

## Attachment 3 to Ministerial Statement 633

### Change to proposal approved under section 45C of the *Environmental Protection Act 1986*

This Attachment replaces Schedule 1 and all previous Attachments to  
Ministerial Statement 633

**Proposal: Ravensthorpe Nickel Project**

**Proponent: FQM Australia Nickel Pty Ltd**

**Changes:**

- Increase in disturbance footprint of 282 ha and removal of elements considered not environmentally relevant or managed under other legislation.

**Table 1: Summary of the Proposal**

Proposal Title	Ravensthorpe Nickel Project, Bandalup Hill, Shire of Ravensthorpe
Short Description	<p>The Ravensthorpe Nickel Project is located 35 kilometres east of Ravensthorpe and involves the mining of nickel ore from three ore-bodies: Halleys, Hale-Bopp and Shoemaker-Levy, and the processing of this ore into a nickel-cobalt hydroxide product for shipment via the Port of Esperance.</p> <p>Key components of the project include:</p> <ul style="list-style-type: none"> <li>• transport of ore to Run-of-Mine pads via combination of haul roads and conveyor;</li> <li>• a process water supply and reject brine pipeline to the coast; and</li> <li>• tailings storage facilities and evaporation ponds.</li> </ul> <p>A crucial management strategy for the development of this project is the establishment of a <i>Kunzea similis</i> conservation area. As part of this proposal an area has been set aside from mining (refer to Fig. 3) for the conservation in situ of sub populations of <i>Kunzea similis</i>. Direct disturbance through mining activities will be excluded from this area (which includes a 50 metre buffer around the populations) and indirect impacts will be closely monitored and managed.</p>

**Table 2: Location and authorised extent of physical and operational elements**

Element	Previously Authorised Extent	Authorised Extent
Project Life	~20 years	<b>Removed as not a significant key characteristic relevant to the environment.</b>
Nominal size of resource (at cut-off grade of 0.5% Ni)	183.3 Mt	<b>Removed as not a significant key characteristic relevant to the environment.</b>
Halleys Deposit	66.9 Mt	<b>Removed as not a significant key characteristic relevant to the environment.</b>
Hale-Bopp Deposit	25.2 Mt	<b>Removed as not a significant key characteristic relevant to the environment.</b>
Shoemaker-Levy Deposit	91.2 Mt	<b>Removed as not a significant key characteristic relevant to the environment.</b>
Mining Rate – Maximum Mining Rate (ore) – average	18.8 Mtpa 10.0 Mtpa	<b>Removed as not a significant key characteristic relevant to the environment.</b>

Element	Previously Authorised Extent	Authorised Extent
Beneficiated ore production (average)	3.8 Mtpa	<b>Removed as not a significant key characteristic relevant to the environment.</b>
Acid Leach throughput	3.8 Mtpa	<b>Removed as managed under Part V of the Environmental Protection Act 1986</b>
Maximum depth of mining	60 m (from edge of pit)	60 m (from edge of pit)
Tailings Storage Area – ground level footprint	460 ha	460 ha
Tailings Storage Areas – final surface area	460 ha	<b>Removed as described above in Tailings Storage Area – ground level footprint</b>
Evaporation pond	Not more than 391 ha	Not more than 391 ha
<b>Water Supply Source</b>		
Operations Water Supply Source	Seawater	<b>Removed as described below under Operations Water Supply – raw water (average)</b>
Construction Water Supply Source	Groundwater	<b>Removed as described below under Construction Water Supply</b>
Operations Water Supply – raw water (average)	Seawater Up to 30,000 kL/day (35,000 mg/L TDS)	<b>Seawater Up to 30,000 kL/day</b>
Construction Water Supply	Groundwater Up to 2,5000 kL/day (~20,000 mg/L TDS)	<b>Groundwater Up to 2,5000 kL/day)</b>
Energy generation – installed capacity Current configuration is 2 x 2 MW diesel engines and 3 x 18 MW steam turbines (Two in use, one standby)	58 MW	<b>Removed as managed under Part V of the Environmental Protection Act 1986</b>
Energy generation – from diesel engines	4 MW	<b>Removed as managed under Part V of the Environmental Protection Act 1986</b>
Energy generation – from steam turbines (acid plant)	32-45 MW	<b>Removed as managed under Part V of the Environmental Protection Act 1986</b>
Energy consumption – (combination of diesel power station and recovered steam power from acid plant)	36 MW	<b>Removed as managed under Part V of the Environmental Protection Act 1986</b>
<b>Limestone</b>	200,000 tpa	<b>Removed as managed under Part V of the Environmental Protection Act 1986</b>
Sulphur	Up to 500,000 tpa <1.8kg SO <sub>2</sub> per tonne of acid produced	Up to 500,000 tpa <1.8kg SO <sub>2</sub> per tonne of acid produced
Diesel (includes mining)	15,000 tpa	<b>Removed as not a significant key characteristic relevant to the environment</b>
Workforce construction (including mining)	1,200 people	<b>Removed as not a significant key characteristic relevant to the environment</b>
Workforce operations (including mining)	300 people	<b>Removed as not a significant key characteristic relevant to the environment</b>
Pit area (combined Total)	1068 ha	<b>1204 ha</b>
Pit area – Halleys	205 ha	<b>233 ha</b>
Pit area – Hale-Bopp	197 ha	<b>305 ha</b>
Pit area – Shoemaker-Levy	666 ha	666 ha
Limestone Quarry Area – Tamarine	67 ha	67 ha
Plant area <i>Hydrometallurgical Process Plant (including Beneficiation Plant)</i>	53 ha	53 ha
Crusher and conveyor	20 ha	20 ha

