



## Referral of a Proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*.

### PURPOSE OF THIS FORM

Section 38 of the *Environmental Protection Act 1986* (EP Act) makes provision for the referral to the Environmental Protection Authority (EPA) of a proposal (significant proposals, strategic proposals and proposals under an assessed scheme) by a proponent, a decision making authority (DMA), or any other person.

The purpose of this form is to ensure that EPA has sufficient information about a proposal to make a decision about the nature of the proposal and whether or not the proposal should be assessed under Part IV of the EP Act. Information provided in the referral form must be brief (no more than 30 pages), sharp and succinct to achieve the purposes of this form.

This form does not prevent the referrer from providing a supplementary referral report. Should a referrer choose to submit a supplementary referral report please ensure the following.

- i. Information is short, sharp and succinct.
- ii. Attachments are below eight megabytes (8 MB) as they will be published on the EPA's website (exemptions apply) for public comment. To minimise file size, "flatten" maps and optimise pdf files.
- iii. Cross-references are provided in the referral form to the appropriate section/s in the supplementary referral report.

This form is to be used for all proposals<sup>1</sup> which can be referred to the EPA under section 38 of the EP Act; i.e. referrals from: **proponents** of proposals (significant proposals, strategic proposals, derived proposals, proposals under an assessed scheme); **DMAs** (significant proposals); and **third parties** (significant proposals).

This form is divided into several sections, including; Referral requirements and Declaration; Part A - Information of the proposal and proponent; and Part B Environmental Factors. Guidance on successfully completing this form is provided throughout the form and is also available in the EPA's *Environmental Assessment Guideline for Referral of a Proposal under s38 of the EP Act (EAG 16)*.

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<sup>1</sup> Please note that this form consolidates and replaces the following forms: *Referral of a Proposal by the Proponent to the EPA under section 38(1) of the EP Act*; *Referral of a Proposal by a third party to the EPA under section 38(1) of the EP Act*; and *Referral of a development proposal to the EPA by the decision making authority*.

**Send completed forms to**

Office of the Environmental Protection Authority  
Locked Bag 10, East Perth WA 6892

or

Email: [Registrar@epa.wa.gov.au](mailto:Registrar@epa.wa.gov.au)

**Enquiries**

Office of the Environmental Protection Authority  
Locked Bag 10, East Perth WA 6892

Telephone: 6145 0800

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# Referral requirements and Declaration

The following section outlines the referral information required from a proponent, decision making authority and third party.

## (a) Proponents

Proponents are expected to complete all sections of the form and provide GIS spatial data to enable the EPA to consider the referral. Spatial GIS data is necessary to inform the EPA's decision.

The EPA expects that a proponent will address Part B of the form as thoroughly as possible to demonstrate whether or not the EPA's objectives for environmental factors can be met.

If insufficient information is provided the EPA will request more information and processing of the referral will commence once the information is provided or the EPA decides to make a precautionary determination on the available information.

Proponent to complete before submitting form	
Completed all the questions in Part A (essential)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Completed all the questions in Part B	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Completed all other applicable questions	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Included Attachment 1 – any additional document(s) the proponent wishes to provide	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Included Attachment 2 – confidential information (if applicable)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but clearly separating any confidential information	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Completed the Declaration	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
What is the type of proposal being referred? <i>* a referred proposal seeking to be declared a derived proposal</i>	<input checked="" type="checkbox"/> significant <input type="checkbox"/> strategic <input type="checkbox"/> derived* <input type="checkbox"/> under an assessed scheme
Do you consider the proposal requires formal environmental impact assessment?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes, what level of assessment? <i>API = Assessment of Proponent Information PER = Public Environmental Review</i>	<input type="checkbox"/> API Category A <input type="checkbox"/> API Category B <input type="checkbox"/> PER


**NB:** The EPA may apply an Assessment on Proponent Information (API) level of assessment when the proponent has provided sufficient information about:

- the proposal;
- the proposed environmental impacts;
- the proposed management of the environmental impacts; and
- when the proposal is consistent with API criteria outlined in the [Environmental Impact Assessment \(Part IV Division 1 and 2\) Administrative Procedures 2012](#).

If an API A formal level of assessment is considered appropriate, please refer to Environmental Assessment Guideline No. 14 *Preparation for an Assessment on Proponent Information (Category A) Environmental Review Document EAG 14 (EAG14)*.

## Declaration

I, Dale Geoffrey Newsome (*full name*) declare that I am authorised on behalf of...Stephen Elliott (Urban Resources).... (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 		Name (print) Dale Newsome	
Position	Senior Principal / Partner	Organisation	Strategen Environmental Consultants
Email	d.newsome@strategen.com.au		
Address	Level 1, 50	Subiaco Square Road	
	Subiaco	WA	6904
Date	4 November 2015		

## (b) Decision-making authority

The EPA expects decision-making authorities to complete applicable sections of Part A of the form and provide the proponent an opportunity to provide additional information in Part B of the form where appropriate.

Wherever possible the DMA should obtain relevant spatial information from the proponent and provide this to the EPA with the referral.

DMA to complete before submitting form	
Completed all the questions in Part A (essential)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Provided Part B to the proponent for completion	<input type="checkbox"/> Yes <input type="checkbox"/> No
Completed all other applicable questions	<input type="checkbox"/> Yes <input type="checkbox"/> No
Included Attachment 1 – any supporting information	<input type="checkbox"/> Yes <input type="checkbox"/> No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping	<input type="checkbox"/> Yes <input type="checkbox"/> No
Completed the below Declaration	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you consider the proposal requires formal environmental impact assessment?	<input type="checkbox"/> Yes <input type="checkbox"/> No
What is the type of proposal being referred?	<input type="checkbox"/> significant proposal <input type="checkbox"/> significant proposal under an assessed scheme

## Declaration

I, ....., (*full name*) submit this referral to the EPA for consideration of the environmental significance of its impacts.

Signature		Name (print)	
Position		Organisation	
Email			
Address	Street No.	Street Name	
	Suburb	State	Postcode
Date			

### (c) Third Party

Third parties are asked to have consideration for the Significance Test outlined in Part A Section 1.5 of this form before referring a significant proposal to the EPA. The EPA will only consider proposals that are likely, if implemented, to have a significant effect on the environment.

Third parties are to provide sufficient information to clearly identify the significant proposal, the proponent, and their reasons for referring the proposal. This can be done by completing as much of Part A of the form as possible, taking into consideration the information available. Third parties may wish to fill in Part B of the form to advance their own views of the significance of the environmental impacts and the need for EPA assessment.

In most cases the EPA will seek additional information from the proponent. This will be to confirm or amend the identity of the proponent, the proposal, and to allow the proponent opportunity to provide its views on the significance of the environmental impacts and the need for EPA assessment.

Third Party to complete before submitting form	
Complete all applicable questions in Part A and B	<input type="checkbox"/> Yes <input type="checkbox"/> No
Completed the Declaration	<input type="checkbox"/> Yes <input type="checkbox"/> No
Do you consider the proposal requires formal environmental impact assessment?	<input type="checkbox"/> Yes <input type="checkbox"/> No

### Declaration

I, ....., (*full name*) submit this referral to the EPA for consideration of the environmental significance of its impacts.

Signature		Name (print)			
Email					
Position		Organisation			
Address	Street No.	Street Name			
	Suburb	State	Postcode		
Date					

## PART A: Information on the proposal and the proponent

All fields of Part A must be completed by the proponent and/or decision-making authority for this document to be processed as a referral. Third party referrers are only expected to fill in the fields they have information for.

### 1 PROPONENT AND PROPOSAL DESCRIPTION

#### 1.1 The proponent of the proposal

Proponent and/or DMA to complete	
Name of the proponent	Urban Resources Pty Ltd
Joint Venture parties (if applicable)	N/A
Australian Company Number(s)	166 570 636
Postal Address <i>(Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)</i>	PO Box 739, Como Western Australia 6152
Key proponent contact for the proposal  <i>Please include: name; physical address; phone; and email.</i>	Stephen Elliot 4/127 Melville Parade, Como Western Australia 6152 (08) 9368 1299 Stephen@urbanresources.com.au
Consultant for the proposal (if applicable)  <i>Please include: name; physical address; phone; and email.</i>	Dale Newsome Strategen Level 1, 55 Subiaco Square Road, Subiaco Western Australia 6008 (08) 9380 3100 Dnewsome@strategen.com.au

#### 1.2 Proposal

Proposal is defined under the EP Act to mean a “project, plan, programme policy, operation, undertaking or development or change of land use, or amendment of any of the foregoing, but does not include scheme”. Before completing this section please refer to [Environmental Protection Bulletin 17 – Strategic and derived proposals \(EPB 17\)](#) and [Environmental Assessment Guideline for Defining the Key Characteristics of a proposal \(EAG 1\)](#).

