



Planning &
Environment

Compliance Report

Woodsreef Mine Major Rehabilitation Project

EPBC 2012/6437

15 August 2016 to 15 August 2017

Published by NSW Department of Planning & Environment

Compliance Report Woodsreef Mine Major Rehabilitation Project EPBC 2012/6437

First published August 2017

More information

[Kate Maddison / Derelict Mines Program / Maitland]

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Acknowledgments


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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (August 2017). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Industry, Skills and Regional Development or the user's independent advisor.

Declaration of Accuracy

In making this declaration, I am aware that sections 490 and 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) EEPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed  _____

Full name (please print) Kate Maddison

Position (please print) Project Manager

Organisation (please print including ABN/CAN if applicable) Department of Planning & Environment
 Date 3 / 8 / 17 38 755 709 681

Document Control

This document will be subject to periodical review and revision. The Project Manager is to approve revisions to the document and the following table is to be completed.

Revision	Revised Pages	Summary of Changes	Authorisation (Name and Signature)	Date
0	0	Initial report	Kate Maddison	3 Aug 17

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Description of activities

EPBC number:	2012/6437
Project name:	Woodsreef Mine Major Rehabilitation Project
Approval holder and ACN/ABN 189 919 072	Department of Planning & Environment 72
Approved Action:	To demolish infrastructure and carry out rehabilitation works at the derelict Woodsreef asbestos mine, Woodsreef, NSW.
Location of the project:	Woodsreef NSW
Person accepting responsibility for the report:	Kate Maddison, Derelict Mines Project Manager, Environmental Sustainability Unit.
Dates for the reporting period of the report:	15 August 2016 to 15 August 2017
Date of preparation of the report:	15 August 2017

Approval Condition Compliance Table

Condition Number / reference	Condition	Compliant/ Non-Compliant/ Not applicable	Evidence/Comments Evidence to support claims regarding compliance or non-compliance.
1	To minimise disturbance to the Large-eared Pied Bat (<i>Chalinolobus dwyeri</i>) (LEPB), the approval holder must commence the demolition of the mill building, office building and ore silos establishment of asbestos encapsulation cells and any other works likely to disturb LEPB roosts between the months of February and May (inclusive) or during September, or during other times of the year if there are no LEPB breeding or raising young in the buildings to be demolished (as in accordance with Condition 2). Once commenced, these works must continue in a way which deters LEPB from roosting in the disturbed roost site/s until the relevant works are completed and for a period of not longer than one year (or for a longer period if required as a result of unfavourable weather conditions and if agreed to in writing by the Department).	Compliant	<p>Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter.</p> <p>Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.</p> <p>Commenced deterring the LEPB from roosting in the Mill Building during September 2014 with light and noise. Relocation of the LEPB was completed in October 2014. Appendix 3 – email from ecologist to NSW Public Works. Appendix 14 – ecologist reports.</p> <p>Demolition contract finalisation 31 May 2016. Appendix 15 – email from NSW Public Works finalisation and releasing bank guarantee.</p> <p>Demolition contractor completion of milestone 3 (3 June 15) all demolition works on site & milestone 4 (15 September 2015) removal from site. Appendix 16 – letter from NSW Public Works to demolition contractor.</p>
2	The approval holder must undertake pre-demolition surveys for the LEPB in all structures to be demolished that have the potential to provide roosting habitat for LEPB. These surveys must be undertaken within one week prior to demolition taking place and if LEPB are detected, appropriate measures undertaken to evict and deter the LEPB prior to demolition commencing, unless the LEPB are breeding or raising young, in which case, commencement of demolition cannot occur. The survey, eviction and deterrence of LEPB must be carried out in accordance with the methodology and	Compliant	Pre demolition surveys completed in October 2014. Appendix 3 - email from ecologist to NSW Public Works.

	protocols described in Section 7.1.2 of the Public Environment Report.		
3	The approval holder must cover the entrance to Tunnel 1 to adequately protect the integrity of LEPB habitat during demolition works and re-instate the entrance in a form which enables access to the tunnel by LEPB after the completion of the demolition works.	Compliant	Tunnel 1 integrity protected in October 2014. Appendix 3 - email from ecologist to NSW Public Works. Habitat re-instated and reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.
4	The approval holder must undertake the action to the effect that any asbestos containment cells that are constructed are located at least 10 metres away from the entrance of or LEPB flight paths into any of Tunnels 1, 2 or 3 and are constructed in a way that does not negatively impact on the integrity of LEPB habitat.	Compliant	Containment cells are over 10 meters away from Tunnel entrances. Appendix 4 – final containment cell survey.
5	The approval holder must minimise the impacts to native vegetation on site that may result from the action. The measures to be implemented to achieve this must be included in the Construction Environmental Management Plan and the Operational Environmental Management Plan described in the Public Environment Report (in Sections 9 and 10 respectively).	Compliant	Minimisation of impact on native vegetation was included in the Environmental Management Plan. Appendix 5 - Environmental Management Plan.
6.a.	To compensate for the loss LEPB habitat the approval holder must secure the offsets identified in Section 8 of the Public Environment Report. These offsets must include: Compensatory habitat (on-site) comprising Tunnels 1, 2 and 3 and the enhancement of these tunnels as described in Section 8.1 of the Public Environment Report	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan. Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.
6.b.	To compensate for the loss LEPB habitat the approval holder must secure the offsets identified in Section 8 of the Public Environment Report. These offsets must	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 6 – Letter to DoE lands secure for the

	include: Offset lands (off-site) comprising suitable native vegetation and appropriate habitat features within the area identified in Section 8.2.2 of the Public Environment Report. These off-site offset lands must include the derelict gold mines which provide breeding habitat for LEPB (identified as Barney Bernato and King Solomon) and a buffer of native vegetation of a minimum of 30 meters around all entrances to these derelict mines. These derelict mine entrances and buffer areas are further described in detail in the additional information provided to the Department on the 14 May 2014, headed "Woodsreef Mine Major Rehabilitation Project EPBC 2012/6437 Request for Additional Information" and located on the aerial photos at Annexure 2 entitled "Large-eared Pied Bat Habitat and Covenant".		ongoing protection of the LEPB. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan. Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.
7	The offsets that are secured by the approval holder must be consistent with and meet the requirements of the EPBC Offsets policy	Compliant	Offsets are compliant and are as described in the Public Environment Report. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.
8.a	In relation to the offset areas specified in Condition 6(a) the approval holder must: be in full control of the areas comprising Tunnels 1, 2 and 3 and have secured these areas for use as LEPB habitat prior to commencement of demolition	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
8.b.	In relation to the offset areas specified in Condition 6(a) the approval holder must: Undertake enhancement works to improve the habitat of these areas for LEPB	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan. Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.

8.c.	<p>In relation to the offset areas specified in Condition 6(a) the approval holder must:</p> <p>Undertake the enhancement works and manage these areas in accordance with the enhancement and management actions and timelines set out in Sections 8.1.2, 8.1.3 and 8.1.4 of the Public Environment Report</p>	Compliant	<p>Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.</p> <p>Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.</p>
8.d.	<p>In relation to the offset areas specified in Condition 6(a) the approval holder must:</p> <p>Investigate the scope for enhancing and/or increasing areas of native vegetation adjacent or proximate (within 200 meters) to these areas, including to create connectivity to other larger patches of native vegetation, to the benefit of the LEPB and implement measures to do so</p>	Compliant	<p>Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.</p>
8.e.	<p>In relation to the offset areas specified in Condition 6(a) the approval holder must:</p> <p>Provide written evidence to the Department that these areas are protected by a legal instrument under relevant legislation within 6 months of commencement of the action.</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.</p> <p>Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.</p>
9.a.	<p>In relation to the offset lands specified in Condition 6(b) the approval holder must:</p> <p>Provide written evidence to the Department prior to the commencement of demolition that the lands (including native vegetation and derelict gold mines) will be secured and managed for the purpose of providing an environmental offset for the ongoing protection and conservation of the LEPB</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 6 – Letter to DoE lands secure for the ongoing protection of the LEPB. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.</p> <p>Provided written evidence prior to demolition will be secured. Appendix 9 – Letter from Project Manager to DoE OUT14/36867.</p> <p>Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.</p>

9.b.	<p>In relation to the offset lands specified in Condition 6(b) the approval holder must:</p> <p>Provide written evident to the Department that these lands are protected by a legal instrument under relevant legislation within 9 months of commencement of the action.</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.</p>
10.a.	<p>The instruments referred to in Condition 8(e) and 9(b) must:</p> <p>Provide for the legal protection of the land for the term of the effect of the impact</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.</p> <p>Commencement of the action occurred prior to the 4 July 2014 approval. Email sent to DoE on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.</p>
10.b.	<p>The instruments referred to in Condition 8(e) and 9(b) must:</p> <p>Prevent any conflicting future development activities</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.</p> <p>Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.</p>
10.c.	<p>The instruments referred to in Condition 8(e) and 9(b) must:</p> <p>Ensure the active conservation management of the land</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.</p> <p>Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.</p>

			Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017. Final ecological report – Appendix 18
11	The approval holder must provide to the Department the offset attributes, shapefiles and textual descriptions and maps to clearly define the location and boundaries of the offset sites specified in Condition 6, within 9 months of commencement of the action.	Compliant	Posted thumb drive to Timothy Kaminskas. Further shape files emailed 13 October 2015. Appendix 10 – attached copy of return email dated 13 October 2015.
12.a.	Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to: Reference to habitat enhancement and management activities described in Condition 8 and their implementation status	Compliant	Final version emailed to DoE on 27 August 2015. Appendix 11 &12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.
12.b.	Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to: Long-term conservation objectives which are clearly set out, measurable and consistent with the conservation management intent described in Section 8 of the Public Environment Report.	Compliant	Two year monitoring period concludes June 2017. Final version emailed to DoE on 27 August 2015. Appendix 11 &12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan. Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.
12.c.	Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to: Implementation of other relevant management actions and conservation measures including those identified in	Compliant	Two year monitoring period concludes June 2017. Final version emailed to DoE on 27 August 2015. Appendix 11&12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan. Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.

