mining will occur on a campaign basis within the following operating hours: Monday – Friday: 7:00 am – 5:00 pm Saturday: 8:00 am – 12:00 pm Sunday: N/A Public Holidays: N/A

Section 3: Consultation

This section details consultation undertaken in connection with the proposed mining operations as per Regulation 30(1)(c) of the *Mining Act 1971*.

3. Consultation	
3.1 Landowner Consultation	☐ I, the applicant am also the landowner or ☒ I, the applicant am not the landowner **Appendix 1** provides details of landowner consultation.
3.2 Adjacent Landowner Consultation	☐ There are no residences located on property adjacent to the Mineral Claim or ☒ Residences are located on property adjacent to the Mineral Claim **Appendix 2** provides details of consultation with adjacent landowners
3.3 Stakeholder Consultation	The following additional stakeholders were consulted: District Council of Lower Eyre Heritage groups: Nauo Aboriginal Corporation RNTBC; and Barngarla Determination Aboriginal Corporation. Nearby receptors **Appendix 3** provides full details of additional stakeholder consultation.

Section 4: Management of Environmental Impacts

This section describes Environmental outcomes that are expected to occur and draft measurement criteria as per section 35(1) of the *Mining Act 1971.* Control and management strategies are also proposed to manage limit or remedy potential environmental impacts to achieve the environmental outcomes.

4.1 Heritage

Outcome No damage, disturbance or interference to Aboriginal or Non-Aboriginal heritage sites, objects or remains as a result of mining operations unless it is authorised under the relevant legislation.	**Measurement Criteria** Production records and Mine Logbook will demonstrate that upon discovery within the tenement of any possible Aboriginal or Non-Aboriginal: - sites of significance; - objects; - remains; that work ceased until the relevant authorities were notified and work recommenced only once authorisation was received.

Control and Management Strategies

Mandatory Strategies:

All contractors and employees operating within the tenement will understand their obligations in regard to the *Aboriginal Heritage Act 1988* with regards to the discovery of Aboriginal sites, objects or remains and the *Heritage Places Act 1993* with regards to the discovery of places or objects of significance.

Provide any additional strategies:

4.2 Traffic

Outcome	**Measurement Criteria**
No traffic accidents involving members of the public and mine related traffic that could have been reasonably prevented by the Tenement Holder.	All traffic accidents involving the public at mine access points are recorded in Mine Logbook. All accidents will be investigated by a suitably qualified independent third party within one (1) calendar month (or other time as agreed with Mining Regulator) and the results of the investigation show that the accident could not have been reasonably prevented by the Tenement Holder.

Control and Management Strategies

Mandatory Strategies:

All operators will be made aware of the dangers of mine machinery and mine vehicles entering public roads during the Site induction.

Optional Strategies:

Road signs will be displayed at mine entry and exit points, warning the public of the dangers of large trucks entering and exiting the tenement. ☒ Yes ☐ No

Vehicles and machinery will be parked inside the tenement, not along road verges. ☒ Yes ☐ No

Provide any additional strategies

UHF Channel 39 will be utilised onsite.

Follow traffic paths illustrated within **Drawing No. 5199.DRG.008 – Site Access Map**.

4.3 Public Safety (Construction and Operation of the Mine)

Outcome	**Measurement Criteria**
No public injuries and/or deaths resulting from unauthorised entry to the Land that could have been reasonably prevented.	All public injuries and/or deaths resulting from unauthorised access to the mine site are recorded in Mine Logbook and investigated by a suitably qualified independent third party within one (1) calendar month (or other time as agreed with Mining Regulator) and the results of the investigation show that the incident could not have been reasonably prevented by the Tenement Holder.

Control and Management Strategies (Construction and Operation Phase)	
Mandatory Strategies: Access to the Tenement will be controlled through fencing and gates will be locked when not operational. All fences and gates are to be inspected on a regular basis. **Optional Strategies:** Site is sign posted making the public aware of hazards associated with the mine.	☒ Yes ☐ No

4.3a Public Safety (Post Mine Completion)

Outcome	**Measurement Criteria**
The risks to the health and safety of the public, so far as it may be affected by mining operations or mining related activities, are as low as reasonably practicable.	Following final rehabilitation work an appropriate person will inspect the Site and verify in a report (to be stored in the Mine Logbook) that final rehabilitation has been undertaken in accordance with the Mining Plan.

Control and Management Strategies (Post Mine Completion)

Mandatory Strategies:

Mining operations will be progressively rehabilitated as per Mining Plan.

All plant and equipment will be removed from the Site.

All slopes during operation will be battered to a slope ratio of at least 1:3 (18.4 Degrees).

Provide any Additional Strategies:

Final landform is nominated to remain at a batter of 1V:3H slope ratio, refer to below drawings:

- **Drawing No. 5199.DRG.010A – Conceptual Final Landform Plan**
- **Drawing No. 5199.DRG.010B – Conceptual Final Landform Plan – Sections A-A' to C-C'**
- **Drawing No. 5199.DRG.011 – Quarry Development Cross Section**

☒ Yes ☐ No

4.4 Weeds and Pests

Outcome	**Measurement Criteria**
No introduction of new species of weeds, or pests (including feral animals), nor increase in abundance of existing weed or pest species on the Land.	Mine Logbook records of annual inspections (in Spring) by the Tenement Holder will demonstrate no introduction of new weeds or pests and no increased abundance of existing weeds and/or pests.

Control and Management Strategies (Post Mine Completion)

Mandatory Strategy:

Weed spraying and pest animal control will be conducted by a suitably experienced person.

Provide any Additional Strategies:

Weed control is to be undertaken to a buffer of 15 m surrounding the Site access track, as well as within the pit footprint.

4.5 Soil

Outcome	**Measurement Criteria**
The existing (pre-mining) soil quality and quantity is maintained.	Annual inspection records in the Mine Logbook of all soil stockpiles will demonstrate that all stockpiles are less than two (2) metres high and are maintained at the height when established.

Control and Management Strategies (Post Mine Completion)

Mandatory Strategies:

Soil stockpiled to a maximum of two (2) metres in height to preserve seed stock and micro-organism function.

Soil stockpiles vegetated to prevent erosion and retain soil quality.

Optional Strategies:

Prior to mining, the amount of soil required for successful rehabilitation will be calculated.	☐ Yes ☒ No
Machinery will only be refuelled in a bunded area in accordance with EPA requirements.	☐ Yes ☒ No

Provide any Additional Strategies:

Machinery is to be completely fuelled up prior to entering the Site and a mobile fuel truck will be brought to Site for ongoing refuelling with appropriate spill kits available in the case of a spill incident.

There will be no servicing of plant and machinery undertaken onsite.

4.6 Waste

Outcome	**Measurement Criteria**
All commercial, industrial and domestic waste is disposed of in accordance with relevant legislation.	Waste disposal receipts demonstrate that all commercial, industrial (including contaminated soil) and domestic waste within the tenement was disposed of offsite in accordance with *Environment Protection Act 1993* requirements.

Control and Management Strategies

Mandatory Strategy:

Any general rubbish brought onto the tenement by workers or contractors will be removed on a daily basis or will be stored in rubbish bins and disposed of offsite at an EPA licensed waste facility.

Provide any Additional Strategies:

No commercial or industrial hydrocarbons (grease, oil, etc.) are to be stored onsite.

4.7 Noise

Outcome	**Measurement Criteria**
No public nuisance impacts from noise as a result of mining operations.	Records from Mine Logbook will demonstrate that any noise complaints received were resolved with the complainant within 48 hours (or other time as agreed with Mining Regulator). If complaints are not resolved the Tenement Holder will conduct noise monitoring at the sensitive receptor to demonstrate noise levels comply with the *Environment Protection (Noise) Policy 2007*.

Control and Management Strategies	
Optional Strategies: Trucks will be advised to avoid using air brakes in built up areas.	☒ Yes ☐ No
Provide any Additional Strategies: Mining will occur on a campaign basis within the following operating hours: Monday – Friday: 7:00 am – 5:00 pm Saturday: 8:00 am – 12:00 pm Sunday: N/A Public Holidays: N/A Maintenance activities may be undertaken outside of these hours.	

4.8 Air Quality

Outcome	**Measurement Criteria**
No public health and/or nuisance impacts from dust generated by mining operations.	Records from Mine Logbook will demonstrate that any dust complaints received were acknowledged within 48 hours and resolved with the complainant within 7 days (or other time as agreed with Mining Regulator). If complaints are not resolved to the satisfaction of Mining Regulation, air quality monitoring is to occur at locations, and using methods, as agreed with the Mining Regulator, to demonstrate: • PM10* ground level concentrations leaving the tenement when measured over a 24-hour period (midnight to midnight) comply with the *Environment Protection (Air Quality) Policy 2016,* **and/or** • dust deposition leaving the tenement does not exceed 4g/m^2/month. *Particulate matter with an aerodynamic diameter of ten micrometres or less

Control and Management Strategies

Mandatory Strategies:

Rehabilitation will occur progressively in accordance with the Mining Plan.

All loaded trucks leaving the Tenement will be covered.

Mining will not occur during extreme wind days (i.e. dry conditions and wind speeds over 50km/hr)

Haul roads will be watered when required to control dust.

Provide any Additional Strategies:

On days where wind direction is towards the house adjacent to the MC, increased dust mitigation measures will be put in place when the Site is operational.

4.9 Surface Water

Outcome	**Measurement Criteria**
No adverse impact to surface water quality and water dependent ecosystems on or off the Land as a result of contamination and sedimentation caused by mining operations.	Photographic records in the Mine Logbook, following rainfall events resulting in run-off, will demonstrate that surface water coming into contact with mining operations is retained within the tenement.

Control and Management Strategies

Mandatory Strategies:

Rehabilitation will occur progressively in accordance with the Mining Plan.

Any material amount of surface water impacted by mining operations will be captured and retained within the tenement.

Optional Strategies:

Mining Operations will not capture or retain any material amounts of surface water which would require management.	☒ Yes ☐ No
Clean surface water runoff will be diverted around the working area.	☐ Yes ☒ No
A sump will be created to capture and hold surface water within the pit.	☐ Yes ☒ No

Provide any Additional Strategies:

4.10 Visual Amenity

Outcome The form, contrasting aspects and reflective aspects of mining operations are visually softened to blend in with the surrounding landscape.	**Measurement Criteria** Annual site inspection records in the Mine Logbook demonstrate that: • the maximum area of unrehabilitated land at any time is three (3) hectares; and • progressive and final rehabilitation has been completed in accordance with the approved Mining Plan.

Control and Management Strategies

Mandatory Strategies:

Mining operations will be progressively rehabilitated as per **Drawing No. 5199.DRG.009A – Quarry Development Plan**

The maximum area of un-rehabilitated land will be less than three (3) hectares at any time.

Provide any Additional Strategies:

4.11 Post Mining Land Use

Outcome	**Measurement Criteria**
All land disturbed by mining operations is rehabilitated to achieve the post mining land use.	Following final rehabilitation work an appropriate person will inspect the Site and verify in a report (to be stored in the Mine Logbook) that final rehabilitation has been undertaken in accordance with the Mining Plan to achieve the approved post mining land use.

Control and Management Strategies

Mandatory Strategies:

Mining operations will be progressively rehabilitated to achieve post mining land use as per Mining Plan.

Slopes will be battered to a safe angle of 1:3.

Optional Strategies:

The land will be revegetated with:	☐ Yes ☒ No
• native vegetation	☐ Yes ☒ No
• crops	☐ Yes ☒ No
• pasture	☒ Yes ☐ No
• as agreed with the landowner - return to current land use limited stock grazing, naturally revegetate.	

Provide any Additional Strategies:

4.12 Groundwater

Outcome	**Measurement Criteria**
No adverse impact to groundwater caused by mining operations.	Annual inspection or survey (as agreed with Mining Regulator) of the pit floor recorded in the Mine Logbook will demonstrate that mining operations do not exceed the mine depth levels stated in the Mining Plan.

Control and Management Strategies

Mandatory Strategy:

No mining is undertaken within two (2) metres of the estimated highest seasonal groundwater level.

Provide any Additional Strategies:

4.13 Protection of Third party Property, Infrastructure and Adjacent Land Use

Potential impacts from mining on third party property and Infrastructure, including adjacent land use, were identified as a concern during stakeholder consultation.

☒ Yes ☐ No (No further action required in this table)

Outcome	**Measurement Criteria**
No unauthorised damage (including that caused by fire) to adjacent public or private property, infrastructure and adjacent land use.	Any complaints of unauthorised damage to adjacent public or private property, infrastructure or impact to adjacent land use from mining operations will be recorded in the Mine Logbook at time of complaint and investigated within seven (7) days (or other time as agreed with Mining Regulator) to show that the mine operator did not cause the damage or impact through mining operations.

Control and Management Strategies

Mandatory Strategies:

Machinery will not be operated on the tenement during total fire ban days.

Optional Strategies:

A buffer of at least 400 metres will be observed around any third party infrastructure within the tenement.	☐ Yes ☒ No

Provide any Additional Strategies:

4.14 Caves

The Mineral Claim is located in an area of known caves

☐ Yes ☒ No (No further action required in this table)

Outcome No unauthorised damage to caves of significance as a result of mining operations. *Note: For the purposes of this outcome the term "cave" includes any underground opening or cavity with a cross sectional area greater than 0.25m², and minor axis measurement greater than 0.4 metre.*	**Measurement Criteria** Mine Logbook records demonstrate that work ceased on discovery of a cave and a suitably qualified expert assessed the significance of the cave to the satisfaction of the Mining Regulator. If the assessment concludes that the cave is significant, then records must demonstrate that measures have been implemented to ensure the cave continues to be protected from further damage. Mine Logbook records will demonstrate that work recommenced only after approval from Mining Regulation.

Control and Management Strategies

Mandatory Strategies:

All operators will be made aware of their obligations regarding caves.

Provide any Additional Strategies:

4.15 Native Vegetation

Native vegetation is located within the Mineral Claim

☒ Yes ☐ No (No further action required in this table)

Outcome No loss of abundance and/or diversity of native vegetation on or off the tenement through; • clearance, • dust/contaminant deposition, • fire, • other damage, unless a significant environmental benefit (SEB) has been approved in accordance with the relevant legislation.	**Measurement Criteria** *If native vegetation is to be cleared:* Clearance will be undertaken in accordance with the attached Native Vegetation Management Plan, refer to **Appendix 5 – Native Vegetation Data Report**.

Control and Management Strategies **Optional Strategies:** Native vegetation areas for clearance will be identified and flagged as per **Appendix 5 – Native Vegetation Data Report** and all operators will be made aware of areas for clearance based on NVMP prior to commencement of mining. **Provide any Additional Strategies:**	☒ Yes ☐ No

4.16 Blasting

Blasting is proposed during mining operations

☒ Yes ☐ No (No Further action required in this table)

Will explosives be stored on site?

☐ Yes ☒ No

Proposed frequency of blasting: once every 12 months.

Outcome	**Measurement Criteria**
No public health and/or nuisance impacts from air blast, vibrations or flyrock caused by blasting.	Records form the Mine Logbook demonstrates that all blast related complaints were acknowledged within 48 hours and resolved with the complainant within seven (7) days (or other time as approved by Mining Regulator) to the satisfaction of Mining Regulation. If complaints are not resolved to the satisfaction of Mining Regulation blast monitoring is to occur at locations, and using methods as agreed with the Mining Regulator to demonstrate that: - air blast and vibration levels meet limits in the Australian Standards (AS 2187.2) - there are no incidents of fly rock leaving the tenement boundary.