Proponent and/or DMA to complete	
Title of the proposal	Karnup Sand Mining Project
What project phase is the proposal at?	<input type="checkbox"/> Scoping <input type="checkbox"/> Feasibility <input checked="" type="checkbox"/> Detailed design <input type="checkbox"/> Other _____
Proposal type  <i>More than one proposal type can be identified, however for filtering purposes it is recommended that only the primary proposal type is identified.</i>	<input type="checkbox"/> <b>Power/Energy Generation</b> <input type="checkbox"/> Hydrocarbon Based – coal <input type="checkbox"/> Hydrocarbon Based – gas <input type="checkbox"/> Waste to energy <input type="checkbox"/> Renewable – wind <input type="checkbox"/> Renewable – wave <input type="checkbox"/> Renewable – solar <input type="checkbox"/> Renewable – geothermal

**Proponent and/or DMA to complete**

**X Mineral / Resource Extraction**

- Exploration – seismic
- Exploration – geotechnical
- X Development

**Oil and Gas Development**

- Exploration
- Onshore – seismic
- Onshore – geotechnical
- Onshore – development
- Offshore – seismic
- Offshore – geotechnical
- Offshore – development

**Industrial Development**

- Processing
- Manufacturing
- Beneficiation

**Land Use and Development**

- Residential – subdivision
- Residential – development
- Commercial – subdivision
- Commercial – development
- Industrial – subdivision
- Industrial – development
- Agricultural – subdivision
- Agricultural – development
- Tourism

**Linear Infrastructure**

- Rail
- Road
- Power Transmission
- Water Distribution
- Gas Distribution
- Pipelines

**Water Resource Development**

- Desalination
- Surface or Groundwater
- Drainage
- Pipelines
- Managed Aquifer Recharge

**Marine Developments**

- Port
- Jetties
- Marina
- Canal
- Aquaculture
- Dredging

*If other, please state below:*



Proponent and/or DMA to complete	
	<input type="checkbox"/> Other _____
Proponent and/or DMA to complete	
<p>Description of the proposal – describe the key characteristics of the proposal in accordance with <a href="#">EAG 1</a>.</p>	<p>The Proposal involves the construction and operation of the Karnup Sand Mine (the Proposal) for sand extraction to supply various customers predominately in the construction industry. The Proposal is located on an existing mining lease (M70/1262), located approximately 48 km south of the Perth CBD (the Proposal area, Figure 1).</p> <p>The Proposal will result in disturbance of 41.96 hectares (ha), comprising 41.87 ha for the mining area, including the haul road; to facilitate access to the sand resource and topsoil, overburden and vegetative stockpiles and 0.09 ha for the Proposal area compound (Figure 2). The Proposal area is a former pine plantation that was progressively cleared from 2006 to 2009. As such 24.29 ha of the vegetation proposed to be impacted is in variable states of regeneration. The vegetation is typically low and sparse with weed density variable with a condition rating of Good.</p> <p>A total of 6.54 ha of the vegetation which was not subject to impact from the former plantation use is in Very Good condition and is described as <i>Banksia menziesii</i>, <i>B. attenuata</i>, <i>Allocasuarina fraseriana</i> and <i>Eucalyptus marginata</i> open woodland over <i>Kunzea glabrescens</i>, <i>Acacia pulchella</i> and <i>Macrozamia fraseri</i> mid sparse shrubland over <i>Hibbertia hypericoides</i>, <i>Conostephium pendulum</i> and <i>Gompholobium tomentosum</i> low sparse shrubland.</p> <p>Mining will not intercept groundwater, remaining at least 1.2 m above the Assessment Groundwater Level. The AGL is generally 3 to 3.5 m AHD beneath the proposed action area. Historic monitoring data from the site indicates that groundwater levels within the Urban Resources site ranged from approximately 1 m AHD to 2.5 m AHD. In this context, the AGL is a highly conservative groundwater level and the actual finish level of mining is greater than 1.2 m (1.7 m to 3.2 m) above groundwater.</p>

<b>Proponent and/or DMA to complete</b>	
	<p>Mining will not encroach within 50 m of the wetlands on site. The mining operation will not alter surface water flows or result in any discharge from the Proposal area.</p> <p>Groundwater will be sourced off site for dust suppression and screening and crushing will not be undertaken within the Proposal area.</p> <p>An estimated total of 1 553 800 m<sup>3</sup> of sand will be mined over a five year mine life.</p> <p>Sand will be transported via a haul road located within M70/1262 prior to transport to customers via Stakehill Road. Consistent with the current zoning, the post-mining land use is anticipated to be Parks and Recreation with the area identified by the City of Rockingham as a future regional sporting complex, including playing fields, indoor sporting facilities and open parklands. The vegetated corridor along the western boundary of the Proposal area is proposed to be reinstated following mining which will focus on providing food resources for Black Cockatoos. Rehabilitation will be undertaken consistent with the proposed land use.</p>
Timeframe in which the proposal is to occur (including start and finish dates where applicable).	<p>Commencement: Q4 2015</p> <p>Completion of mining: Q4 2020</p>
Details of any staging of the proposal.	Mining will commence in a staged manner starting in the west of the Proposal area at the highest areas before progressing east.
What is the current land use on the property, and the extent (area in hectares) of the property?	The Proposal area is currently vacant, bushland and cleared land. Total tenement area is 225.6 ha.
<p>Have pre-referral discussions taken place with the OEPA?</p> <p>If yes, please provide the case number. If a case number was not provided, please state the date of the meeting and names of attendees.</p>	No.
<b>DMA (Responsible Authority) to complete</b>	
<p>For a proposal under an assessed scheme (as defined in <a href="#">section 3 of the EP Act</a>, applicable only to the proponent and DMA) provide details (in an attachment) as to whether:</p> <ul style="list-style-type: none"> <li><i>The environmental issues raised by the proposal were assessed in any assessment of the assessed scheme.</i></li> <li><i>The proposal complies with the assessed scheme and any environmental conditions in the</i></li> </ul>	

Proponent and/or DMA to complete	
assessed scheme.	

### 1.3 Strategic / derived proposals

Complete this section if the proposal being referred is a strategic proposal or you are seeking the proposal to be declared a derived proposal. Note: Only a proponent may refer a strategic proposal and seek a proposal to be declared a derived proposal.

Proponent to complete	
Is this referred proposal a strategic proposal?	<input type="checkbox"/> Yes   X No
Are you seeking that this proposal be declared a derived proposal?	<input type="checkbox"/> Yes   X No
If you are seeking that this proposal be declared a derived proposal, what is the Ministerial Statement number (MS #) of the associated strategic proposal?	MS #: _____

## 1.4 Location

Proponents and DMAs must provide spatial data. Please refer to [EAG 1](#) for more detail. The latest spatial data **must** be provided with the referral, displaying the current condition of the proposal area.

Proponent, DMA and Third Party to complete	
Name of the Local Government Authority in which the proposal is located.	City of Rockingham
Location: a) street address; lot number; suburb; and nearest road intersection; or b) if remote the nearest town; and distance and direction from that town to the proposal site.	Lot 316 Stakehill Road, Karnup Nearest cross road is Baldivis Road.
Have maps and figures been included with the referral (consistent with <a href="#">EAG 1</a> where appropriate)? <i>The types of maps and figures which need to be provided (depending on the nature of the proposal) include:</i> <ul style="list-style-type: none"> <li>maps showing the regional location and context of the proposal; and</li> <li>figures illustrating the proposal elements.</li> </ul>	X Yes <input type="checkbox"/> No
Proponent and DMA to complete	
Have electronic copies of spatial data been included with the referral? <b>NB:</b> Electronic spatial (GIS or CAD) data, geo-referenced and conforming to the following parameters: <ul style="list-style-type: none"> <li>GIS: polygons representing all activities and named;</li> <li>CAD: simple closed polygons representing all activities and named;</li> <li>datum: GDA94;</li> <li>projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);</li> <li>format: ESRI geodatabase or shapefile, MapInfo Interchange Format, Microstation or AutoCAD..</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

## 1.5 Significance test and environmental factors

Proponent, DMA and Third Party to complete	
What are the likely significant environmental factors for this proposal?	<input type="checkbox"/> Benthic Communities and Habitat <input type="checkbox"/> Coastal Processes <input type="checkbox"/> Marine Environmental Quality <input type="checkbox"/> Marine Fauna <input checked="" type="checkbox"/> Flora and Vegetation <input type="checkbox"/> Landforms <input type="checkbox"/> Subterranean Fauna <input type="checkbox"/> Terrestrial Environmental Quality <input checked="" type="checkbox"/> Terrestrial Fauna <input checked="" type="checkbox"/> Hydrological Processes <input type="checkbox"/> Inland Waters Environmental Quality

Proponent, DMA and Third Party to complete	
	<input type="checkbox"/> Air Quality & Atmospheric Gases <input type="checkbox"/> Amenity <input type="checkbox"/> Heritage <input type="checkbox"/> Human Health <input type="checkbox"/> Offsets <input type="checkbox"/> Rehabilitation and Decommissioning
Having regard to the Significance Test (refer to Section 7 of the <i>EIA Administrative Procedures 2012</i> ) in what ways do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA?	The Proposal is not considered likely to have a significant impact for the reasons outlined in Part B. However, questions have been raised by regulators regarding the potential impact of the proposal on the above factors. The Proposal has been referred to the EPA to confirm that the potential impacts of the Proposal are not significant.

## 1.6 Confidential information

*All information will be made publically available unless authorised for exemption under the EP Act or subject to the Freedom of Information Act 1992.*

Proponent to complete	
Does the proponent request that the EPA treat any part of the referral information as confidential?  <i>Ensure all confidential information is provided in a separate attachment in hard copy.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## 2 REGULATORY CONSIDERATIONS

*This section applies to the Local, State and Commonwealth regulatory considerations for the referred proposal.*

### 2.1 Government approvals

#### 2.1.1 State or Local Government approvals

DMA to complete	
What approval(s) is (are) required from you as a decision-making authority?	
Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	<input type="checkbox"/> Yes <input type="checkbox"/> No

## 2.1.2 Regulation of aspects of the proposal

Complete the following to the extent possible.