	Section 8 of the Public Environment Report and any other appropriate management actions such as weed management, pest management, stock exclusion and ecological monitoring.		
12.d.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>A long-term LEPB monitoring program consistent with Section 8.3 of the Public Environment Report. This monitoring program must include a minimum of six LEPB monitoring sessions to be undertaken, after the completion of demolition works, during early January, May and early October over a two-year period, unless otherwise specified in writing by the Department</p>	Compliant	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p> <p>Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.</p> <p>Final ecological report – Appendix 18</p>
12.e.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Identification of roles, responsibilities and funding sources to achieve the conservation objectives</p>	Compliant	<p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
12.f.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Regular monitoring against conservation objectives and adaptive management as appropriate to achieve the conservation objectives</p>	Compliant	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p> <p>Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017.</p> <p>Final ecological report – Appendix 18</p>
13.	Any LEPB captured during monitoring sessions must	Compliant	Monitoring completed to date was compliant to this condition.

	be banded in accordance with the Australian Bird and Bat Banding Scheme		Appendix 14 – ecologist monitoring reports to date. Two year monitoring period concludes June 2017. Final version emailed to DoE on 27 August 2015. Appendix 11& 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.
14.	All survey data collected for the project, which relates to the identification and/or conservation of matters of national environment significance, must be collected and recorded so as to conform to a reasonable standard such that it can be readily used by a third party or to data standards notified from time to time by the Department. When requested by the Department, the approval holder must provide to the Department all species and ecological survey data and related survey information from ecological surveys undertaken for matters of national environmental significance. This survey data must be provided within 30 business days of the request, or in a timeframe agreed to by the Department in writing. The Department may use the survey data for various purposes, which relate to the promotion of environmental protection and biodiversity conservation.	Compliant	Survey data completed to date was compliant to this condition. Appendix 14 – ecologist reports. Two year monitoring period concludes June 2017. Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan. Habitat reported on by ecologist. Appendix 17 – report on monitoring from 26 Jan to 29 Jan 2017. Final ecological report – Appendix 18
15.	Within 14 days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement of the action.	Compliant	Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter. Appendix 15 – project completion email.
16.	Within three months of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any	Compliant	As per this report

of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. The approval holder must also notify any non-compliance with this approval to the Department in writing within two business days of becoming aware of the non-compliance.

17.	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister and the audit must address the criteria to the satisfaction of the Minister.	Not applicable	No direction to complete for this approval condition, to date.
18.	If the approval holder wishes to carry out any activity otherwise than in accordance with the plans, as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised plan in writing. The Minister will not approve a revised plan, unless the revised plan would result in an equivalent or improved environmental outcome. If the Minister approves the revised plan that plan must be implemented in place of the plan originally approved.	Not applicable	No revised activity requested.
19.	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the Minister may request that the approval holder make specified revisions to the relevant management plan specified in the conditions and submit the revised plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved plan must be implemented. Unless the Minister has approved the revised plan then the approval holder must continue to	Not applicable	Final version emailed to DoE on 27 August 2015, DoE email responses on 6 November 2015. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 12 – attached copy of email, dated 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.

	implement the originally approved plan, as specified in the conditions.		
20	If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without written agreement of the Minister.	Compliant	Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter.
21	The approval holder must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make the, available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits may also be publicised through the general media.	Compliant	Accurate records are maintained



Department
of Industry

Compliance Report

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More information

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Signed _____

Full name (please print) _____

Position (please print) _____

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Approved Action:	To demolish infrastructure and carry out rehabilitation works at the derelict Woodsreef asbestos mine, Woodsreef, NSW.
Location of the project:	Woodsreef NSW
Person accepting responsibility for the report:	Kate Maddison, Derelict Mines Project Manager, Environmental Sustainability Unit.
Dates for the reporting period of the report:	15 August 2015 to 15 August 2016
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8.b.	In relation to the offset areas specified in Condition 6(a) the approval holder must: Undertake enhancement works to improve the habitat of these areas for LEPB	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.

8.c.	<p>In relation to the offset areas specified in Condition 6(a) the approval holder must:</p> <p>Undertake the enhancement works and manage these areas in accordance with the enhancement and management actions and timelines set out in Sections 8.1.2, 8.1.3 and 8.1.4 of the Public Environment Report</p>	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
8.d.	<p>In relation to the offset areas specified in Condition 6(a) the approval holder must:</p> <p>Investigate the scope for enhancing and/or increasing areas of native vegetation adjacent or proximate (within 200 meters) to these areas, including to create connectivity to other larger patches of native vegetation, to the benefit of the LEPB and implement measures to do so</p>	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
8.e.	<p>In relation to the offset areas specified in Condition 6(a) the approval holder must:</p> <p>Provide written evidence to the Department that these areas are protected by a legal instrument under relevant legislation within 6 months of commencement of the action.</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.</p> <p>Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.</p>
9.a.	<p>In relation to the offset lands specified in Condition 6(b) the approval holder must:</p> <p>Provide written evidence to the Department prior to the commencement of demolition that the lands (including native vegetation and derelict gold mines) will be secured and managed for the purpose of providing an environmental offset for the ongoing protection and conservation of the LEPB</p>	Compliant	<p>Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 6 – Letter to DoE lands secure for the ongoing protection of the LEPB. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.</p> <p>Provided written evidence prior to demolition will be secured. Appendix 9 – Letter from Project Manager to DoE OUT14/36867.</p>
9.b.	<p>In relation to the offset lands specified in Condition 6(b) the approval holder must:</p>	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval Lot 68 covenant instrument sent by Crown Lands on 19

	Provide written evident to the Department that these lands are protected by a legal instrument under relevant legislation within 9 months of commencement of the action.		October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.
10.a.	The instruments referred to in Condition 8(e) and 9(b) must: Provide for the legal protection of the land for the term of the effect of the impact	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection. Commencement of the action occurred prior to the 4 July 2014 approval. Email sent to DoE on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.
10.b.	The instruments referred to in Condition 8(e) and 9(b) must: Prevent any conflicting future development activities	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection. Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.
10.c.	The instruments referred to in Condition 8(e) and 9(b) must: Ensure the active conservation management of the land	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection. Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.
11	The approval holder must provide to the Department the offset attributes, shapefiles and textual descriptions	Compliant	Posted thumb drive to Timothy Kaminskas. Further shape files emailed 13 October 2015. Appendix 10 – attached copy of return

	and maps to clearly define the location and boundaries of the offset sites specified in Condition 6, within 9 months of commencement of the action.		email dated 13 October 2015.
12.a.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Reference to habitat enhancement and management activities described in Condition 8 and their implementation status</p>	Compliant	Final version emailed to DoE on 27 August 2015. Appendix 11 &12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.
12.b.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Long-term conservation objectives which are clearly set out, measurable and consistent with the conservation management intent described in Section 8 of the Public Environment Report.</p>	Compliant	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015. Appendix 11 &12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
12.c.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Implementation of other relevant management actions and conservation measures including those identified in Section 8 of the Public Environment Report and any other appropriate management actions such as weed management, pest management, stock exclusion and ecological monitoring.</p>	Compliant	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015. Appendix 11&12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
12.d.	Within 9 months of commencement of the action, the	Compliant	Two year monitoring period concludes June 2017.

