

# **DEVELOPMENT APPLICATION**

## **SUPPORTING INFORMATION**

### **EXTRACTION PIT - LIMESAND, LUGHRATA PALANA ROAD, FLINDERS ISLAND**



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- Attachment 1 Land Titles
- Attachment 2 DPIPWE 2009 Potential Acid Sulfate Soil Test program - Arbothnots Lagoon, Flinders Island

**ABBREVIATIONS / GLOSSARY**

DPIPWE	Department of Primary Industries, Parks, Water and Environment
EMPCA	<i>Environmental Management and Pollution Control Act 1994 (Tas)</i>
FC	Flinders Council
LUPAA	<i>Land Use Planning and Approvals Act 1993 (Tas)</i>
QCP	<i>Tasmanian Quarry Code of Practice 2017</i>

## **PART A – BACKGROUND INFORMATION**

The development and use (extraction pit) is located on private freehold land accessed via Palana Road in the Flinders Island Municipality (Figures 1 and 3). The land is in the Marshall Bay region which is approximately 19 north - northwest of Whitemark, the main township on the island.

### **A.1 PROPOSED ACTIVITY**

The **Extraction Pit** will include the extraction of material in the following manner:

- surface site preparation by vegetation and topsoil removal and stockpiling;
- excavation of material with a bulldozer and/or excavator;
- occasional stockpiling of material in the pit area (most will be ‘hot loaded’ into trucks for delivery to agricultural lands);
- occasional screening (less than 1,000 cubic metres per annum) to remove coarse vegetative/root debris and/or rocks and stones;
- loading trucks with wheel loader from the pit face and/or stockpile area; and the
- transport of lime sand by truck.

The extraction pit has existed for some time, being a pit from which the current landowner has extracted material for their own farm use.

### **A.2 PROPONENT**

The proponent, Davrol Rural Management Pty Ltd, owns and operates a pastoral enterprise on Flinders island.

The contact details for the company and contact person are –

Davrol Rural Management Pty Ltd

Mr David Gibbons

ACN - 062950645

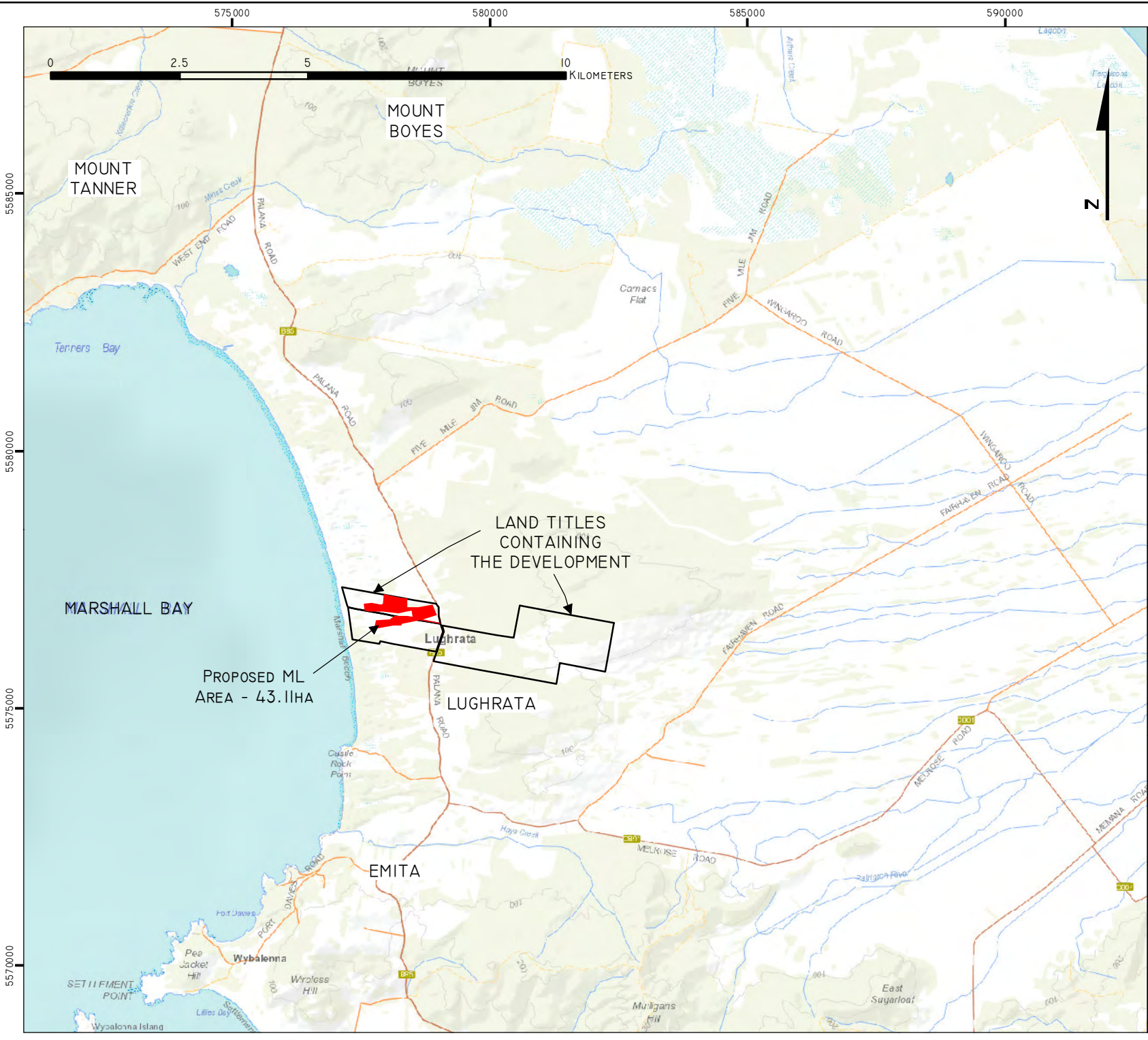
Address: 1210 Lackrana Road, Palana Flinders Island 7255

### **A.3 LAND DETAILS**

Land Titles – 154620/2 and 160313/1 (see Figure 2 and Attachment 1)

Planning Zones (*Flinders Planning Scheme 2000*) – Rural (see Figure 4A)

Special Areas (*Flinders Planning Scheme 2000*) – Ecologically Sensitive and Unstable Ground (see Figure 4B)



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LUGHRATA LIMESAND PIT

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FIGURE I: LOCATION OF LUGHRATA LIMESAND PIT

TASMAP: EMITA 5657	LGA: FLINDERS
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PROPOSED ML BOUNDARY


LAND TITLES

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BASE IMAGE BY TASMAP. © STATE OF TASMANIA



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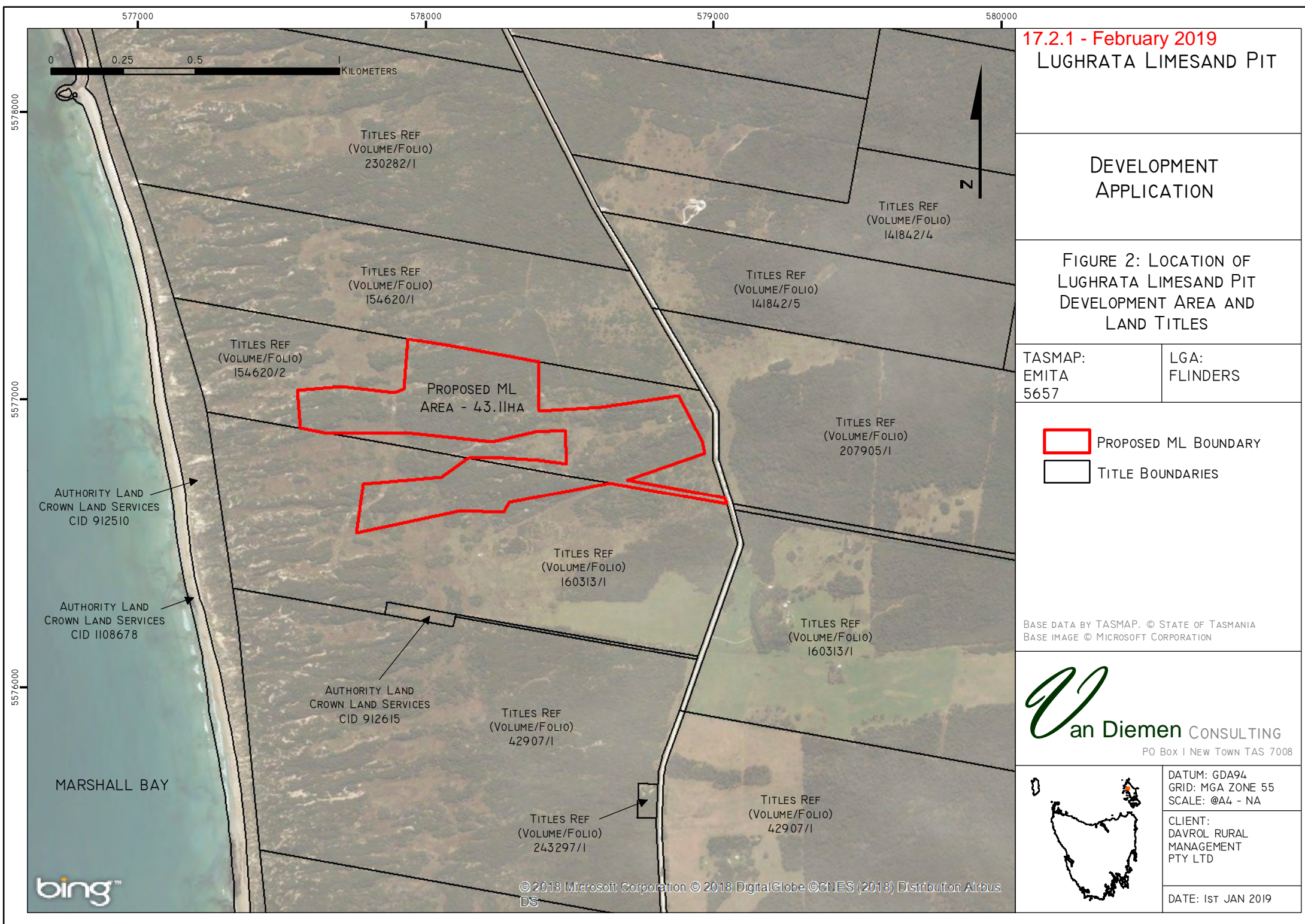


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CLIENT:  
DAVROL RURAL  
MANAGEMENT  
PTY LTD

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
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FIGURE 2: LOCATION OF  
LUGHRATA LIMESAND PIT  
DEVELOPMENT AREA AND  
LAND TITLES

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

-  PROPOSED ML BOUNDARY
-  TITLE BOUNDARIES

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FIGURE 3:  
LUGHRATA LINESAND PIT  
ACCESS/EGRESS

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

 PROPOSED ML BOUNDARY

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## **PART B - PROJECT DESCRIPTION**

### **B.1 EXTRACTION LIMIT**

The maximum extracted volume is 4,999 cubic metres per annum. This makes it a Level 1 activity pursuant to the *Environmental Management and Pollution Control Act 1999*.

### **B.2 EXTRACTION METHODS**

The extraction of material will be in accordance with the following:

- surface site preparation by vegetation and topsoil removal and stockpiling;
- excavation of material with a bulldozer and/or excavator;
- occasional stockpiling of material in the pit area (most will be 'hot loaded' into trucks for delivery to agricultural lands);
- occasional screening (less than 1,000 cubic metres per annum) to remove coarse vegetative/root debris and/or rocks and stones;
- loading trucks with wheel loader from the pit face and/or stockpile area; and the
- transport of lime sand by truck.

The approximate layout of the pit at year 10 (based on the maximum annual extraction of 4,999m<sup>3</sup>) is shown in Figure 5A with a corresponding cross-section shown in Figures 5B.

### **B.3 OPERATING HOURS**

Operating hours for the extraction pit are those recommended in the *Tasmanian Quarry Code of Practice 1999* – 0700 to 1900 hrs Monday to Friday, 0800 to 1600 hrs on Saturday; closed on Sunday and public holidays.

Most truck movements are projected to occur between 0700 and 1800 hrs on Monday to Friday with low volume movements after that time (ie. from 1800 to 1900 hrs after which time the extraction pit will close as per the operating hours). Trucks may access the extraction pit on Saturday between the hours of 0800 and 1600.

### **B.4 EQUIPMENT**

The following equipment and machinery are likely to be used in the operation -

- 1 x excavator;
- 1 x bulldozer;
- 1 x loader;
- 1 x vibratory screen; and
- Trucks (with or without trailer).

### **B.5 ACCESS ROAD**

Access will be from the existing entrance off Palana Road (Figure 3).

### **B.6 LAYOUT**

The approximate proposed layout of the extraction pit is shown in Figure 5A.

**B.6.1 Infrastructure**

A sediment pond of a minimum holding capacity of 50,000 litres will be constructed adjacent to the pit. The sediment pond will be occasionally filled in with sand and reconstructed as the pit moves northwards and eastwards with extraction activities.

Stockpiled material will be stored adjacent to the active pit for truck loading.

An informal area (unsealed) for vehicle parking will be constructed near the pit.

**B.6.2 Amenities**

No toilets, showers or office are proposed.