Proponent to complete	
Do you have legal access required for the implementation of all aspects of the proposal? <i>If yes, provide details of legal access authorisations / agreements / tenure.</i> <i>If no, what authorisations / agreements / tenure is required and from whom?</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No The current site owner and lees have agreed in writing to allow Urban Resources to mine the land.

Outline both the existing approvals and approvals that will be / are being sought as a part of this proposal.

Proponent to complete			
Aspects* of the proposal	Type of approval	Legislation regulating this activity	Which State agency /entity regulate this activity?
Clearing	Native Vegetation Clearing Permit	EP Act 1986 – Part V	DMP
Mining	Mining Proposal and Mine Closure Plan	Mining Act 1978	DMP

\*e.g. mining, processing, dredging

## 2.1.3 Commonwealth Government Environment Protection and Biodiversity Conservation Act 1999 approvals

Refer to the [assessment bilateral agreement](#) between the Commonwealth of Australia and the State of Western Australia for assistance on this section.

Proponent to complete	
1. Does the proposal involve an action that may be or is a controlled action under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If no continue to Part A section 2.1.4.</i>
2. What is the status of the decision on whether or not the action is a controlled action?	<input type="checkbox"/> Proposal not yet referred <input checked="" type="checkbox"/> Proposal referred, awaiting decision <input type="checkbox"/> Assessed – controlled action <input type="checkbox"/> Assessed – not a controlled action
3. If the action has been referred, when was it referred and what is the reference number (Ref #)?	Date: 29/7/2015 Ref #: 2015/7533
4. If the action has been assessed, provide the decision in an attachment. Has an attachment been provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

<b>Proponent to complete</b>	
5. Do you request this proposal to be assessed under the bilateral agreement?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Complete the following to the extent possible for the Public Comment of EPBC Act referral documentation.

<b>Proponent to complete</b>	
6. Have you invited the public to comment on your referral documentation?	<input type="checkbox"/> Yes <input type="checkbox"/> No No N/A – decision has not been made regarding whether the Proposal is a Controlled Action and if so, what level of assessment is required.
7. How was the invitation published?	<input type="checkbox"/> newspaper <input type="checkbox"/> website
8. Did the invitation include all of the following?	
(a) brief description of the action	<input type="checkbox"/> Yes <input type="checkbox"/> No
(b) the name of the action	<input type="checkbox"/> Yes <input type="checkbox"/> No
(c) the name of the proponent	<input type="checkbox"/> Yes <input type="checkbox"/> No
(d) the location of the action	<input type="checkbox"/> Yes <input type="checkbox"/> No
(e) the matters of national environmental significance that will be or are likely to be significantly impacted	<input type="checkbox"/> Yes <input type="checkbox"/> No
(f) how the relevant documents may be obtained	<input type="checkbox"/> Yes <input type="checkbox"/> No
(g) the deadline for public comments	<input type="checkbox"/> Yes <input type="checkbox"/> No
(h) available for public comment for 14 calendar days	<input type="checkbox"/> Yes <input type="checkbox"/> No
(i) the likely impacts on matters of national environmental significance	<input type="checkbox"/> Yes <input type="checkbox"/> No
(j) any feasible alternatives to the proposed action	<input type="checkbox"/> Yes <input type="checkbox"/> No
(k) possible mitigation measures	<input type="checkbox"/> Yes <input type="checkbox"/> No
9. Were any submissions received during the public comment period?	<input type="checkbox"/> Yes <input type="checkbox"/> No
10. Have public submissions been addressed? If yes provide attachment.	<input type="checkbox"/> Yes <input type="checkbox"/> No

## 2.1.4 Other Commonwealth Government Approvals

Proponent, DMA and Third Party to complete			
Is approval required from other Commonwealth Government/s for any part of the proposal?		<input type="checkbox"/> Yes   X No	
<i>If yes, please complete the table below.</i>			
Agency / Authority	Approval required	Application lodged?	Agency / Local Authority contact(s) for proposal
		<input type="checkbox"/> Yes <input type="checkbox"/> No	
		<input type="checkbox"/> Yes <input type="checkbox"/> No	

## 3. SUPPORTING INFORMATION

Please attach copies of any relevant information on the proposal, supporting evidence and / or existing environmental surveys, studies or monitoring information undertaken and list the documents below.

Proponent, DMA and Third Party to complete			
1	Karnup Sand Mining Project: Environmental Investigations	Strategen	Summary of environmental values and attributes of the Proposal area, prepared June 2015.
2	Karnup Sand Mining Project: <i>Caladenia huegelii</i> targeted flora survey	Strategen	Summary of results of targeted flora survey undertaken in September 2015.
3	Karnup Sand Mining Project: Mining Proposal Karnup Sand Mine (M70/1262)	Strategen	Description of mining proposal and potential environmental impacts
4	Karnup Sand Mining Project Mine Closure Plan: Urban Resources Pty Ltd M70/1262	Strategen	Proposed mine closure plan for proposal.
5	Karnup Sand Mining Project	Strategen	EPBC Act referral of Proposal
6	Karnup Sand Mining Project: Native Vegetation Clearing Permit application	Strategen	Native Vegetation Clearing Permit



## PART B: ENVIRONMENTAL FACTORS

The purpose of Part B is to assist the EPA to determine the significance of the likely environmental impacts of the proposal in accordance with the EPA's *Environmental Assessment Guideline for Environmental factors and objectives* (EAG 8) and *Environmental Assessment Guideline for Application of a significant framework in the EIA process* (EAG 9). Referrers completing Part B should refer closely to EAG 8 and EAG 9.

The EPA has prepared [Referral of a Proposal under s38 of the EP Act EAG No.16 - Appendix A](#) (Appendix A) to assist in identifying factors and completing the below table. Further guidance can be found in the guidance and policy documents cited in Appendix A under each factor.

### **How to complete Part B**

For each environmental factor, that is likely to be significantly impacted by the implementation of the proposal, make a copy of the table below and insert a summary of the relevant information relating to the proposal. The table can be broken down into more than one table per factor, if the need arises. For example the hydrological processes factor can be presented in two separate tables, one for surface water and one for groundwater, or similarly one for construction and one for operations.

For complex proposals a supplementary referral report can be provided in addition to the referral form. If this option is chosen the table must still be completed (summaries are acceptable) to assist the Office of the EPA with statistical reporting and filtering proposals for processing.

Proponents expecting an API level of assessment must provide information in accordance with the EPA's *Environmental Assessment Guideline for Preparation of an API-A environmental review document* (EAG 14).

For each of the significant environmental factors, complete the following table (Questions 1 – 10).

<b>Proponent to complete. DMA and Third Party to complete to the best of their knowledge.</b>		
1	Factor, as defined in <a href="#">EAG 8</a>	<b>Flora and Vegetation</b>
2	EPA Objective, as defined in <a href="#">EAG 8</a>	To maintain representation, diversity, viability and ecological function at the species, population and community level.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	<i>Guidance Statement 51 – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in WA</i> <i>Position Statement 2 – Environmental Protection of Native Vegetation in WA</i> <i>Position Statement 3– Terrestrial Biological Surveys as an Element of Biodiversity Protection</i> <i>Environmental Protection Bulletin 20 - Protection of naturally vegetated areas through planning and development</i>

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
4	<p>Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:</p> <ul style="list-style-type: none"> <li>• <i>anticipated level of public interest in the impact;</i></li> <li>• <i>consultation with regulatory agencies; and</i></li> <li>• <i>consultation with community.</i></li> </ul>	<p>The level of public interest in the Proposal is anticipated to be low.</p> <p>Consultation was held with City of Rockingham on 18 May 2015. No other formal regulator or community consultation has been undertaken.</p>

**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

<p>5</p>	<p>Baseline information - describe the relevant characteristics of the receiving environment.</p> <p><i>This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.</i></p>	<p>Botanical surveys of the Proposal area identified that:</p> <ol style="list-style-type: none"> <li>1. A total of 41 native vascular plant taxa from 34 plant genera and 18 plant families were recorded within the Survey area (94.94 ha)</li> <li>2. No Threatened flora species pursuant to Schedule 1 of the WC Act and as listed by Parks and Wildlife or Priority flora species as listed by Western Australian Herbarium were recorded within the Survey area. A targeted survey was undertaken during Spring to confirm that <i>Caladenia huegelii</i> was not present within the Proposal area.</li> <li>3. No TECs or PECs as listed by Parks and Wildlife or PECs as listed by Parks and Wildlife were identified within the Survey area.</li> <li>4. Five native vegetation types were mapped within the survey area; with 59.37 ha of the 94.94 ha survey area being open shrubland of <i>Macrozamia fraseri</i>, <i>Daviesia triflora</i> and <i>Acacia stenoptera</i> with isolated <i>Xylomelum occidentale</i> and <i>Eucalyptus rudis</i> trees (VT1, Figure 3). Other communities present include woodlands and open woodlands of a mixture of <i>Banksia</i> and <i>Eucalypt</i> species (VT2, 7.91 ha and VT4, 9.36 ha), a <i>Jacksonia/Adenanthos</i> shrubland (VT3, 2.02 ha) and planted <i>Eucalyptus</i> sp. Woodland over <i>Acacia saligna</i> and <i>Jacksonia</i> and <i>Kunzea</i> shrubland (Figure 3).</li> <li>5. The majority (82%) of the vegetation surveyed was in 'Good' condition with 8.3% being in 'Very Good' condition with the remainder being 'Completely Degraded' (Figure 4).</li> </ol> <p>Further details regarding the vegetation are provided in the attached Native Vegetation Clearing Permit and the results of the targeted survey.</p> <p>A targeted threatened orchid survey was also undertaken in September 2015 in response to a request for further information from the Department of the Environment (DotE). Approximately 6.89 ha of highly suitable habitat for <i>Caladenia huegelii</i> and approximately 12.76 ha of highly suitable habitat for <i>Drakaea micrantha</i> was identified in the Proposal area. The targeted survey was conducted during the appropriate timeframe for orchid surveys in accordance with DPaW and DotE guidelines, with both species typically flowering in September and October, however no individuals of either <i>C. huegelii</i> or <i>D. Micrantha</i> were recorded within the Proposal area.</p>
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Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	<p>The Proposal will result in the clearing of 41.96 ha, of which 30.83 ha contains native vegetation.</p> <p>The Proposal area is a former pine plantation that was progressively cleared from 2006 to 2009. As such the majority of the vegetation proposed to be impacted is in variable states of regeneration. The vegetation is typically low and sparse with weed density variable with a condition rating of Good.</p> <p>22.97 ha of this is the <i>M. fraseri</i> community (VT1). Another 6.54 ha consists of <i>Banksia menziesii</i>, <i>B. attenuata</i>, <i>Allocasuarina fraseriana</i> and <i>Eucalyptus marginata</i> open woodland (VT2) and 1.32 ha of the <i>Jacksonia/Adenanthos</i> shrubland (Figure 3).</p> <p>No threatened species, including threatened orchid species, <i>C. huegelii</i> or <i>D. Micrantha</i> were recorded at the time of the survey. The survey was conducted during the known flowering period for both species, in accordance with DotE and DPaW guidance. It can therefore be concluded that these species do not occur in the Proposal area and will therefore not be impacted by the Proposal.</p> <p>No wetland vegetation will be cleared as a result of this Proposal.</p> <p>Clearing will be minimised to include only the mining area, haul road and required infrastructure.</p>