	<p>approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>A long-term LEPB monitoring program consistent with Section 8.3 of the Public Environment Report. This monitoring program must include a minimum of six LEPB monitoring sessions to be undertaken, after the completion of demolition works, during early January, May and early October over a two-year period, unless otherwise specified in writing by the Department</p>		<p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
12.e.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Identification of roles, responsibilities and funding sources to achieve the conservation objectives</p>	Compliant	<p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
12.f.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Regular monitoring against conservation objectives and adaptive management as appropriate to achieve the conservation objectives</p>	Compliant	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
13.	<p>Any LEPB captured during monitoring sessions must be banded in accordance with the Australian Bird and Bat Banding Scheme</p>	Compliant	<p>Monitoring completed to date was compliant to this condition. Appendix 14 – ecologist monitoring reports to date.</p> <p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>

14.	All survey data collected for the project, which relates to the identification and/or conservation of matters of national environment significance, must be collected and recorded so as to conform to a reasonable standard such that it can be readily used by a third party or to data standards notified from time to time by the Department. When requested by the Department, the approval holder must provide to the Department all species and ecological survey data and related survey information from ecological surveys undertaken for matters of national environmental significance. This survey data must be provided within 30 business days of the request, or in a timeframe agreed to by the Department in writing. The Department may use the survey data for various purposes, which relate to the promotion of environmental protection and biodiversity conservation.	Compliant	Survey data completed to date was compliant to this condition. Appendix 14 – ecologist reports. Two year monitoring period concludes June 2017. Final version emailed to DoE on 27 August 2015. Appendix 11 & 12 – attached copy of email, dated 27 August 2015 & 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.
15.	Within 14 days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement of the action.	Compliant	Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter. Appendix 15 – project completion email.
16.	Within three months of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. The approval holder must also notify any non-compliance with this approval to the Department in writing within two business days of becoming aware of the non-compliance.	Compliant	As per this report

17.	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister and the audit must address the criteria to the satisfaction of the Minister.	Not applicable	No direction to complete for this approval condition, to date.
18.	If the approval holder wishes to carry out any activity otherwise than in accordance with the plans, as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised plan in writing. The Minister will not approve a revised plan, unless the revised plan would result in an equivalent or improved environmental outcome. If the Minister approves the revised plan that plan must be implemented in place of the plan originally approved.	Not applicable	No revised activity requested.
19.	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the Minister may request that the approval holder make specified revisions to the relevant management plan specified in the conditions and submit the revised plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved plan must be implemented. Unless the Minister has approved the revised plan then the approval holder must continue to implement the originally approved plan, as specified in the conditions.	Not applicable	Final version emailed to DoE on 27 August 2015, DoE email responses on 6 November 2015. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 12 – attached copy of email, dated 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.
20	If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without written	Compliant	Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter.

agreement of the Minister.

21	The approval holder must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make the, available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits may also be publicised through the general media.	Compliant	Accurate records are maintained
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Department
of Industry

Compliance Report

Woodsreef Mine Major Rehabilitation Project

EPBC 2012/6437

15 August 2015 to 15 August 2016

Published by NSW Department of Industry, Skills and Regional Development

Compliance Report Woodsreef Mine Major Rehabilitation Project EPBC 2012/6437

First published July 2016

More information

[Kate Maddison / Derelict Mines Program / Maitland]

www.trade.nsw.gov.au

Acknowledgments

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (July 2016). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Industry, Skills and Regional Development or the user's independent advisor.

Declaration of Accuracy

In making this declaration, I am aware that sections 490 and 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) EEPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed _____

Full name (please print) _____

Position (please print) _____

Organisation (please print including ABN/CAN if applicable) _____

Date _____ / _____ / _____

Document Control

This document will be subject to periodical review and revision. The Project Manager is to approve revisions to the document and the following table is to be completed.

Revision	Revised Pages	Summary of Changes	Authorisation (Name and Signature)	Date
0	0	Initial report	Kate Maddison	27 July 16

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Description of activities

EPBC number:	2012/6437
Project name:	Woodsreef Mine Major Rehabilitation Project
Approval holder and ACN/ABN	Department of Industry 72 189 919 072
Approved Action:	To demolish infrastructure and carry out rehabilitation works at the derelict Woodsreef asbestos mine, Woodsreef, NSW.
Location of the project:	Woodsreef NSW
Person accepting responsibility for the report:	Kate Maddison, Derelict Mines Project Manager, Environmental Sustainability Unit.
Dates for the reporting period of the report:	15 August 2015 to 15 August 2016
Date of preparation of the report:	10 August 2016

Approval Condition Compliance Table

Condition Number / reference	Condition	Compliant/ Non-Compliant/ Not applicable	Evidence/Comments Evidence to support claims regarding compliance or non-compliance.
1	To minimise disturbance to the Large-eared Pied Bat (<i>Chalinolobus dwyeri</i>) (LEPB), the approval holder must commence the demolition of the mill building, office building and ore silos establishment of asbestos encapsulation cells and any other works likely to disturb LEPB roosts between the months of February and May (inclusive) or during September, or during other times of the year if there are no LEPB breeding or raising young in the buildings to be demolished (as in accordance with Condition 2). Once commenced, these works must continue in a way which deters LEPB from roosting in the disturbed roost site/s until the relevant works are completed and for a period of not longer than one year (or for a longer period if required as a result of unfavourable weather conditions and if agreed to in writing by the Department).	Compliant	<p>Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter.</p> <p>Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.</p> <p>Commenced deterring the LEPB from roosting in the Mill Building during September 2014 with light and noise. Relocation of the LEPB was completed in October 2014. Appendix 3 – email from ecologist to NSW Public Works. Appendix 14 – ecologist reports.</p> <p>Demolition contract finalisation 31 May 2016. Appendix 15 – email from NSW Public Works finalisation and releasing bank guarantee.</p> <p>Demolition contractor completion of milestone 3 (3 June 15) all works on site & 4 (15 September 2015) removal from site. Appendix 16 – letter from NSW Public Works to demolition contractor.</p>
2	The approval holder must undertake pre-demolition surveys for the LEPB in all structures to be demolished that have the potential to provide roosting habitat for LEPB. These surveys must be undertaken within one week prior to demolition taking place and if LEPB are detected, appropriate measures undertaken to evict and deter the LEPB prior to demolition commencing, unless the LEPB are breeding or raising young, in which case, commencement of demolition cannot occur. The survey, eviction and deterrence of LEPB must be carried out in accordance with the methodology and protocols described in Section 7.1.2 of the Public	Compliant	Pre demolition surveys completed in October 2014. Appendix 3 - email from ecologist to NSW Public Works.

Environment Report.			
3	The approval holder must cover the entrance to Tunnel 1 to adequately protect the integrity of LEPB habitat during demolition works and re-instate the entrance in a form which enables access to the tunnel by LEPB after the completion of the demolition works.	Compliant	Tunnel 1 integrity protected in October 2014. Appendix 3 - email from ecologist to NSW Public Works.
4	The approval holder must undertake the action to the effect that any asbestos containment cells that are constructed are located at least 10 metres away from the entrance of or LEPB flight paths into any of Tunnels 1, 2 or 3 and are constructed in a way that does not negatively impact on the integrity of LEPB habitat.	Compliant	Containment cells are over 10 meters away from Tunnel entrances. Appendix 4 – final containment cell survey.
5	The approval holder must minimise the impacts to native vegetation on site that may result from the action. The measures to be implemented to achieve this must be included in the Construction Environmental Management Plan and the Operational Environmental Management Plan described in the Public Environment Report (in Sections 9 and 10 respectively).	Compliant	Minimisation of impact on native vegetation was included in the Environmental Management Plan. Appendix 5 - Environmental Management Plan.
6.a.	To compensate for the loss LEPB habitat the approval holder must secure the offsets identified in Section 8 of the Public Environment Report. These offsets must include: Compensatory habitat (on-site) comprising Tunnels 1, 2 and 3 and the enhancement of these tunnels as described in Section 8.1 of the Public Environment Report	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
6.b.	To compensate for the loss LEPB habitat the approval holder must secure the offsets identified in Section 8 of the Public Environment Report. These offsets must include:	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 6 – Letter to DoE lands secure for the ongoing protection of the LEPB. Appendix 8 – attached copy of the

	Offset lands (off-site) comprising suitable native vegetation and appropriate habitat features within the area identified in Section 8.2.2 of the Public Environment Report. These off-site offset lands must include the derelict gold mines which provide breeding habitat for LEPB (identified as Barney Bernato and King Solomon) and a buffer of native vegetation of a minimum of 30 meters around all entrances to these derelict mines. These derelict mine entrances and buffer areas are further described in detail in the additional information provided to the Department on the 14 May 2014, headed "Woodsreef Mine Major Rehabilitation Project EPBC 2012/6437 Request for Additional Information" and located on the aerial photos at Annexure 2 entitled "Large-eared Pied Bat Habitat and Covenant".		Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
7	The offsets that are secured by the approval holder must be consistent with and meet the requirements of the EPBC Offsets policy	Compliant	Offsets are compliant and are as described in the Public Environment Report. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection.
8.a	In relation to the offset areas specified in Condition 6(a) the approval holder must: be in full control of the areas comprising Tunnels 1, 2 and 3 and have secured these areas for use as LEPB habitat prior to commencement of demolition	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
8.b.	In relation to the offset areas specified in Condition 6(a) the approval holder must: Undertake enhancement works to improve the habitat of these areas for LEPB	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
8.c.	In relation to the offset areas specified in Condition 6(a)	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 –

	the approval holder must: Undertake the enhancement works and manage these areas in accordance with the enhancement and management actions and timelines set out in Sections 8.1.2, 8.1.3 and 8.1.4 of the Public Environment Report		Woodsreef Offset Management Plan.
8.d.	In relation to the offset areas specified in Condition 6(a) the approval holder must: Investigate the scope for enhancing and/or increasing areas of native vegetation adjacent or proximate (within 200 meters) to these areas, including to create connectivity to other larger patches of native vegetation, to the benefit of the LEPB and implement measures to do so	Compliant	Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
8.e.	In relation to the offset areas specified in Condition 6(a) the approval holder must: Provide written evidence to the Department that these areas are protected by a legal instrument under relevant legislation within 6 months of commencement of the action.	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument. Included in the Woodsreef Offset Management Plan. Appendix 2 – Woodsreef Offset Management Plan.
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9.b.	In relation to the offset lands specified in Condition 6(b) the approval holder must: Provide written evident to the Department that these	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant

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10.c.	The instruments referred to in Condition 8(e) and 9(b) must: Ensure the active conservation management of the land	Compliant	Commencement of the action occurred prior to the 4 July 2014 approval. Lot 68 covenant instrument sent by Crown Lands on 19 October 2015. Appendix 8 – attached copy of the Lot 68 covenant instrument. Appendix 13 – Gazette notice for Lot 68 environmental protection. Commencement of the action occurred prior to the 4 July 2014 approval. Mine site covenant instrument sent by Crown Lands on 26 October 2015. Appendix 7 – attached copy of the mine site covenant instrument.
11	The approval holder must provide to the Department the offset attributes, shapefiles and textual descriptions and maps to clearly define the location and boundaries	Compliant	Posted thumb drive to Timothy Kaminskas. Further shape files emailed 13 October 2015. Appendix 10 – attached copy of return

	of the offset sites specified in Condition 6, within 9 months of commencement of the action.		email dated 13 October 2015.
12.a.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Reference to habitat enhancement and management activities described in Condition 8 and their implementation status</p>	Compliant	Final version emailed to DoE on 27 August 2015, waiting endorsement from DoE. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 2 – Woodsreef Offset Management Plan.
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12.d.	Within 9 months of commencement of the action, the approval holder must develop an Offsets Management	Compliant	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015, waiting</p>

	<p>Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>A long-term LEPB monitoring program consistent with Section 8.3 of the Public Environment Report. This monitoring program must include a minimum of six LEPB monitoring sessions to be undertaken, after the completion of demolition works, during early January, May and early October over a two-year period, unless otherwise specified in writing by the Department</p>		<p>endorsement from DoE. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
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12.f.	<p>Within 9 months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The Plan must include, but not be limited to:</p> <p>Regular monitoring against conservation objectives and adaptive management as appropriate to achieve the conservation objectives</p>	Not applicable	<p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015, waiting endorsement from DoE. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>
13.	<p>Any LEPB captured during monitoring sessions must be banded in accordance with the Australian Bird and Bat Banding Scheme</p>	Compliant	<p>Monitoring completed to date was compliant to this condition. Appendix 14 – ecologist monitoring reports to date.</p> <p>Two year monitoring period concludes June 2017.</p> <p>Final version emailed to DoE on 27 August 2015, waiting endorsement from DoE. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 2 – Woodsreef Offset Management Plan.</p>

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17.	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister and the audit must address the criteria to the satisfaction of the Minister.	Not applicable	No direction to complete for this approval condition, to date.
18.	If the approval holder wishes to carry out any activity otherwise than in accordance with the plans, as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised plan in writing. The Minister will not approve a revised plan, unless the revised plan would result in an equivalent or improved environmental outcome. If the Minister approves the revised plan that plan must be implemented in place of the plan originally approved.	Not applicable	No revised activity requested.
19.	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the Minister may request that the approval holder make specified revisions to the relevant management plan specified in the conditions and submit the revised plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved plan must be implemented. Unless the Minister has approved the revised plan then the approval holder must continue to implement the originally approved plan, as specified in the conditions.	Not applicable	Final version emailed to DoE on 27 August 2015, DoE email responses on 6 November 2015. Appendix 11 – attached copy of email, dated 27 August 2015. Appendix 12 – attached copy of email, dated 6 November 2015. Appendix 2 – Woodsreef Offset Management Plan.
20	If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without written	Compliant	Commencement of the action occurred on 13 August 2014 and was finalised on the 15 June 2015. Appendix 1 – attached copy of the sent notification letter.

agreement of the Minister.

21	The approval holder must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make the, available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits may also be publicised through the general media.	Compliant	Accurate records are maintained
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Email Message

From: [Kate Maddison \[SMTP:kate.maddison@trade.nsw.gov.au\]](mailto:Kate.Maddison@trade.nsw.gov.au)
To: post.approvals@environment.gov.au
[\[SMTP:post.approvals@environment.gov.au\]](mailto:SMTP:post.approvals@environment.gov.au)
Cc: [Andrew Cruckshank \[SMTP:Andrew.Cruckshank@finance.nsw.gov.au\]](mailto:Andrew.Cruckshank@finance.nsw.gov.au),
manel.samarakoon@environment.gov.au
[\[SMTP:manel.samarakoon@environment.gov.au\]](mailto:SMTP:manel.samarakoon@environment.gov.au)
Sent: 22/08/2014 at 10:46 AM
Received: 22/08/2014 at 10:46 AM
Subject: Condition 15 EPBC 2012/6437

Attachments: 0924_001.pdf

Hello Manel

Please find attached a letter corresponding to Condition 15 of the Woodsreef Mine Major Rehabilitation Project (EPBC 2012/6437) approval.

Regards

Kate Maddison

Kate Maddison | Project Manager

Derelict Mines Program

NSW Trade & Investment

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OUT14/27544

Manel Samarakoon
Assistant Director
Approvals Monitoring North Section
Post Approvals Section
Compliance and Enforcement Branch
Environment Assessment and Compliance Division
Department of the Environment
GPO Box 787
CANBERRA ACT 2601

Dear Mr Samarakoon

Woodsreef Mine Major Rehabilitation Project, Condition 15 – EPBC 2012/6437

Condition 15 of the Woodsreef Mine Major Rehabilitation Project (EPBC 2012/6437) approval requires NSW Trade & Investment inform the Department of the Environment of the commencement date of the action. Please note the Letter of Award for the Woodsreef Mine Major Rehabilitation Project Demolition Works was issued to the contractor, Delta Pty Ltd, dated 13 August 2014.

The Contract has 4 milestones:

1. WorkCover Approvals - 6 weeks – 24 September 2014
2. Site establishment - 4 weeks – 22 October 2015
3. Demolitions and remediation works – 30 weeks – 3 June 2015
4. Demobilisation from site – 2 weeks – 17 June 2015

Unforeseen weather and other delays have not been calculated.

Further information on Woodsreef Mine Major Rehabilitation Project is available at www.resourcesandenergy.nsw.gov.au/miners-and-explorers/programs-and-initiatives/derelict/woodsreef-mine-major-rehabilitation-project. If you have any enquiries on this matter, please contact myself on 02 4931 6506 or NSW Public Works, Andrew Cruckshank on 02 4908 4849.

Yours sincerely

Kate Maddison
Project Manager

22 August 2014



WOODSREEF MINE MAJOR REHABILITATION PROJECT

OFFSET MANAGEMENT PLAN

Revision number	Date

EPBC Ref: 2012/6437

Public Works Ref: DC14202

Project Name: Woodsreef Mine Major Rehabilitation Project

Approval Holder: NSW Trade & Investment,
ACN72 189 919 072

Approved Action: To demolish infrastructure and carry out rehabilitation works at the derelict Woodsreef Asbestos Mine, Woodsreef NSW

Project location: Woodsreef, NSW

Date: 29 April 2015

Declaration of Accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed _____

Full name (please print) _____

Organisation (please print) _____

Date ____ / ____ / ____

Document Control

This document will be subject to periodical review and revision. The Project Manager is to approve revisions to the document and the following table is to be completed.

Revision no.	Revised Pages	Summary of Changes	Authorisation (Name and Signature)	Date

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Abbreviations

CoA	Condition of Approval
DP&E	Department of Planning and Environment
DPI	Department of Primary Industries
EEC	Endangered Ecology Community.
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMS	Environmental Management System.
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act, 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act, 1999</i>
LALC	Local Aboriginal Land Council
LEPB	Large-eared Pied Bat
LEP	Local Environmental Plan
LGA	Local Government Area
MNES	Matters of National Environmental Significance
NPWS	National Parks and Wildlife Service
OEH	Office of Environment and Heritage
OEMP	Operation Environmental Management Plan
PER	Public Environment Report
POEO Act	<i>Protection of the Environment Operations Act, 1997</i>
SIS	Species Impact Statement

1 Introduction

1.1 Background

Woodsreef Mine is located in Woodsreef, approximately 15 km east of Barraba in the Northern Tablelands of New South Wales. The former asbestos mine comprises a 75 million tonne waste rock dump and a 25 million tonne tailings dump, both of which are uncapped. There are also a number of derelict buildings, silos, tunnels and other infrastructure on site, including a number of open pits, some containing considerable quantities of water. These are all substantially un-rehabilitated, and uncontained asbestos fibres and exposed processed asbestos are found throughout the site.