Element	Previously Authorised Extent	Authorised Extent
Ore Stockpile Area includes ROM pads (combined Total)	35 ha	35 ha
Stockpile area – Halleys	12 ha	12 ha
Stockpile area – Hale-Bopp	12 ha	12 ha
Stockpile area – Shoemaker-Levy	11 ha	11 ha
Overburden Storage Area – waste dumps (combined total)	469 ha	<b>586 ha</b>
Overburden Storage Area – Halleys and Hale-Bopp (excluding backfilled areas)	231 ha	<b>348 ha</b>
Overburden Storage Area – Shoemaker-Levy	238 ha	238 ha
Sands Reject Storage Facility	160 ha	160 ha
Accommodation Village	Up to 25 ha	Up to 25 ha
Nickel Production <b>Nominal</b> nickel production (contained nickel in a mixed nickel cobalt hydroxide intermediate)	Up to 50,000 tpa	Up to 50,000 tpa
Transport rate to site	855,000 tpa	855,000 tpa
Transport rate from site (product)	Up to 220,000 tpa	Up to 220,000 tpa

Note: Text in **bold** indicates a change to the proposal.

### Table 3: Abbreviations

Abbreviation	Term
ha	hectare
tpa	tonnes per annum
kL	kilolitre

### Figures (attached)

Figure 1 - Regional Plan Showing Project Layout

Figure 2 - Location of Project Elements

Figure 3 - Conservation Areas

Figure 4 - Seawater Onshore Intake Facility

Figure 5 - Reject Sand Storage – General Arrangement

Figure 6 - Disturbance Envelope and Community Conservation Area Boundaries

[Signed 12 August 2014]