**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

<p>7</p>	<p>Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:</p> <ul style="list-style-type: none"> <li>• <i>Avoidance - avoiding the adverse environmental impact altogether;</i></li> <li>• <i>Minimisation - limiting the degree or magnitude of the adverse impact;</i></li> <li>• <i>Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and</i></li> <li>• <i>Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.</i></li> </ul>	<p>The sand mining process requires clearing of vegetation prior to mining. Haul roads will be placed in areas to be mined where feasible to reduce the cleared areas.</p> <p>The future land uses proposed for the site are currently being determined by the State Government and the City of Rockingham. It is understood that, consistent with the current zoning, the post-mining land use is likely to comprise a regional sporting complex, including playing fields, indoor sporting facilities and open parklands. An area of urban development is also currently being considered within the proposed mining footprint.</p> <p>Rehabilitation will primarily focus on stabilisation of the land in preparation for the proposed future land uses.</p> <p>Urban Resources proposes to revegetate the strip of native vegetation that forms the western boundary of Mining Tenement M70/1262, reinstating the 6.54 ha of <i>Banksia menziesii</i>, <i>B. attenuata</i>, <i>Allocasuarina fraseriana</i> and <i>Eucalyptus marginata</i> open woodland (VT2). This is subject to further discussion and agreement with LandCorp, as the future developer, with regard to future land use.</p> <p>No offsets for clearing are proposed at this stage.</p>
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Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
8	<p>Residual impacts – review the residual impacts against the EPA objectives.</p> <p><i>It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA’s objective for this factor would be met if residual impacts remain. This will require:</i></p> <ul style="list-style-type: none"> <li>• <i>quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;</i></li> <li>• <i>putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and</i></li> <li>• <i>comparison against any established environmental policies, guidelines, and standards.</i></li> </ul>	<p>The Proposal will result in clearing of: 22.97 ha of VT1, 6.54 ha of VT2 and 1.32 ha of VT3 (total of 30.83 ha). Rehabilitation of VT2 is anticipated, as the land is currently zoned “Parks and Recreation”, however this is subject to further discussion and agreement with LandCorp, as the future developer, with regard to future land use.</p> <p>Whilst highly disturbed from past land uses, the vegetation to be cleared forms part of the Bassendean and Spearwood systems as defined by Beard (1981). These systems have 12 742 ha (23.9% of pre-European extent) and 1301 ha (36.5% of pre-European extent) remaining respectively based on the latest GIS-based estimate undertaken by Department of Parks and Wildlife (DPaW). While clearing will occur, this clearing will not substantially affect the percentage remaining of the relevant vegetation associations.</p> <p>The clearing will not result in impact to TECs or priority or Threatened flora. While there will be some residual impacts, the representation, diversity, viability and ecological function of flora and vegetation at the species, population and community level will not be affected.</p>
9	<p>EPA’s Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to <a href="#">EAG 9</a></p>	<p><input checked="" type="checkbox"/> <i>meets the EPA’s objective</i></p> <p><input type="checkbox"/> <i>may meet the EPA’s objective</i></p> <p><input type="checkbox"/> <i>is unlikely to meet the EPA’s objective</i></p>
10	<p>Describe any assumptions critical to your conclusion (in Question 9). <i>e.g. particular mitigation measures or regulatory conditions.</i></p>	N/A

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, as defined in <a href="#">EAG 8</a>	<b>Terrestrial Fauna</b>
2	EPA Objective, as defined in <a href="#">EAG 8</a>	To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	<p><i>Guidance Statement 56 – Terrestrial Fauna Surveys for Environmental Impact Assessment in WA.</i></p> <p><i>Position Statement 3 – Terrestrial Biological Surveys as an Element of Biodiversity Protection</i></p> <p><i>Technical Guide on Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment</i></p> <p><i>Environmental Protection Bulletin 20 - Protection of naturally vegetated areas through planning and development</i></p>
4	<p>Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:</p> <ul style="list-style-type: none"> <li>• <i>anticipated level of public interest in the impact;</i></li> <li>• <i>consultation with regulatory agencies; and</i></li> <li>• <i>consultation with community.</i></li> </ul>	<p>The level of public interest in the impact is anticipated to be low given the heavily disturbed nature of the site.</p> <p>Consultation was held with City of Rockingham on 18 May 2015. No other formal regulator or community consultation has been undertaken.</p>

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
5	<p>Baseline information - describe the relevant characteristics of the receiving environment.</p> <p><i>This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.</i></p>	<p>The only conservation significant fauna species considered to have suitable habitat present within the Proposal area are two species of black cockatoo (Carnaby's and Forest Red-tailed) and the Rainbow Bee-eater. Threatened native mammals and ground-dwelling birds are unlikely to occur due to lack of suitable habitat and presence of introduced predators and competitors (cat footprints were observed and the area is home to a large number of goats). Migratory birds have the potential to utilise the Project area for habitat due to the presence of wetlands, but are unlikely to be present for prolonged periods of time.</p> <p>Habitat suitable for the Rainbow Bee-eater is protected locally and retained immediately adjacent to the proposed action area, therefore this species is unlikely to be significantly impacted by the Proposal.</p> <p>The majority of the vegetation within the Proposal area contains few black cockatoo foraging species. Based on assessment by Strategen, only VT2 is considered to offer good foraging habitat for black cockatoo species.</p> <p>No trees that could be used by black cockatoos for roosting or breeding purposes were recorded within the Proposal area.</p>
6	<p>Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.</p>	<p>The proposal will result in the clearing of 6.54 ha of Carnaby's Black Cockatoo and Forest Red-tailed Black Cockatoo foraging habitat. No potential breeding or roosting habitat is located within the Proposal area, therefore the foraging habitat is not likely to be critical to support nearby breeding activity. Proposal will not create a gap of more than 4 km between patches of black cockatoo habitat.</p> <p>Black cockatoos are highly mobile with extensive ranges. The clearing is not expected to impact the sustainability of a black cockatoo population.</p>



Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
7	<p>Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:</p> <ul style="list-style-type: none"> <li>• <i>Avoidance - avoiding the adverse environmental impact altogether;</i></li> <li>• <i>Minimisation - limiting the degree or magnitude of the adverse impact;</i></li> <li>• <i>Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and</i></li> <li>• <i>Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.</i></li> </ul>	<p>The sand mining process requires clearing of vegetation prior to mining. Haul roads will be placed in areas to be mined where feasible to reduce the cleared areas.</p> <p>Following completion of mining, Urban Resources proposes to revegetate the strip of native vegetation that forms the western boundary of Mining Tenement M70/1262; however, this is subject to further discussion and agreement with LandCorp in regards to future land use.</p> <p>No offsets for clearing are proposed.</p>
8	<p>Residual impacts – review the residual impacts against the EPA objectives.</p> <p><i>It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA’s objective for this factor would be met if residual impacts remain. This will require:</i></p> <ul style="list-style-type: none"> <li>• <i>quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;</i></li> <li>• <i>putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and</i></li> <li>• <i>comparison against any established environmental policies, guidelines, and standards.</i></li> </ul>	<p>The Proposal will result in limited clearing that is not anticipated to impact on the sustainability of fauna populations. Extensive areas of habitat in better condition are present within the vicinity of the Proposal area including:</p> <ul style="list-style-type: none"> <li>• Baldivis Tramway Reserve (north of Stakehill Road)</li> <li>• Karnup Nature Reserve (1.5 km)</li> <li>• Anstey Swamp (3.5 km)</li> <li>• Paganoni Swamp (3.8 km).</li> </ul> <p>As such, the representation, diversity, viability and ecological function at the species, population and assemblage level of terrestrial fauna is not anticipated to be impacted by the Proposal.</p>
9	<p>EPA’s Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to <a href="#">EAG 9</a></p>	<p><input checked="" type="checkbox"/> <i>meets the EPA’s objective</i></p> <p><input type="checkbox"/> <i>may meet the EPA’s objective</i></p> <p><input type="checkbox"/> <i>is unlikely to meet the EPA’s objective</i></p>
10	<p>Describe any assumptions critical to your conclusion (in Question 9). <i>e.g. particular mitigation measures or regulatory conditions.</i></p>	<p>N/A</p>