**B.7 RESOURCE/EXTRACTION AREAS**

The Mining Lease (proposed) is the area from within which material may be extracted as part of the extraction activity. The extraction pit shape and form at year 10 of extraction is approximately shown in Figure 5c, with a cross section through the pit shown in Figure 5b.

**B.8 VEGETATION REMOVAL AND MANAGEMENT**

The removal of vegetation will only occur as the area is required for pit expansion or the establishment of specific infrastructure, such as a cut-off drain, stockpile location etc.

The management of vegetation removed to extract the resource will be in accordance with the QCP.

**B.9 TOPSOIL REMOVAL AND MANAGEMENT**

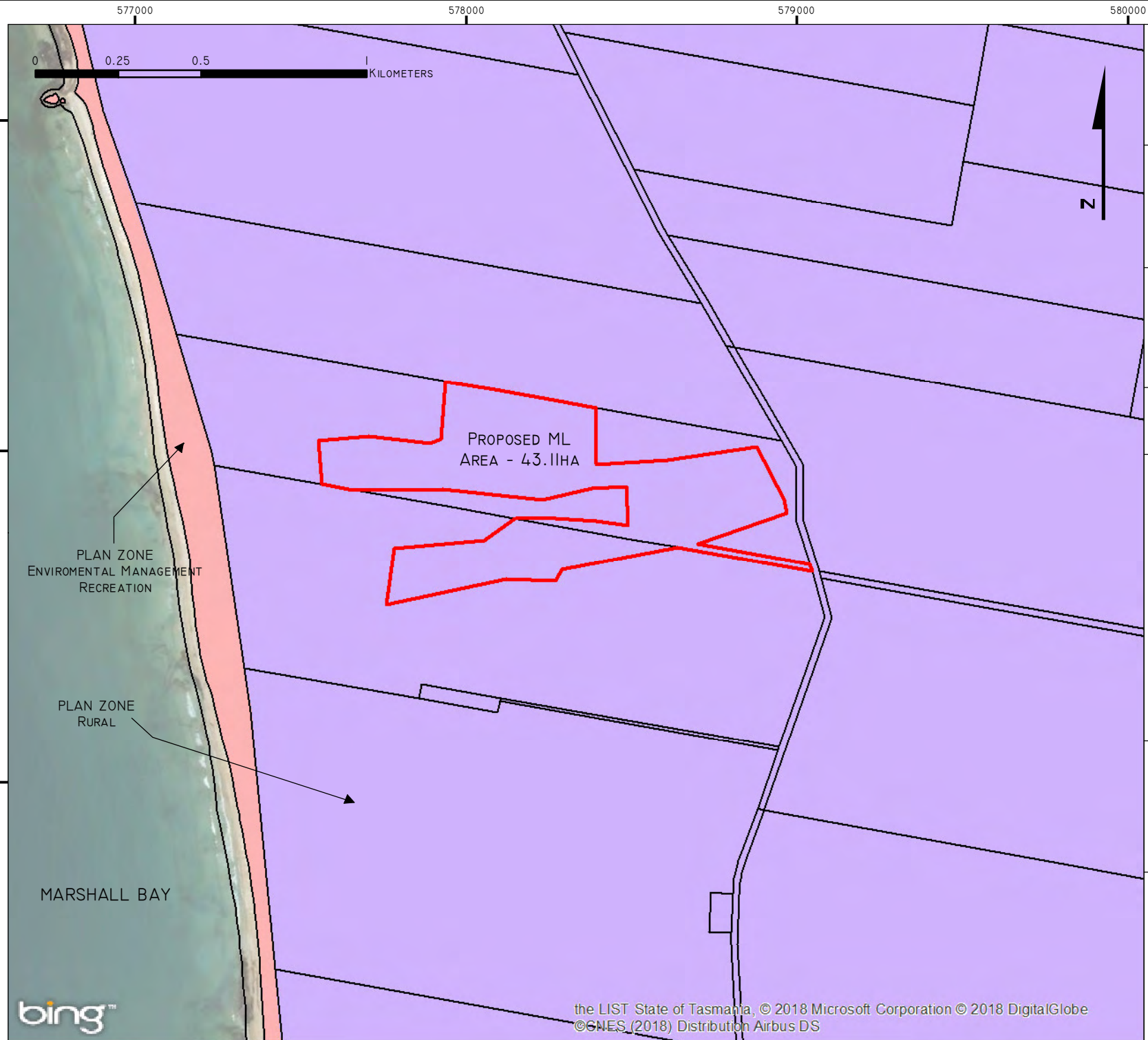
Topsoil will be stripped, excavated and stockpiled in bunds to (i) channel water away from the active extraction pit face and (ii) to direct water flowing within the pit into a series of drains and then into a sediment pond. The topsoil stockpiles will be managed via a weed spraying program to prevent significant weed incursions.

The management of topsoils removed to extract the resource will be in accordance with the QCP.

**B.10 TRAFFIC MOVEMENTS**

Light vehicles will access the extraction pit from the existing access off Palana Road (Figure 3). Light vehicles accessing the property to attend the extraction pit could be up to 3 per day (6 movements per day).

Based on a 1.5 tonne/metre<sup>3</sup> conversion ratio the maximum volume of 4,999 cubic metres equates to approximately 7,500 tonnes. This tonnage equates to about 250 truckloads (based on 30 tonne capacity trucks) or 500 movements per annum from the extraction pit at full production. This is about 6 truck movements per day from the extraction pit based on 80 haul days (NB – 80 haul days is approximately 4-5 months of haulage which would occur the late summer/autumn and spring months). Truck movements could be as high as 10 movements per day (5 trucks) during peak periods of demand such as autumn and spring.



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FIGURE 4A: ZONE MAP -  
FLINDERS PLANNING  
SCHEME 2000

TASMAP:

LGA:  
FLINDERS

- PROPOSED ML BOUNDARY
- TITLE BOUNDARIES

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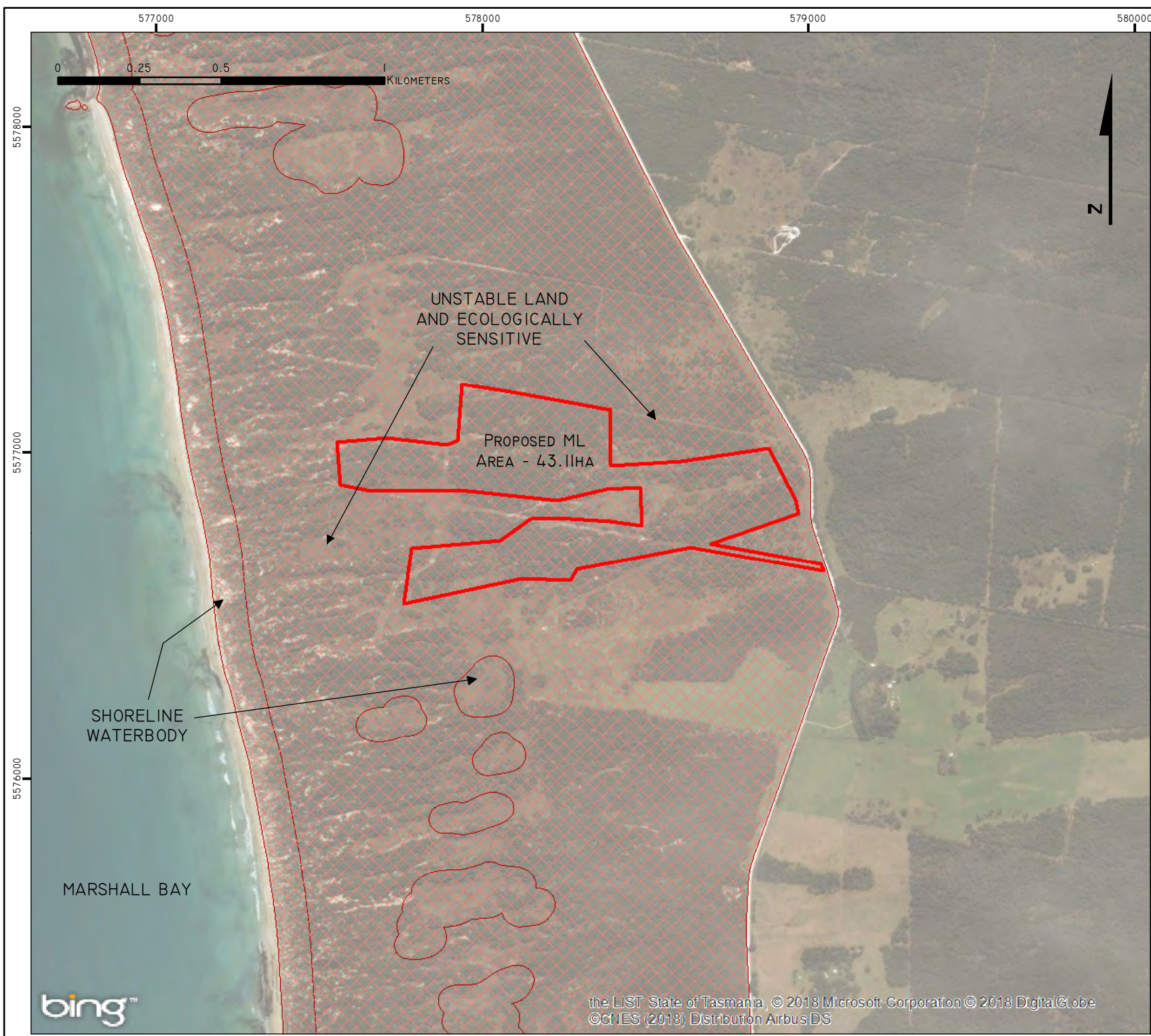


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FIGURE 4B: SPECIAL AREAS -  
FLINDERS PLANNING  
SCHEME 2000

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

 PROPOSED ML BOUNDARY

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578550

578600

578650


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FIGURE 5A: MINE PLAN  
(BASED ON 4999M<sup>3</sup> PA  
(EXTRACTED PRODUCT)  
FOR 10 YEARS)

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

— IM CONTOUR (APPROX)  
 PROPOSED ML BOUNDARY

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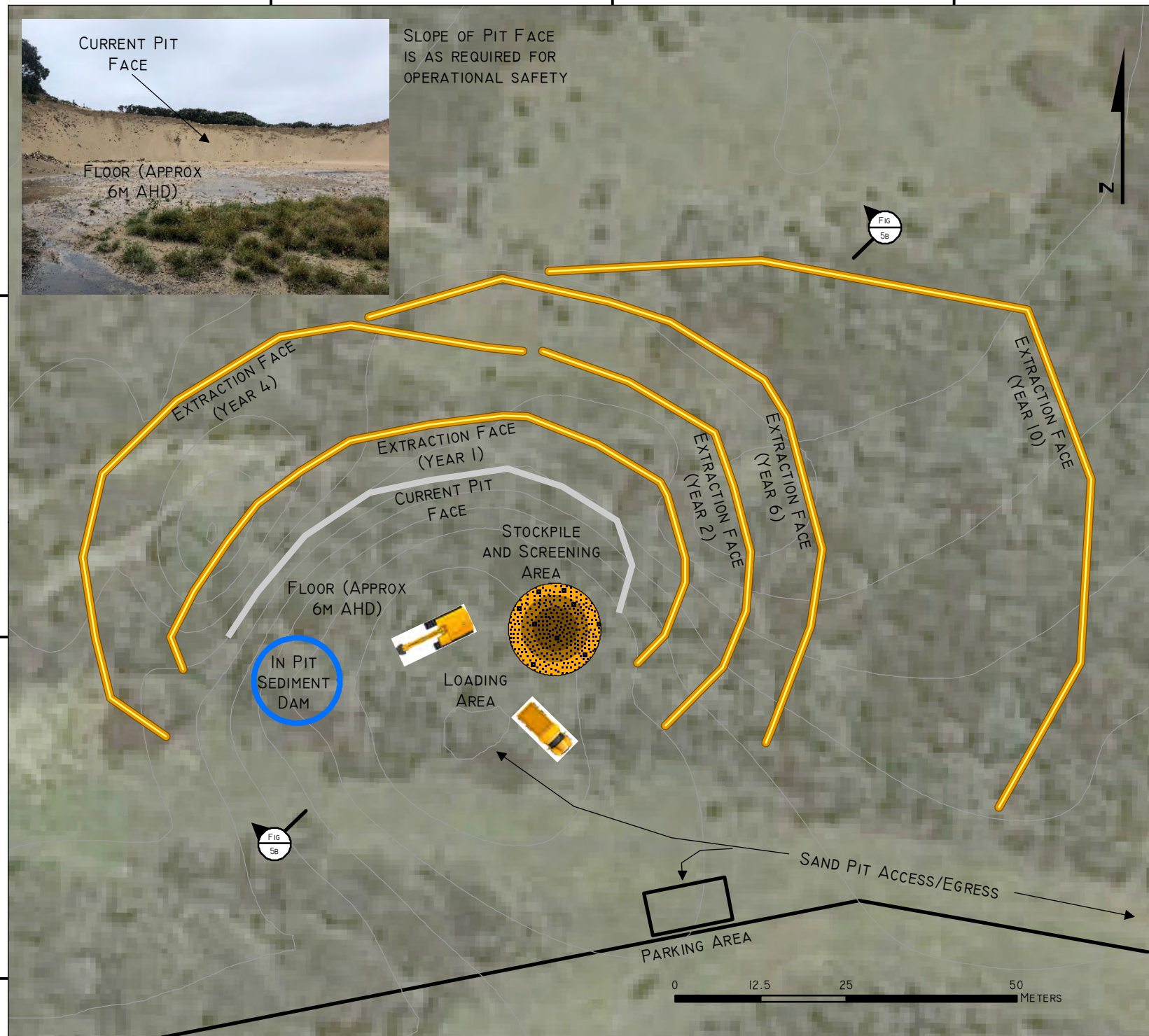
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SLOPE OF PIT FACE  
IS AS REQUIRED FOR  
OPERATIONAL SAFETY