**Dr Paul Vogel**

CHAIRMAN

Environmental Protection Authority  
under delegated authority

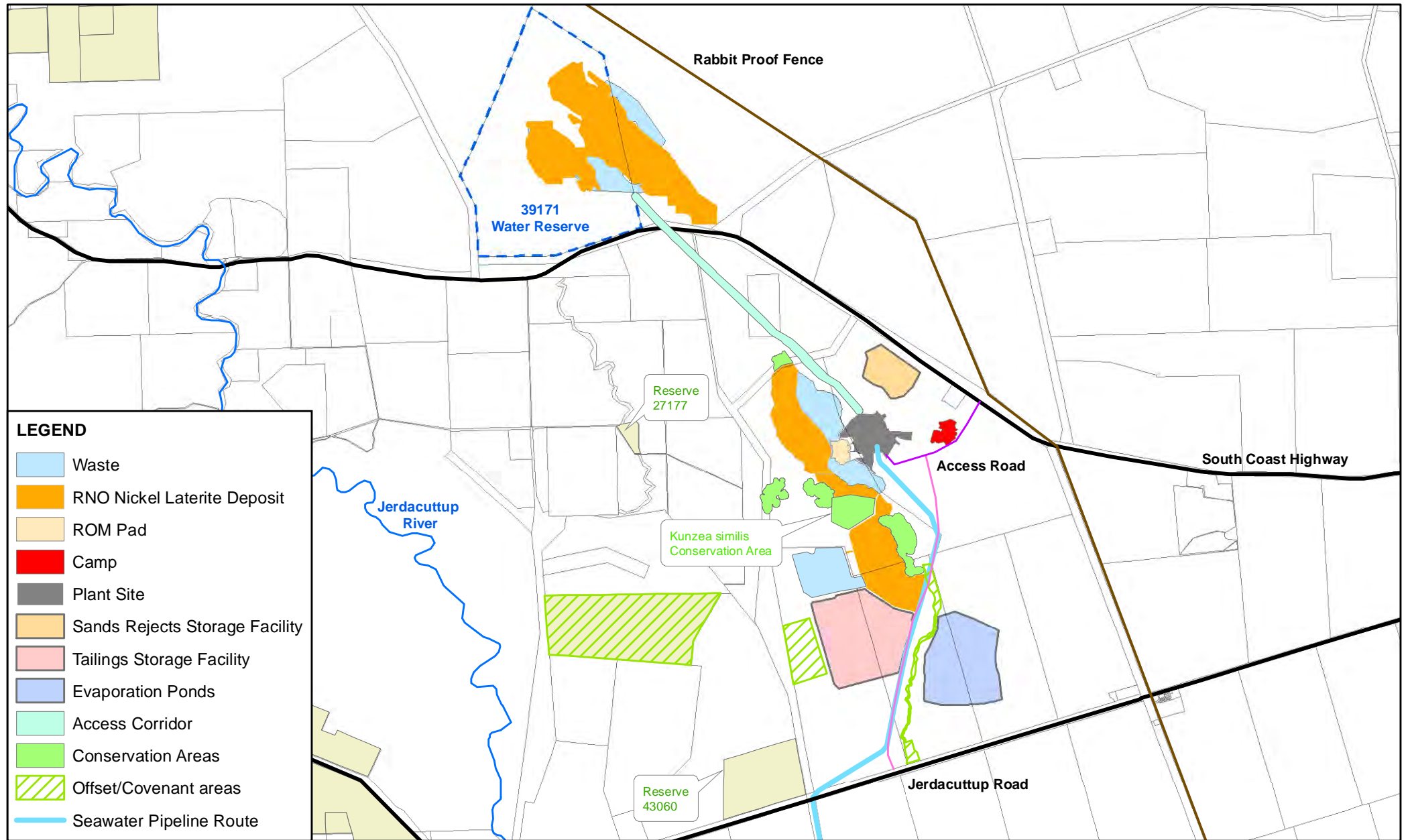




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**Figure 1. Regional Plan Showing Project Layout**  
 Project Elements for Ministerial Statement 633





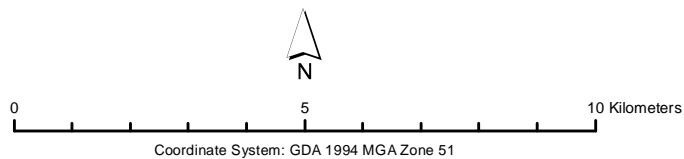
**Figure 2. Project Elements**

Project Elements for Ministerial Statement 633

Date: 01/08/2014

Drawn By: Cheyne A. Jowett

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**Figure 3 Conservation Areas**

Project Elements for Ministerial Statement 633  
 Hibbertia abyssa Conservation Area established following classification as Threatened Flora - Declared Rare Flora in 2010.