Control and Management Strategies

Mandatory Strategies:

All blasts are to be recorded in Mine Logbook detailing timing, size and number of drill holes.

All blasting activities will be carried out by a fully licenced blasting contractor.

All blasts undertaken in accordance with the Australian Standards (AS 2187.2).

Notify the landowner and all adjacent receptors of a blast 48 hours prior to a blast.

Provide any Additional Strategies:
No blasting to occur with the NO BLAST ZONE – as per **Drawing No. 5199.DRG.006 – Blasting Areas Map**.

Section 5: Records

Records related to measurement criteria will be kept in a Mine Logbook. All records will be kept for the duration of the lease.

Section 6: Maps and Plans

All maps and plans **must** be attached to this Proposal when submitted.

6.1 Location Plan

Scale and North Point	☒ Yes
Tenement boundaries drawn on plan	☒ Yes
Infrastructure (houses, roads, railways, etc)	☐ N/A ☒ Yes
Distance to residences or third party property and/or exempt land	☐ N/A ☒ Yes
Location plan labelled and attached to the proposal	☒ Yes
Proposed product transport route	☒Yes
Sensitive areas in/adjacent to tenement (conservation areas, heritage sites etc)	☒ N/A ☐ Yes
If heritage areas separate plan attached	☒ N/A ☐ Yes

6.2 Mining Plan(s) (multiple plans can be included)

Scale and North Point		☒ Yes
Legend or key		☒ Yes
Tenement boundaries		☒ Yes
Identify any exempt land and distance from proposed mining operations	☐ N/A	☒ Yes
Access road/s (proposed and existing road(s))		☒ Yes
Areas proposed to be mined		☒ Yes
Existing Infrastructure (house, road, electricity pole etc.)	☐ N/A	☒ Yes
Proposed plant and equipment (crusher, plant etc)		☒ Yes
Proposed stockpiles locations (overburden, topsoil and product)		☒ Yes
Direction of mining		☒ Yes
Stages of workings (showing less than three (3) ha open at one (1) time)		☒ Yes
Direction of progressive rehabilitation		☒ Yes
Proposed native vegetation in accordance with NVMP	☐ N/A	☒ Yes
Existing native vegetation that will not be cleared or impacted	☒ N/A	☐ Yes
Buffer/s (native vegetation, infrastructure etc)	☐ N/A	☒ Yes
Visual screening measures (existing and proposed)	☒ N/A	☐ Yes
Surface water and/or groundwater features (drainage lines, surface water management structures, bore locations).	☐ N/A	☒ Yes
Previously disturbed areas	☒ N/A	☐ Yes
Mining plan/s labelled and attached to the Proposal		☒ Yes

6.3 Proposed Final Landform Plan

Scale and North Point		☒ Yes
Legend or key		☒ Yes
Tenement boundaries		☒ Yes
Location of all reshaped and rehabilitated areas		☒ Yes
Location of all revegetated areas (including native vegetation, if applicable)		☒ Yes
Final pit outline and batters		☒ Yes
Remaining (undisturbed) native vegetation	☒ N/A	☐ Yes
Location of drainage lines and watercourses	☒ N/A	☐ Yes
Remaining infrastructure	☒ N/A	☐ Yes
Final landform plan labelled and attached to the Proposal		☒ Yes

6.4 Cross Section Plans

Scale (vertical and horizontal)	☒ Yes
North-South and East –West view	☒ Yes
Pre-mining natural surface	☒ Yes
Conceptual final rehabilitated surface	☒ Yes
Cross-sections labelled and attached to the proposal	☒ Yes

Section 7: Applicant Declaration

☒	We / I have taken reasonable steps to review the information to ensure its accuracy and all statements made and information given in this application is true and correct.
☒	We / I declare that the resource or reserve (or both) has been appropriately identified and estimated.
☒	Based on the control strategies provided I consider that the environmental outcomes will be able to be achieved.

Signature: .....

Print name: Trent Modra

Date: 30/6/25

Position: Director

Signature: .....

Print name: .....

Date: .....

Position: .....

Signature: .....

Print name: .....

Date: .....

Position: .....

Section 8: Operator Capability and Compliance History

I have the following technical, operational and financial capabilities and resources available for carrying out proposed mining operations:

Based in Cummins, the owner and director of Modra Earthmoving, Trent Modra, brings over 25 years of experience in the earthmoving and trucking industry. Trent began as a single owner and built the business up from one machine to a range of machinery, staffing options and operations.

Coupled with his plant operating background Trent's professional approach to site management enables Modra Earthmoving to ensure that projects are controlled effectively and completed on schedule. Trent is backed up by experienced highly trained ticketed operators, who take pride in their workmanship.

Modra Earthmoving carry out various kinds of work from including bulk Earthworks, site preparations, loading and haulage of bulk materials. They also raise and crush rubble to different sizes and all the plant and equipment is mobile. Laser equipment fitted to various machines for making jobs quick and efficient to carry out.

Modra Earthmoving runs a registered quarry near Karkoo for the sale of road base material and fill. It is a crushed limestone product with various sizes to meet customer requirements. They also own and run a Gypsum Mine near Lock that supplies Gypsum to farmers all over the Eyre Peninsula.

In the last 5 years, a related body corporate or I have failed to comply with a provision of a corresponding Australia Law or designated Australian Act in connection with authorised operations that resulted in:

☐ Yes	☒ No	The revocation or suspension of an authority to carry out authorised operations; or
☐ Yes	☒ No	A prosecution for an offence; or
☐ Yes	☒ No	The imposition of a penalty by a court; or
☐ Yes	☒ No	The issuing of a notice, direction or order that required the suspension of discontinuance of any authorised operations; or
☐ Yes	☒ No	The rectification of any harm to the environment or the rehabilitation of any land, place or other aspect of the environment.

Further detail on noncompliance if relevant:

Not required.

Appendix 1 – Landowner Consultation – Nigel and Kaye Breed

The following information was discussed with the landowner to ensure that the landowner is fully aware of the proposed mining operations and to reduce potential issues arising once mining has commenced.

Proposed location of mining operations – **As per Drawing No. 5199.DRG.001 – Site Location.**	☑ Yes
Exempt land and any required waivers of exemption – **There is an area of exempt land located on the eastern edge of the Tenement. It is approximately 0.62 ha of cropped land and therefore requires a waiver.**	☑ Yes
Method of mining – **Open cut mining methods through the use of a combination of drill and blast and an excavator, dependant on location within the quarry as per Drawing No. 5199.DRG.006 – Blasting Areas Map. Blasting once a year**	☑ Yes
Duration of mining operations – **The life of the quarry is estimated to be 44 years, dependant on market demand.**	☑ Yes
Operating hours – **Monday – Friday: 7:00 am – 5:00 pm. Saturday: 8:00 am – 12:00 pm. Sunday: N/A. Public Holidays: N/A. Maintenance activities may be undertaken outside of these hours.**	☑ Yes
Sequence and staging of mining and rehabilitation – **Five (5) stages of mining, as per Drawing No. 5199.DRG.009A – Quarry Development Plan.** **Progressive rehabilitation will occur during mining – max three (3) ha open at any one (1) time, including rehab.**	☑ Yes
Communication plan, including notification of blasting (if relevant) and follow up meetings – **Phone and email contact to be utilised if adjacent landowners have any queries or concerns.** **The landowner and person(s) residing within the house on the land will be notified at least 24 hours prior to blasting being undertaken.**	☑ Yes
Rehabilitation outcomes including conceptual final landform and land use – **Following completion of mining, the quarry will be returned to the existing land use of agricultural grazing. Rehabilitation will be progressive and will follow the direction of mining, as per Drawing No. 5199.DRG.009A – Quarry Development Plan.**	☑ Yes
Access to tenement – **Access to the quarry will be from Tod Highway, as per Drawing No. 5199.DRG.008 – Site Access Map.**	☑ Yes
Timing and nature of significant agricultural programs in relation to mining plan – **N/A**	☑ Yes
Infrastructure construction and / or maintenance (during the post mining) – **N/A: mobile equipment / infrastructure to be utilised which will be removed following completion of operations.**	☑ Yes
Weeds and pests (feral animal) management (during and post mining) – **Spraying of weeds onsite conducted as necessary.**	☑ Yes
Protection of infrastructure and / or sensitive areas within the tenement – **Relevant vegetation removal permits will be obtained where clearance is required. There**	☑ Yes

will be no operations on extreme fire ban days. Additionally, dust suppression measures will be undertaken when required.	
Use of landowner services and utilities – **NIL**	☑ Yes
Impact on visual amenity – **Disturbed area will not be any greater than three (3) ha at any one time, with a maximum of two (2) ha of extraction area and one (1) ha of area under rehabilitation. Additionally, the quarry will be well screened by surrounding vegetation.**	☑ Yes
Other? Please specify: - On days when wind is blowing towards house dust supression measures need to be undertaken if possible - Weeds to be controlled along access track to a distance of 15m either side of track as well as on mine site.	☑ Yes

PRINT NAME:	**Nigel and Kaye Breed**	**DATE:**	14/2/25

Did the landowner raise any matters in relation to the information discussed above?	☑ Yes ☑ No
If you answered 'Yes' please provide details below:	
Matter (s) Raised	
Resolution (s) Proposed	

LANDOWNER SIGNATURE

☑ I have read this document and have been consulted on the matters listed above.	
SIGNATURE:	M.J. Broad & L. Broad

Appendix 2 – Adjacent Landowner Consultation

Adjacent Landowner Name: Anthony Mickan

Date of consultation: 26/02/2025

Matter(s) raised: Anthony Mickan was contacted via telephone on 26 February 2025, where no concerns with the proposed quarry were raised. A consultation checklist outlining the proposed operations with associated plans was emailed to Anthony following the phone call to be signed; however, it has not been returned.

Resolution(s) proposed: N/A

Adjacent Landowner Name: Brendan and Marcia Letton

Date of consultation: 12/02/2025

Matter(s) raised: Brendan and Marcia were contacted via telephone on 12 February 2025, where no immediate concerns were raised, and they were aware of the proposed quarry. A consultation checklist outlining the proposed operations with associated plans was emailed to them following the phone call to be signed; however, it has not been returned.

Resolution(s) proposed: N/A

Adjacent Landowner Name: Clifford Phelps

Date of consultation: 12/02/2025

Matter(s) raised: Tom Phelps was the contact person for this adjacent landowner. Tom was contacted via telephone on 12 February 2025, where no immediate concerns were raised, being in support of the development of the quarry. Tom did not request to have the below checklist emailed to him for signing.

Resolution(s) proposed: N/A

Appendix 3 – Stakeholder Consultation

Stakeholder Name: Lower Eyre Council

Date of consultation: 26/02/2025 – 26/03/2025

Matter(s) raised: David Hall was contacted via telephone as the representative for Lower Eyre Council on 26 February 2025, where no concerns were raised regarding the proposed quarry. David referred onto Works email for the council to send the checklist outlining the quarry operations to be agreed upon. This was returned on 26 March 2025, with no concerns raised. Refer to the checklist below for evidence of this consultation.

Resolution(s) proposed: N/A

Stakeholder Name: Nauo Aboriginal Corporation RNTBC and Barngarla Determination Aboriginal Corporation

Date of consultation: 30/03/2025

Matter(s) raised: The associated Heritage Group representatives were both emailed on 20 March 2025 regarding the proposed limestone quarry, outlining all information of the operations, the heritage environmental outcome, measurement criteria and control and management strategies, and associated plans. They were invited to further discuss the proposed quarry and host a Site visit if required. At the time of writing this, there has been no response from either group.

Resolution(s) proposed: N/A

Appendix 4 – Eligibility Criteria

Eligibility Criteria for use of Defined Impact Mining Proposal Template

1. Is the Mineral Claim located outside of the **'Exclusion Zone'** layers on the SARIG map? https://sarig.pir.sa.gov.au/Map (Please use this hyperlink to access SARIG)	☒ Yes, proceed 1.2 ☐ **No, not eligible to use of Template**
Interaction with other tenements	
2. Will the tenement be operated (stockpile, store or process material) in conjunction with another lease or application area?	☐ **Yes, not eligible** ☒ No, proceed 1.3
Potential Impact Receptors	
Infrastructure 3. Is mining proposed less than **50 metres** from any gas pipelines, overhead transmission lines, water pipelines or underground telecommunication lines? Note: infrastructure within 150 metres of proposed mining operations, may initiate the requirements of exempt land in accordance with Section 9 of the *Mining Act 1971*.	☐ **Yes, not eligible** ☒ No, proceed to 1.4
Surface water 4. Is mining proposed less than **25 metres** from a Watercourse?	☐ **Yes, not eligible** ☒ No, proceed to 1.5
Groundwater 5. Is mining proposed to stay **two metres** above known groundwater levels? TEST HOLES CONFIRM NO WATER WITHIN 2 M	☒ Yes, proceed to 1.6 ☐ **No, not eligible**
Potential Sources of Impact	
6. Is continuous 24 hour mining operations?	☐ **Yes, not eligible** ☒ No, proceed to 1.7
7. Is the rock to be mined likely to contain hazardous minerals? E.g. sulphides, asbestos and/or radioactive minerals.	☐ **Yes, not eligible** ☒ No, proceed to 1.8
8. Will proposed mining involve any wet processing?	☐ **Yes, not eligible** ☒ No, proceed to 1.9
9. Will the maximum area of land disturbed by mining (including stockpiles) be greater than **3 hectares** at any one time?	☐ **Yes, not eligible** ☒ No, proceed to 1.10
10. Will proposed mining operations occur to a depth less than **5 metres** from ground level?	☒ Yes, proceed to 1.11 ☐ **No, not eligible**
11. Will proposed mining operations require blasting? Note: if the applicant does not meet this criteria but believes the risk profile of the application will meet other criteria please call Mining Regulation to discuss.	☒ Yes, proceed to 1.11.1 ☐ No, proceed to 1.12
11.1 Is the nearest receptor more than 600m away from proposed blasting? *Definition of receptor includes, but is not limited to:* - *Residential dwelling* - *Public infrastructure* - *Commercial/ business infrastructure*	☐ Yes, proceed 1.12 ☐ **No, not eligible – refer to DEM approval**
12. Will proposed mining be conducted on a sand dune or a surface outcrop less than **10m** in height?	☒ Yes, **eligible to use** ☐ **No, not eligible**

Residence 430 m west – obtained landowner consent to blast once per annum if required.