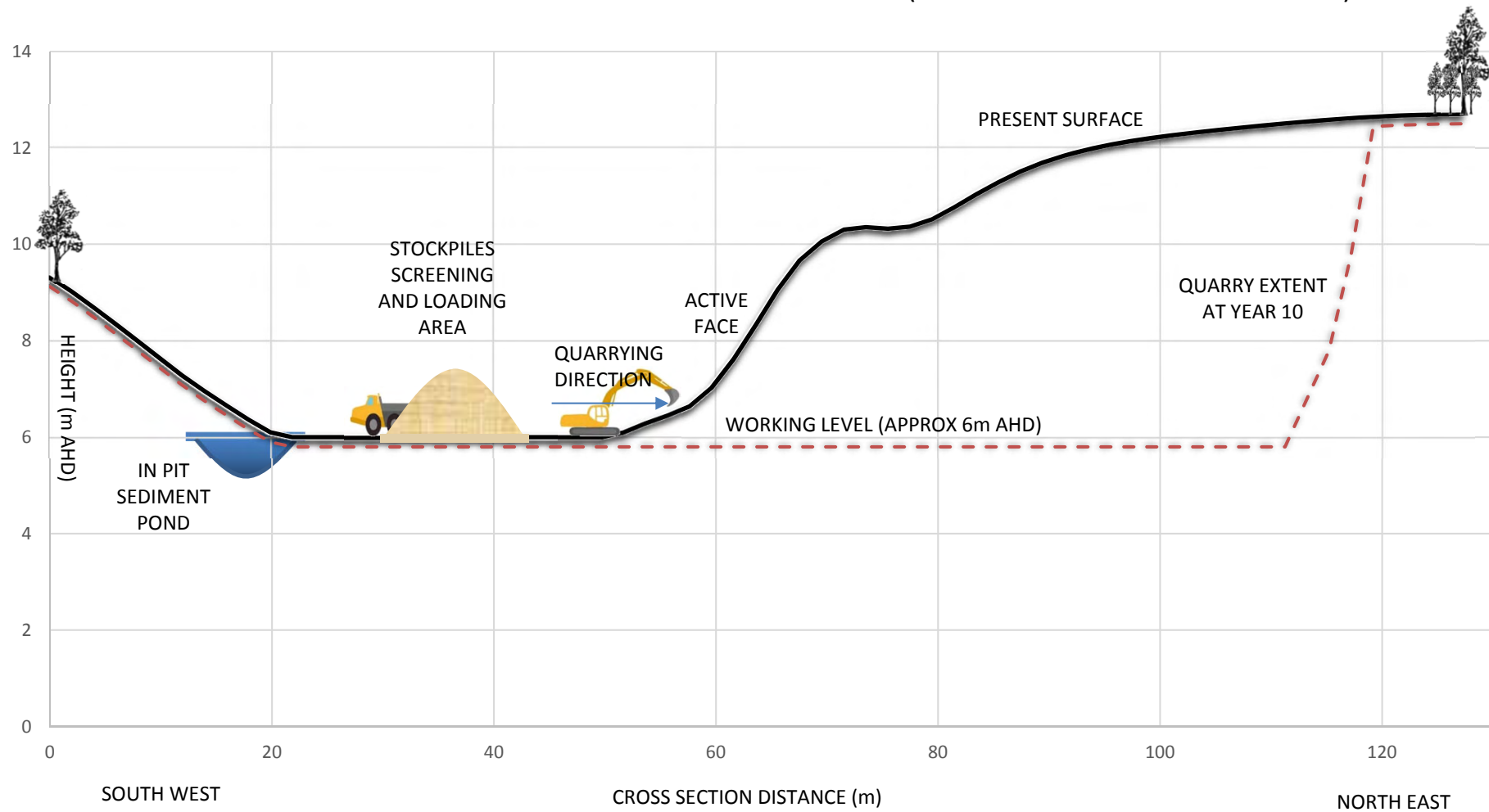


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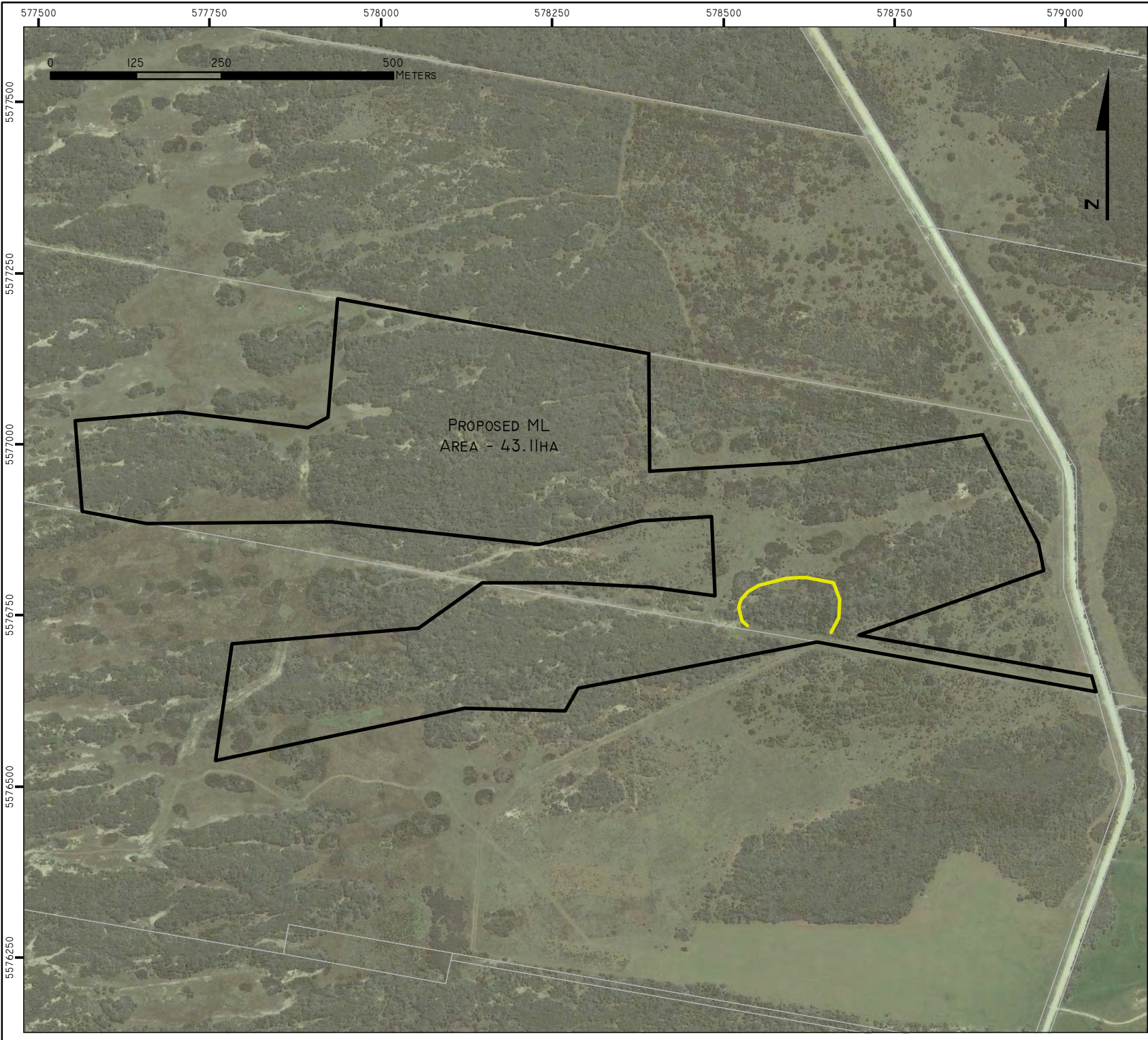
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FIGURE 5b: CROSS SECTION OF LUGHRATA LIMESAND PIT (PRESENT TO YEAR 10 EXTRACTION)







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FIGURE 5C: MINING LEASE AND  
YEAR 10 EXTRACTION AREA

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

- YEAR 10 EXTRACTION AREA
- PROPOSED ML BOUNDARY
- TITLE BOUNDARIES

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MANAGEMENT  
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DATE: 1ST JAN 2019

## PART C - PROJECT AREA

### C.1 CLIMATE PARAMETERS

The nearest Bureau of Meteorology weather recording station is at Flinders Island Airport to the south of the development site.

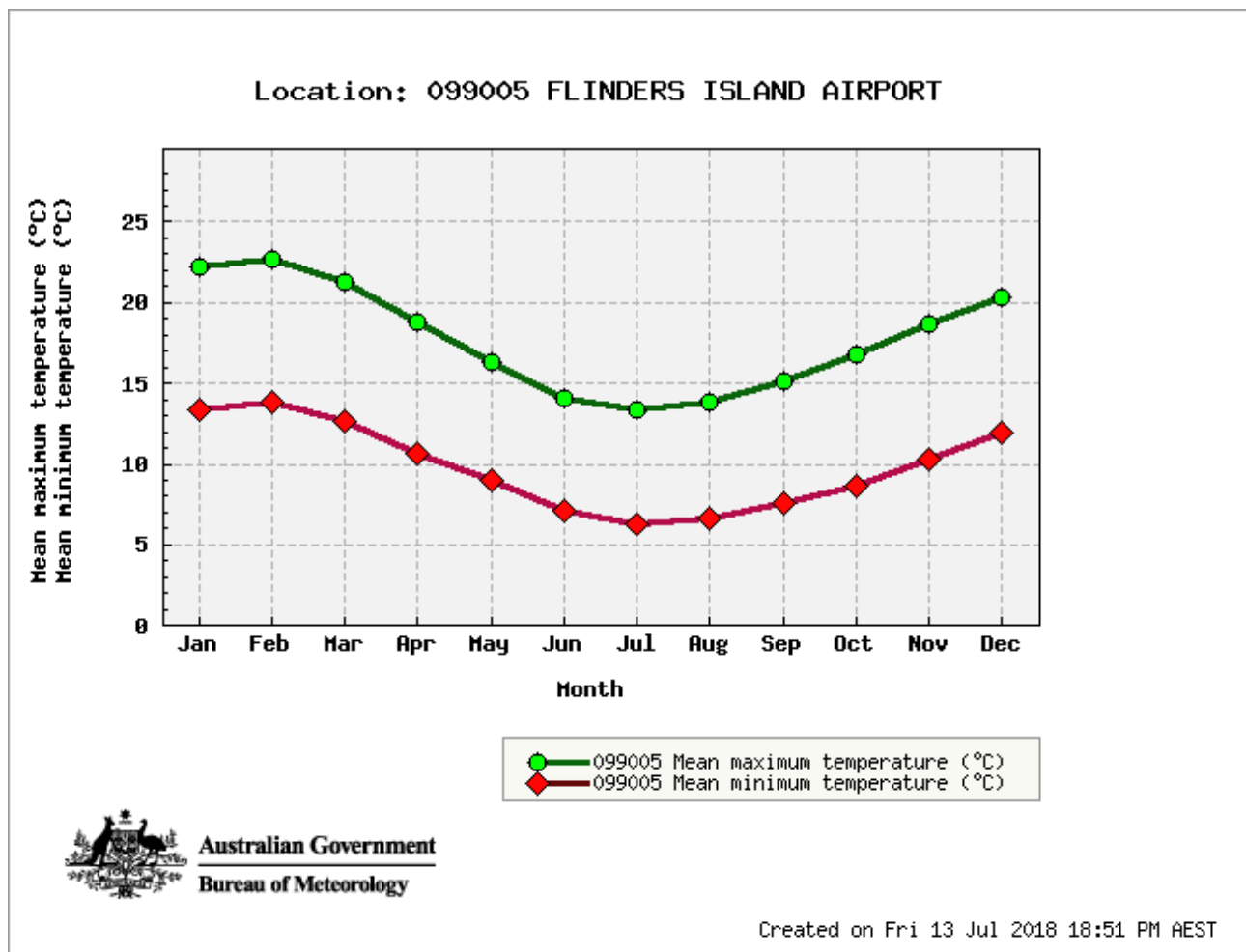
The station details for the Flinders Island Airport weather station are -

- **Site number:** 099005
- **Latitude:** 40.09 °S **Longitude:** 148.00 °E
- **Elevation:** 9 m

The development and use occur in a region with cool winters and warm summers (Graph 1), with most precipitation occurring in the winter and spring period (Graph 2).