The rehabilitation works at Woodsreef Mine, most notably the demolition of an eight storey Mill Building, are proposed to address high risks items of public health and safety identified at the derelict site specifically related to the presence of significant quantities friable asbestos. Removal of the Mill Building and other mining related infrastructure items will reduce the interest in the site, making it less appealing for trespass.

The issue of asbestos contamination at the Woodsreef Mine Site was subject to scrutiny in the 2010 NSW Ombudsman report into the level of co-ordination between Governmental agencies in relation to asbestos issues. The Ombudsman stated that “*initial remediation steps that should be taken as a matter of urgency include removing the derelict buildings and equipment, closing Crown Mountain Road to public access and implementing proper security measures to prevent access to the site*”.

1.1.1 Threats to Matters of National Environmental Significance

The Woodsreef Mine Major Rehabilitation Project will result in the loss of breeding habitat for at least 40 adult Large-eared Pied Bats (LEPB) (*Chalinolobus dwyeri*) that currently occupy the Mill Building at the Woodsreef site. The LEPB is listed as vulnerable under the EPBC Act and is a matter of National Environmental Significance (MNES) protected under Part 3 of the Act.

The Project was therefore referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to the (then) Minister for Environment Protection, Heritage and the Arts on 22 June 2012. The Minister’s delegate determined on 19 July 2012 that assessment was required under the EPBC Act as the action has the potential to have a significant impact on the LEPB.

A Public Environment Report (PER) was prepared to accompany the application for approval of the controlled action. Approval to proceed with the proposed action was granted 4 July 2014 subject to a number of conditions (see Section 2.3).

1.1.2 Addressing Impacts Associated with the Controlled Action

In order to compensate for the residual impact associated with the removal of the Mill Building at the Woodsreef Mine, a series of offsets were developed in accordance with the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* (October 2012), these being;

1. Provision of compensatory habitat via enhancement of existing tunnels at the site (these being Tunnels 1, 2 and 3) for LEPB habitat, to offset the loss of habitat due to the demolition of the Mill Building;
2. Monitoring of the three tunnels and two derelict gold mines for two years to determine the impact to the population and research the knowledge gaps identified in the *National Recovery Plan for the Large-eared Pied Bat Chalinolobus dwyeri* (DERM, 2011);

3. Long term management, including conversion of the Crown Land reserve to a State Conservation Area to protect two derelict gold mines presently providing breeding habitat, placement of a conservation covenant on the land title of the tunnels and management of the tunnels and security fencing.

The offsets are described in detail in Section 3.0.

1.2 Purpose

This Offset Management Plan has been prepared to detail the offset requirements for the Project in accordance with the project approval issued under Section 130(1) and 133 of the EPBC Act.

1.2.1 Offset Management Plan Objectives

The objectives of the Woodsreef Mine Major Rehabilitation Offset Management Plan are to;

- Ensure compliance with all relevant approval conditions in relation to the implementation, management and monitoring of offsets;
- Identify potential environmental risks associated with the implementation and management and monitoring of offsets;
- Ensure the effective monitoring of offsets to ensure the desired outcome is achieved; and
- Assign roles and responsibilities for the implementation, management and monitoring of offsets.

2 Project Summary

2.1 Project Description

The Woodsreef Mine Major Rehabilitation Project involves the rehabilitation of the Woodsreef Asbestos Mine, which includes pre-demolition works, demolition works and post construction monitoring works. A plan of the site is provided in Figure 2-1, Figure 2-2 and Figure 2-3. The project is briefly described below.

2.1.1 Pre-demolition

The pre-demolition works include;

- Drainage works to the north west and south west between the site and Ironbark Creek, to the north at Bundarra Road;
- Management of the roads surrounding the mine site, including signage and culvert maintenance;
- Fencing of derelict mine workings (shafts) identified as LEPB habitat, located on Crown Land 2 km north of the mine;
- On-going seasonal bat monitoring;
- Habitat enhancement works at Tunnels 1 and 3;
- Minor civil works associated with the closure of Mine Road. This includes an earth bund and road re-vegetation from the main entrance to the site towards the south;
- Installation of WHS and asbestos warning signs along the external mine fencing, Mine Road and Bundarra Road; and
- Removal of bats from the Mill Building.

2.1.2 Demolition Activities

The demolition works include;

- Drainage works in close proximity to the Mill Building;
- Demolition of an eight storey Mill Building, single storey administration building and two asbestos ore silos, along with minor structure and equipment at the site;
- Onsite encapsulation of friable and bonded asbestos and other building materials. Concrete on site would be crushed and may be either encapsulated in a containment cell, used as a cover material for the containment cell, or used on site for stabilisation purposes. Chemical wastes would be transported off-site for disposal at an appropriately licensed waste facility;
- Establishment, repair and maintenance of surface water drainage works;
- Miscellaneous on site works, including removal of hazardous stockpiled material containing asbestos near the processing area and along Mine Road;
- On-going seasonal bat monitoring; and
- Decommissioning of an underground fuel storage tank.

2.1.3 Post Demolition Activities

The following post demolition activities are required;

- General maintenance (including ongoing long term) of drainage and containment structures within the Woodsreef Mine; and
- On-going seasonal bat monitoring and maintenance of LEPB offset habitat/long term management measures.

2.2 Controlled Action

The following works constitute a controlled action under the EPBC Act for which approval was sought and approved;

To demolish infrastructure and carry out rehabilitation works at the derelict Woodsreef asbestos mine, Woodsreef NSW.

The demolition of the Mill Building specifically involves the demolition and on-site encapsulation of the eight storey Mill Building, single storey administration building and two asbestos ore silos, along with minor structures and equipment in the immediate vicinity of the Mill Building (e.g. small tanks, the small filtration building, the security hut etc) (refer to Figure 2-2). The encapsulation /containment cell will be located within the Mill Building footprint and in the cleared area adjacent to the Silos.