Appendix 5 – Native Vegetation Clearance Report

Groundwork Plus (SA) Pty Ltd

Native Vegetation Clearance Data Report Modra's Quarry

Clearance under the *Native Vegetation Regulations 2017*

Prepared for: Modra Earthmoving Pty Ltd

Date: February 2025

File Reference: 5199.610.001

DOCUMENT CONTROL

PROJECT / DETAILS REPORT

Document Title:	Native Vegetation Clearance Data Report Modra's Quarry
Principal Author:	Georgia Wilson
Client:	Modra Earthmoving Pty Ltd
Reference Number:	5199.610.001

DOCUMENT STATUS

Issue	Description	Date	Author	Reviewer
0	Initial Issue	February 2025	Georgia Wilson	Louise Jaunay

DISTRIBUTION RECORD

Recipient	
Modra Earthmoving Pty Ltd	1 x Electronic

Groundwork Plus (SA) Pty Ltd
Phone: 1800 GW PLUS (1800 497 587)
Email: info@groundwork.com.au
Website: groundwork.com.au
ABN 93 642 089 683

Geotechnical Laboratory
Unit 78/109 Leitchs Road, Brendale Qld 4500
Phone: 0417 615 217

QLD/NSW
6 Mayneview Street, Milton Qld 4064
PO 1779, Milton BC Qld 4064
Phone: +61 7 3871 0411

SA/WA/NT
2/3 16 Second St, Nuriootpa SA 5355
PO Box 854, Nuriootpa SA 5355
Phone: +61 8 8562 4158

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DRAWINGS

Site Location	*(Drawing No. 5199.DRG.001)*
Quarry Development Plan	*(Drawing No. 5199.DRG.009A)*
Vegetation Survey	*(Drawing No. 5199.DRG.012)*

ATTACHMENTS

Attachment 1	*Environmental Protection and Biodiversity Conservation Act 1999* Protected Matters Search
Attachment 2	Bushland Assessment Scoresheet
Attachment 3	Scattered Tree Assessment Scoresheet

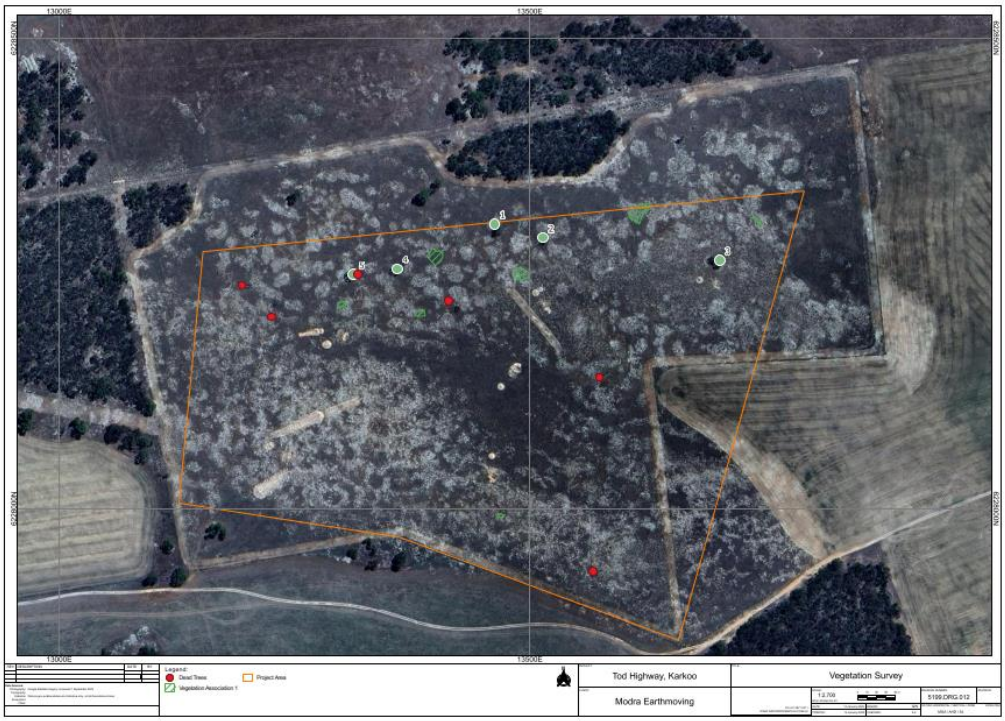
1 Applicant Information

1.1. Application Details

Applicant:	Modra Earthmoving Pty Ltd			
Key contact:	Name:	Trent Modra		
	Contact details:	modraearthmoving@bigpond.com		
Landowner:	Name:	Nigel and Kaye Breed		
	Contact details:	billanbree@gmail.com		
Site address:	7358 Tod Highway, Karkoo, SA 5632			
Local Government Area:	Lower Eyre Peninsula		Hundred:	Shannon
Title ID:	CT 5456/325		Parcel ID:	H551400 S52

1.2. Summary of Proposed Clearance

Purpose of clearance	Clearance is required for quarry extraction activities.
Native Vegetation Regulation	Part 5, Division 1, Regulation 12 (28) - Operations
Description of the vegetation under application	0.076 ha of *Acacia spinescens +/- Bursaria spinosa ssp.* very open shrubland over *Acrotriche patula* and *Lepidosperma viscidum* in very poor condition and five (5) medium to large Red Mallee *(Eucalyptus oleosa*) trees in poor health.
Total proposed clearance - area hectares (ha) and number of trees	0.076 ha and five (5) trees are proposed to be cleared.
Level of clearance	Level 2
Overlay (Planning and Design Code)	Dwelling Excision, Hazards (Bushfire – General), Hazards (Bushfire – Medium Risk), Hazards (Flooding – Evidence Required), Native Vegetation, State Significant Native Vegetation
Map of proposed clearance area	

	
Mitigation hierarchy	The proposed quarry development has been situated within an area of previous disturbance to minimise the extent of native vegetation that is required for removal. Isolated patches of remnant native vegetation exist within the Site, of which impacts are not able to be avoided as it is located within the targeted limestone resource within the Site. Vegetation clearance has been minimised to exclude a larger patch of remnant native vegetation in the north of the property as well as excluding another nine (9) scattered trees that were originally included as part of this assessment. Following the closure of the quarry, the Site will likely to be used for agricultural purposes to align with adjacent and existing use of the land. To offset the proposed clearance, the Client intends to pay into the Native Vegetation Fund (NVF), the amount required for the Significant Environmental Benefit (SEB).
SEB Offset proposal	The client intends to make a single payment (including admin fee of $87.66) of $1,681.39 into the Native Vegetation Fund (NVF).

2 Purpose of Clearance

2.1 Description

Groundwork Plus (SA) Pty Ltd (Groundwork Plus) has been engaged by Modra Earthmoving Pty Ltd (the Client), to undertake a Native Vegetation Assessment within a proposed quarry extraction area (Mineral Claim (MC) 4579) on land parcel Certificate of Title (CT) 5456/325 (the Site).

The Site is located on the outskirts of the rural town of Karkoo, along the Tod Highway, in the Eyre Peninsula Management Region, approximately 655 kilometres (km) northwest of Adelaide, South Australia. The nearest town, Cummins, is located approximately 32 km south of the Site, refer to **Drawing No. 5199.DRG.001 – Site Location**.

2.2 Background

The property is located nearby a small rural centre on the Eyre Peninsula where the land use is mainly comprised of agricultural activities including cereal growing and sheep grazing. Vegetation within this area consists of fragmented remnant *Eucalyptus sp.* mallee woodland and scattered paddock trees.

Due to increasing demand for limestone within the Eyre Peninsula Region, clearance is required to enable the delivery of construction materials to the broader market.

2.2.1 Interim Biogeographical Regionalisation of Australia (IBRA)

A search of the Government of South Australia Enviro Data (2025) application *NatureMaps* (*NatureMaps*), confirmed the Site is located within the Eyre Yorke Block (EYB) IBRA Region, and the Talia IBRA Subregion. Fifty-six percent of the subregion has been mapped as remnant vegetation, of which 32 percent is formally conserved within Department for Environment and Water (DEW) reserves and Heritage Agreements (HA) under the *Native Vegetation Act 1991*. The Eyre York Block IBRA Region is described as "low limestone dune ridges: small granitic islands with dunes" (*NatureMaps*, 2025).

2.2.2 Climate

Climate data has been sourced from the Cummins Airport Bureau of Meteorology (BoM) (Site No. 018217) located approximately 26 km south of the Site. Climate is described as Mediterranean with majority of rainfall between the months of May and September. Mean daily maximum temperatures range from 30.2 degrees Celsius in January and 15.7 degrees Celsius for July, with mean minimum temperatures ranging from 15.2 degrees Celsius in January to 5.1 degrees Celsius in August. Review of *NatureMaps* (2025) climate data references a mean annual rainfall of 380 millimetres (mm) for the Site.

2.3 General Location Map

The Site is located approximately 655 km north west of the Adelaide CBD, South Australia, refer to **Drawing No. 5199.DRG.001 – Site Location**.

2.4 Details of the Proposal

The Site is confined within a low limestone dune system inside a cropping area with small, isolated patches of remnant native vegetation. An inspection of the Site undertaken 30 August 2023 by a Groundwork Plus Consultant confirmed that the Site contains Native Vegetation as defined by the *Native Vegetation Act 1991*. Vegetation is comprised of degraded, remnant native vegetation in very small patches and scattered trees within the Site.

The proposed extraction area will be undertaken as part of a staged Quarry Development Plan (QDP), comprised of five (5) stages:

- Stage 1: Following stripping of topsoil, mining will begin in the south west corner of the Tenement, moving in a northerly direction. This stage will be extracted via a bulldozer, with no blasting to be undertaken. Mining in this stage will continue until met up with the topsoil area running through the centre of the Site.
- Stage 2: Stage 2 will commence at the completion of Stage 1. Extraction will begin in the south east corner of the Tenement and progress in a westerly direction. Mining in this stage will conclude once met up with the footprint of Stage 1.
- Stage 3: Stage 3 will commence at the completion of Stage 2. Extraction will begin in the north eastern portion of the Tenement, progressing in a westerly direction. This entire stage of extraction will be undertaken through blasting. Mining in this stage will conclude once met up with the footprint of Stage 4.
- Stage 4: Stage 4 will commence at the completion of Stage 3. Extraction will begin on the northern area of the Tenement, progressing in a southerly direction. This entire stage of extraction will be undertaken through blasting. Mining in this stage will continue until met up with the topsoil stockpiling area running through the centre of the Site.
- Stage 5: Stage 5 will commence at the completion of Stage 4. Extraction will begin in the north west corner of the Tenement, progressing in an easterly direction. Extraction in the western most section of this stage will be undertaken through the use of a bulldozer. The remainder of the stage will be extracted through blasting activities. Mining in this stage will conclude once met up with the footprint of Stage 4.

Please refer to Drawing No. 5199.DRG.009A – Quarry Development Plan for a visual representation of the proposed extraction area.

2.5 Approvals Required or Obtained

Due to the demand of landscaping and construction materials, it is intended to establish Mining Tenure over the land to enable the supply of materials to the landscaping and infrastructure construction market. As part of this process, the Vegetation Clearance Proposal has been prepared for the inclusion with the Mining Lease Proposal (MLP) for the Site in accordance with the provisions of the *Mining Act 1971*.

A review of *NatureMaps* (2025), indicated that there have not been any previous native vegetation clearance applications for the Site.

2.6 Native Vegetation Regulation

Provisions for clearance of native vegetation associated with the approved mining operations are provided under the *Native Vegetation Regulations 2017*, Part 5, Regulation 12, Division 1, Subclause 28 – Operations – Clearance of vegetation incidental to operations authorised under the *Mining Act 1971* or the *Geothermal Energy Act 2000*.

2.7 Development Application Information (if applicable)

Development approvals are not required for activities associated with the DIMLP.

3 Method

3.1 Flora Assessment

An online search was undertaken for *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Matters of National Environmental Significance (MNES) along with a review of *NatureMaps* (2025) for historical records of any rare or endangered flora species within five (5) km of the Site.

Following a review of the background information and literature, an assessment of the Site was undertaken on 30 August 2023 by Groundwork Plus Environmental Consultants involving a general assessment of the Site and identification of habitat for species of conservation significance utilising the Native Vegetation Council's (NVC) Bushland Assessment Methodology.

The proposed works areas were surveyed for:

- Remnant and regrowth native vegetation
- Introduced plant species
- Site disturbance
- Vegetation composition

The vegetation survey was conducted within the proposed extraction area.

Representative photographs of the vegetation within the Site are provided within **Section 4.1 Vegetation Assessment**.

3.2 Fauna Assessment

An online search was undertaken for EPBC Act MNES, as well as a review of *NatureMaps* to determine the potential presence of any rare or endangered fauna species recorded within five (5) km of the Project Area and within the preceding 20 years.

During the field assessment, the trees were surveyed to determine habitat potential for all fauna species, in particular threatened species identified through the desktop assessment. Opportunistic records of fauna species were also captured. The likelihood of the trees providing habitat for fauna species identified within the desktop searches was assessed based on the species known habitat preferences, including reference to Appendix 4 of the Scattered Tree Assessment Manual (Native Vegetation Council, 2024). Results of the assessment are presented within **Section 4.2 Fauna Assessment**.

4 Assessment Outcomes

The Site is located approximately 32 km north of the town, Cummins in South Australia. Elevations range from 58 metres Australian Height Datum (mAHD) to 59 mAHD across the project area.

There are Heritage Agreements (HA) located within five (5) km of the project area, the closest being 0.81 km northeast of the proposed quarry development. The closest Conservation Park (CP) is Hincks CP which is located 6.61 km to the north east.

4.1 Vegetation Assessment

A search of *NatureMaps* identified no threatened flora species recorded within the preceding 20 years and within a five (5) km radius of the Site. An *EPBC Act* protected matters search report listed two (2) threatened flora species that are 'likely to occur' within proximity (five (5) km buffer applied) to the Site, refer to **Table 1 - Threatened Flora Species Summary**.**Error! Reference source not found.**

Table 1 - Threatened Flora Species Summary

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
FLORA						
Caladenia tensa (Greencomb Spider-orchid)		EN	5	No recording	Various habitats have been described including Cypress Pine (Family: Cupressaceae) / Yellow Gum Woodland, Pine / Box woodland, mallee-heath sites, healthy woodland and mallee woodland, generally with rock.	**Unlikely.** No recent records and no woodland habitat.
Haloragis eyreana (Prickly Raspwort)		EN	5	No recording	Endemic to EP. Nearly entirely restricted to roadsides and rail reserves. Mainly found in disturbed open grassland areas and only occasionally found growing in more intact habitat, where it is associated with *Eucalyptus incrassata* (Ridge-fruited Mallee), *E. dumosa* (Dumosa Mallee) or *Melaleuca decussata* (Totem-poles). Now only exists in	**Unlikely.** No recent records and not observed within the project area during site survey.

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
					roadsides and rail reserves.	

No threatened flora species were recorded during the field inspections.

No Threatened Ecological Communities (TEC) were identified within the *EPBC Act* protected matters search report as 'likely or known to occur' within the five (5) km buffer applied to the project area. Refer to **Attachment 1 – *Environmental Protection and Biodiversity Conservation Act 1999* Protected Matters Search** for full *EPBC Act* search results.

Historical vegetation clearance for agriculture and ongoing grazing practices have occurred within the Site. Remaining native vegetation is comprised of patches of remnant vegetation with an incursion of exotic species. Additionally, there are scattered individuals of live and dead *Eucalyptus oleosa* trees as well as larger patches of *Eucalyptus spp*. woodland outside of the Site in better condition. The vegetation under application is sought to be removed for the proposed future quarry development.

Inspection of the Site confirmed that native vegetation was present, comprising of:

- *Acacia spinescens +/- Bursaria spinosa ssp.* very open shrubland over *Acrotriche patula* and *Lepidosperma viscidum*
- Five (5) scattered *Eucalyptus oleosa* trees

Full assessment of the vegetation and tree attributes, condition scores and a list of flora species recorded onsite are provided within **Attachment 2 – Bushland Assessment Scoresheet** and **Attachment 3 – Scattered Tree Assessment Scoresheet**.