**Graph 1. Mean minimum and maximum temperature for Flinders Island Airport**

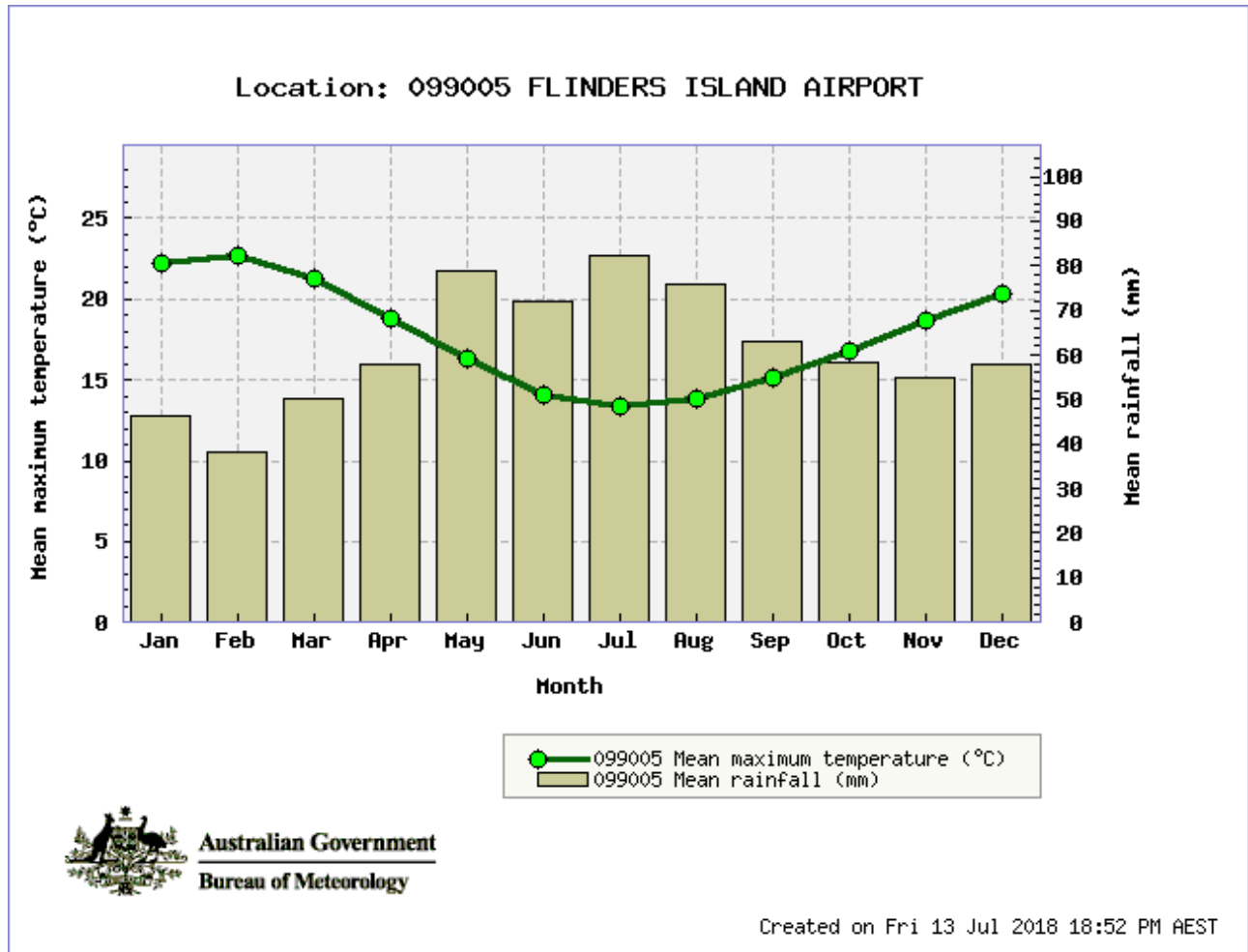
Source: Bureau of Meteorology 2018





**Graph 2. Mean annual rainfall and mean maximum temperature for Flinders Island Airport**

Source: Bureau of Meteorology 2018

**C.2 GEOLOGY, SOILS AND LAND CAPABILITY**

The geology of the Mining Lease (proposed) is mapped as sand, gravel and mud of lacustrine and littoral origin (Figure 6). The sands to be extracted are of littoral origin and are highly calcareous in nature.

DPIPWE has identified a Low to Extremely Low likelihood of Potential Acid Sulfate Soils (coastal) in the Marshall Bay area (Figure 7) based on the test pitting and sampling of (see Attachment 2 for the DPIPWE test results). The testing was conducted of a lacustrine deposit associated with Arbothnots Lagoon, not sands of littoral origin that are highly calcareous, although DPIPWE applied the results to the full coastal zone of the Marshall Bay region. Sand extraction will not occur into the older and deeper soils and sands below the littoral deposits rich in carbonates as they are of no benefit to the activity.

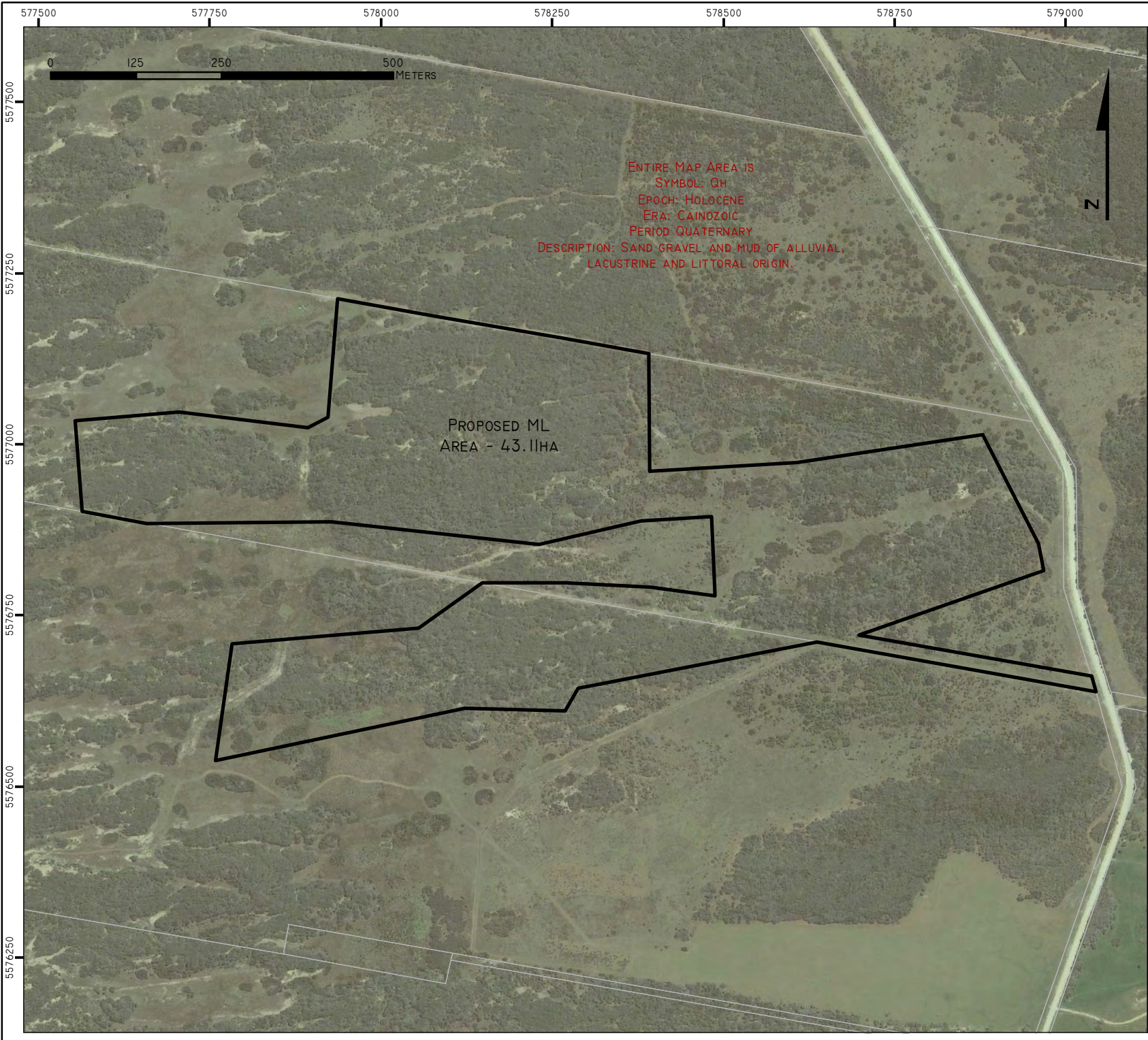
The Land Capability is not recorded by DPIPWE however the sandy alkaline soils are likely to qualify as Land Class 5 to 6.

**C.3 WATERCOURSES**

There are no defined watercourses within the Development Area (see Figure 10).

The sands to be extracted from the Mining Lease are well drained being formed by Quaternary sands.







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FIGURE 6: GEOLOGY  
(1:250,000 - MRT)  
AROUND THE DEVELOPMENT AREA

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

-  PROPOSED ML BOUNDARY
-  TITLE BOUNDARIES

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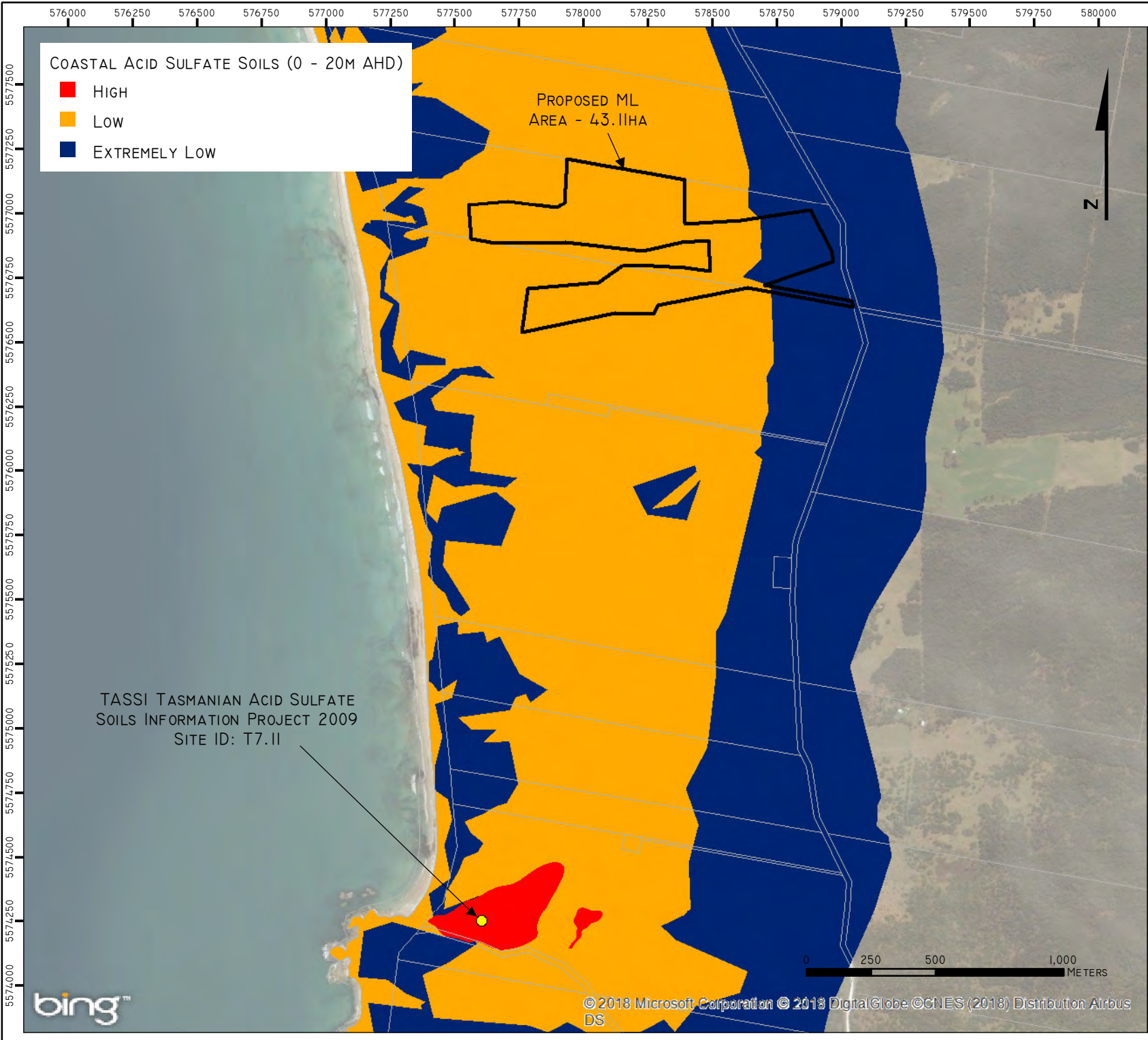


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FIGURE 7: COASTAL ACID SULFATE SOILS (0-20M AHD) AND ACID SULFATE SOIL SITES