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, as defined in <a href="#">EAG 8</a>	<b>Hydrological Processes</b>
2	EPA Objective, as defined in <a href="#">EAG 8</a>	To maintain the hydrological regimes of groundwater and surface water so that existing and potential uses, including ecosystem maintenance, are protected.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	<i>Position Statement 4 – Environmental Protection of Wetlands</i>  <i>Environmental Protection Policy – Swan Coastal Plain Lakes</i>
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including: <ul style="list-style-type: none"> <li>• <i>anticipated level of public interest in the impact;</i></li> <li>• <i>consultation with regulatory agencies; and</i></li> <li>• <i>consultation with community.</i></li> </ul>	The level of public interest in the impact is anticipated to be low.  Consultation was held with City of Rockingham on 18 May 2015. No other formal regulator or community consultation has been undertaken.
5	Baseline information - describe the relevant characteristics of the receiving environment. <i>This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.</i>	The key existing uses of groundwater and surface water in the vicinity of the Proposal area are to maintain existing wetlands. No groundwater abstraction is proposed and the water table will not be intersected.  The Proposal area varies topographically from approximately 2 mAHD in the wetlands in the south to approximately 10 mAHD along the western boundary (Figure 5).  Geological investigations undertaken by Golder (2007) on behalf of LandCorp indicate the Proposal area is comprised of Bassendean Sands with some Spearwood Sands present in the west. Due to the high permeability of the local sands, no waterways occur within the Proposal area.  The Proposal area is not located within the 1 in 100-year floodplain of the Serpentine River (Figure 6), which is partially limited in extent by the Kwinana Freeway.  The broader mining tenement area that does not form part of the disturbance area includes five wetlands, two of which are listed as Conservation Category under the Geomorphic Wetlands of the Swan Coastal Plain dataset (Figure 6). The remaining three are Resource Enhancement Category wetlands. Two of the wetlands are also listed under the <i>Environmental Protection Policy – Swan Coastal Plain Lakes</i> . All of the wetlands are

**Proponent to complete. DMA and Third Party to complete to the best of their knowledge.**

identified as sumplands in the Wetlands of the Swan Coastal Plain dataset (Figure 6).

Golder Associates undertook monthly groundwater level monitoring of the proposed action area and surrounds between March 2007 and March 2010 (Golder Associates 2010) and further quarterly groundwater monitoring was undertaken by Strategen between April 2013 and January 2014 (Strategen 2014).

Groundwater levels beneath the proposed action area fluctuate by approximately 1 m annually. Levels are generally at their maximum in September/October following winter, and minimum in April/May (Golder Associates 2010).

Groundwater levels utilised for the proposed action reflect the Assessment Groundwater Level (AGL) set through the Karnup District Water Management Strategy (DWMS) (GHD 2014). This DWMS will be used to set finished levels for development in the Karnup area. This document and the associated AGL have been approved by the Department of Water and the City of Rockingham. The AGL has been modelled to represent the maximum groundwater level experienced in the pre-development scenario using rainfall data from 1982 to 2011 (i.e. includes historically wetter periods) and is considered to represent the maximum groundwater level in the area (GHD 2014). Data from the proposed action area was used in calibrating the AGL model (GHD 2014).

The AGL is presented in Figure 7 and is generally 3 to 3.5 mAHD beneath the proposed action area. Historic monitoring data from the site indicates that groundwater levels within the Urban Resources site ranged from approximately 1 mAHD to 2.5 mAHD. In this context, the AGL is a highly conservative groundwater level.

Depth to AGL is a minimum of approximately 2.5 m within the project area.

Based on the geology of the Proposal area (Bassendean Sands) and the AGL, the wetlands are considered to represent seasonal expressions of the regional groundwater table, rather than perched systems.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.	
	<p>The high permeability of the Bassendean sands limits overland flow.</p>
6	<p>Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.</p> <p>The wetlands on site are defined depressions, with typically well defined transitions from upland to wetland vegetation. A minimum of a 50 m buffer will be maintained between sand mining activities and any wetlands. The retention of a 50 m buffer around the wetlands will represent a greater buffer than was provided by the previous pine plantation land use.</p> <p>The buffer distance is considered to be adequate to prevent any sedimentation or erosion effects. The sand mining operation do not represent a risk to the hydrological functionality of the wetlands and therefore the wetlands are able to be retained throughout mining operations and incorporated into the future urban or sporting precinct landuses.</p> <p>Adequate sand will be retained within the Proposal area (i.e. 1.2 m above AGL) to ensure that waterlogging and inundation will not occur after rainfall events as a result of the Project. Groundwater levels will continue to be controlled by the Serpentine River. Groundwater flow directions will consequently not be affected by the Project.</p> <p>Groundwater of the Proposal area and surrounds will not be altered given that dewatering or groundwater abstraction is not required for the proposed action. Furthermore, the limit of extraction will be at least 1.2 m above the AGL. Urban Resources also notes, as discussed above, that the AGL is a conservative assessment; therefore there is little to no risk of encountering groundwater at a higher level than expected, with actual depth to groundwater from the finish level of mining estimated to be between 1.7 m and 3.2 m.</p> <p>Water for dust suppression is proposed to be sourced from an external bores or other sources sufficient to support the sand mining project. Should additional water be required, a groundwater licence will be requested from Department of Water (DoW). If required, any bores will be located a minimum of 50 m from wetlands to ensure that wetland water levels are not affected.</p> <p>As the wetlands are not considered to be perched, the wetland water levels are</p>

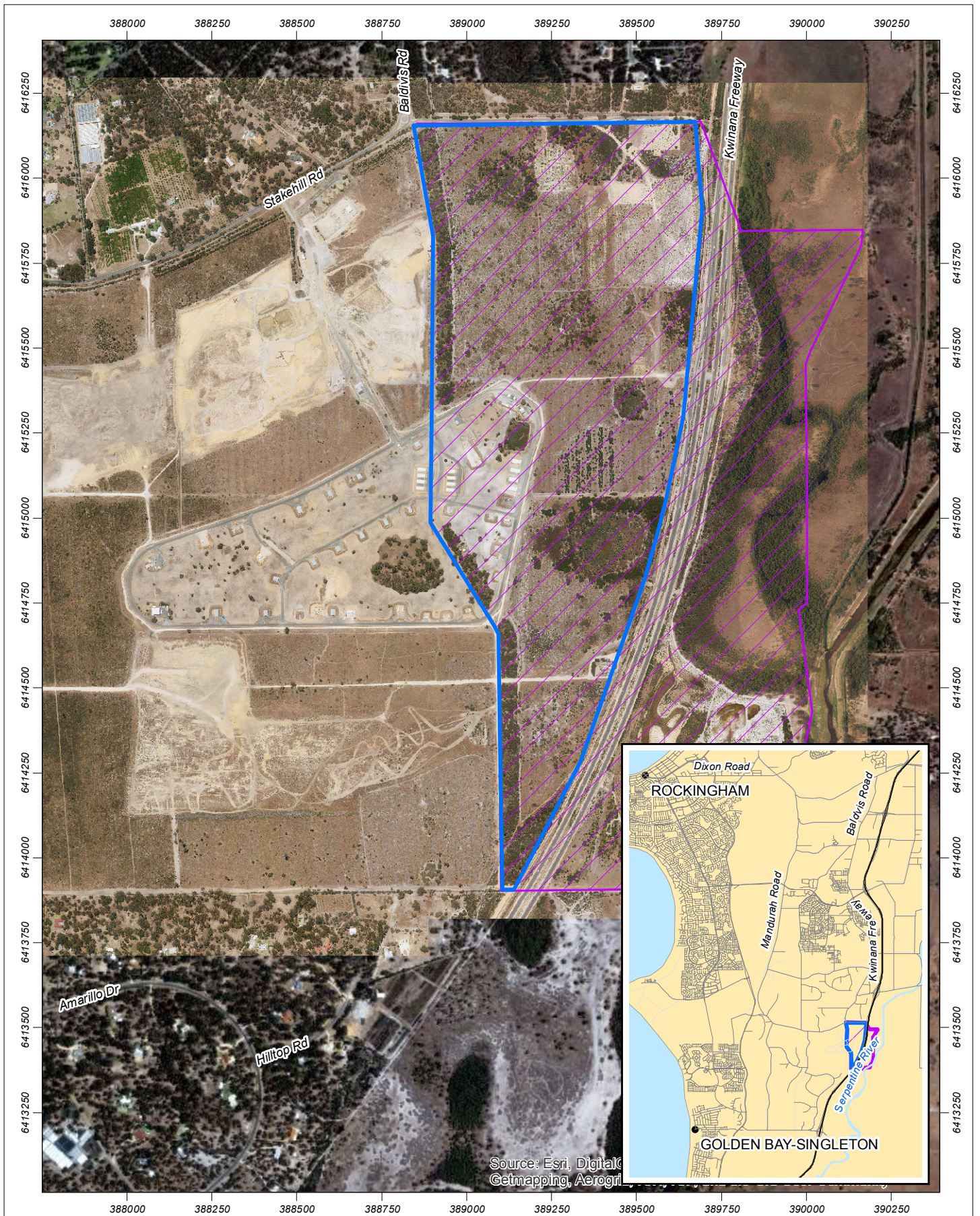
Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		<p>effectively controlled by the outlet levels of the surface hydrology system and by the regional groundwater system. Any localised changes to evapotranspiration in currently elevated areas within the Proposal area as a result of proposed sand abstraction are anticipated to be minimal.</p> <p>The hydrological regimes of groundwater and surface water will be maintained such that existing and potential uses, including ecosystem maintenance, are protected.</p>
7	<p>Mitigation measures - what measures are proposed to mitigate the potential environmental impacts? The following should be addressed:</p> <ul style="list-style-type: none"> <li>• <i>Avoidance - avoiding the adverse environmental impact altogether;</i></li> <li>• <i>Minimisation - limiting the degree or magnitude of the adverse impact;</i></li> <li>• <i>Rehabilitate – restoring the maximum environmental value that is reasonably practicable; and</i></li> <li>• <i>Offsets – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.</i></li> </ul>	<p>A 50 m buffer will be maintained between sand mining activities and any wetlands. Vegetation within wetlands and their buffers will not be cleared.</p> <p>No groundwater abstraction will be required; therefore no direct impacts to groundwater sources will result from the Proposal. Indirect impacts such as contamination are considered to be negligible with the implementation of operational control measures and the use of minimal hydrocarbons and no storage on site.</p>
8	<p>Residual impacts – review the residual impacts against the EPA objectives.</p> <p><i>It is understood that the extent of any significant residual impacts may be hard to quantify at the referral stage. Referrers are asked to provide, as far as practicable, a discussion on the likely residual impacts and form a conclusion on whether the EPA’s objective for this factor would be met if residual impacts remain. This will require:</i></p> <ul style="list-style-type: none"> <li>• <i>quantifying the predicted impacts (extent, duration, etc.) acknowledging any uncertainty in predictions;</i></li> <li>• <i>putting the impacts into a regional or local context, incorporating knowable cumulative impacts; and</i></li> <li>• <i>comparison against any established environmental policies, guidelines, and standards.</i></li> </ul>	<p>Impacts to wetlands and other groundwater users are not anticipated to occur as a result of the Proposal.</p>
9	<p>EPA’s Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? Refer to <a href="#">EAG 9</a></p>	<p><input checked="" type="checkbox"/> <i>meets the EPA’s objective</i></p> <p><input type="checkbox"/> <i>may meet the EPA’s objective</i></p> <p><input type="checkbox"/> <i>is unlikely to meet the EPA’s objective</i></p>
10	Describe any assumptions critical to your	