Further details and location of the vegetation association and scattered trees are provided in **Table 2 - Details of Vegetation Association 1**, **Table 3 - Details of Scattered Trees** and **Drawing No. 5199.DRG.012** – **Vegetation Survey**

Table 2 - Details of Vegetation Association 1

Vegetation Association	*Acacia spinescens +/- Bursaria spinosa ssp.* very open shrubland over *Acrotriche patula* and *Lepidosperma viscidum*				
					
General description	This vegetation association was scattered in very small patches through the project area. The condition was heavily modified as grazing occurs in the paddock surrounding. Dominant native species include: Acacia *spinescens*, *Bursaria spinosa ssp.*, *Acrotriche patula* and *Lepidosperma viscidum*. Weed invasion is present with species including: *Carrichtera annua*, *Avena barbata and Asphodelus fistulosus*.				
Threatened species or community	No threatened species were recorded at the time of the Site inspections.				
Landscape context score	1.02	**Vegetation condition score**	26.59	**Conservation significance score**	1.00
Unit biodiversity score	27.12	**Area (ha)**	0.076	**Total biodiversity score**	2.06

Table 3 - Details of Scattered Trees

Tree ID –	1	
Tree spp. - *Eucalyptus oleosa*	*Eucalyptus oleosa*	
Number of trees –	One (1)	
Height (m) –	Eight (8)	
Hollows –	One (1) large	
Diameter (cm) –	44.4	
Canopy dieback (%) –	65	
Total biodiversity score –	0.41	
Medium sized tree with one (1) large hollow. Tree is in poor health.		
Tree ID –	2	
Tree spp. -	*Eucalyptus oleosa*	
Number of trees –	One (1)	
Height (m) –	Five (5)	
Hollows –	0	
Diameter (cm) –	34.5	
Canopy dieback (%) –	60	
Total biodiversity score –	0.12	
Small - medium sized tree with no hollows present. Tree is in poor health.		

Tree ID –	3
Tree spp. -	*Eucalyptus oleosa*
Number of trees –	One (1)
Height (m) –	8.5
Hollows –	One (1) medium
Diameter (cm) –	42.6
Canopy dieback (%) –	60
Total biodiversity score –	0.35

Medium sized tree with one (1) medium hollow. Tree is in poor health.

Tree ID –	4
Tree spp. -	*Eucalyptus oleosa*
Number of trees –	One (1)
Height (m) –	Nine (9)
Hollows –	0
Diameter (cm) –	43.3
Canopy dieback (%) –	20
Total biodiversity score –	0.43

Medium sized tree with no hollows present. Tree is in fair health.

Tree ID –	5	
Tree spp. -	*Eucalyptus oleosa*	
Number of trees –	One (1)	
Height (m) –	Eight (8)	
Hollows –	One (1) small	
Diameter (cm) –	43.8	
Canopy dieback (%) –	15	
Total biodiversity score –	0.63	
Medium sized tree with one (1) small hollow. Tree is in good health.		

4.2 Fauna Assessment

A search of *NatureMaps* identified no threatened fauna species recorded within the preceding 20 years and within a five (5) km radius of the Site. The search was then extended to a 10 km radius of the Site to increase recorded sightings within the area. The search identified six (6) threatened fauna species with records occurring within the preceding 20 years and within a 10 km radius of the Site with two (2) species identified as 'possible' to occur, refer to **Table 4 - Threatened Fauna Species Summary**.

Table 4 - Threatened Fauna Species Summary

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
FAUNA						
Aphelocephala leucopsis (Southern Whiteface)		VU	5	No recording	Lives in open woodland and shrublands in Australia. These habitats are usually dominated by Acacias or Eucalypts and have an understorey of grasses or shrubs.	**Unlikely**. No recent records and no woodland or shrubland habitat.
Falco hypoleucos (Grey Falcon)		VU	5	No recording	The species frequents timbered lowland plains, particularly acacia	**Unlikely**. No recent records and no

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
					shrublands that are crossed by tree-lined water courses. The species has been observed hunting in treeless areas and frequents tussock grassland and open woodland, especially in winter.	woodland or shrubland habitat.
Gerygone fusca (Western Gerygone)	R		3	2016	Habitat is open woodlands and mallee.	**Possible.** Recent recording and species may use scattered trees for perching or foraging.
Hylacola cauta cauta (Shy Heathwren)	R		3	2015	Prefers dense shrubby or heath understorey in mallee woodland, mallee shrubland or mallee heath in coastal and semi-arid regions, often where spinifex (*Triodia*) occurs and with dense shrubs such as Banksia, *Hakea* and *Grevillea*, also tea-tree (*Leptospermum*) and cypress pine.	**Unlikely.** Recent recording but no suitable dense shrubby understorey habitat within the project area.
Leipoa ocellata (Malleefowl)	V	VU	3, 5	2018	Found principally in the semi-arid to arid zone in shrublands and low woodlands dominated by mallee and associated habitats such as Broombush (*Melaleuca uncinata*) and Scrub Pine (*Callitris verrucosa*). Malleefowl also occur in Red Ironbark (*Eucalyptus sideroxylon*) woodland at the eastern limit of their distribution and in Brown Stringybark (*E. baxteri/E. araneosa*) woodland in the south of Victoria and South Australia.	**Unlikely**. Recent recording but no suitable habitat within the project area.

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Lichenostomus cratitius occidentalis (Purple – Gaped Honeyeater)	R		3	2015	Occurs in fragmented areas in mallee from south and central Western Australia to central Victoria.	**Unlikely**. Recent record but species does not utilise scattered trees.
Myiagra inquieta (Restless Flycatcher)	R		3	2017	Found throughout northern and eastern mainland Australia, as well as in south-western Australia. The Restless Flycatcher is found in open forests and woodlands and is frequently seen in farmland.	**Possible**. Recent record and species have been recorded in farmland. Species may use scattered trees as stepping stone to more intact patches of woodland nearby.
Neophema chrysostoma (Blue-winged Parrot)		VU	5	No recording	This species mainly occurs in Tasmania and Victoria, particularly in southern Victoria and the midlands and eastern areas of Tasmania however sparser populations are also found in western New South Wales and eastern South Australia, extending to south-west Queensland and occasionally into the Northern Territory. Prefers grasslands and grassy woodlands but will inhabit a range of habitats from coastal, sub-coastal and inland areas, right through to semi-arid zones.	**Unlikely**. No recent records and suitable habitat within the project area.
Pachycephala fuliginosa fuliginosa (Western Whistler)	R		3	2015	Found in drier habitats including: forested shrubland with dense undergrowth, soft land scrubs, woodlands, occasional garden parks, and exotic pine plantations.	**Unlikely**. Recent record although no habitat with dense undergrowth present in the project area.

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
Staganopleura guttata (Diamond Firetail)		VU	5	No recording	Endemic to Australia, occurring mainly on the inland slopes of the Great Dividing Range and in the AMLR/Eyre Peninsula region of SA. Reside in a wide range of Eucalypt dominated vegetation communities that have a grassy understorey, including woodland, forest and mallee. Most occur on the inland slopes of the Great Dividing Ranges, with only small pockets near the coast.	**Unlikely**. No recent records and no suitable woodland habitat within the project area.
Sminthopsis psammophila (Sandhill Dunnart)		EN	5	No Recording	In SA, species associations vary but are generally low, open mallee woodland over a diverse shrub layer and relatively dense spinifex; there is also a greater diversity of Triodia species which may be present, including T. irritans, T. scariosa and T. lanata.	**Unlikely**. No recent records and no suitable spinifex in mallee woodland habitat present within the project area.
Source; 1- BDBSA, 2 - AoLA, 3 – *NatureMaps* 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others NP&W Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable						

An EPBC Act Protected Matters Search report listed six (6) threatened fauna species as 'likely' or 'known' to occur within proximity (five (5) km buffer applied) to the Site, refer to **Attachment 1 – *Environmental Protection and Biodiversity Conservation Act 1999* Protected Matters Search**. Of these, it is considered 'unlikely' that these species will occur within the vegetation under application as there a highly fragmented small areas and scattered trees, larger patches of better condition woodland exists nearby outside of the Site which will not be impacted, providing better quality habitat for the species

No threatened species were identified as using the scattered trees as potential habitat within five (5) km based on the desktop search results, along with information presented in Appendix 4 of the Scattered Tree Assessment Manual (NVC, 2024). Given the size and condition of the trees and bushland as well as proximity to surrounding better condition intact vegetation, it is unlikely the clearance of the trees or bushland would significantly impact any threatened fauna populations.

Aquatic fauna species and subspecies with distributions outside of the region were excluded from the results.

Table 5 - Criteria for the Likelihood of Occurrence of Species Within the Study Area

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species. Recorded within 20 - 40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provides no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20 - 40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

4.3 Cumulative Impact

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

The current clearance application consists of a significant portion of the project area, which will allow for extraction and operational areas, refer to **Drawing No. 5199.DRG.012 – Vegetation Survey** and **Drawing No. 5199.DRG.009A – Quarry Development Plan**

Indirect impacts to surrounding vegetation may include dust deposition, increase in weed abundance and diversity, and general rubbish incursions from operational activities. Mitigation measures for these aspects will be developed as part of the Mining Lease Proposal and subsequent Program for Environment Protection and Rehabilitation.

The clearance of native vegetation will add to the cumulative cleared area of the surrounding landscape, however, this will be minimised to the available resource and largely restricted to areas that have been subject to previous historical clearance.

4.4 Address the Mitigation Hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimize, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NP&W Act.

a) **Avoidance – outline measures taken to avoid clearance of native vegetation**
The proposed quarry development has been situated within an area of previous disturbance to minimise the extent of native vegetation that is required for removal. Isolated patches of remnant native vegetation exist within the Site, of which impacts are not able to be avoided as it is located within the targeted limestone resource within the Site.

b) **Minimisation – if clearance cannot be avoided, outline measures taken to minimise the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative)**.
Vegetation clearance has been minimised to exclude a larger patch of remnant native vegetation in the north of the property as well as excluding another nine (9) scattered trees that were originally included as part of this assessment.

c) **Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimised, such as allowing for the re-establishment of the vegetation**.
Following the closure of the quarry, the Site will likely to be used for agricultural and grazing purposes to align with adjacent and existing use of the land.

d) **Offset – any adverse impact on native vegetation that cannot be avoided or further minimised should be offset by the achievement of a SEB that outweighs that impact.**
The NVC will only consider an offset once avoidance, minimisation and restoration have been documented and fulfilled. The SEB Policy explains the biodiversity offsetting principles that must be met.

To offset the proposed clearance, the Client intends to pay into the NVF, the amount required for the SEB, as calculated in Error! Reference source not found..

4.5 Principles of Clearance (Schedule 1, *Native Vegetation Act 1991*)

The NVC will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations. The NVC will consider all the Principles of clearance of the Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act 2016*.

Table 6 - Principles of Clearance

Principle of clearance	Relevant information	Assessment against the principles	Moderating factors that may be considered by the NVC
Principle 1b - significance as a habitat for wildlife	The vegetation under application may provide habitat for fauna species, particularly birds. The desktop assessment for threatened fauna species identified two (2) species that may be considered 'possible' to utilise the application area, based on previous records and habitat. Refer to **Section 3.2 Fauna Assessment** for further details. Trees; Fauna Habitat Score – 0 Biodiversity Score: - Tree 1: 0.41 - Tree 2: 0.12 - Tree 3: 0.35 - Tree 4: 0.43 - Tree 5: 0.63 Vegetation Association: 0	Seriously at Variance No At Variance – No	N/A
Principle 1c - plants of a rare, vulnerable or endangered species	No threatened flora species were recorded during the Site inspection. Threatened Flora Score(s) – 0	Seriously at Variance No At Variance – No	N/A
***Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered*:**	No threatened communities were recorded during the Site inspection. Threatened Community Score – 1	Seriously at Variance No	N/A

Principles of Clearance (h-m) will be considered by comments provided by the local NRM Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.6 Risk Assessment

Table 7 - Risk Assessment

Total clearance	No. of trees	5
	Area (ha)	0.076
	Total biodiversity Score	4.00
Seriously at variance with principle 1(b), 1(c) or 1 (d)		No
Risk assessment outcome		Level 2

5 Clearance Summary

Table 8 - Clearance Area Summary Table

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	1	21	1	0	0	27.12	0.076	2.06	1			2.27	$818.70	$45.03
						Total	**0.076**	**2.06**				**2.27**	**$818.70**	**$45.03**

Table 9 - Scattered Trees Summary Table

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment
1	1	0	0	0.41	1	0.45	$172.75
2	1	0	0	0.12	1	0.13	$49.90
3	1	0	0	0.35	1	0.39	$149.71
4	1	0	0	0.43	1	0.47	$180.42
5	1	0	0	0.63	1	0.69	$264.88
Total	**5**			**1.94**		**2.13**	**$775.03**

Table 10 - Totals Summary Table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	4.00	4.4	$1,593.73	$87.66	$1,681.39

Economies of Scale Factor	0.29
Rainfall (mm)	380

6 Significant Environmental Benefit

A SEB is required for approval to clear under Division 5 of the *Native Vegetation Regulations 2017*. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING AN SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

☐ Establish a new SEB Area on land owned by the proponent.

☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____

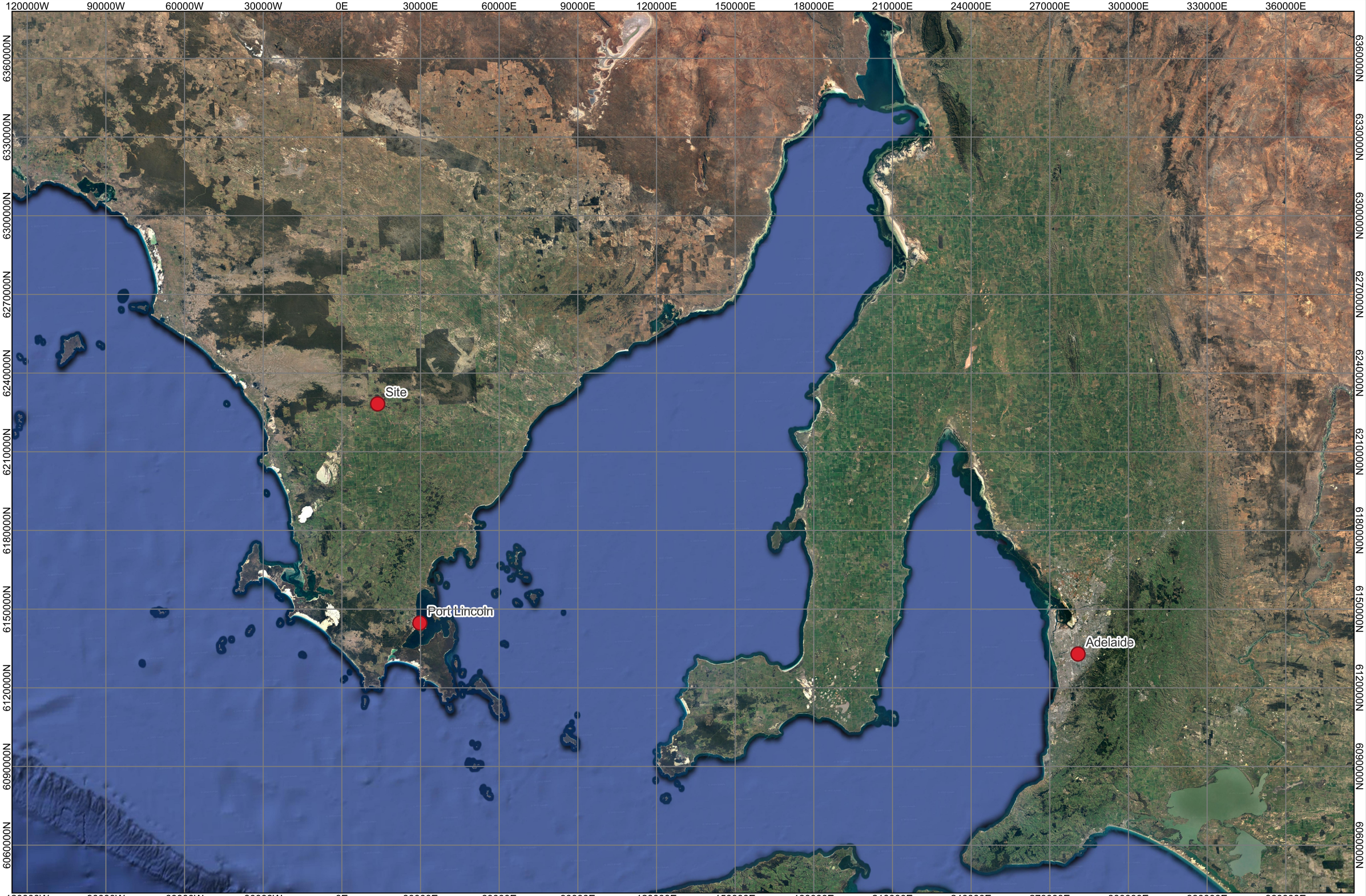
☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.