TASMAP: EMITA 5657	LGA: FLINDERS
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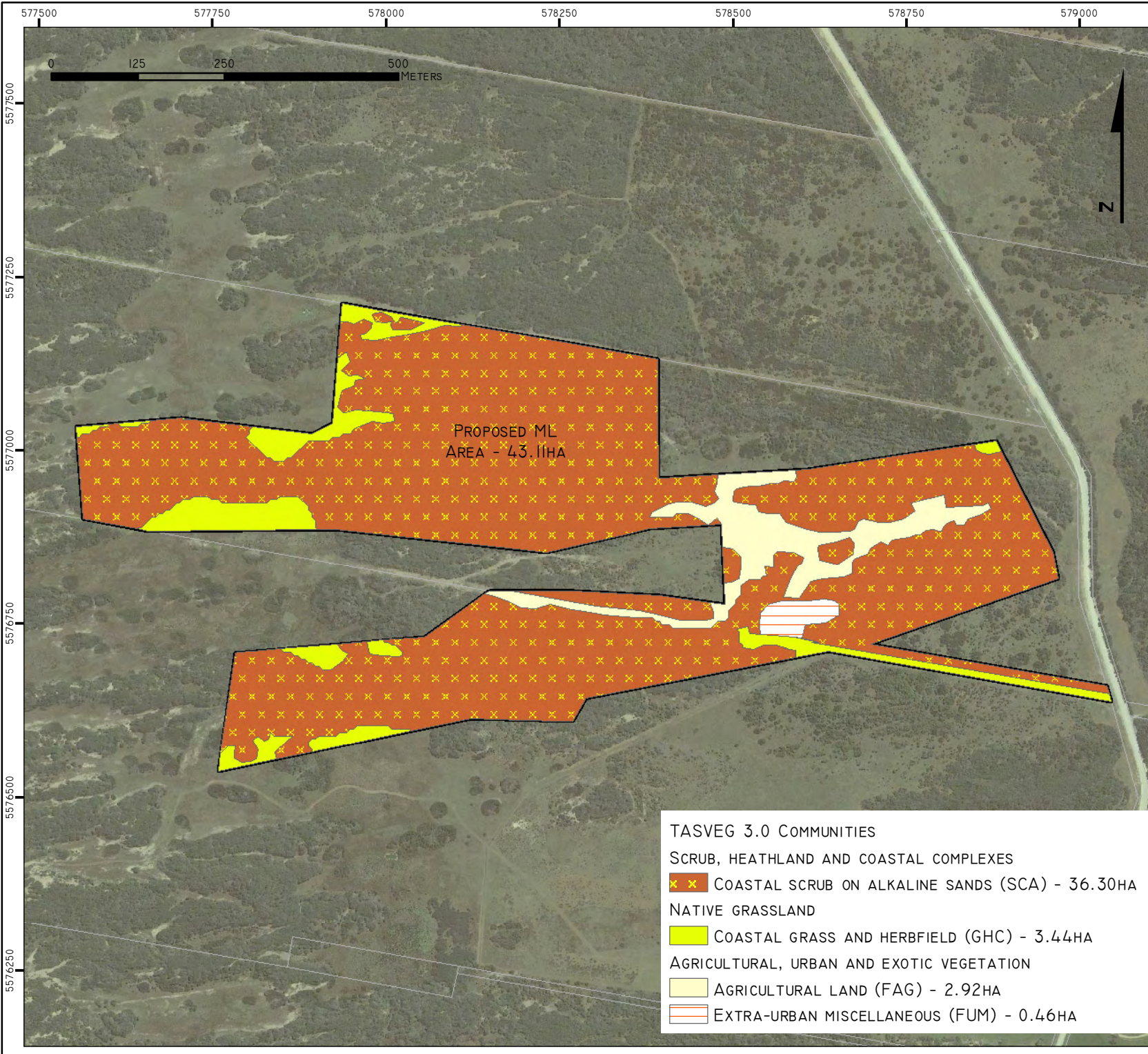
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

FIGURE 8: TASVEG COMMUNITIES  
IN THE DEVELOPMENT AREA

TASMAP:  
EMITA  
5657

LGA:  
FLINDERS

-  PROPOSED ML BOUNDARY
-  TITLE BOUNDARIES

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- TASVEG 3.0 COMMUNITIES
- SCRUB, HEATHLAND AND COASTAL COMPLEXES
-  COASTAL SCRUB ON ALKALINE SANDS (SCA) - 36.30HA
- NATIVE GRASSLAND
-  COASTAL GRASS AND HERBFIELD (GHC) - 3.44HA
- AGRICULTURAL, URBAN AND EXOTIC VEGETATION
-  AGRICULTURAL LAND (FAG) - 2.92HA
  -  EXTRA-URBAN MISCELLANEOUS (FUM) - 0.46HA

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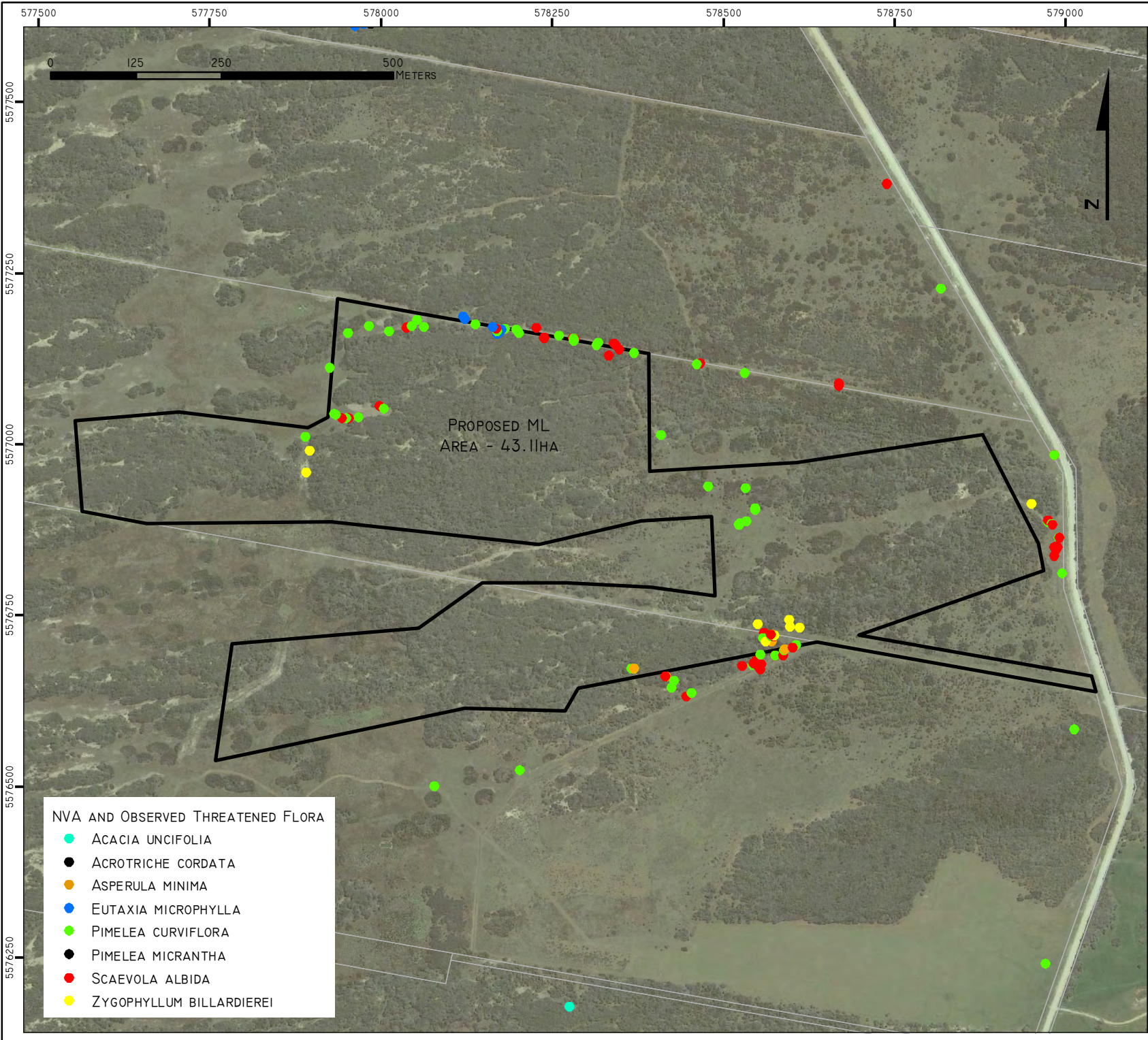


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FIGURE 9A: KNOWN AND OBSERVED  
THREATENED FLORA  
IN THE DEVELOPMENT AREA

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EMITA  
5657

LGA:  
FLINDERS

- PROPOSED ML BOUNDARY
- TITLE BOUNDARIES

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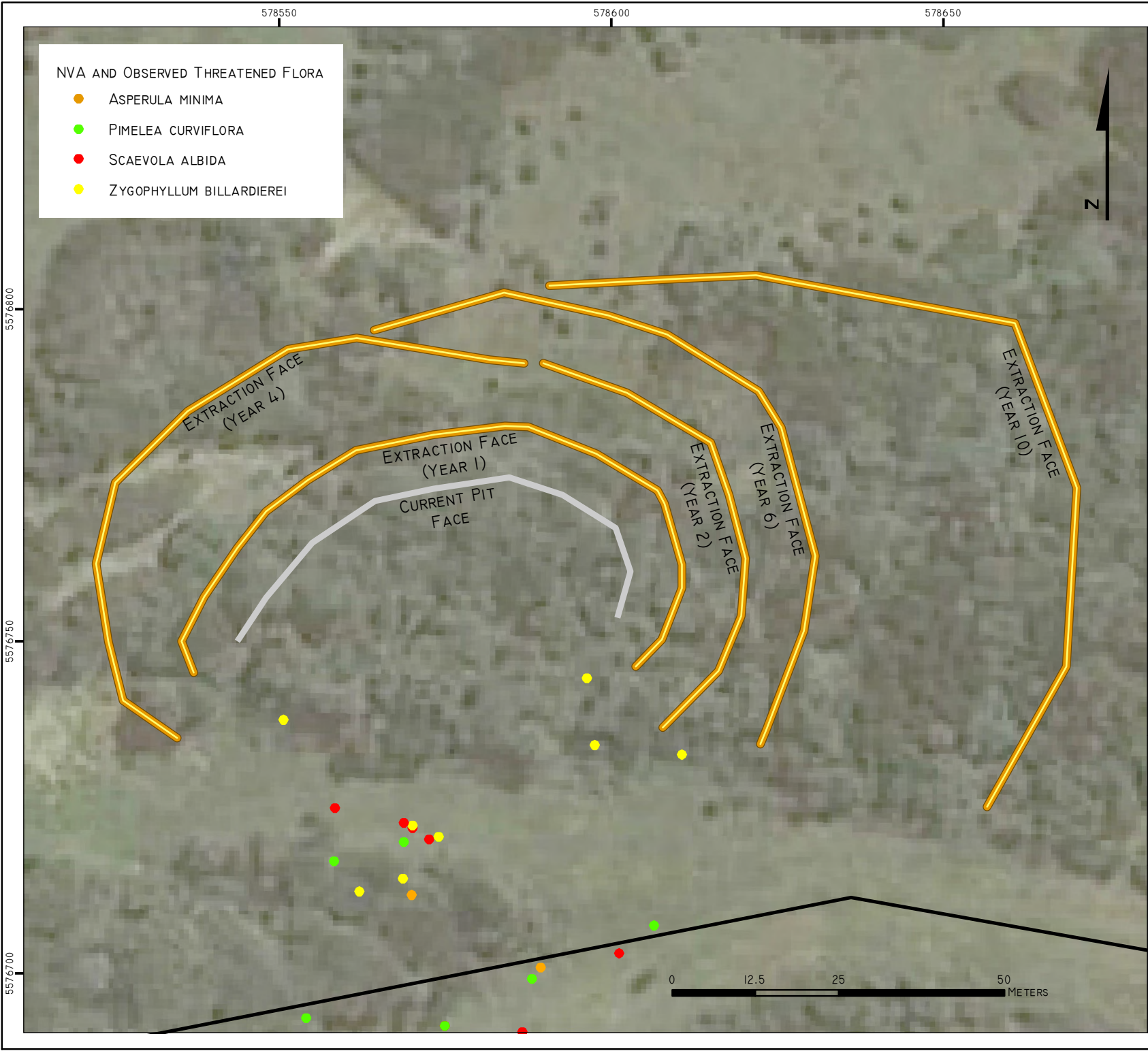
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- NVA AND OBSERVED THREATENED FLORA
- ACACIA UNCIFOLIA
  - ACROTRICHE CORDATA
  - ASPERULA MINIMA
  - EUTAXIA MICROPHYLLA
  - PIMELEA CURVIFLORA
  - PIMELEA MICRANTHA
  - SCAEVOLA ALBIDA
  - ZYGOPHYLLUM BILLARDIEREI





- NVA AND OBSERVED THREATENED FLORA
- ASPERULA MINIMA
  - PIMELEA CURVIFLORA
  - SCAEVOLA ALBIDA
  - ZYGOPHYLLUM BILLARDIEREI


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FIGURE 9B: KNOWN AND OBSERVED THREATENED FLORA IN THE YEAR 10 EXTRACTION AREA