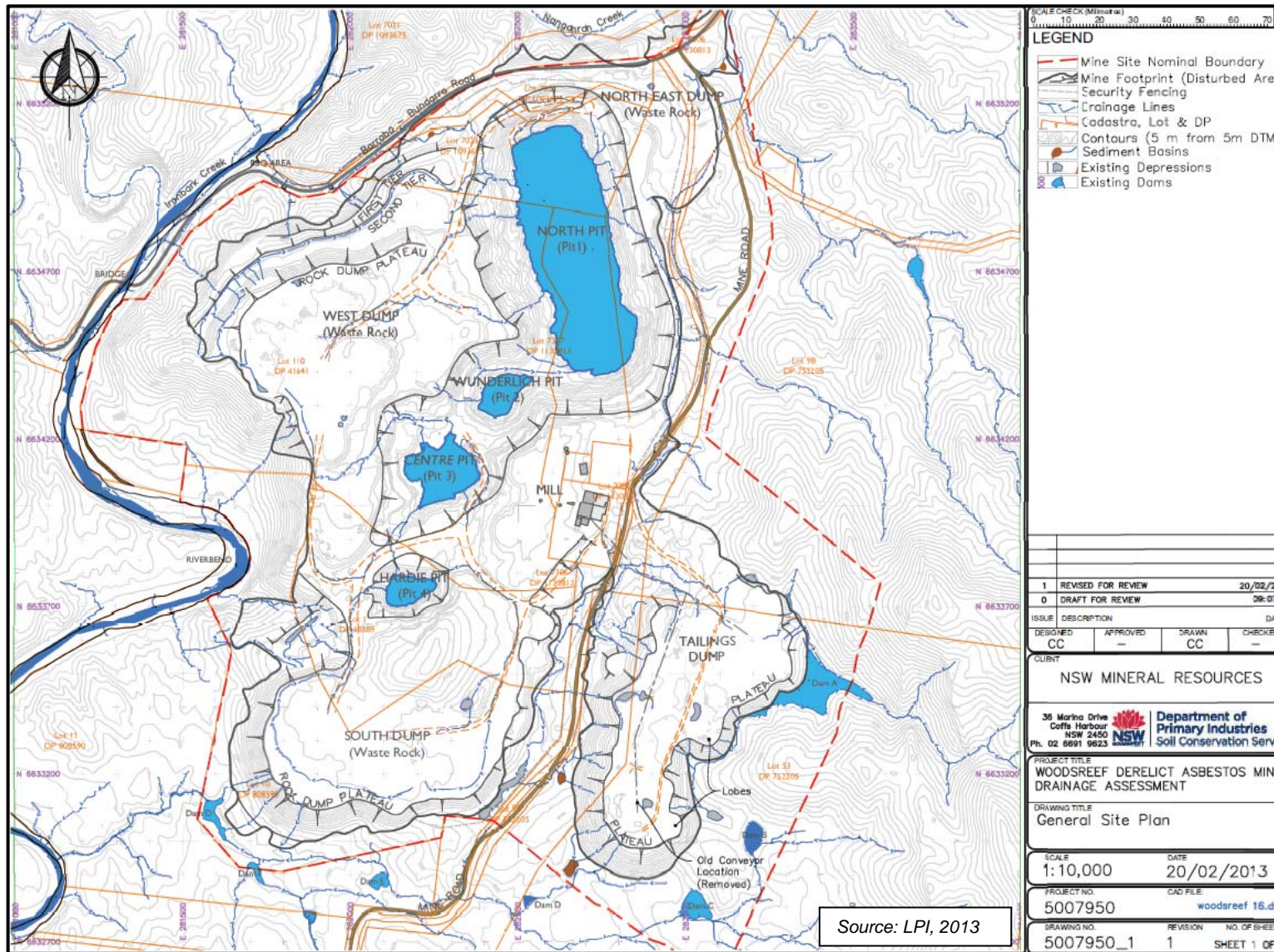


Figure 2-1 Woodsreef Mine General Site Plan

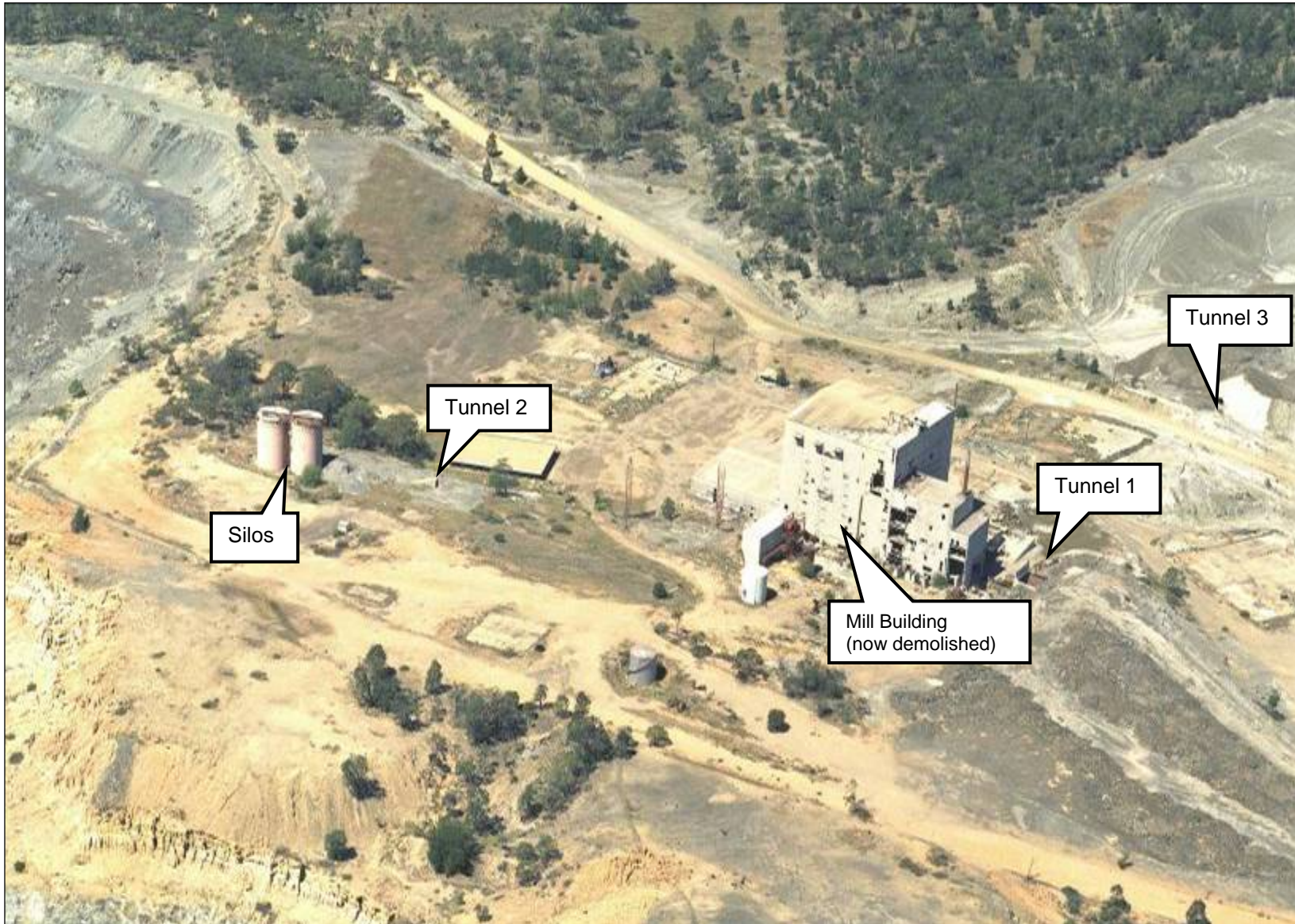


Figure 2-2 Woodsreef Mine Infrastructure Aerial View

Source: Woodsreef Taskforce

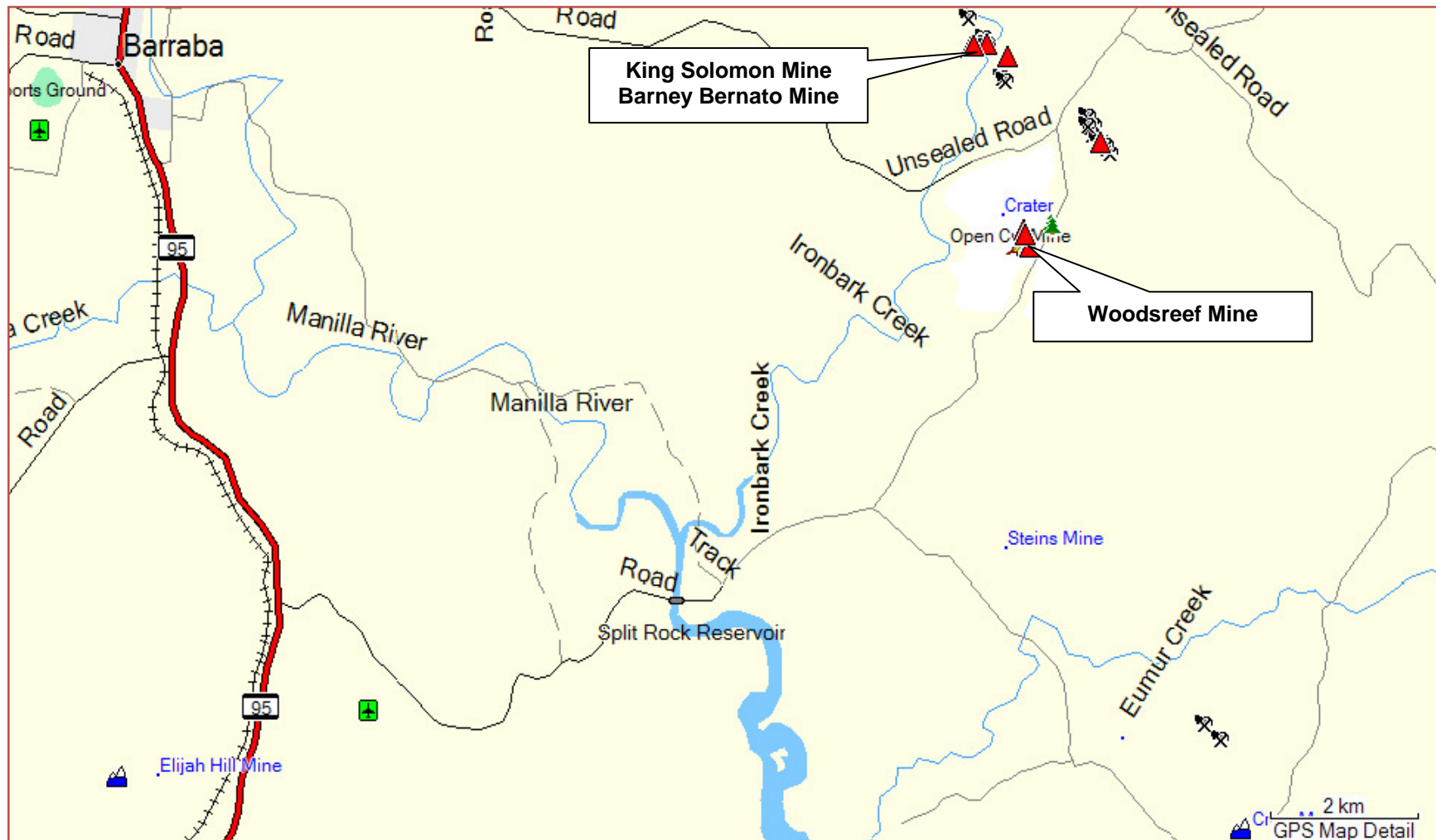


Figure 2-3 Woodsreef Locality

2.3 Project Approval

The Woodsreef Mine Major Rehabilitation Project was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to the (then) Minister for Environment Protection, Heritage and the Arts on 22 June 2012. The Minister's delegate determined on 19 July 2012 that assessment was required under the EPBC Act as the action has the potential to have a significant impact on the LEPB (*Chalinolobus dwyeri*) which is listed as vulnerable under the EPBC Act and is a matter of National Environmental Significance (MNES) protected under Part 3 of this Act.