<b>Proponent to complete. DMA and Third Party to complete to the best of their knowledge.</b>	
	conclusion (in Question 9). <i>e.g. particular mitigation measures or regulatory conditions.</i>

*In circumstances where there was some uncertainty on the level of significance of a particular factor it is recommended that a brief summary (no longer than 1 - 2 paragraphs) is provided on the steps taken to determine why a factor was not considered to be significant.*

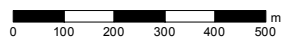
## Figures





**Figure 1: Regional location of the Project**

Scale 1:15,000 at A4



Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015  
 Author: JCrute

Source: Aerial image: Landgate, flown 11/2014. Aerial image background: ESRI approx. 2010.

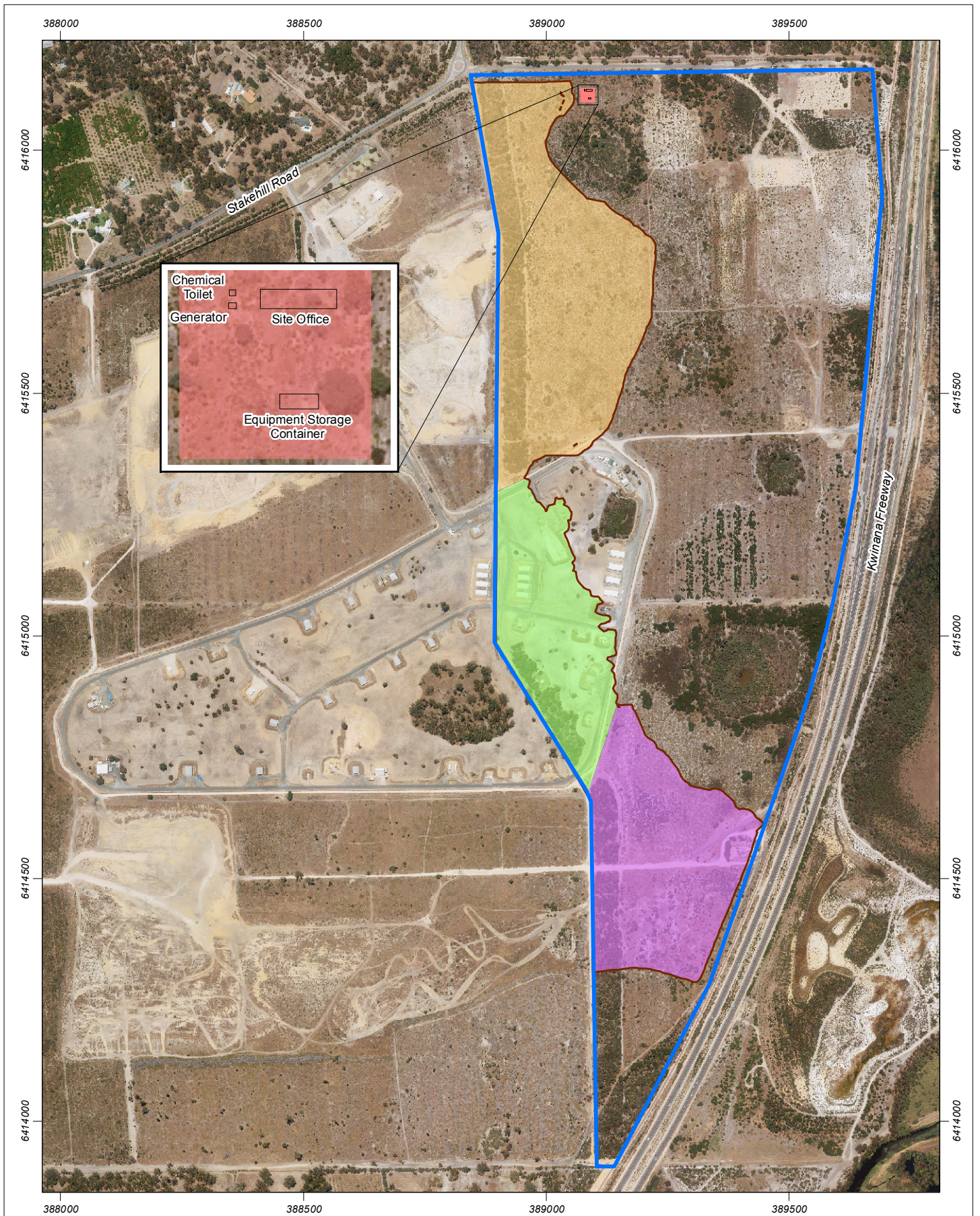
**Legend**

- Project area
- Tenement M70/1262



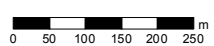
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**Figure 2: Site plan**

Scale 1:10,500 at A4



Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015

Author: JCrute

Source: Aerial image: Landgate, flown 11/2014. Background aerial image: ESRI online, approx. 2010. Tenement: DMP 2014.

Path: Q:\Consult\2015\URE\URE15096.01\ArcMap\_documents\ID001\URE15096\_01\_D001\_RevA\_F002.mxd