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 PROPOSED ML BOUNDARY

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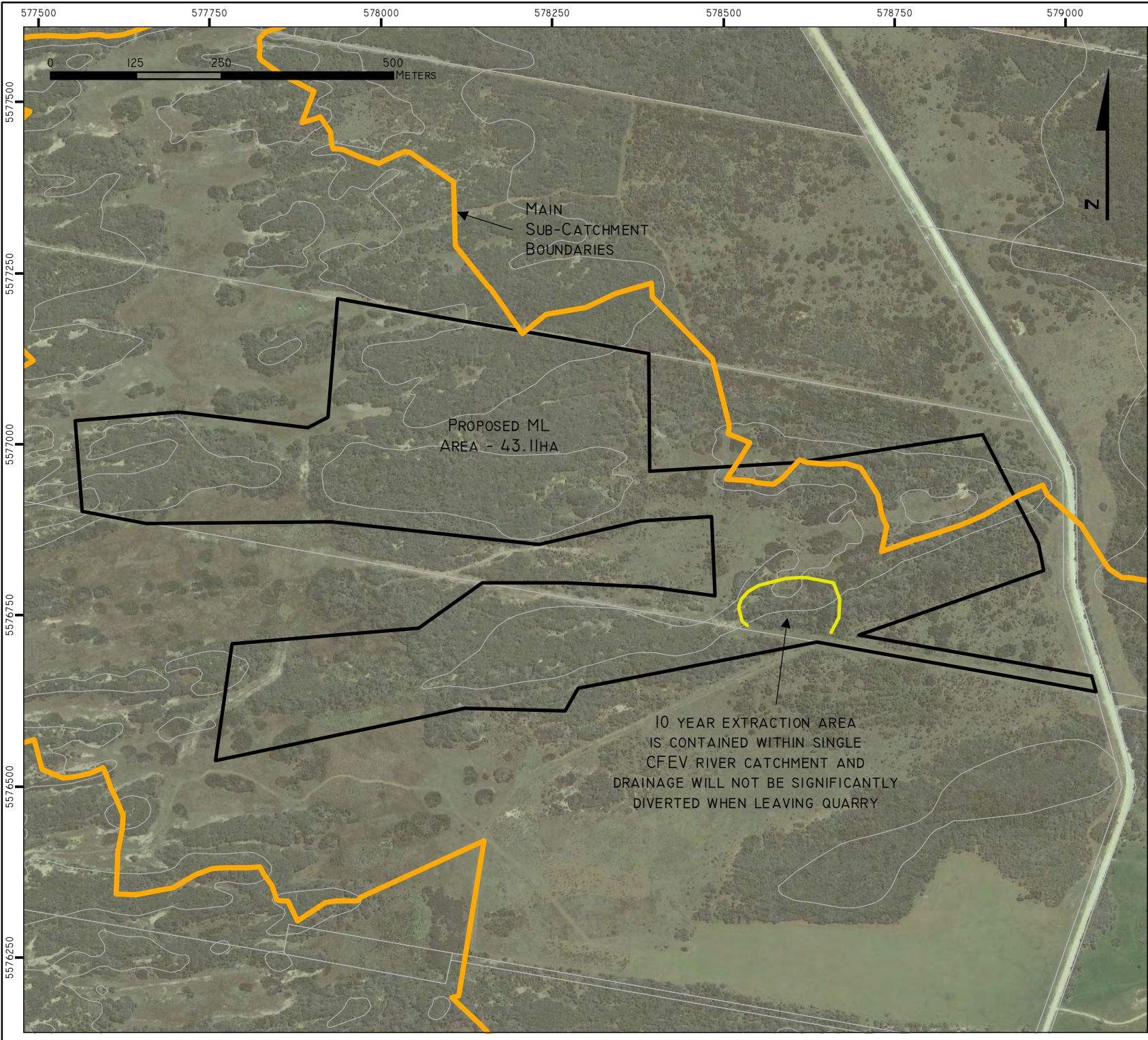
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FIGURE 10: DRAINAGE AND  
CATCHMENT BOUNDARIES

TASMAP:  
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LGA:  
FLINDERS

- YEAR 10 EXTRACTION AREA
- RIVER CATCHMENT SECTIONS
- PROPOSED ML BOUNDARY
- TITLE BOUNDARIES

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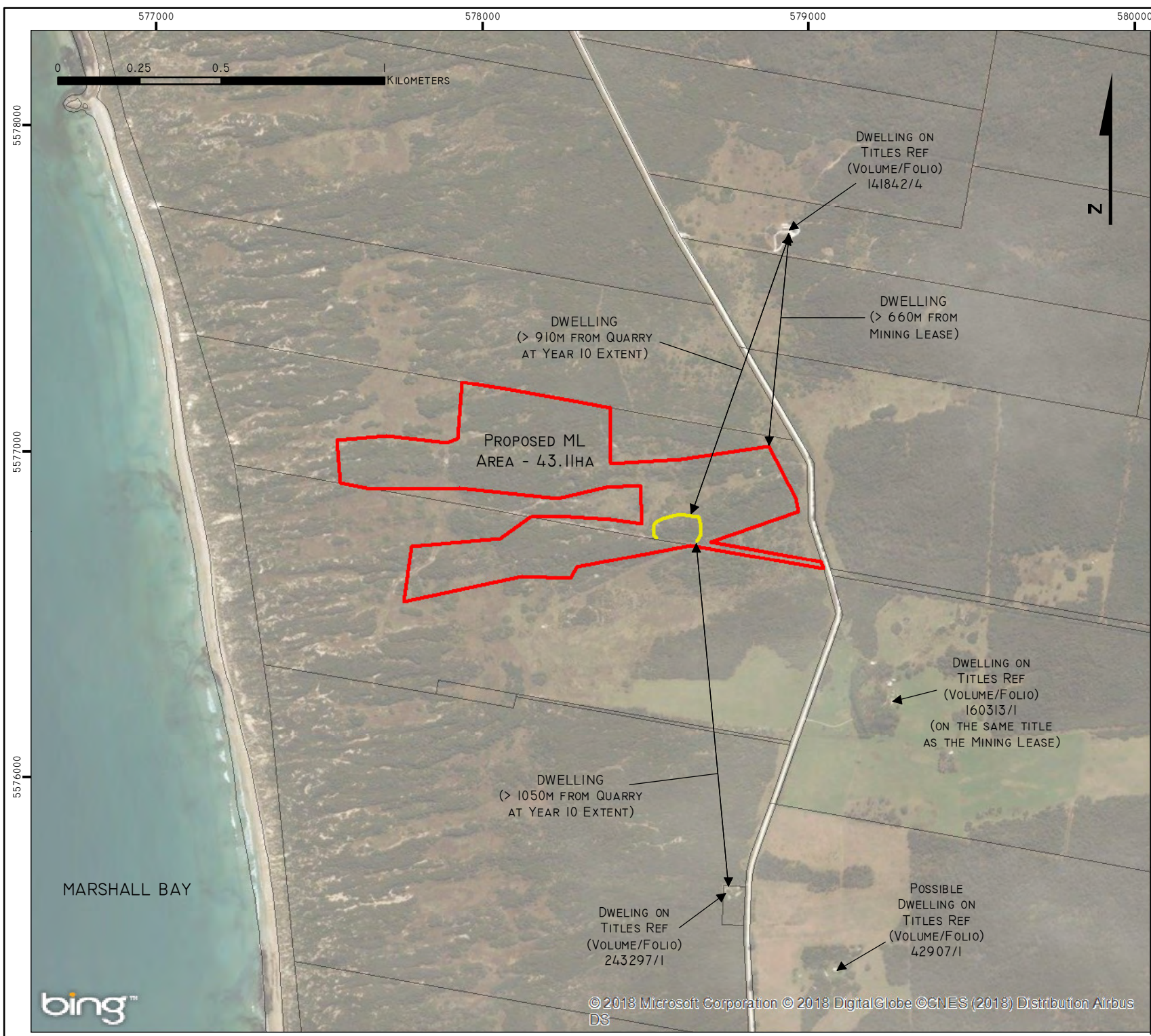


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FIGURE II: RESIDENCES NEAR  
THE DEVELOPMENT AREA

TASMAP:  
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LGA:  
FLINDERS

- YEAR 10 EXTRACTION AREA
- PROPOSED ML BOUNDARY
- TITLE BOUNDARIES

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DATUM: GDA94  
GRID: MGA ZONE 55  
SCALE: @A4 - NA

CLIENT:  
DAVROL RURAL  
MANAGEMENT  
PTY LTD

DATE: 1ST JAN 2019

## PART D - PLANNING SCHEME REQUIREMENTS

### D.1 CATEGORISATION OF USE/DEVELOPMENT

The activity is consistent with the definition of the Use Class *Industry Extractive* in the Flinders Planning Scheme 2000 (the 'Scheme') –

'... means the use or development of land for the excavation of any resource(s) such as sand, earth, soil, clay, turf, gravel, rock, stone, minerals or the like.

### D.2 ZONING

The land upon which the extraction pit occurs is in the Rural Zone of the Scheme (Figure 4A). *Industry Extractive* is a Discretionary Use in the Rural Zone.

### D.3 SPECIAL AREAS

The activity intersects two Special Areas prescribed by the Scheme - Ecologically Sensitive and Unstable Ground (see Figure 4B)

### D.3 DETERMINING THE APPLICATION - PLANNING AUTHORITY

The planning authority is Flinders Council (the Council).

A planning permit is required for use or development:

- (a) listed in the Table of Use or Development as Discretionary; or
- (b) which may not proceed unless the Council waives, relaxes or modifies a requirement of the Scheme or otherwise in its discretion consents to the use or development proceeding.

A grant of a Planning Permit may be issued either conditionally or subject to such conditions or restrictions as the Council may impose.

Pursuant to Clause 3.10 of the Scheme, Council shall take into consideration the following:

1. the objectives, the intent of the zone, use and development principles, any development plan affecting the land and any relevant development standards or other relevant requirements of the Scheme;
2. any relevant proposals, reports or requirements of any public authorities;
3. any representations received following public notification where required under the Act;
4. whether any part of the land is subject to:
  - (a) landslip, soil instability, or erosion;
  - (b) excessive slope;
  - (c) ponding or flooding;
  - (d) bush fire hazard;
  - (e) a Protected Catchment District under Water Management Act 1999;
  - (f) any Special Area Provisions in Part 7;
  - (g) pollution; and
  - (h) other hazards to safety or health.
5. whether the proposed use or development is satisfactory in terms of its siting, size or appearance and levels of emissions in relation to:
  - (a) existing site features;
  - (b) adjoining land;

- (c) the streetscape and/or landscape;
- (d) the natural environment;
- (e) items of historic, architectural or scientific interest;
- (f) buffer zones, attenuation areas,
- (g) easements;
- (h) a water supply for fire fighting purposes;
- (i) any received pollution;
- (j) the escape of pollutants into storm drains and watercourses: and
- (k) isolation, separation from other lands.

6. whether the proposed use or development will be supplied with an adequate level of infrastructure and services, and if there is any necessity to improve deficient access, roads or road junctions, water, sewerage, electricity or transport services and the like, without detriment to existing users;

7. whether the proposed use or development would adversely affect the existing and possible future use or development of adjacent land, and vice versa;

8. the provision of adequate landscaping, amenity facilities and illumination, and the treatment of the site generally;

9. the sight distances available to and from proposed point(s) of access, together with an estimate of the speed of passing traffic;

10. the design and siting of the proposal to enable reduction in energy consumption through alternative energy use or reduction in demand; and

11. the safety and well-being of the general public.

12. Any other matter which Council is of the opinion is relevant to the particular application.

#### D.4 ZONE INTENT

The following notes and comments are made about each intent of the zone relevant to the Development.