☐ Apply to have an SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.

☒ Pay into the NVF.

The client intends to make a single payment (including admin fee of $87.66) of $1,681.39 into the NVF. An on-ground SEB is unable to be undertaken for this clearance application as the Client does not own the property with which it is located. Additionally, there will be no suitable area to place the SEB Area as the majority of the allotment will be used for quarry extraction which would impact on the success of the SEB offset area if it was in close proximity through impacts such as dust deposition.

DRAWINGS



REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Google Satellite Imagery: Accessed 22 August 2023
Topography:
Cadastre: Data.sa.gov.au;Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other:

Legend:
- Site

N

PROJECT: Tod Highway, Karkoo

CLIENT: Modra Earthmoving

TITLE: Site Location

GROUNDWORK plus
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:1,335,000 When Printed On A3 (0 6,000 12,000 18,000 24,000 m)

DRAWING NUMBER: 5199.DRG.001

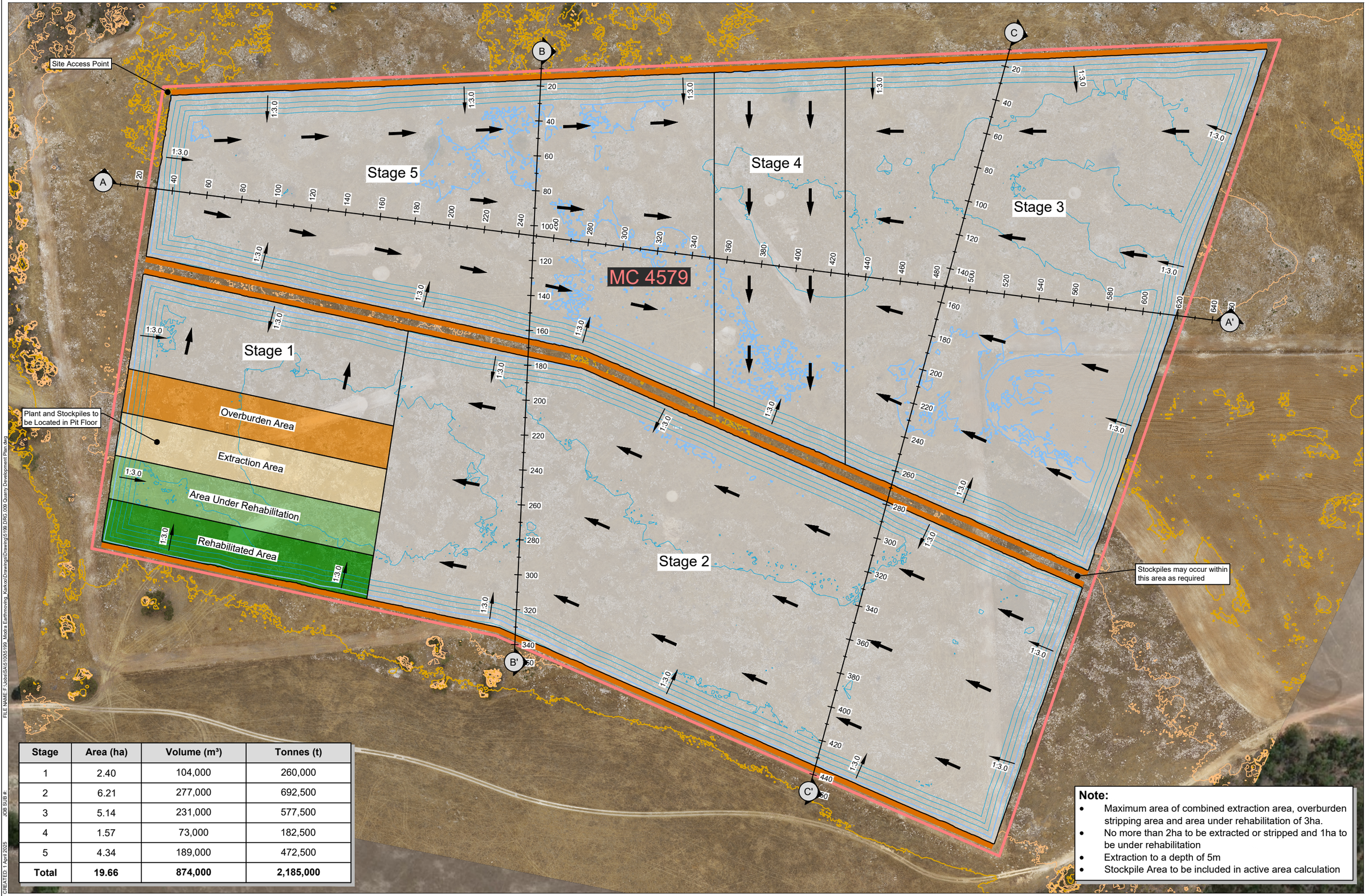
REVISION:

DATE: 22-August-2023 DRAWN: GW

PRINTED: 22-August-2023 CHECKED: LJ

DATUM: HORIZONTAL / VERTICAL / ZONE: MGA / AHD / 54

EPSG:7854



Stage	Area (ha)	Volume (m³)	Tonnes (t)
1	2.40	104,000	260,000
2	6.21	277,000	692,500
3	5.14	231,000	577,500
4	1.57	73,000	182,500
5	4.34	189,000	472,500
Total	**19.66**	**874,000**	**2,185,000**

Note:

- Maximum area of combined extraction area, overburden stripping area and area under rehabilitation of 3ha.
- No more than 2ha to be extracted or stripped and 1ha to be under rehabilitation
- Extraction to a depth of 5m
- Stockpile Area to be included in active area calculation

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork part of SLR, UAV Survey, 2023/11/14
Topography: Groundwork part of SLR, UAV Survey, 2023/11/14, DSM 50cm
Cadastre:
Ecosystem:
Other: © 2024 Microsoft Corporation; © 2024 Maxar; © CNES (2024) Distribution Airbus DS

Legend:
- Mineral Claim
- Topsoil Stockpile
- Staged Extraction Area
- Direction of Extraction

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Quarry Development Plan

GROUNDWORK PART OF SLR
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:2,000 When Printed On A3 (0 – 40m)
DRAWING NUMBER: 5199.DRG.009A
REVISION:
DATE: 1 April 2025 | DRAWN: CP
PRINTED: 1 April 2025 | CHECKED: EM
DATUM: HORIZONTAL / VERTICAL / ZONE: GDA94 / MGA / AHD / 53

FILE NAME: F:\Jobs\SA\51005199_Modra Earthmoving_Karkoo\Drawings\Drawing\5199.DRG.009 Quarry Development Plan.dwg
JOB SUB #:
CREATED: 1 April 2025

13000E

13500E

6228500

6228000

1

2

3

4

5

MC 4579

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Google Satellite Imagery: Accessed 27 March 2025
Topography:
Cadastre: Data.sa.gov.auBoundaries are Indicative only, not all boundaries shown
Ecosystem:
Other:

Legend:

- MC Boundary
- Cadastral Boundaries
- Vegetation Association 1
- Scattered Trees Impacted
- Dead Trees

N

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Vegetation Survey

GROUNDWORK PART OF SLR
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:2,700 When Printed On A3 (0 10 20 30 40 m)

DRAWING NUMBER: 5199.DRG.012

REVISION:

DATE: 27-March-2025 DRAWN: GW

PRINTED: 27-March-2025 CHECKED: LJ

DATUM: HORIZONTAL / VERTICAL / EPSG:7854

MGA / AHD / 54

ATTACHMENTS

Attachment 1

Environmental Protection and Biodiversity Conservation Act 1999 Protected Matters Search

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 16-Jan-2025

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	23
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Drooping sheoak grassy woodland on calcrete of the Eyre Yorke Block Bioregion	Critically Endangered	Community may occur within area	In feature area
Eyre Peninsula Blue Gum (Eucalyptus petiolaris) Woodland	Endangered	Community may occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Sminthopsis psammophila Sandhill Dunnart [291]	Endangered	Species or species habitat likely to occur within area	In feature area
PLANT			
Acacia enterocarpa Jumping-jack Wattle [17615]	Endangered	Species or species habitat may occur within area	In feature area
Acacia pinguifolia Fat-leaved Wattle, Fat-leaf Wattle [5319]	Endangered	Species or species habitat may occur within area	In feature area
Angianthus phyllocalymmeus listed as Pleuropappus phyllocalymmeus Silver Candles [43575]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bossiaea peninsularis Sword Bossiaea [86647]	Endangered	Species or species habitat may occur within area	In buffer area only
Caladenia brumalis Winter Spider-orchid [54993]	Vulnerable	Species or species habitat may occur within area	In feature area
Caladenia tensa Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area	In feature area
Haloragis eyreana Prickly Raspwort [8737]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Prostanthera calycina West Coast Mintbush, Limestone Mintbush, Red Mintbush [9470]	Vulnerable	Species or species habitat may occur within area	In feature area
Pultenaea trichophylla Tufted Bush-pea [12715]	Endangered	Species or species habitat may occur within area	In buffer area only
Swainsona pyrophila Yellow Swainson-pea [56344]	Vulnerable	Species or species habitat may occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Unnamed (No.HA1052)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA1477)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA200)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA793)	Heritage Agreement	SA	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Attachment 2

Bushland Assessment Scoresheet

Vegetation Condition Scores

SITE:	A1
VEGETATION ASSOCIATION DESCRIPTION	Acacia spinescens +/- Bursaria spinosa ssp. very open shrubland over Ac
SIZE OF SITE (Ha)	0.076

Native Plant species diversity	
Score the diversity of species present in the site as a proportion to what would be expected in a vegetation of that community in very good condition (approaching a pre-European state)	
<5% (3 Points)	☐
5-10% (6 Points)	☐
11 - 20% (9 Points)	☐
21 - 30% (12 Points)	☐
31 - 40 % (15 Points)	☐
41 - 50% (18 Points)	☐
51 - 60% (21 Points)	☑
61 - 70% (24 Points)	☐
71 - 80% (27 Points)	☐
>80% (30 Points)	☐
Native Plant species diversity score (max score of 30)	**21**

Regeneration	
No regeneration present (0 Points)	☐
Very low regeneration, consisting of highly scattered juvenile plants of a limited number of species (3 points)	☑
Regeneration present, consisting of multiple individual juvinile plants but a limited number of species (6 points)	☐
Multiple species regenerating, but low numbers of juvenile plants (9 points)	☐
Multiple species regenerating with multiple individual juviniles present with varying age classes (12 points)	☐
Regeneration Score (Max 12)	3

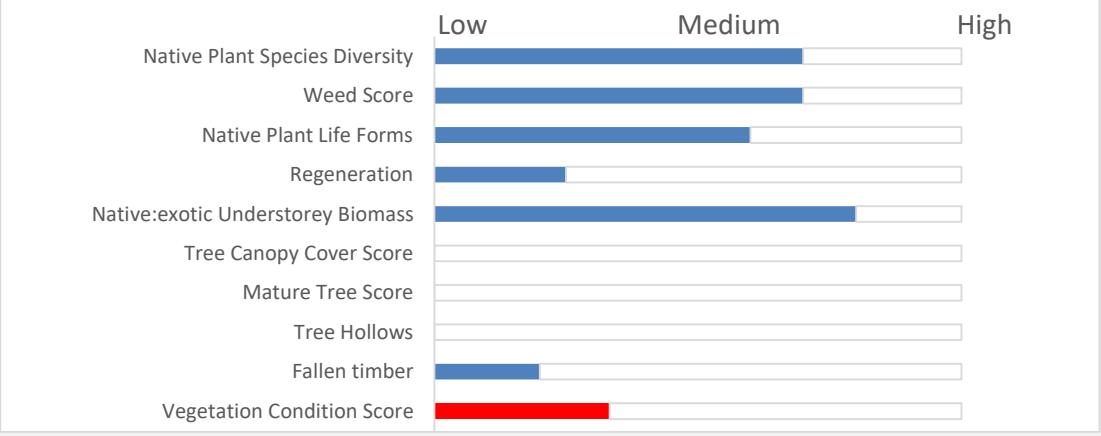
Weed Scores	
Does the site contain plant species declared under the *Landscape SA Act 2019* (1.5 points)	☑
Cover rating for all declared weeds (max of 6)	1
Does the site contain environmental weeds (introduced plants with the capacity to invade and exclude native species from bushland. This typically includes species with a BCM weed threat rating of 3, 4 or 5). (1 Point)	☑
Cover rating for all environmental weeds (max of 6)	3
Weed Score (max score of 15)	10.5

Is the community naturally treeless?	☐
Mature Tree Score (max 8)	**0**
Fallen timber/debris (max 5)	**1**
Hollow-bearing trees Score (max 5)	**0**
Tree Canopy Cover Score (max 5)	**0**
Native:exotic Understorey biomass score (max 5)	**4**

Native Plant life form	
All strata of vegetation heavily impacted and native vegetation represented by only scattered plants (4 points)	☐
All strata of vegetation impacted with limited structural diversity, largely uniform age classes and reduced vegetation cover (8 points)	☐
At least one strata of vegetation has been impacted, with reduced structural diversity, elements may be missing (such as plant species that provide specific structural features e.g. sedges or mid layer shrubs) and reduce vegetation cover (12 points)	☑
Limited impacts on native vegetation, with a diversity of structural features and a varied age class, with only a minor loss in structurally diversity, vegetation cover or structural elements (16 points)	☐
All strata of vegetation present, little or no sign of disturbance. A variety of life forms and associated age classes present. Vegetation cover near complete (20 points)	☐
Native Plant life form score (max 20)	12