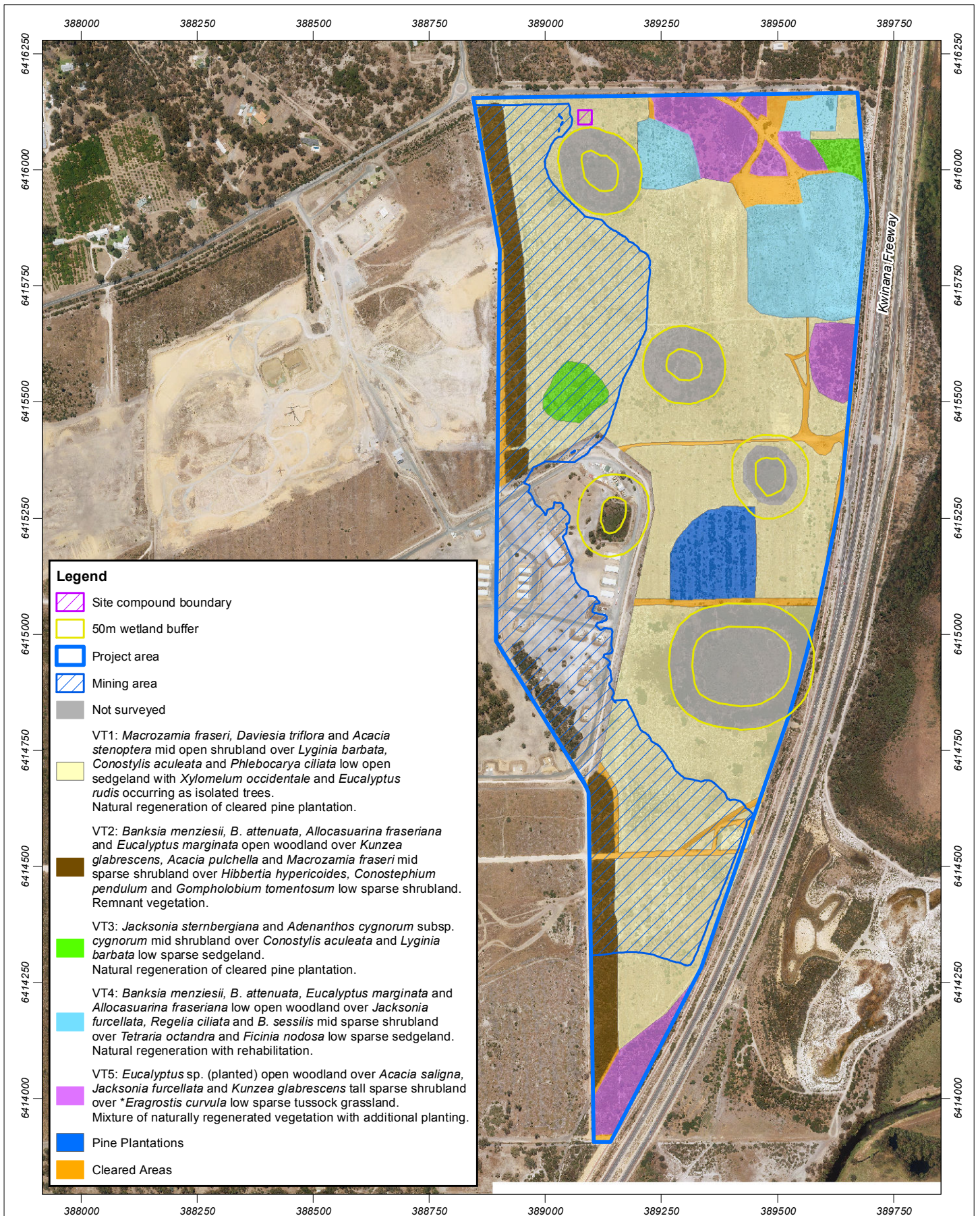
**Legend**

- Site compound boundary
  - Project area
  - Mine area
- Mining stages**
- Stage 1
  - Stage 2
  - Stage 3



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**Figure 3: Vegetation types**

Scale 1:10,997 at A4

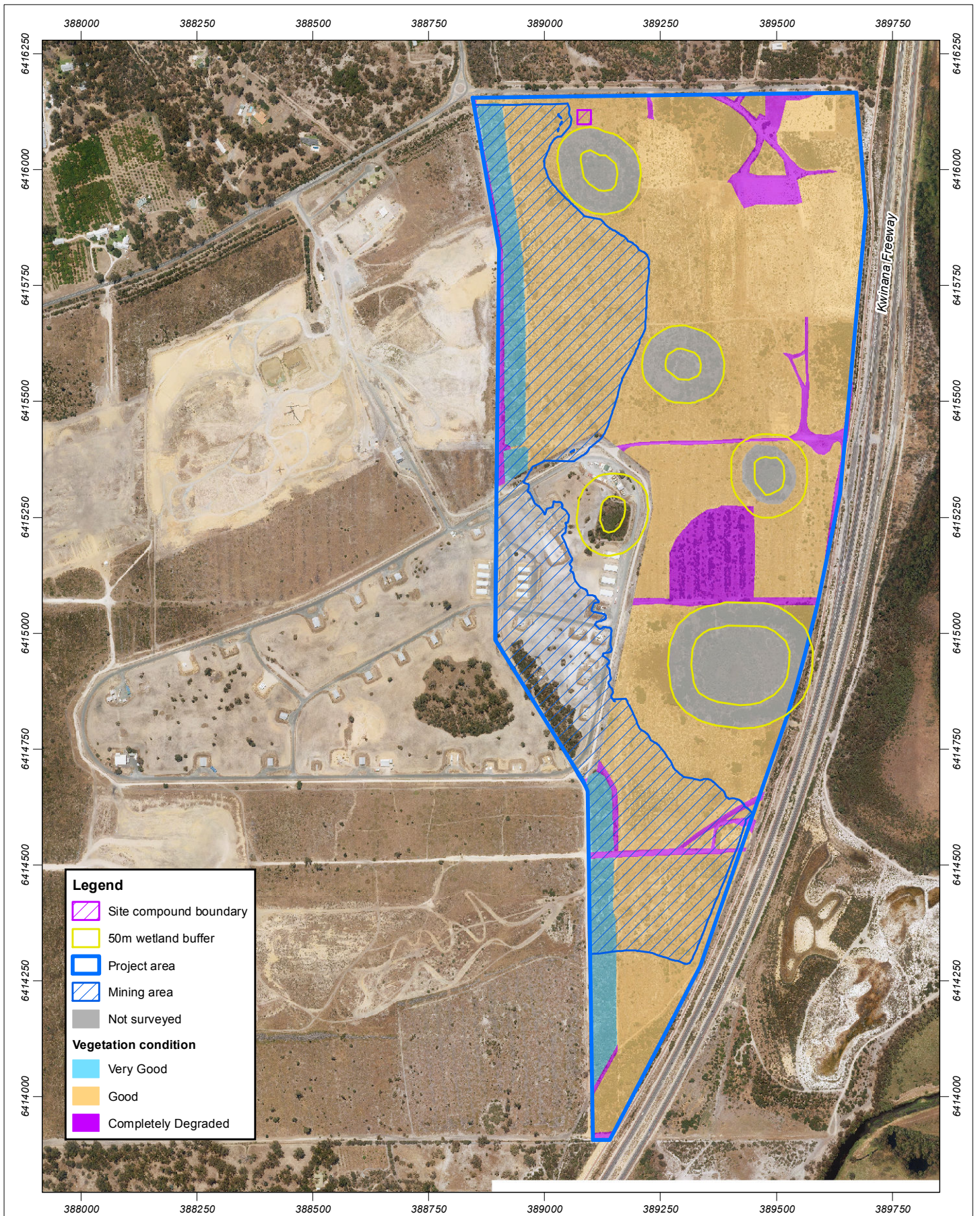


Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015  
 Author: JCrute  
 Source: Aerial image: Landgate, flown 11/2014.



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**Figure 4: Vegetation condition**

Scale 1:10,997 at A4

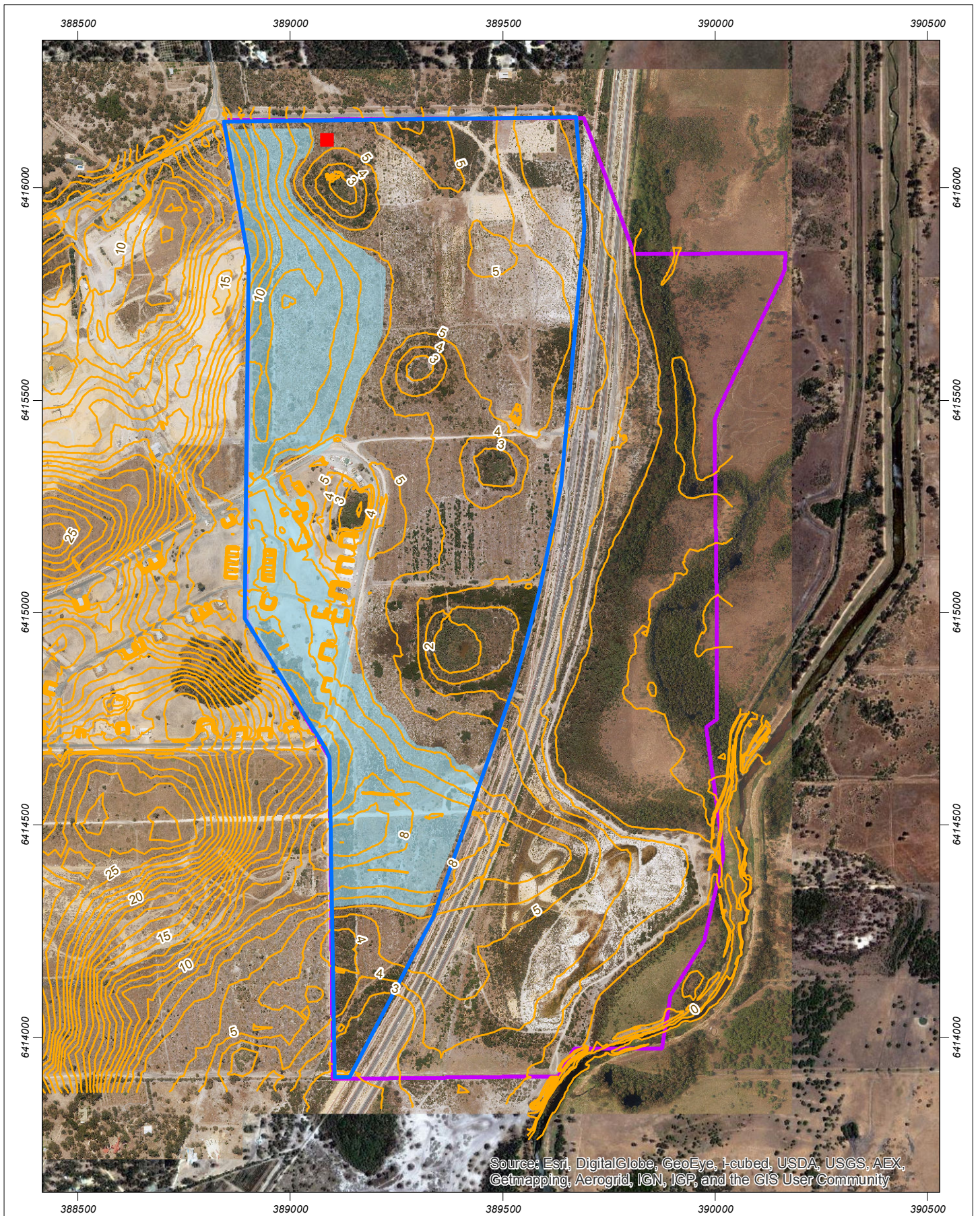


Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015  
 Author: JCrute  
 Source: Aerial image: Landgate, flown 11/2014.