A Public Environment Report (PER) was prepared to accompany the application for approval of the controlled action. Approval to proceed with the proposed action was granted 4 July 2014 subject to a number of conditions (see Appendix A). The conditions of approval in relation to the offsetting of residual impacts and where they have been addressed in this Offset Management Plan are provided in Table 2-1 below.

Table 2-1 Conditions of Approval

Ref No	Condition	Where / How Addressed
6	To compensate for the loss of LEPB habitat, the approval holder must secure the offsets identified in Section 8 of the PER. These offsets must include;	
(a)	compensatory habitat (on-site) comprising Tunnels 1, 2 and 3 and the enhancement of those tunnels as described in Section 8.1 of the PER;	Section 3.2 and Table 5-1
(b)	Offset lands (off-site) comprising suitable native vegetation and appropriate habitat features within the area identified in Section 8.2.2 of the PER. These off-site offset lands must include the derelict gold mines which provide breeding habitat for LEPB (identified as Barney Bernato and King Solomon) and a buffer of native vegetation of a minimum of 30 m around all entrances to these derelict mines. These derelict mine entrances and buffer areas are further described in detail in the additional information provided to the Dept on the 14 May 2014 titled "Woodsreef Mine Major Rehabilitation Project EPBC Act 2012/6437 Request for Additional Information" and located on the area photos at Annexure 8 titled LEPB and Covenant."	Section 4.4 and Table 5-3.
7	The offsets that are secured by the approval holder must be consistent with and meet the requirements of the "EPBC Act Offsets Policy".	Section 2.4
8	In relation to the offset areas specified in Condition 6(a), the approval holder must;	
(a)	be in full control of the areas comprising Tunnels 1, 2 and 3 and have secured these areas for use as LEPB habitat prior to the commencement of demolition;	Section 3.2, Table 5-1
(b)	undertake enhancement works to improve the habitat of these areas for LEPB;	Section 3.0 and 5.2
(c)	undertake the enhancement works and manage these areas in accordance with the enhancement and management actions and the timelines set out in Sections 8.1.2, 8.1.3 and 8.1.4 of the PER;	Section 3.0 and 5.2
(d)	investigate the scope for enhancing and/or increasing areas of native vegetation adjacent or proximate (within 200 m) to these areas, including to create connectivity to other larger patches of native vegetation, to the benefit of the LEPB and implement measures to do so.	No feasible due to WH&S issues. See Section 3.5

Ref No	Condition	Where / How Addressed
(e)	provide written evidence to the Dept that these areas are protected by a legal instrument under relevant legislation with six months of commencement of the Action.	Land Covenant in progress
9	In relation to the offset lands specified in Condition 6(b), the approval holder must;	
(a)	provide written evidence to the Dept prior to the commencement of demolition that the lands (including native vegetation and derelict gold mines) will be secured and managed for the purpose of providing an environmental offset for the ongoing protection and conservation of the LEPB.	Land Covenant in progress with NPWS, OEH
(b)	provide written evidence to the Dept that these lands are protected by a legal instrument under relevant legislation within 9 months of commencement of the action.	In progress
10	The instrument referred to in Condition 8 (e) and 9 (b) must;	
(a)	provide for the legal protection of the land for the term of the effect of the impact.	Land Covenant in progress
(b)	prevent any conflicting future development activities;	
(c)	ensure the active conservation management of the land.	
11	The approval holder must provide to the Dept the offset attributes, shapefiles and textual descriptions and maps to clearly define the location and boundaries of the offset sites specified in Condition 6, within 9 months of commencement of the action.	In progress
12	Within nine months of commencement of the action, the approval holder must develop an Offsets Management Plan in consultation with the Department. The plan must be implemented. The plan must include, but not be limited to;	
(a)	reference to habitat enhancement and management activities described in Condition 8 and their implementation status.	Section 3.0
(b)	long-term conservation objectives which are clearly set out, measurable and consistent with the conservation management intent described in Section 8 of the PER.	Sections 3.2, 3.3 & 3.4
(c)	implementation of other relevant management actions and conservation measures including those identified in Section 8 of the PER and any other appropriate management actions such as weed management, pest management, stock exclusion and ecological monitoring.	Sections 3.5, 5.2
(d)	a long-term LEPB monitoring program consistent with Section 8 of the PER. This monitoring program must include a minimum of six LEPB monitoring sessions to be undertaken after the completion of demolition works, during early January, may and early October over a two year period, unless otherwise specified in writing by the Department.	Section 6.1
(e)	identification of roles, responsibilities and funding sources to achieve the conservation objectives.	Section 4.1.1
(f)	regular monitoring against the conservation objectives and adaptive management as appropriate to achieve the conservation objectives.	Section 6.0
13	Any LEPB captured during monitoring sessions must be banded in	Table 6-1

Ref No	Condition	Where / How Addressed
	accordance with the Australian Bird and Bat Banding Scheme.	
14	<p>All survey data collected for the project which relates to the identification and/or conservation of matters of NES, must be collected and recorded so as to conform to a reasonable standard such that it can be readily used by a third party or to data standards.</p> <p>When requested by the Department, the approval holder must provide all species and ecological survey data and related survey information from ecological surveys undertaken for matters of NES. Within 30 days.</p>	<p>Section 4.2.2</p> <p>Section 4.2.2</p>
16	<p>Within three months of every 12 month anniversary of the commencement of the action, the approval hold must publish a report on their website addressing compliance with each of the conditions of approval.</p> <p>Documentary evidence providing proof of the date of publication and non-compliance with any conditions of approval must be provided to the Department at the same time as the compliance report is published.</p> <p>The approval holder must notify the Department within two business days of becoming aware of any non-compliance with the Conditions of Approval for the controlled action.</p>	<p>Section 6.3.1</p> <p>Section 6.3.1</p>
17	<p>Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. The audit criteria must be agreed to by the Minister and audit report must address the criteria to the satisfaction of the Minister.</p>	<p>Section 4.2.4 and Section 6.3.1</p>
18	<p>If the approval holder wishes to carry our any activity otherwise than in accordance with the plans, as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised version of that plan. The varied activity shall not commence until the Minister has approved the revised plan in writing. The Minister will not approve a revised plan, unless the revised plan would result in an equivalent or improved environmental outcome. If the Minister approves the revised plan that plan must be implemented in place of the plan originally approved.</p>	<p>Table 5-3</p>
19	<p>If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the Minister may request that the approval holder make specified revisions to the relevant management plan and submit the revised plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved plan must be implemented. Unless the Minister has approved the revised plan then the approval holder must continue to implement the originally approved plan, as specified in the conditions.</p>	<p>Table 5-3</p>
21	<p>The approval holder must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results audits may also be publicised through the general media.</p>	<p>This Offset Management Plan.</p> <p>Table 5-1,</p>

2.3.1 Other Approvals

Approvals required under other NSW statutes are provided in Table 2-2 below.

Table 2-2 Other required approvals

Organisation	Approval	Status
NSW Trade & Investment	Determination of the proposed activity under Part 5 of the EP&A Act	Complete
Office of Environment and Heritage	Concurrence in accordance with Section 112C of the EP&A Act for a significant impact on a listed threatened species.	Complete
Tamworth Regional Council	Validation report required to be issued 60 days after the remediation of the underground storage tank is completed.	To be completed

2.4 EPBC Act Offset Policy

The *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* (October 2012) (EPBC Act Offset Policy) outlines the Australian Government's approach to the use of environmental offsets ('offsets') under the EPBC Act. Offsets are defined as measures that compensate for the residual adverse impacts of an action on the environment. Where appropriate, offsets are considered during the assessment phase of an environmental impact assessment under the EPBC Act.

The development of the offsets for the Woodsreef Mine Restoration Project has been developed in accordance with the EPBC Act Offset Policy as detailed in Section 8.5.2 of the Public Environment Report. A summary of how the principles of the EPBC Act Offset Policy have been applied is detailed below.

Table 2-3 Principles of the EPBC Act Offset Policy

<p><i>Principle 1: Deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action.</i></p> <ul style="list-style-type: none"> • Direct offset roosting habitat has been provided in the form of artificial habitat enhancement in the two other tunnels on the site (Tunnels 1 and 3). • The derelict gold mines Barney Bernato and King Solomon Mines has been enhanced by excluding the public and feral animals, including fencing and ongoing rat baiting. • The Crown Land reserve where the old gold mines are located is proposed to be converted to State Conservation Area. • The enhancement of suitable artificial bat roosting habitat in the Tunnels 1 and 3 has been conducted by reducing light intensity, installing roof and entrance baffles, walling the end, providing roosting habitat at heights to avoid predators, providing roosting boxes too small and deep for large predator access, and boarding the entrance to a height that excludes natural and feral predators. • The habitat and micro-climate of Tunnel 2, which is a known maternity roost for LEPB, has been duplicated in Tunnels 1 and 3. • Monitoring undertaken at Tunnel 1 on 6 February 2013 recorded one female LEPB utilising the enhanced habitat. That particular bat had bred in the Mill Building in November 2012. As females are known to be more selective about roost sites than males, the female's presence is

considered a good sign that the enhanced habitat is acceptable.