Date: 04/08/2014

Drawn By: Cheyne A. Jowett

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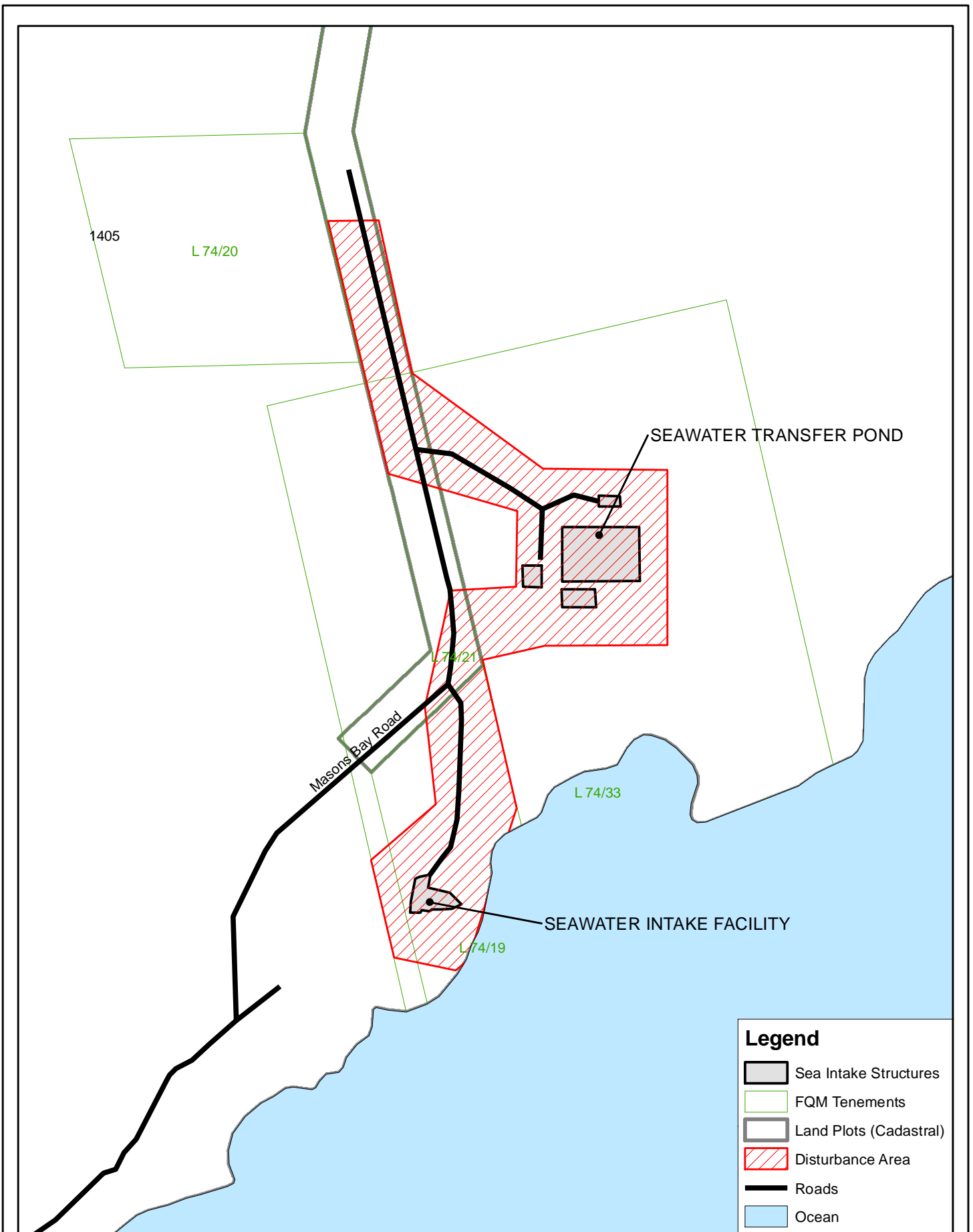


0 0.75 1.5 Kilometers

Coordinate System: GDA 1994 MGA Zone 51



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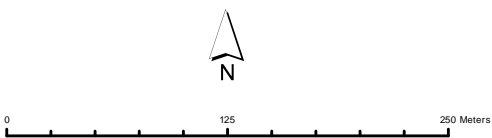
**Figure 4. Seawater Onshore Intake Facility**