Objective	Comments regarding the Development
The Rural Zone on Flinders Island is intended to maintain the existing rural character of the island which is typified by a pattern of areas of open farmland, typically with shelter belts of remnant vegetation, interspersed with irregular areas of native vegetation and substantial unspoiled landform. On other islands within the Planning Area the zone is intended to preserve the existing character which displays minimal signs of European occupation.	The Development will not impact on the existing rural character as it will not alter the pattern of open areas of farmland with interspersed irregular areas of native vegetation. In the specific Marshall Bay location where the extraction pit will occur, the mosaic of scrub and regenerating cleared land (ex-pasture and rough grazing pasture) will remain intact given the small size of the pit (both currently and proposed when the pit is operational). There is to be retained vegetation between the extraction pit and nearby Palana Road.
Use and development in the Rural Zone is intended to accommodate agricultural uses and development predominantly, with some compatible non-agricultural uses and development in appropriate circumstances, including tourist operation and rural	The Development is a compatible agricultural related use of the land – the Scheme intends that these developments (ie rural industries) can occur within this zone. For example, <b>no other zone</b> in the Scheme allows for extractive industries so this



industries. Forest plantations may be appropriate where they do not adversely affect the character of an area or detract from important views.	<p>zone is the only zone where extraction-based activities can occur.</p> <p>The Development is in effect a 'rural industry' [for the purposes of the zone intent] to support agricultural use of the agricultural lands on Flinders island.</p> <p>The small geographic size and predominantly low intensity of extraction make the overall land use a very minor impact activity within the Rural Zone.</p> <p>The extraction pit would be the only one on the island authorised to extract and supply on a commercial basis lime sand for the neutralisation of acidic soils.</p>
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#### D.5 DESIRED ZONE CHARACTER AND ZONE GUIDELINES

The Scheme provides the following desired zone character and zone guidelines –

Desired Zone Character	Comments in relation to the Development
The use or development of small existing rural lots for the purpose of residential living shall only be approved where such use or development is compatible with any existing or potential agricultural use of that land or surrounding lands.	Not applicable to this Development – residential use is not proposed.
Use or development should enhance the rural character of the zone. Buildings should be substantial distances from the road frontage and apart, unless inappropriate for operational or topographical reasons. Where land clearance is undertaken it should be visually sympathetic; important trees (or stands of trees) should be retained, important hilltop locations should not be cleared and location of trees and shrubs along fence lines, property boundaries, watercourses and at property entrances is encouraged. Buildings and structures for aquaculture should be sited with regard to the protection of coastal scenery and compatibility with recreational use of the coastline.	<p>The existing pit is low in the landscape and is not visually obtrusive to road users.</p> <p>Retained vegetation alongside Palana Road will continue to visually obscure the extraction pit.</p> <p>There are to be no buildings at the extraction pit.</p>
Land use or development and management practices shall be environmentally appropriate and shall avoid contamination or despoliation of the land, ground water, water courses, shore-lines, lagoons and marshes. Sand-dunes and coastal vegetation and ecologically important areas shall be protected from degradation.	<p>The extraction pit will be operated in accordance with the environmentally-relevant aspects of the <i>Quarry Code of Practice 2017</i>.</p> <p>Lime sands are inherently associated with sand dune and coastal vegetation because of their origins.</p> <p>Sand-dunes and coastal vegetation will be disturbed by the extraction of lime sands but will not be degraded in the long-term because</p>

	rehabilitation will be required under the Mining Lease (pending).
Forestry activities in the zone shall be in accordance with the Forest Practices Code.	Not applicable to this Development – no forestry activities are proposed.

## D.6 USE AND DEVELOPMENT PRINCIPLES

The following notes and comments are made about each Use and Development Principle relative to the development and use.

### D.6.1 USE

Relevant Principle	Comments in relation to the Development
Use or development shall not unreasonably impact on any existing or intended use or development of neighbouring land.	The extraction pit will not impact on adjoining agricultural uses or associated other uses of land within the Rural Zone – Figure 11 shows the nearest dwellings and other sensitive uses which are at distances that exceed those recommended in the <i>Quarry Code of Practice 2017</i> .
Rural Industrial operations shall be appropriately located and designed to avoid any detrimental effects on neighbouring land use or development, particularly in respect of atmospheric emissions, solid waste disposal and water pollution, soil erosion, noise or visual quality.	The extraction pit will be operated in accordance with the environmentally-relevant aspects of the <i>Quarry Code of Practice 2017</i> .
Mining and quarrying operations shall be located and carried out in a form which does not conflict with surrounding land use or development, scenic values and the environment.	The small size of the extraction pit at any one point in time will be such that its impact on scenic values would be negligible. Rehabilitation of extracted areas to native vegetation would restore any temporary impact to that vegetation caused by extraction.

### D.6.2 CHARACTER

Relevant Principle	Comments in relation to the Development
Use and development shall adequately respect the character of, and future intentions for the area in which it is to be located.	The character of the local area and future intentions of the area are rural uses. Neighbouring uses are agricultural (eg cropping, pasture development for livestock grazing) and conservation oriented with most of the regional landscape being existing native vegetation.
Use or development (including public facilities and services) should adequately respect the surrounding streetscape and neighbouring use or development, particularly in relation to scale, setbacks, form (including roof shape), landscaping, materials, colours and fencing.	Figure 11 shows the nearest dwellings and other sensitive uses which are at distances that exceed

Landscaping of use or development shall be of a type, form, variety(s) and character which is suited to the intention of the zone, the area and the nature of the use or development.	<p>those recommended in the <i>Quarry Code of Practice 2017</i>.</p> <p>The existing pit is low in the landscape and is not visually obtrusive to road users. Retained vegetation alongside Palana Road will continue to visually obscure the extraction pit.</p>
Where trees are an important element in the character of an area they should be retained.	

**D.6.3 AMENITY**

Relevant Principle	Comments in relation to development
Use or development shall accord all existing and/or future occupiers with adequate and reasonable levels of amenity, especially in relation to privacy, sunlight, aspect, views and noise disturbance.	<p>The development will not affect sunlight to adjoining properties or dwellings.</p> <p>Figure 11 shows the nearest dwellings and other sensitive uses which are at distances that exceed those recommended in the <i>Quarry Code of Practice 2017</i>.</p>

**D.6.4 ENVIRONMENT**

Relevant Principle	Comments in relation to development
Use or development shall not be allowed to detrimentally affect the environment. All areas, and sensitive ecological and/or visual areas in particular, shall be developed in a manner and to an extent which is consistent with the protection of the values of the area.	<p>The extraction pit will be operated in accordance with the environmentally-relevant aspects of the <i>Quarry Code of Practice 2017</i>.</p> <p>Rehabilitation of quarried areas to native vegetation would restore any temporary impact to that vegetation caused by lime sand extraction.</p> <p>The extraction pit is not located in an area of flood risk.</p> <p>The Unstable Land Special Area intersects with the Development. The extraction of lime sands does not involve the construction or use of buildings.</p>
Use or Development and land management practices shall be directed towards achieving environmental sustainability, biodiversity and ecological balance, and avoiding environmental damage such as soil erosion, coastal dune erosion, loss of important animal and plant species and increases in vermin populations.	
Use or Development shall not be located in areas of unacceptable risk (eg. from fire, flood or landslide). In situations where risk may exist, use and development shall be appropriately sited and designed to provide an acceptable level of protection and safety for future users.	
Potentially incompatible Uses or Developments shall be adequately and appropriately located, sited and designed to avoid conflict. Level 2 activities or sources of pollution shall be sited in accordance with the following:	
<p>i. Use or Development for a use of land that is a Level 2 activity under the provisions of the</p>	<p>The extraction pit (and associated occasional screening of sands) are not prescribed Level 2 activities under the <i>Environment Management and Pollution Control Act 1994</i>.</p> <p>The extraction will be operated in accordance with the environmentally-relevant aspects of the <i>Quarry Code of Practice 2017</i>.</p>



<p><i>Environment Management and Pollution Control Act 1994</i> shall not be allowed within the lesser distance from a residential zone than that recommended by the Director of Environmental Management.</p> <p>ii. Use or Development of land that is not a Level 2 activity, but which Council nonetheless considers will or has the potential for environmental harm, shall not be allowed within a lesser distance from a residential zone than that determined by Council after taking into account the advice from the Director of Environmental Management.</p>	<p>Rehabilitation of lime sand extracted areas to native vegetation would restore any temporary impact to that vegetation caused by extraction works.</p>
<p>Activities involving extensive site works, such as quarrying, shall be suitably sited, screened, and rehabilitated where appropriate, to protect the ecological and visual qualities of the area.</p>	
<p>Use or development shall be of a suitable form and siting to avoid any adverse impact on any watercourse and vice versa.</p> <p>Use or development (including the siting of effluent disposal systems) shall be setback a minimum of 40 metres, or such distance as is required, from a watercourse to avoid degradation of water quality.</p>	<p>No watercourses listed in Schedule 3 of the Scheme are present within the areas designated for the extraction pit and associated future areas of likely extraction.</p> <p>A sediment pond and appropriate drains/channels will be installed at the extraction pit (see Figures 5a and 5b respectively).</p>
<p>Use of land in the vicinity of those watercourses identified in Schedule 3 shall provide Riparian Reserves in an appropriate location and form.</p>	<p>The access road connecting the extraction pit to Palana Road is appropriately constructed to manage surface water flows.</p>

#### D.6.5 HERITAGE

Relevant Principle	Comments in relation to development
<p>Areas of identified conservation value, including National Parks and Nature Reserves, shall be protected from inappropriate use or development and detrimental land management practices including land clearance, within such areas and adjacent areas outside them.</p>	<p>The Mining Lease (proposed) which is the proposed extraction area is comprised of agricultural land and native vegetation.</p> <p>Rehabilitation of sand extracted areas to native vegetation would restore any temporary impact to that vegetation caused by sand extraction.</p> <p>The management of weeds will be via a weed spraying program.</p> <p>The threatened flora species present (see Figures 9a and 9b) can only be disturbed/taken with the approval of the Department of Primary Industries, Parks, Water and Environment – a permit would be sought if the species was to be taken/disturbed.</p> <p>Wombat burrows rarely occur in the extraction area. These can only be disturbed/taken with the</p>

	approval of the Department of Primary Industries, Parks, Water and Environment – a permit would be sought if burrows were to be taken/disturbed.
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**D.6.6 ACCESS AND PARKING**

Relevant Principle	Comments in relation to development
All Use or Development shall provide satisfactory pedestrian and vehicular access which is suited to the volume and needs of future users.	<p>The existing vehicular access from Palana Road will be used for the Development and Use.</p> <p>The existing access has adequate sight distances, ingress/egress and formation (it is suitably constructed for the use) as shown in Figure 3.</p>
Road widths shall be appropriate to the road function, expected traffic type and volume, and future subdivision potential of the subject and surrounding land.	
Road intersections shall be kept to a minimum with the use of existing roads, service roads and/or shared driveways being encouraged where appropriate.	
New Use or Development shall provide a suitably constructed driveway of a width to provide for the safe ingress and egress of the anticipated volume of traffic associated with the Use or Development.	
Intersections of roads, footpaths and foot crossings and driveways shall provide adequate safety for all users and shall satisfy the relevant requirements of Schedule 4.	The access meets the SISD requirements of Schedule 4 of the Scheme.
New Use or Development shall provide adequate car parking to provide for the demand it generates and shall be capable of being safely accessed.	<p>Vehicle parking locations will be provided at the site office (Figure 5a).</p> <p>On-site turning will be provided in the extraction pit such that heavy vehicles can enter and exit the pit in a forward direction.</p>
On site turning shall be provided for development involving significant traffic volumes, heavy vehicle types and/or on roads which carry significant amounts of traffic.	

**D.6.7 SERVICES**

None of the principles are relevant to this activity as it is not connected to services and does not need to be connected to services.

**D.6.8 SOCIAL INTEREST**

Relevant Principle	Comments in relation to development
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Use or Development should demonstrate how it suits the community interest.	The use and development will enhance agricultural operations on private land, and the island generally.  Importation of lime (either carbonate or dolomite based) onto the island and its subsequent transport to the properties from Lady Barron would place burden on more extensive areas of public road.
Use or Development shall have adequate and appropriate types and levels of access to social facilities and services (eg. shops, government agencies, telecommunication, health services and educational facilities).	This Principle is not relevant to the use and development.

#### D.6.9 ADMINISTRATION

Relevant Principle	Comments in relation to development
Use or Development proposals should only be approved where the cost to the public of providing and maintaining services is not exceeded by the economic benefit of the use or development to the community.	The Use and Development are not reliant on the specific provision of services from public funds.  Road use from the extraction pit will be of small scale – on average 10 truck movements per day and 6 light vehicle movements per day.

#### D.7 ECOLOGICALLY SIGNIFICANT AREAS

The Scheme identifies Ecologically Significant Areas as important for the maintenance of natural processes, for the conservation of rare, endangered or threatened species, as refuges for migratory bird species or as reservoirs of biodiversity.

Clause 7.3.2 provides the following objectives for Ecologically Significant Areas:

- (a) to promote the maintenance of ecological processes and genetic diversity;
- (b) to protect and enhance ecosystems, habitats and biological communities which enable the survival of indigenous flora and fauna and assist to maintain biodiversity;
- (c) to identify and protect habitats which support threatened, rare or endangered species;
- (d) to ensure that planning decisions incorporate consideration of the ecological impacts of Use or Development.
- (e) to encourage land management practices, based on expert advice, that will sustain the natural and ecological values of the land.

Notwithstanding any other provision in this Scheme, within the Ecologically Sensitive Areas any application for Use or Development (other than those prohibited in the zone) shall be considered as a discretionary Use or Development in accordance with Clause 3.5.

In considering an application for Use and Development within the Ecologically Sensitive areas and whether to impose conditions Council shall consider the following matters:

- (a) The objectives listed in Clause 7.3.2;
- (b) The effect of the proposed Use on the natural values of the land;
- (c) The siting of buildings, structures, works and effluent disposal systems in relation to natural vegetation, watercourses and wetlands

- (d) The likely ecological impact of the building, clearing, excavation, drainage works, access construction, vehicular traffic, fences, firebreaks or the deposition of fill;
- (e) The adequacy of proposed management and whether any special works or practices are required to protect the ecological values of the site;
- (f) Whether access to particular sites should be restricted on a seasonal or more frequent basis in order to conserve the reproductive potential of species;
- (g) The identification of natural values, including the presence of any rare. Threatened or endangered species and what management requirements may be necessary;
- (h) The need for management approaches to prevent the importation of weeds, soil diseases or toxic substances that may contaminate the land.

The Mining Lease (proposed) which is the proposed extraction area of the calcareous sands does not support any threatened vegetation communities listed on the *Nature Conservation Act 2002* nor any listed on the *Environment Protection and Biodiversity Conservation Act 1999*. A vegetation map is provided in Figure 8.