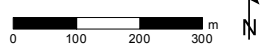
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**Figure 5: Topography**

Scale 1:12,000 at A4



Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015  
 Author: JCrute

Source: Aerial image: Landgate, flown 11/2014. Background aerial image: ESRI online, approx. 2010. Contours: Client 2015.

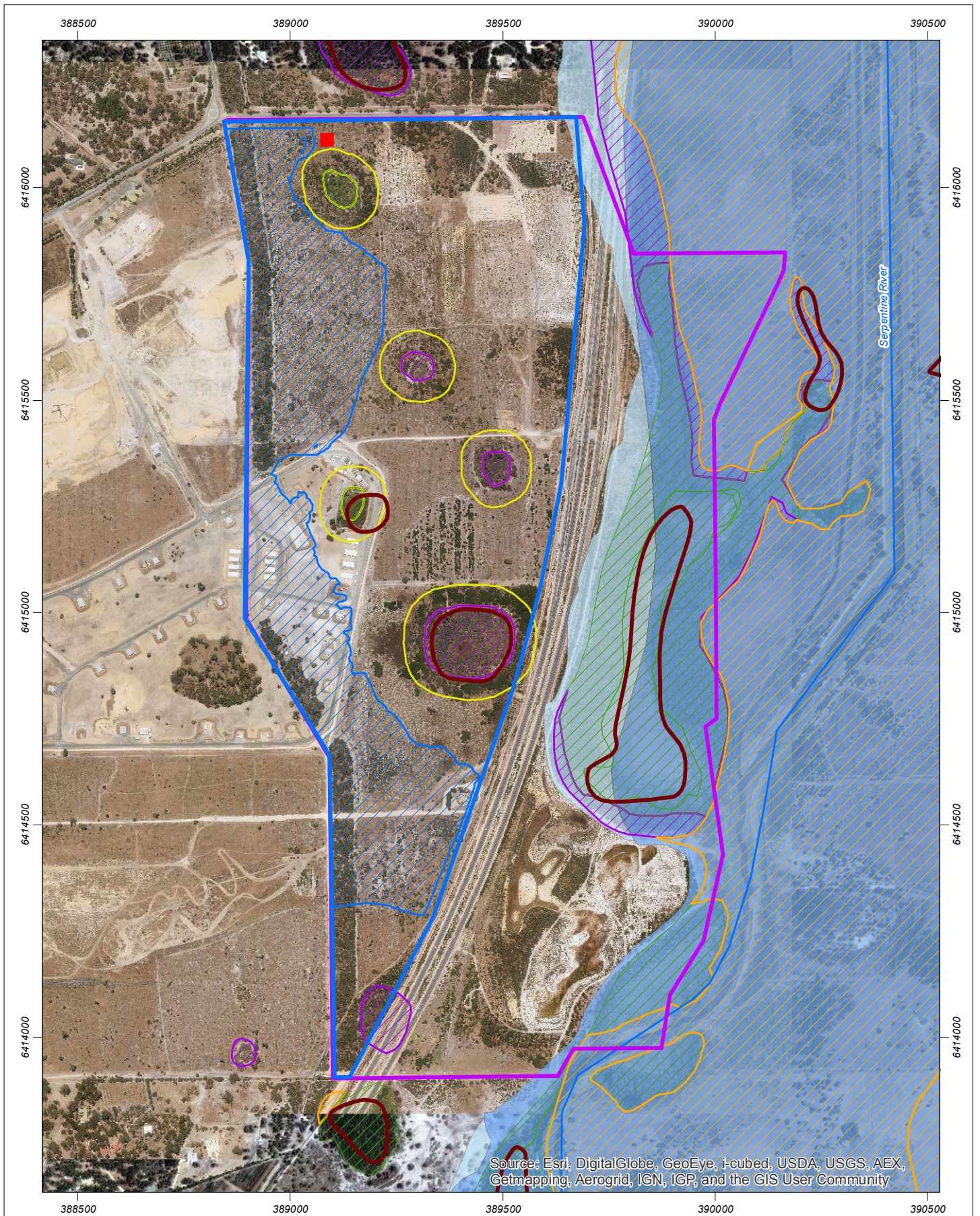
**Legend**

- Surface elevation (mAHD)
- Site compound boundary
- Project area
- Mine area
- Tenement M70/1262

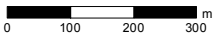


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**Figure 6: Surface water and wetlands**

Scale 1:12,000 at A4  


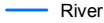












Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015

Author: JCrute

Source: Aerial image: Landgate, flown 11/2014. Background aerial image: ESRI online, approx. 2010. Wetlands: DPAW 2014. Flood: DoW 2014. EPP lakes: EPA 2015.

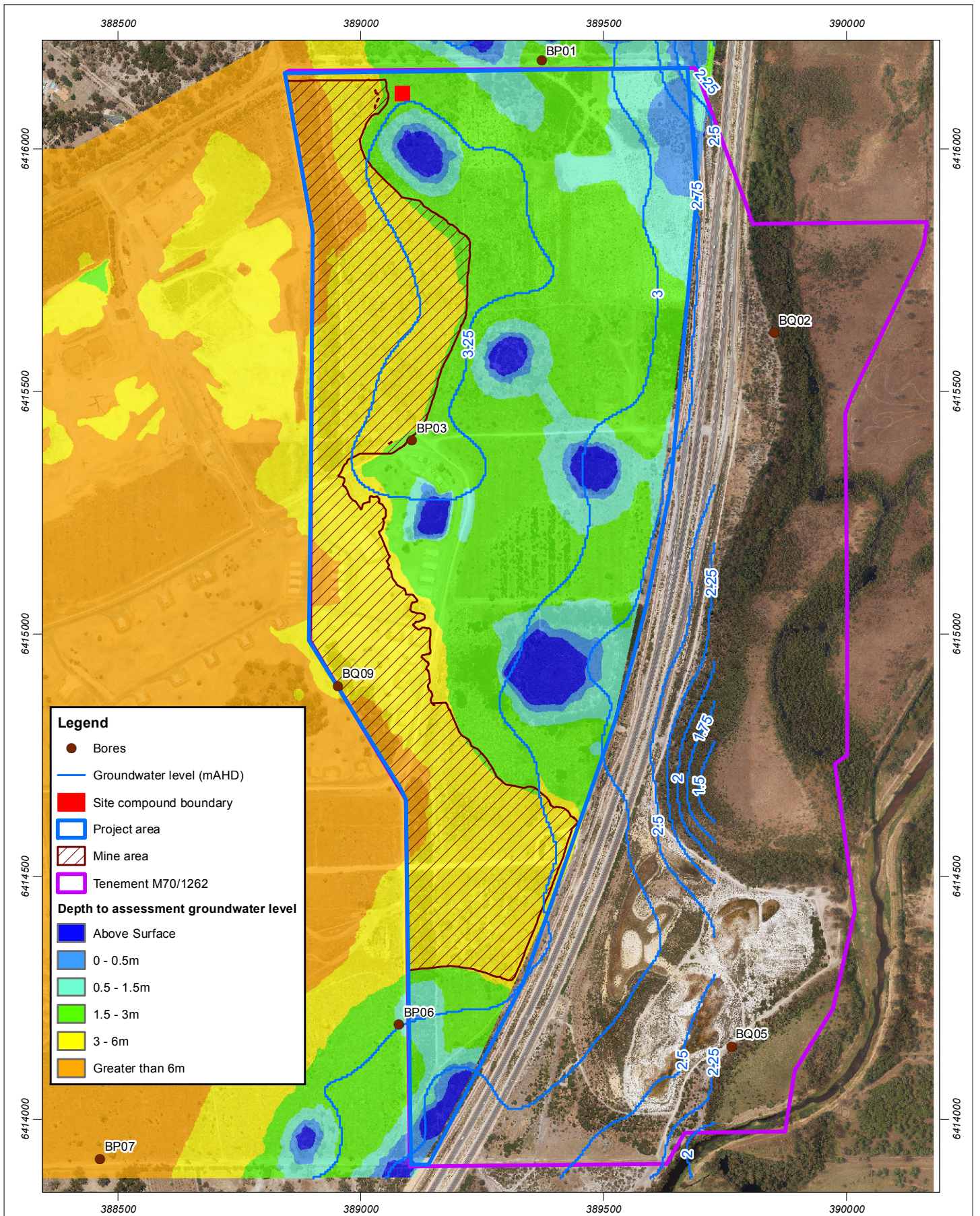
Path: Q:\Consult\2015\URE\URE15096.01\ArcMap\_documents\0001\URE15096\_01\_D001\_RevA\_F006.mxd

**Legend**

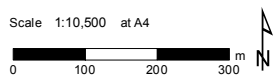
-  River
-  Site compound boundary
-  Project area
-  Mine area
-  Tenement M70/1262
-  Swan Coastal Plain
-  EPP lakes
-  Floodway
-  Flood fringe
-  50m wetland buffer
-  Conservation
-  Multiple Use
-  Resource Enhancement







**Figure 7: Groundwater**



Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 6/10/2015  
 Author: JCrute  
 Source: Aerial image: Landgate, flown 11/2014. Background aerial image: ESRI online, approx. 2010. GW data: LandCorp 2014.