Vegetation Condition Score calculation

Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms + Mature Trees + Fallen timber/debris + Hollow-bearing trees *If the community is naturally treeless this score is multiplied by 1.24*	37.00
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)	22.50
VEGETATION CONDITION SCORE (Positive veg attributes x ((Negative vegetation attributes + 60) / 80))	**26.59**



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?	Yes/No
State (Provisional List of Threatened Ecosystems of SA) **Rare** community (0.1 pt)	☐
State (Provisional List of Threatened Ecosystems of SA) **Vulnerable** community (0.2 pts)	☐
State (Provisional List of Threatened Ecosystems of SA) **Endangered** community (0.3 pts)	☐
Nationally (EPBC Act) V**ulnerable** community (0.35 pts)	☐
Contains a Nationally (EPBC Act) **Endangered** or **Critically Endangered** community (0.4 pts)	☐
Note; all sites will score a minimum Conservation Significance Score of 1 **Threatened CommuntiyScore**	1

Number of Threatened Flora Species recorded for the site (within the site)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species recorded (1 pt each)	0
State **Vulnerable** species recorded (2.5 pt each)	0
State **Endangered** recorded (5 pts each)	0
Nationally **Vulnerable** species recorded (10 pts each)	0
Nationally **Endangered** or **Critically endangered** species recorded (20 pts each)	0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16pts; 20 or > = 0.2 pts	**0**
Threatened Flora Score	0

Potential habitat for Threatened Fauna Species (number observed or previously recorded)	Number
**If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.*	
State **Rare** species observed or locally recorded (1 pt each)	0
State **Vulnerable** species observed or locally recorded (2.5 pt each)	0
State **Endangered** species observed or locally recorded (5 pt each)	0
Nationally **Vulnerable** species observed or locally recorded (10 pts each)	0
Nationally **Endangered** or **Critically endangered** species observed or locally recorded (20 pts each)	0
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts	**0**
Threatened Fauna Score	0

CONSERVATION SIGNIFICANCE SCORE	**1**

Total Scores for the Site

	Score
LANDSCAPE CONTEXT SCORE	**1.02**
VEGETATION CONDITION SCORE	**26.59**
CONSERVATION SIGNIFICANCE SCORE	**1.00**

Vegetation Condition x Landscape Context x Conservation Significance =	
UNIT BIODIVERSITY SCORE	27.12
Total Biodiversity Score (Biodiversity Score x hectares)	2.06

Photo Point and Vegetation Survey Location	**Direction of the Photo**
	GPS Reference
	Datum
	Zone (52, 53 or 54)
	Easting (6 digits)
	Northing (7 digits)
	Description

Attachment 3

Scattered Tree Assessment Scoresheet

Tree No.	Species name (plus form and location description)	Number of trees in a clump (enter 1 for individual trees)	Height (m)	Diameter at 1m above ground level (cm)	Dieback %	Number of Hollows			Suitability for fauna threatened species				Threatened sp.	Remnancy	Loss Factor
									Number of species				Tree species is; R = Rare V = Vulnerable E = Endangered	IBRA Assoc. % veg remaining	
						Small	Medim	Large	Uncommon	NP&W Act - Rare	NP&W Act - Endangered or Vulnerable (exclude EBPC	EPBC Listed spp.			
1	*Eucalyptus oleosa*	1	8.0	44.4	65			1						78	1.0
2	*Eucalyptus oleosa*	1	5.0	34.5	80									78	1.0
3	*Eucalyptus oleosa*	1	8.5	42.6	60		1							78	1.0
4	*Eucalyptus oleosa*	1	9.0	43.3	20									78	1.0
5	*Eucalyptus oleosa*	1	8.0	43.8	15	1								78	1.0
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Appendix 6 – EPBC Protected Matters Search

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 16-Jan-2025

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	23
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	4
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	3
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

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Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
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Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Sminthopsis psammophila Sandhill Dunnart [291]	Endangered	Species or species habitat likely to occur within area	In feature area
PLANT			
Acacia enterocarpa Jumping-jack Wattle [17615]	Endangered	Species or species habitat may occur within area	In feature area
Acacia pinguifolia Fat-leaved Wattle, Fat-leaf Wattle [5319]	Endangered	Species or species habitat may occur within area	In feature area
Angianthus phyllocalymmeus listed as Pleuropappus phyllocalymmeus Silver Candles [43575]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bossiaea peninsularis Sword Bossiaea [86647]	Endangered	Species or species habitat may occur within area	In buffer area only
Caladenia brumalis Winter Spider-orchid [54993]	Vulnerable	Species or species habitat may occur within area	In feature area
Caladenia tensa Greencomb Spider-orchid, Rigid Spider-orchid [24390]	Endangered	Species or species habitat likely to occur within area	In feature area
Haloragis eyreana Prickly Raspwort [8737]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Prostanthera calycina West Coast Mintbush, Limestone Mintbush, Red Mintbush [9470]	Vulnerable	Species or species habitat may occur within area	In feature area
Pultenaea trichophylla Tufted Bush-pea [12715]	Endangered	Species or species habitat may occur within area	In buffer area only
Swainsona pyrophila Yellow Swainson-pea [56344]	Vulnerable	Species or species habitat may occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Unnamed (No.HA1052)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA1477)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA200)	Heritage Agreement	SA	In buffer area only
Unnamed (No.HA793)	Heritage Agreement	SA	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix 7 – Search of the Register of Aboriginal Sites and Objects – Confidential – provided separately.

It is a legislative requirement to not allow the publication of Aboriginal heritage matters.

Appendix 8 – Drawing Set

567000E

568000E

6241000

6241000

6240000

6240000

TODHIGHWAY

TODHIGHWAY

CT5680/311
H551400 S60

CT5680/311
H551400 S85

CT5456/325
H551400 S52

MC 4579

CT5630/221
F214939 Q107

CT5680/311
H551400 S84

CT5680/311
H551400 S61

CT5680/311
H551400 S83

CT5456/325
H551400 S50

Legend:

- MC Boundary
- Cadastral Boundaries
- W Watermains
- E Powerlines
- Highways
- Residential Receptors
- Commercial Infrastructure over $2500

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Google Satellite Imagery accessed: 28-March-2025
Topography:
Cadastre:
Ecosystem:
Other: SARIG, 2024

N

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Land Access Map

GROUNDWORK plus
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:5,000 When Printed On A3 (0 20 40 60 80 m)

DRAWING NUMBER: 5199.DRG.004

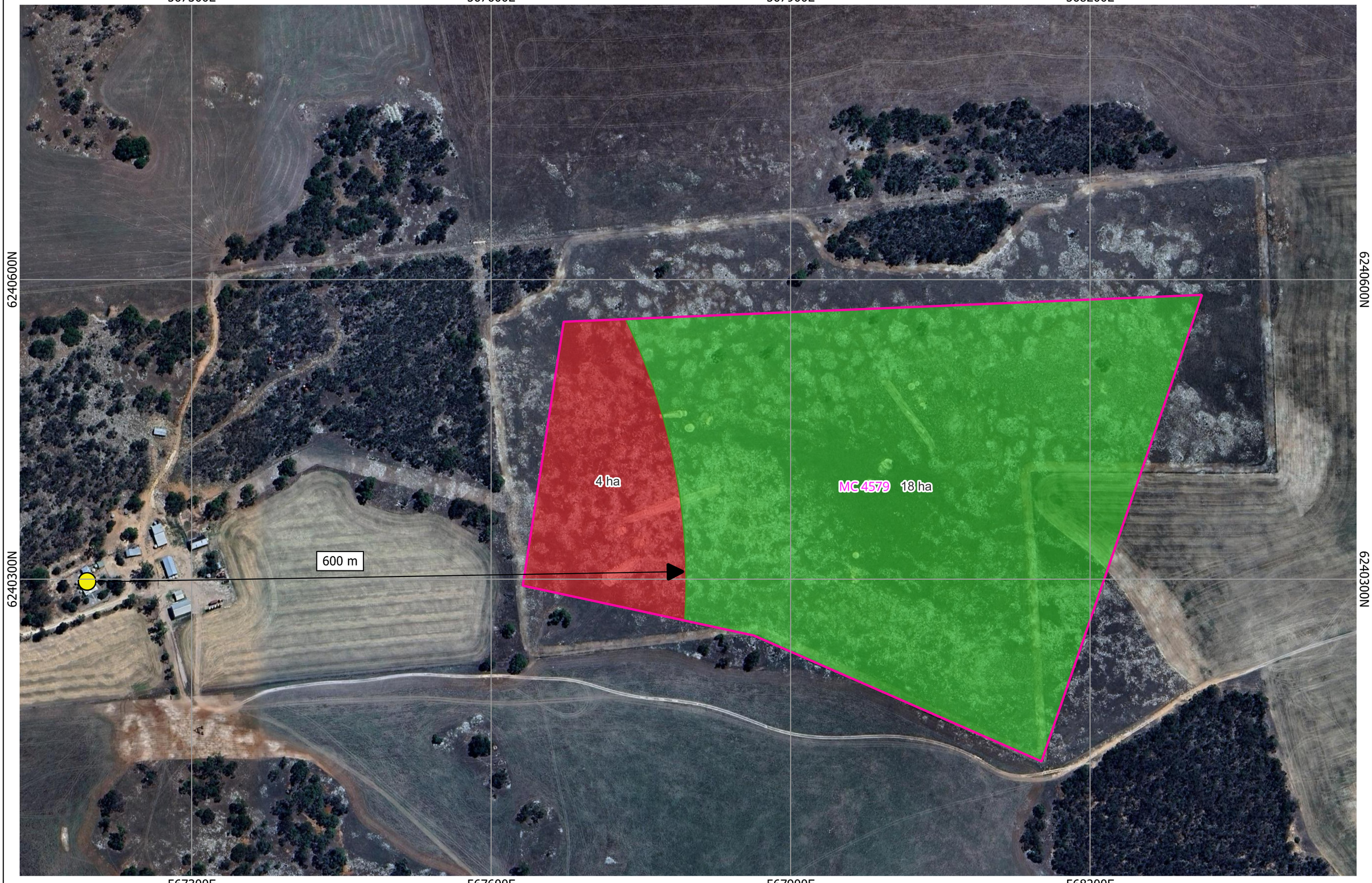
REVISION:

DATE: 28-March-2025 DRAWN: EM

PRINTED: 28-March-2025 CHECKED: MJ

DATUM: HORIZONTAL / VERTICAL / EPSG:7853

MGA / AHD / 53



REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Google Satellite Imagery accessed: 17-September-2024
Topography:
Cadastre: Data.sa.gov.au;Boundaries are Indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2024

Legend:
- MC Boundary
- No Blast Zone
- Acceptable Blasting Zone
- Residential Receptors

N

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Blasting Areas Map

GROUNDWORK PART OF SLR
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:3,500 When Printed On A3 (0 10 20 30 40 m)

DRAWING NUMBER: 5199.DRG.006

REVISION:

DATE: 17-September-2024 DRAWN: LO

PRINTED: 17-September-2024 CHECKED: EM

DATUM: HORIZONTAL / VERTICAL / EPSG:7853
MGA / AHD / 53

567000E

568000E

6240000

6240000

MC 4579

CT5456/325
H551400 S52

CT5456/325
H551400 S50

CT5680/311
H551400 S61

CT5680/311
H551400 S83

Legend:

- MC Boundary
- Cadastral Boundaries
- 150 m Exempt Land Buffer Commercial Infrastructure
- 150 m Exempt Land Buffer Powerline
- 150 m Exempt Land Buffer Watermain
- 400 m Exempt Land Buffer Residential
- Cropped Land Within Tenement
- E Powerlines
- W Watermains
- Residential Receptors
- Commercial Infrastructure over $2500

567000E

568000E

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: UAV Survey 20231114; Google Satellite Imagery accessed: 11-February-2025
Topography: UAV Survey 20231114
Cadastre: Data.sa.gov.au;Boundaries are indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

N

PROJECT: Karkoo

CLIENT: TN & BR Modra Pty Ltd ATF TN & BR Modra Family Trust

TITLE: Exempt Land Map

GROUNDWORK plus
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:5,000 When Printed On A3 (0 20 40 60 80 m)

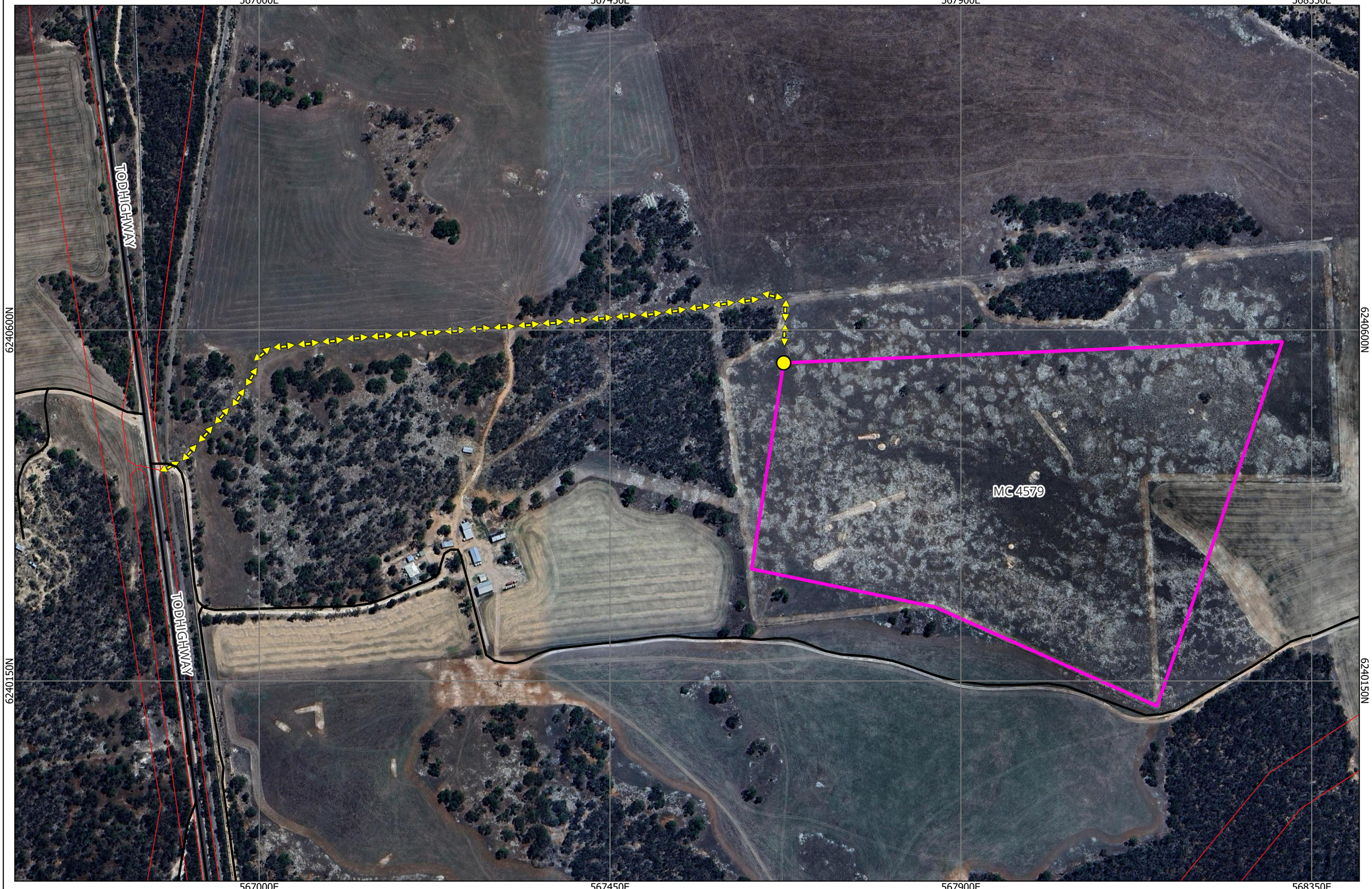
DRAWING NUMBER: 5199.DRG.007

REVISION:

DATE: 11-February-2025 DRAWN: EM

PRINTED: 11-February-2025 CHECKED: MJ

DATUM: HORIZONTAL / VERTICAL / EPSG:7853
MGA / AHD / 53



REV	DESCRIPTION	DATE	BY
		14/02/2025	

Data Sources:
Photography: Google Satellite Imagery accessed: 14-February-2025
Topography:
Cadastre: Data.sa.gov.au;Boundaries are indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:
- MC Boundary
- Cadastral Boundaries
- Site Entry Point
- Site Access Track
- Roads

N

PROJECT: Modra's Quarry

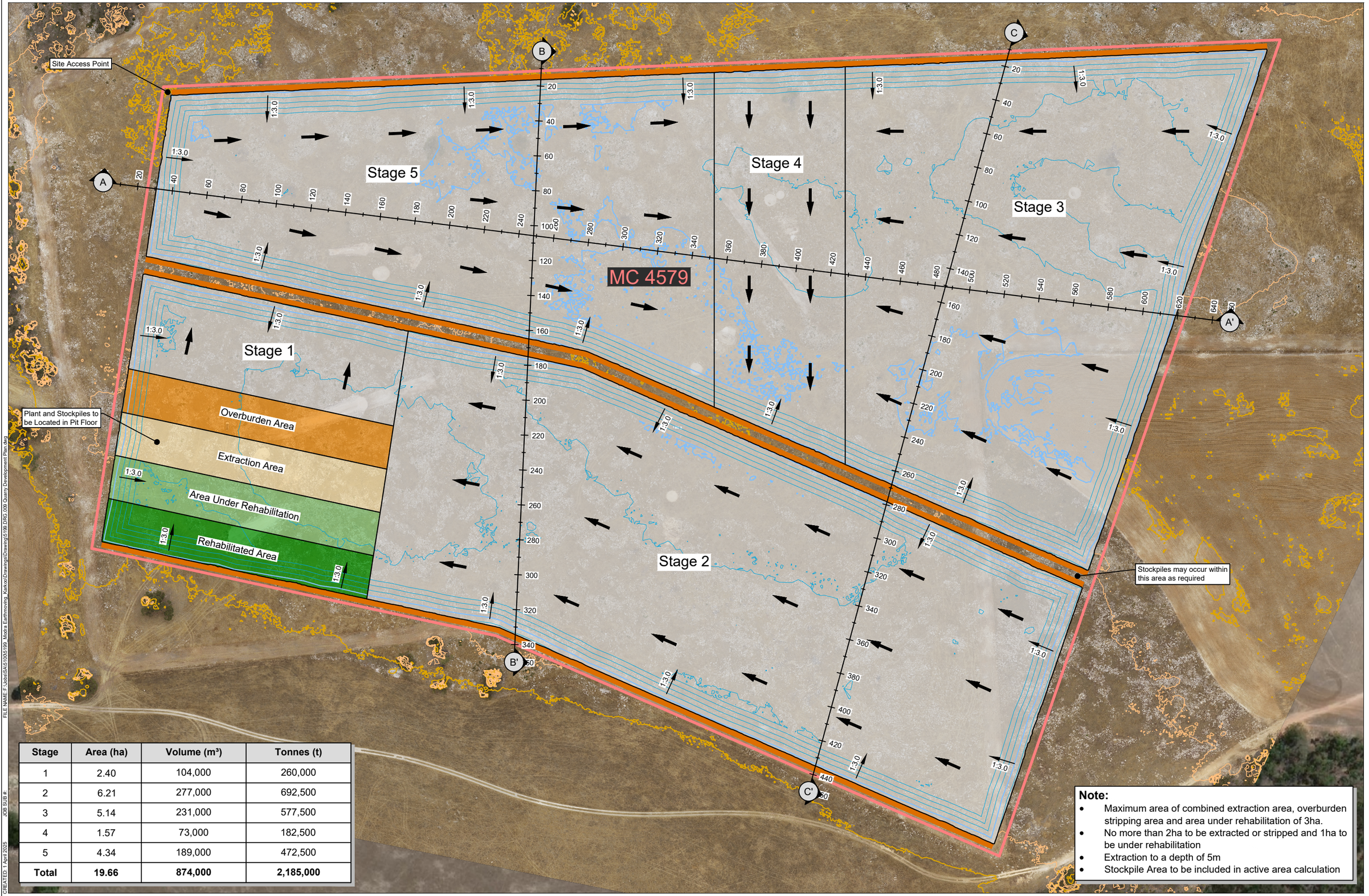
CLIENT: TN & BR Modra Pty Ltd

TITLE: Site Access Map

GROUNDWORK PART OF SLR
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:4,500 When Printed On A3
0 20 40 60 80 m
DATE: 14-February-2025 DRAWN: LO
PRINTED: 14-February-2025 CHECKED:

DRAWING NUMBER: 5199.DRG.008
REVISION:
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 53



Stage	Area (ha)	Volume (m³)	Tonnes (t)
1	2.40	104,000	260,000
2	6.21	277,000	692,500
3	5.14	231,000	577,500
4	1.57	73,000	182,500
5	4.34	189,000	472,500
Total	**19.66**	**874,000**	**2,185,000**

Note:

- Maximum area of combined extraction area, overburden stripping area and area under rehabilitation of 3ha.
- No more than 2ha to be extracted or stripped and 1ha to be under rehabilitation
- Extraction to a depth of 5m
- Stockpile Area to be included in active area calculation

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork part of SLR, UAV Survey, 2023/11/14
Topography: Groundwork part of SLR, UAV Survey, 2023/11/14, DSM 50cm
Cadastre:
Ecosystem:
Other: © 2024 Microsoft Corporation; © 2024 Maxar; © CNES (2024) Distribution Airbus DS

Legend:
- Mineral Claim
- Topsoil Stockpile
- Staged Extraction Area
- Direction of Extraction

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

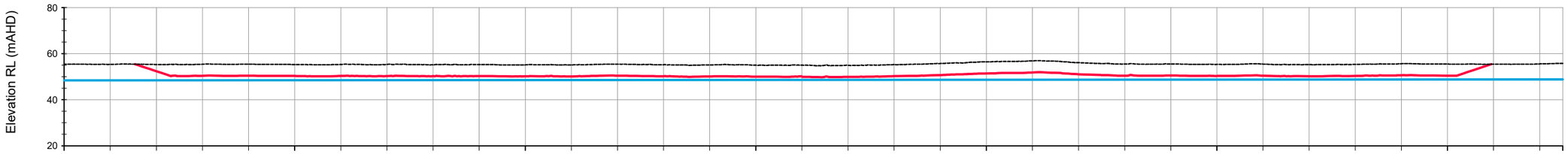
TITLE: Quarry Development Plan

GROUNDWORK PART OF SLR
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:2,000 When Printed On A3 (0 – 40m)
DRAWING NUMBER: 5199.DRG.009A
REVISION:
DATE: 1 April 2025 | DRAWN: CP
PRINTED: 1 April 2025 | CHECKED: EM
DATUM: HORIZONTAL / VERTICAL / ZONE: GDA94 / MGA / AHD / 53

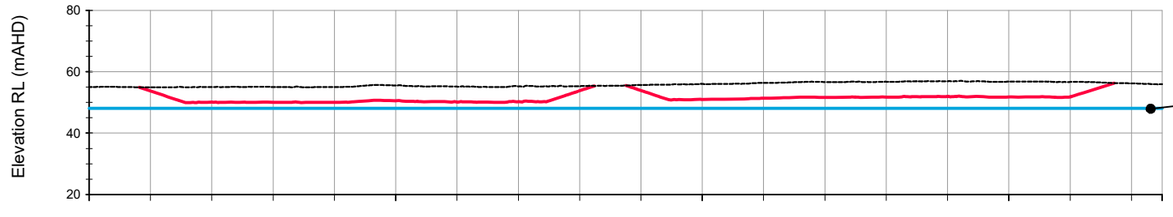
FILE NAME: F:\Jobs\SA\51005199_Modra Earthmoving_Karkoo\Drawings\Drawing\5199.DRG.009 Quarry Development Plan.dwg
JOB SUB #:
CREATED: 1 April 2025

Section A-A'



Chainage	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	650
Existing Level	55.3	55.3	55.4	55.4	55.3	55.3	55.3	55.2	55.3	55.1	55.1	55.4	55.2	55.1	55.0	55.0	54.9	55.2	55.7	56.4	56.9	56.1	55.5	55.5	55.3	55.5	55.2	55.3	55.6	55.6	55.4	55.5	55.8
Design Level		52.4	50.4	50.4	50.3	50.3	50.3	50.2	50.3	50.2	50.1	50.4	50.2	50.1	50.0	50.0	49.9	50.2	50.7	51.4	51.8	51.1	50.5	50.5	50.3	50.5	50.2	50.3	50.6	50.5			
Pit Depth		2.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1			

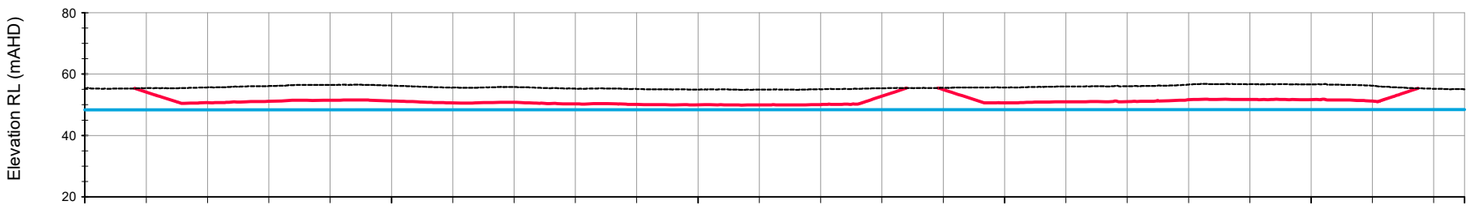
Section B-B'



Ground water investigation conducted to 7m below ground level. No ground water was detected.

Chainage	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	350
Existing Level	55.0	55.0	55.0	55.0	55.6	55.2	55.2	55.3	55.6	56.1	56.4	56.6	56.8	56.9	56.8	56.7	56.2	55.9
Design Level	53.7	50.1	50.0	50.0	50.5	50.1	50.2	53.8	53.9	51.0	51.4	51.6	51.7	51.9	51.8	51.8		
Pit Depth	1.3	4.9	5.0	5.0	5.0	5.1	5.0	1.5	1.8	5.1	5.0	5.0	5.0	5.0	4.9	4.9		

Section C-C'



Chainage	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	450
Existing Level	55.4	55.7	56.1	56.4	56.3	55.6	55.8	55.3	55.2	55.0	55.0	55.1	55.4	55.5	55.6	56.0	56.0	56.6	56.7	56.6	56.2	55.2	55.1
Design Level	54.1	50.7	51.1	51.5	51.2	50.6	50.8	50.3	50.1	50.0	50.0	50.1	52.8	54.9	50.6	51.0	51.0	51.6	51.7	51.6	51.2		
Pit Depth	1.3	5.0	5.0	5.0	5.0	5.0	5.0	4.9	5.0	5.0	5.0	5.0	2.6	0.6	5.0	5.0	5.0	4.9	5.0	5.0	5.0		

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography: Groundwork part of SLR, UAV Survey, 2023/11/14, DSM 50cm
Cadastre:
Ecosystem:
Other:

Legend:
- Existing Ground Surface
- Pit Design Surface
- Ground Water Investigation Depth

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Quarry Development Plan - Sections A-A' to C-C'

GROUNDWORK PART OF SLR
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:2,000 When Printed On A3 — 0 — 40m
DRAWING NUMBER: 5199.DRG.009B
REVISION:
DATE: 1 April 2025 | DRAWN: CP
PRINTED: 1 April 2025 | CHECKED: EM
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 53

CREATED: 1 April 2025 JOB SUB #: FILE NAME: F:\Jobs\SA\51005199_Modra Earthmoving_Karkoo\Drawings\Drawing\5199.DRG.009 Quarry Development Plan.dwg

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Groundwork part of SLR, UAV Survey, 2023/11/14
Topography: Groundwork part of SLR, UAV Survey, 2023/11/14, DSM 50cm
Cadastre:
Ecosystem:
Other: © 2024 Microsoft Corporation; © 2024 Maxar; © CNES (2024) Distribution Airbus DS

Legend:
- Mineral Claim
- Rehabilitated Area

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

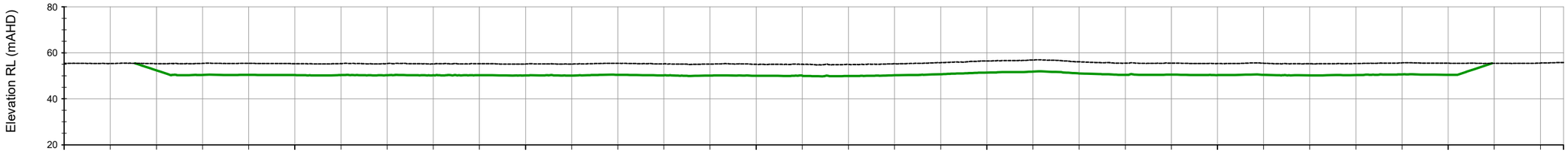
TITLE: Conceptual Final Landform Plan

GROUNDWORK PART OF SLR
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:2,000 When Printed On A3 — 0 — 40m
DRAWING NUMBER: 5199.DRG.010A
REVISION:
DATE: 2 December 2024
DRAWN: CP
PRINTED: 2 December 2024
CHECKED: EM
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 53

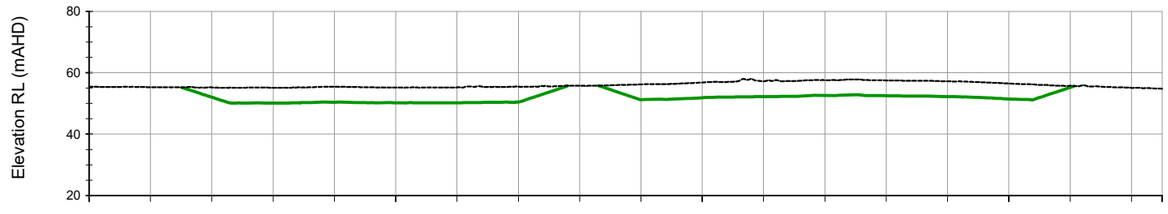
CREATED: 2 December 2024 JOB SUB # FILE NAME:F:\Jobs\SAS\10051\99_Modra Earthmoving_Karkoo\Drawings\Drawing\5199.DRG.010 Conceptual Final Landform Plan.dwg

Section A-A'