Project Elements for Ministerial Statement 633

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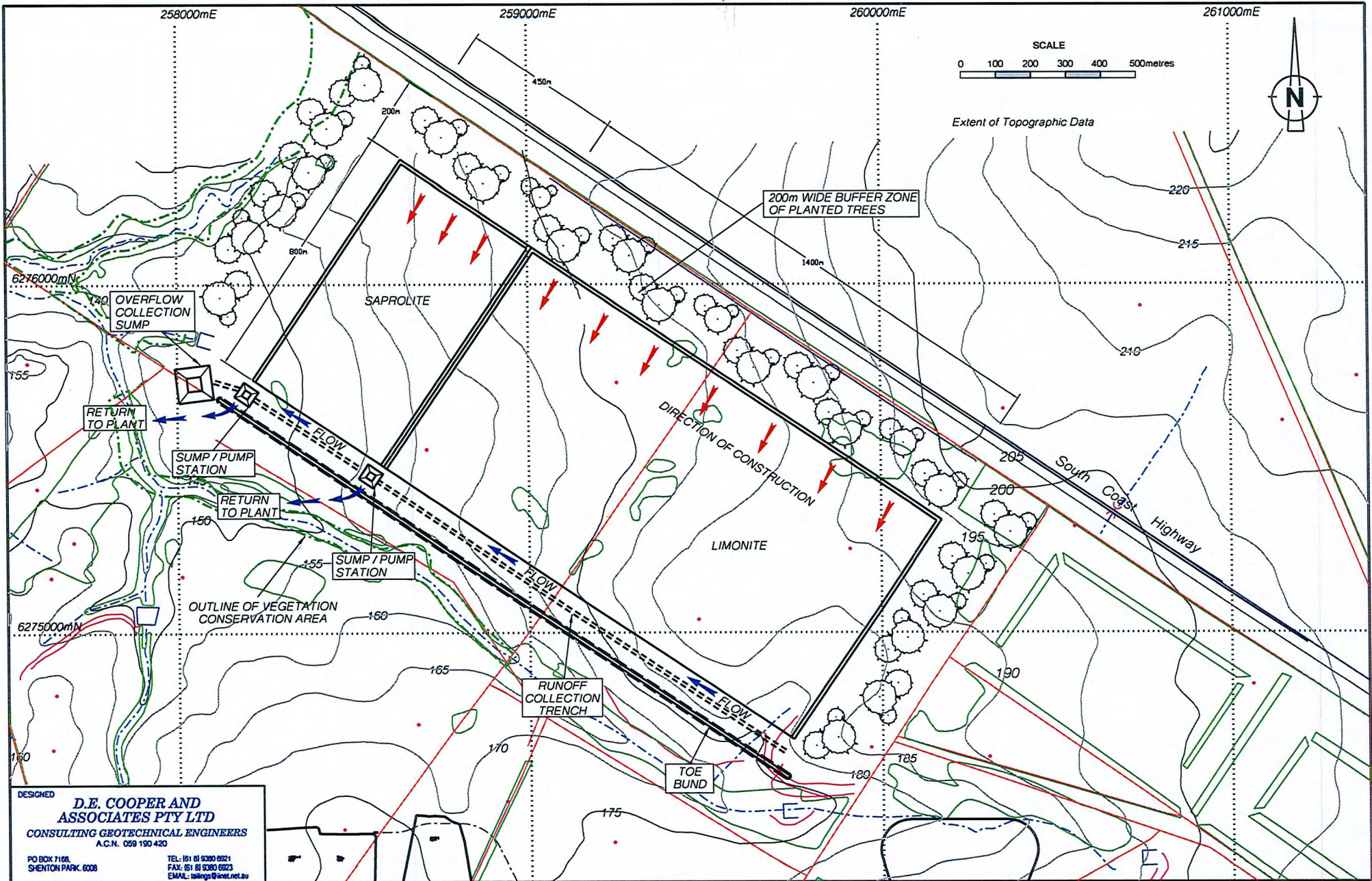


Coordinate System: GDA 1994 MGA Zone 51



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DESIGNED  
**D.E. COOPER AND ASSOCIATES PTY LTD**  
 CONSULTING GEOTECHNICAL ENGINEERS  
 A.C.N. 059 190 420  
 PO BOX 7166, SHENTON PARK, 6008  
 TEL: 61 81 9380 6921  
 FAX: 61 81 9380 6923  
 EMAIL: [tdallings@inet.net.au](mailto:tdallings@inet.net.au)

REV	DATE	REVISION	CHECKED	APPROV.	DRAWN	BY	DATE
						J.H.	20.09.10
						D.C.	20.09.10

**CLIENT APPROVED FOR CONSTRUCTION**

DATE: \_\_\_\_\_ SIGNED: \_\_\_\_\_

CLIENT  
**FQM AUSTRALIA NICKEL PTY LTD**

PROJECT  
**RAVENSTHORPE NICKEL PROJECT**

TITLE  
**REJECT SAND STORAGE GENERAL ARRANGEMENT**

SIZE  
**A3**

DEC PROJECT No.  
**184**

SCALE  
**1 : 10000**

DRAWING No.  
**Figure 5**

REV.  
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Figure 6. Disturbance Envelope and Community Conservation Area Boundaries