None of the vegetation types present in the Mining Lease (proposed) are rare in the Marshall Bay area, indeed coastal scrub is the most common vegetation community on the western side of Palana Road as very little has been cleared or converted to agricultural lands.

Rehabilitation of sand extracted areas to native vegetation would restore any temporary impact to that vegetation caused by sand extraction. The management of weeds will be via a weed spraying program.

The threatened flora species present (see Figures 9a and 9b) can only be disturbed/taken with the approval of the Department of Primary Industries, Parks, Water and Environment – a permit would be sought if the species was to be taken/disturbed.

Wombat burrows rarely occur in the extraction area. These can only be disturbed/taken with the approval of the Department of Primary Industries, Parks, Water and Environment – a permit would be sought if burrows were to be taken/disturbed.



## **ATTACHMENTS**

Attachment 1 Land Titles

Attachment 2 DPIPWE 2009 Potential Acid Sulfate Soil Test program - Arbothnots Lagoon, Flinders Island

**Attachment 1**

**Land Titles**



OWNER: MRS GILLIAN WOODS  FOLIO REFERENCE: C.T. 241252/1 <del>AND C.T. 241252/2</del>  GRANTEE: PART OF 425A Or Op GRANTED TO RUPERT WILLIAM LADE		<b>PLAN of SURVEY</b>  BY SURVEYOR: NICHOLAS GRIGGS of Nick Griggs & Co. 295 Elizabeth Street, North Hobart, 7000 Ph: 6234 5022 Fax: 6231 2412  LOCATION: <b>PARISH OF LUGHRATA DISTRICT OF FLINDERS</b>  SCALE: 1: 10000 LENGTHS IN METRES		Registered Number  <b>SP 154620</b>  APPROVED - 1 DEC 2010 <i>Alice Kawa</i> Recorder of Titles
MAPSHEET MUNICIPAL CODE No. 124 (5657)	LAST UPI No. AAST8	LAST PLAN No. PZ41252	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN.	

LOT 1 IS COMPILED FROM C.T. 241252/1 AND THIS SURVEY

NEW PLAN

SEE PLAN RELATED DOCUMENTS  
 COUNCIL DELEGATE \_\_\_\_\_ DATE \_\_\_\_\_

## SEARCH OF TORRENS TITLE

VOLUME 154620	FOLIO 2
EDITION 1	DATE OF ISSUE 01-Dec-2010

SEARCH DATE : 20-Nov-2018

SEARCH TIME : 08.30 PM

DESCRIPTION OF LAND

Parish of LUGHRATA Land District of FLINDERS

Lot 2 on Sealed Plan 154620

Derivation : Part of Lot 24849, 425 Acres Gtd. to R W Lade

Prior CT 241252/1

SCHEDULE 1C180366 GILLIAN FRANCES WOODS Registered 29-Jul-1999 at 12.  
01 PMSCHEDULE 2Reservations and conditions in the Crown Grant if any  
SP154620 FENCING PROVISION in Schedule of EasementsUNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



OWNER: MRS GILLIAN WOODS  CT 212563-1 FOLIO REFERENCE: <del>CT 160313</del> CT 212563-1  GRANTEE: PART OF 425A Or Op GRANTED TO RUPERT WILLIAM LADE WHOLE OF LOT 32319 931-D-27 GTD TO C. STACKHOUSE		<b>PLAN of TITLE</b>  BY SURVEYOR: NICHOLAS GRIGGS of Nick Griggs & Co. 295 Elizabeth Street, North Hobart, 7000 Ph: 6234 5022 Fax: 6231 2412  LOCATION: <b>PARISH OF LUGHRATA DISTRICT OF FLINDERS</b>  SCALE: 1: 20000 LENGTHS IN METRES		Registered Number  <b>P 160313</b>  APPROVED EFFECTIVE FROM: - 1 DEC 2010 <i>Alice Kawa</i> Recorder of Titles
MAPSHEET MUNICIPAL CODE No. 124 (5657)	LAST UPI No. AAS78 AAS79	LAST PLAN No. P212563 P241252	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN.	

**BALANCE PLAN**

Key features of the plan:

- Parcel Area:** 414.5 ha (414.00 ha NOT INC. ROAD)
- Roads:**
  - RESERVED ROAD 20.12 WIDE (top diagonal)
  - RESERVED ROAD 20.12 WIDE (middle horizontal)
  - RESD RD. 10.06 WIDE (bottom horizontal)
- Adjacent Features:**
  - CROWN RESERVATION (west, Marshall Bay)
  - Other land parcels identified by numbers in parentheses: (P201846), (P201847), (P238935), (P207905), (P246489), (P246489), (D.42907), (P246489).
- Distances and Points:** Various numerical values are provided along the boundaries, such as 744.14, 159.15, 376.75, 134.35, 419.91, 621.10, 50.30, 540.94, 1110.65, 209.82, 2434.54, 2434.88, 392.48, 881.52, 979.49, 5110, 76.04, 1719.99, 1435.33, 649.57, 36.61, 40.49.

## SEARCH OF TORRENS TITLE

VOLUME 160313	FOLIO 1
EDITION 1	DATE OF ISSUE 01-Dec-2010

SEARCH DATE : 20-Nov-2018

SEARCH TIME : 08.30 PM

DESCRIPTION OF LAND

Parish of LUGHRATA Land District of FLINDERS

Lot 1 on Plan 160313

Derivation : Whole of Lot 32319, 931A-0R-27P Gtd. to C.

Stackhouse and Part of Lot 24849, 425A-0R-0P Gtd. to R W Lade

Prior CTs 212563/1 and 241252/1

SCHEDULE 1C180366 GILLIAN FRANCES WOODS Registered 29-Jul-1999 at 12.  
01 PMSCHEDULE 2Reservations and conditions in the Crown Grant if any  
C964898 ADHESION ORDER under Section 110 of the Local  
Government (Building and Miscellaneous Provisions)  
Act 1993 Registered 01-Dec-2010 at noonUNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations



**Attachment 2**

**DPIPWE 2009 Potential Acid Sulfate Soil Test program - Arbothnots Lagoon, Flinders Island**

**Site Information**

Site ID: T7.11

17.2.1 - February 2019

ASRIS Code: Bi(p1)

**Desc. By:** R. Moreton  
**Date Desc.:** 21/06/09  
**Map Ref.:** GPS  
**Northing:** 5574251 AMG zone: 55  
**Easting:** 577603  
**Locality:** Flinders Island, Arbothnots Lagoon.

**Landuse:** Park/natural Conservation Area  
**Rainfall (mm):** 650  
**Permeability:** Slowly Permeable  
**Drainage:** Very poorly drained  
**Land Capability:** Class 7

**ASRIS Code Desc:** Low probability of occurrence (6-70% chance of occurrence in mapping unit). Sandplains and dunes 2-10m AHD, ASS generally below 1m from the surface. Heath, forests. Holocene or Pleistocene. Potential acid sulfate soil (PASS) = sulfidic material (Isbell 1996 p.122).  
 Bi(p1) All necessary analytical and morphological data are available.

**Soil Classification**

**Australian Soil Classification:** 2 HY DT CB GU C E K N W  
 Humose-Calcareous Calcarosolic Oxyaquic Hydrosol Thick Non-gravelly  
 Sandy Silty Deep  
**ASC Confidence:**  
 Analytical data are incomplete but reasonable confidence.

**Land Form**

**Slope Category:** Level  
**Morph. Type:** Closed Depression  
**Elem. Type:** Lagoon  
**Pattern Type:** Sand plain  
**Erosion:**  
**Surf. Soil Condition):** Soft  
**Surf. Coarse Fragments:** 2-10%, coarse gravelly, 20-60mm, , Shells  
**Inundation Frequency:** More than one occurrence per year

**Slope:** 0 %  
**Aspect:** No Data  
**Rel/Slope:** No Data

**Geology**

**Geol. Ref.:** Qh  
**Scale:** 1:25,000 Geology  
**Description:** Sand gravel and mud of alluvial, lacustrine and littoral origin.

**Profile Morphology**

1A1	0 - 0.07 m	Black (10YR2/1-Moist); Loamy sand; Weak grade of structure, <2 mm, Polyhedral; Single grain grade of structure; Soil matrix is Very highly calcareous; Field pH 8.91 (pH meter); EC .415 Ds/m
1A2k	0.07 - 0.22 m	Light yellowish brown (2.5Y6/4-Moist); Loam; Single grain grade of structure; Soil matrix is Very highly calcareous; Field pH 8.78 (pH meter); EC .395 Ds/m
2A1	0.22 - 0.37 m	Very dark brown (10YR2/2-Moist); Silty loam; Weak grade of structure, 2-5 mm, Polyhedral; 0-2%, fine gravelly, 2-6mm, Shells, coarse fragments; Soil matrix is Very highly calcareous; Field pH 8.54 (pH meter); EC 1.32 Ds/m
2A2	0.37 - 0.67 m	Light brownish grey (10YR6/2-Moist); Clayey sand; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, Shells, coarse fragments; Soil matrix is Very highly calcareous; Field pH 8.62 (pH meter); EC Ds/m
2B1	0.67 - 0.94 m	Pale yellow (2.5Y7/3-Moist); Clayey sand; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, Shells, coarse fragments; Soil matrix is Very highly calcareous; Field pH 8.43 (pH meter); EC 1.03 Ds/m
2B2	0.94 - 1.39 m	Light brownish grey (2.5Y6/2-Moist); Mottles, Clayey sand; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, Shells, coarse fragments; Soil matrix is Very highly calcareous; Field pH 8.26 (pH meter); Field pH 8.27 (pH meter); EC .97 Ds/m; EC 1.04 Ds/m
2B3h	1.39 - 1.46 m	Greyish brown (10YR5/2-Moist); Mottles, 0-2%, 0-5mm, Distinct, 10YR2/1; Silty loam; Massive grade of structure; 0-2%, fine gravelly, 2-6mm, Shells, coarse fragments; Soil matrix is Very highly calcareous; Field pH 8.24 (pH meter); EC .56 Ds/m
2C	1.46 - 1.7 m	Pale yellow (2.5Y7/3-Moist); Mottles, 0-2%, , Distinct, 2.5Y5/2; Silty loam; Massive grade of structure; Soil matrix is Very highly calcareous; Field pH 7.94 (pH meter); EC .44 Ds/m

**Vegetation:**

*Poa labillardieri*, *Gahnia* sp., Stinging nettles, sedge sp, rush sp.

**Site Notes**

1A1 Calcareous hydrosol.

520m ENE of Castle Rock.



Chip tray photographpH ageing test dataLaboratory data

Sample code	Initial pH 1:5 (field)	pH FOX (lab)	Aged sample pH 1:5	pH Change after ageing 1:5
T7.11.1	8.91	6.26	7.94	-0.97
T7.11.2	8.78	6.39	7.92	-0.86
T7.11.3	8.54	6.12	7.78	-0.76
T7.11.4	8.62	6.34	8.1	-0.52
T7.11.5	8.43	6.39	8.05	-0.38
T7.11.6	8.26	6.54	8.28	0.02
T7.11.7	8.27	6.52	8.39	0.12
T7.11.8	8.24	6.44	8.18	-0.06
T7.11.9	7.94	6.59	8.36	0.42

% Chromium reducible Sulfur	Reduced inorganic Sulfur (moles H <sup>+</sup> /tonne)	Lime Calculation Kg/m <sup>3</sup> *(Neutralising Requirement)
0.013	8	1
0.13	8	1
0.052	32	2
0.036	22	2
0.045	28	2
0.065	41	-933
0.063	39	-914
0.064	40	-858
0.043	27	2

Discussion of results

- The laboratory tests conducted on samples from this site identify the presence of **Potential Acid Sulfate Soil (PASS)** horizons within this soil profile to the depth sampled.
- Horizons shaded blue indicate the depths at which samples have exceeded the Laboratory trigger values for Acid Sulfate Soil Classification.
- For this site the **Risk Category** for disturbance of and impact from ASS= **Very High** as PASS material is within 50cm of surface.
- Ageing Test** results show **low risk** of oxidation to form ASS under natural conditions.

(ageing tests were undertaken for a minimum of 12 weeks)

- Lime Calculation (kg/m<sup>3</sup>)** - indicates the required kg of lime/m<sup>3</sup> that will neutralise acidity. Layers shaded blue, indicate those soil horizons which have been classified as ASS and therefore have potential to generate acidity from sulfide oxidation, Horizons with no blue shading are not classified as ASS but may in some circumstances have some neutralising requirement (eg soils are naturally acidic or sulfide content is low). Negative figures for Lime Calculation indicate soil horizons with its own ANC (acid neutralising capacity). \* Note - Lime Calculation includes a 1.5 safety factor and to achieve a neutralising effect will require lime to be appropriately applied and mixed within that soil layer (refer to Tasmanian Acid Sulfate Soil Guidelines, 2009 available free from Department of Primary Industries Parks Water and Environment or online at: [www.dpipwe.tas.gov.au/acidsulfatesoils](http://www.dpipwe.tas.gov.au/acidsulfatesoils)).

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#### Document Status

Revision	Author	Reviewer and Organisation	Date
1	R Barnes C McCoull	RW Barnes, VDC Pty Ltd	7-1-2019
1	R Barnes C McCoull	D Gibbons, Davrol Rural Management Pty Ltd	8-1-2019
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