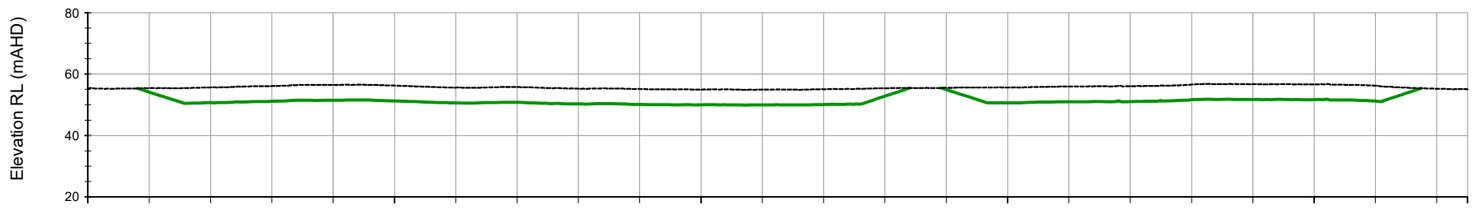
Chainage	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	520	540	560	580	600	620	640	650
Existing Level	55.3	55.3	55.4	55.4	55.3	55.3	55.3	55.2	55.3	55.1	55.1	55.4	55.2	55.1	55.0	55.0	54.9	55.2	55.7	56.4	56.9	56.1	55.5	55.5	55.3	55.5	55.2	55.3	55.6	55.6	55.4	55.5	55.8
Design Level		52.4	50.4	50.4	50.3	50.3	50.3	50.2	50.3	50.2	50.1	50.4	50.2	50.1	50.0	50.0	49.9	50.2	50.7	51.4	51.8	51.1	50.5	50.5	50.3	50.5	50.2	50.3	50.6	50.5			
Pit Depth		2.9	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1			

Section B-B'



Chainage	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	350
Existing Level	55.3	55.3	55.1	55.4	55.2	55.2	55.5	55.7	56.2	56.8	57.2	57.6	57.5	57.2	56.5	55.8	55.1	54.8
Design Level		52.0	50.1	50.4	50.2	50.2	50.4		51.2	51.8	52.2	52.6	52.5	52.2	51.5	55.2		
Pit Depth		3.2	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.6		

Section C-C'



Chainage	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	450
Existing Level	55.4	55.7	56.1	56.4	56.3	55.6	55.8	55.3	55.2	55.0	55.0	55.1	55.4	55.5	55.6	56.0	56.0	56.6	56.7	56.6	56.2	55.2	55.1
Design Level	54.1	50.7	51.1	51.5	51.2	50.6	50.8	50.3	50.1	50.0	50.0	50.1	52.8	54.9	50.6	51.0	51.0	51.6	51.7	51.6	51.2		
Pit Depth	1.3	5.0	5.0	5.0	5.0	5.0	5.0	4.9	5.0	5.0	5.0	5.0	2.6	0.6	5.0	5.0	5.0	4.9	5.0	5.0	5.0		

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography: Groundwork part of SLR, UAV Survey, 2023/11/14, DSM 50cm
Cadastre:
Ecosystem:
Other:

Legend:
Existing Ground Surface
Pit Design Surface

PROJECT: Modra's Quarry

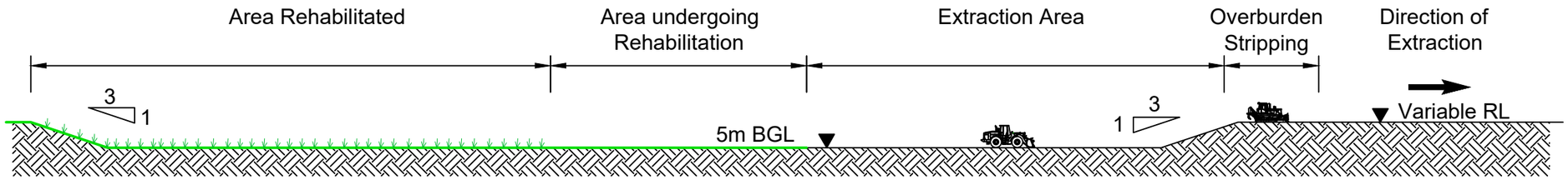
CLIENT: TN & BR Modra Pty Ltd

TITLE: Conceptual Final Landform Plan - Sections A-A' to C-C'

GROUNDWORK PART OF SLR
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: 1:2,000 When Printed On A3 (0 — 40m)
DRAWING NUMBER: 5199.DRG.010B
REVISION:
DATE: 2 December 2024 DRAWN: CP
PRINTED: 2 December 2024 CHECKED: EM
DATUM: HORIZONTAL / VERTICAL / ZONE
GDA94 / MGA / AHD / 53

CREATED: 2 December 2024 JOB SUB #: FILE NAME: P:\Jobs\SAS\51005199_Modra Earthmoving_Karkov\Drawings\Drawing\5199.DRG.010 Conceptual Final Landform Plan.dwg



Note:
As the extraction area develops in the direction of extraction, the rear of the extraction area can begin undergoing rehabilitation

CREATED: 2 December 2024 JOB SUB #: FILE NAME: F:\Jobs\SA\S1005\5199_Modra Earthmoving, Karkoo\Drawings\Drawing\5199.DRG.011 Quarry Development Cross Section.dwg

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography:
Topography:
Cadastre:
Ecosystem:
Other:

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Quarry Development Cross Section

GROUNDWORK PART OF SLR
PH: +61 7 3871 0411
WWW.GROUNDWORK.COM.AU

SCALE: NTS When Printed On A3 0

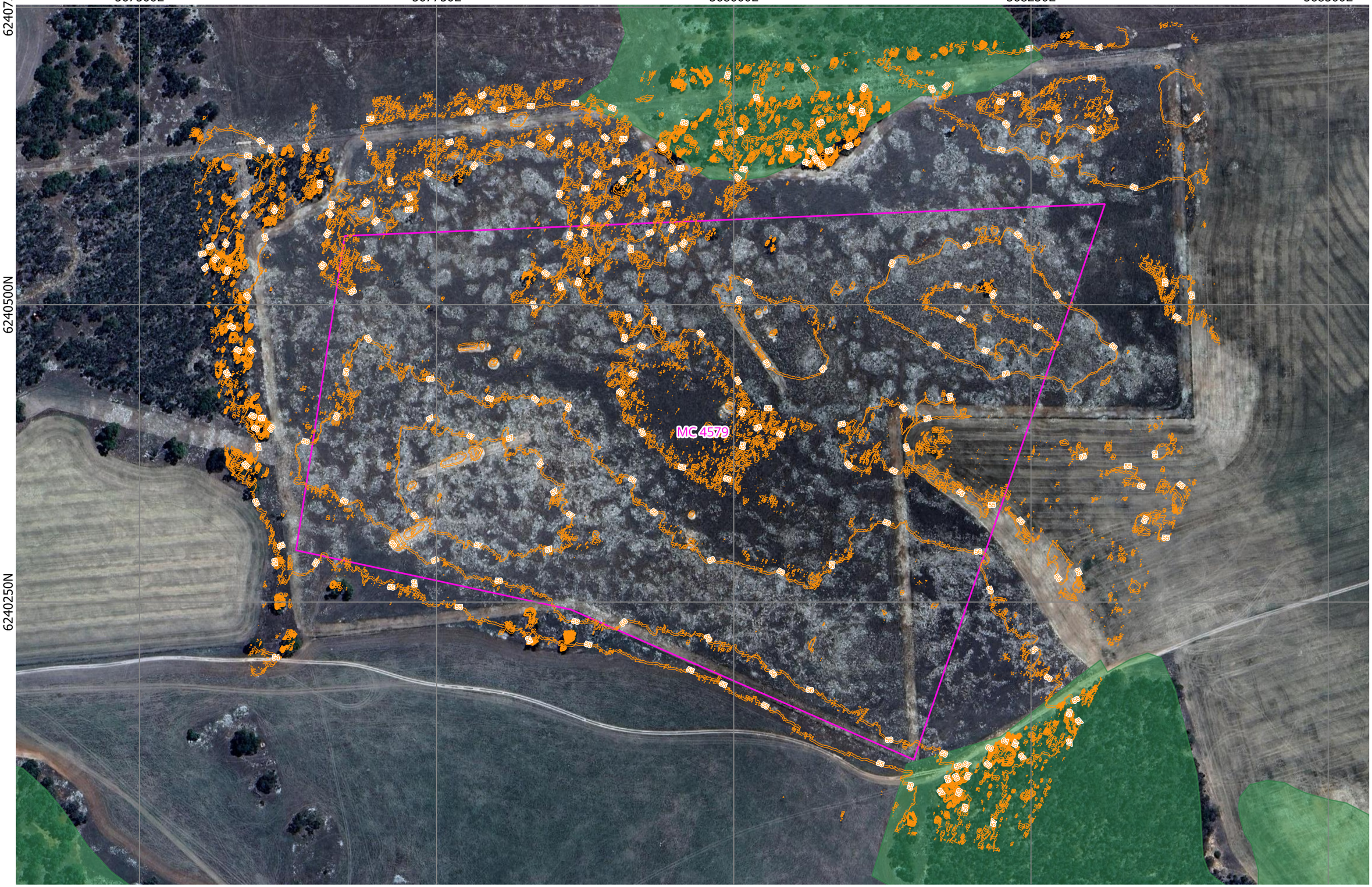
DRAWING NUMBER: 5199.DRG.011

REVISION:

DATE: 2 December 2024 DRAWN: CP

PRINTED: 2 December 2024 CHECKED: EP

DATUM: HORIZONTAL / VERTICAL / ZONE / /



REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Google Satellite Imagery accessed: 27-March-2025
Topography: 1 m Contours; UAV Survey 2023-11-14
Cadastre: Data.sa.gov.au;Boundaries are indicative only, not all boundaries shown
Ecosystem:
Other: SARIG, 2025

Legend:
- MC Boundary

Terrestrial GDE's
- Moderate Potential GDE

N

PROJECT: Modra's Quarry

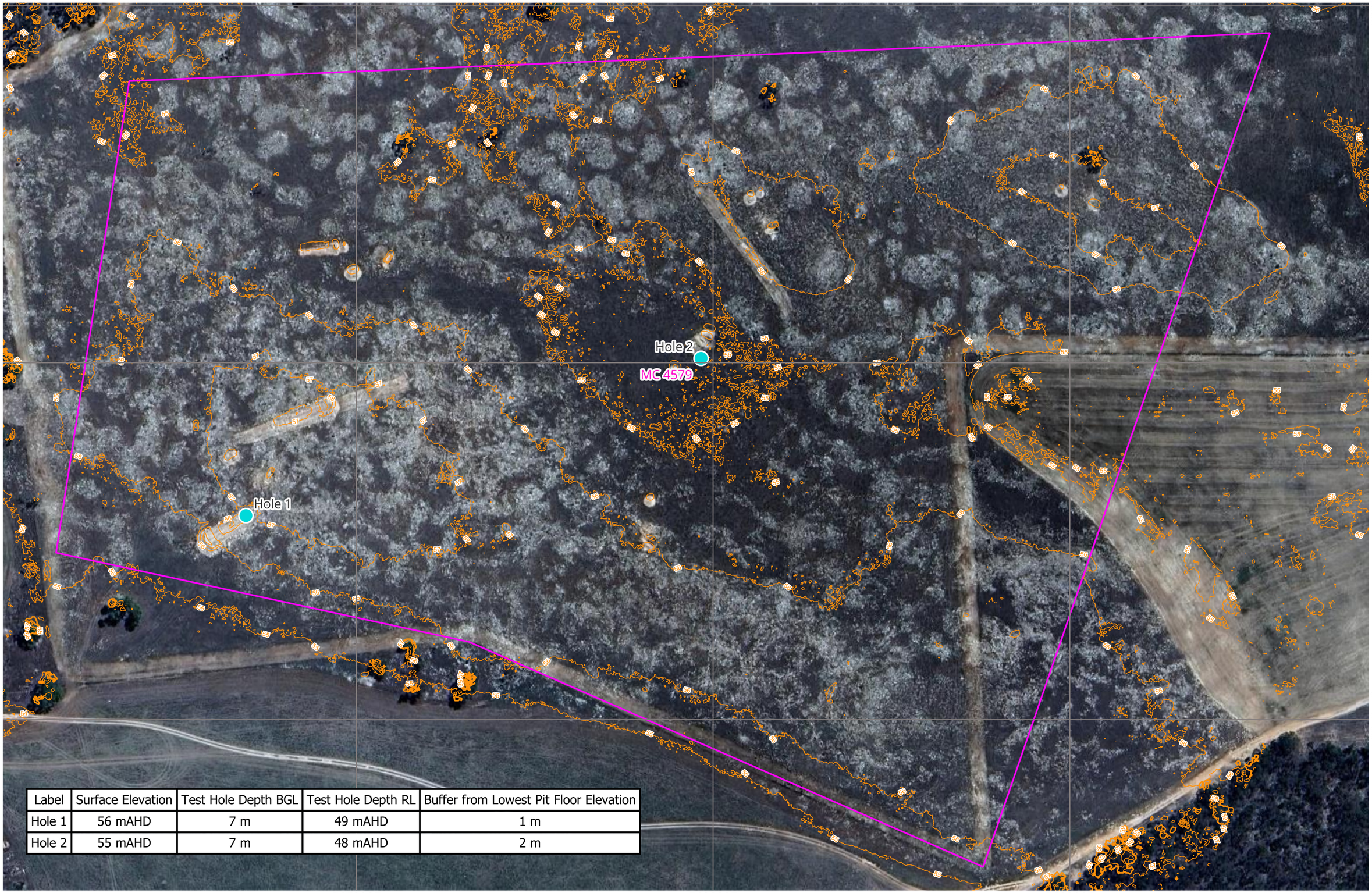
CLIENT: TN & BR Modra Pty Ltd

TITLE: Topographic Map

GROUNDWORK PART OF SLR
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:3,000 When Printed On A3 (0 10 20 30 40 m)
DATE: 27-March-2025 DRAWN: LO
PRINTED: 27-March-2025 CHECKED:

DRAWING NUMBER: 5199.DRG.015
REVISION:
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 53



Label	Surface Elevation	Test Hole Depth BGL	Test Hole Depth RL	Buffer from Lowest Pit Floor Elevation
Hole 1	56 mAHD	7 m	49 mAHD	1 m
Hole 2	55 mAHD	7 m	48 mAHD	2 m

REV	DESCRIPTION	DATE	BY

Data Sources:
Photography: Google Satellite Imagery accessed: 26-March-2025
Topography: UAV Survey 2023-11-14, DSM 50cm
Cadastre:
Ecosystem:
Other: SARIG, 2025

Legend:
- MC Boundary
- Groundwater Investigation Holes

N

PROJECT: Modra's Quarry

CLIENT: TN & BR Modra Pty Ltd

TITLE: Groundwater Investigation Map

GROUNDWORK PART OF SLR
PH +61 3871 0411
WWW.GROUNDWORKPLUS.COM.AU

SCALE: 1:2,000 When Printed On A3
0 10 20 30 40 m
DATE: 26-March-2025
PRINTED: 26-March-2025
DRAWN: LO
CHECKED:

DRAWING NUMBER: 5199.DRG.016
REVISION:
DATUM: HORIZONTAL / VERTICAL / EPSG:7854
MGA / AHD / 53