- The most recent monitoring on 29 April 2013 found evidence of bat scats below two of the roosts in Tunnel 1, indicating that several bats had been using them regularly. Anabat recording in Tunnel 1 also found LEPB in the tunnel at night.
- Tunnels 1, 2 and 3 are to be monitored over a two-year period post demolition. If it is found that an equal number of bats do not utilise the compensatory roosting habitat within the first twelve months, other improvements will be undertaken to increase the suitability of the habitat until more bats do utilise it. In the case of Tunnel 3, the micro-climate may need more variability.

Principle 2: Be built around direct offsets but may include other compensatory measures.

- Post demolition monitoring of the three tunnels and two derelict gold mines for two years to determine the impact to the population and research the knowledge gaps identified in the LEPB recovery plan.
- Long term management, including conversion of the Crown Land reserve to a State Conservation Area to protect the two derelict gold mines presently providing maternity habitat, management of the tunnels (preferably by OEH) and security fencing to exclude the public and feral animals from the King Solomon and Barney Bernato Mines.

Principle 3: Be in proportion to the level of statutory protection that applies to the protected matter.

- The offset assessment calculator has been used to quantify the impact of this controlled action and therefore this is factored into those calculations.

Principle 4: Be of a size and scale proportionate to the residual impacts on the protected matter

- Works to stop predators accessing the bats at the existing roosting sites, securing and conserving existing artificial habitat and the provision of offset habitat could be a boost to the LEPB population following demolition of the Mill Building, particularly if the enhanced tunnels prove to be as suitable as the existing Tunnel 2 was in 2011.

Principle 5: Effectively account for and manage the risks of the offset not succeeding

- Enhancement works in Tunnels 1 and 3 were completed in advanced delivery of offsets, in anticipation of improving the extent of suitable bat habitat in these tunnels prior to demolition of the Mill Building, as they did not provide suitable habitat conditions or show evidence of being utilised in their original state. The majority of these enhancements have already been installed and therefore any further direct disturbance of the tunnels during rehabilitation works is anticipated to be minor.
- Monitoring undertaken at the site on 6 February 2013 recorded one female LEPB that had bred in the Mill Building in November 2012 utilising Tunnel 1, which was not used by the LEPB prior to enhancement.
- The results from the data loggers installed at the known roosts and the enhanced Tunnels 1 and 3 (recorded temperature, humidity and light), also indicate that the conditions are within the range of the micro climate variables where the bats are known to roost and breed in the building and old mines.
- An indication that the enhanced habitat quality is acceptable lowers the risk of the offset not succeeding, but does not eliminate the risk which is presently considered a 60% probability based on calculations using the EPBC offset calculator.

Principle 6: Be additional to what is already required, determined by law or planning

regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action).

Offsets must deliver a conservation gain for the impact of the protected matter, and that conservation gain must be new, or additional to what is already required by a duty of care to any environmental planning laws at any level of government.

- OEH has provided concurrence for the controlled action under NSW environmental legislation including the offset strategy. This has contributed towards an offset under both the State and Commonwealth (EPBC Act) requirements for this action.
- The offset strategy will deliver a conservation gain through the long term protection of known LEPB roost and breeding sites and through the implementation of adaptive management of the LEPB population based on ongoing monitoring.

Principle 7: Be efficient, effective, timely, transparent, scientifically robust and reasonable

- Advanced delivery of offsets has been undertaken, and therefore they will be in place when the LEPB impact arising from demolition of the Mill Building occurs. This has also allowed monitoring and refinement of the offsets to provide the most efficient design and provide the opportunity to improve the robustness of the species information upon which the proposed offsets have been based.
- This project is breaking new ground for the species, it has not been undertaken before so it must proceed cautiously and be adaptive to change as more is learnt along the way. The works are planned around the seasonal requirements of the bat to minimise disturbance to annual breeding, by targeting the works to windows of time when breeding has finished and the bat population is at its most mobile for dispersion.
- In relation to resources, NSW Trade & Investment, Division of Resources and Energy has approved the allocation of \$100,000 (excluding GST) from the Woodsreef Mine Major Rehabilitation Project resources towards the mitigation and management of the LEPB. These funds will be available for management and mitigation works for a period of two years from the completion of the demolition works and will be managed by the DMP.

Principle 8: Have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.

- The three tunnels on the Woodsreef Mine, as well as two derelict gold mines (King Solomon and Barney Bernato) which provide LEPB habitat, will be monitored for two years to determine the impact to the bat population and research the knowledge gaps identified in the LEPB recovery plan.
- The performance of the offsets would also be reviewed as part of this monitoring program. If it is found that the bats do not take advantage of the compensatory roosting habitat within the first twelve months, other improvements would be undertaken to increase the suitability of the habitat until the bats do utilise it.
- The long-term aim would be to have all three tunnels being utilised by as many or more bats than those using the Mill Building and Tunnel 2 prior to the demolition. The monitoring to date has determined the current LEPB numbers for each important roost and estimated the population of the locality.
- Once proven to be utilised, the compensatory habitat would be constructed securely to ensure that it continues to provide suitable breeding habitat into the future.

3 Description of Offsets

3.1 Introduction

The removal of the Mill Building at the Woodsreef Mine is likely to have a residual impact on the LEPB. Accordingly, the following offsets are being implemented to compensate for this residual impact;

1. Provision of compensatory habitat via enhancement of the existing Tunnels 1, 2 and 3 for LEPB habitat, to offset the loss of habitat;
2. Post demolition monitoring of the three tunnels and two derelict gold mines (see Figure 2-3 for locations) for two years to determine the impact to the population and research the knowledge gaps identified in the LEPB recovery plan; and
3. Long term management, including conversion of the Crown Land reserve to a proposed State Conservation Area to protect two derelict gold mines presently providing breeding habitat, placement of a conservation covenant on the land title of the tunnels and management of the tunnels (preferably by OEH) and security fencing.

These proposed offsets are described further below. Environmental management actions developed to achieve each of the offsets are provided in Section 5.0.

3.2 Compensatory Habitat

Three existing tunnels on the site have been identified as either providing existing LEPB habitat (Tunnel 2) or are able to be enhanced to potentially provide favourable LEPB habitat (Tunnels 1 and 3). The tunnels are shown on Figure 2-2. Enhancement works have been undertaken to the Tunnels as per the concept design plans provided in Appendix B.

Conservation Objectives

The objectives of the compensatory habitat works are to:

- improve the extent of suitable bat habitat to compensate for loss of habitat due to the demolition of the Mill Building;
- have all three tunnels being utilised by as many or more bats than those using the Mill Building and Tunnel 2 prior to the demolition;
- protect habitat / roosts from natural predators; and
- restrict public access to enhanced compensatory habitat.

3.3 Offset Monitoring

The three tunnels (Tunnel 1, 2 and 3) and two derelict gold mines (King Solomon and Barney Bernato) would be monitored for two years. It is expected that approximately 20 field days would be required over the two years of monitoring and data collection. Monitoring would detect adverse impacts post-demolition and assist in the adaptive management of the tunnels and derelict gold mine sites.

Information would be collected about the basic ecology and habitat use of the LEPB to fill the gaps identified in the Priorities Action Statement for the species as prepared by OEH. Priorities Action Statements are prepared by OEH (and published on their website) to promote the recovery of threatened species and the abatement of key threatening processes in NSW, and they identify a number of broad strategies which have more specific priority actions within them.

Conservation Objectives

The objectives of the offset monitoring are to:

- Determine the impact to the bat population due to the removal of the Mill Building;
- Detect adverse impacts post demolition to the Mill Building; and
- Research the knowledge gaps identified in the LEPB recovery plan.

3.4 Long Term Management

3.4.1 Research

Monitoring and management measures proposed for the LEPB would provide further information regarding the species' basic ecology and habitat use to fill the gaps identified in its Priority Action Statement prepared by OEH.

Information deficiencies which would be addressed include:

1. How does the species use the landscape?
2. What environmental features predict occupancy?
3. What threatens the species?
4. What comprises optimal habitat?
5. What constitutes a maternity roost?
6. What features are important?
7. What factors are important in explaining distribution and use of the landscape and the species basic ecology?

All of the data collected should give a picture of factors influencing the distribution of LEPB in the Woodsreef locality and provide a better understanding of the basic ecology.

Furthermore, the information provided would also assist in addressing some of the specific objectives and actions listed in the *National Recovery Plan for the Large-eared Pied Bat *Chalinolobus dwyeri** (QLD DERM, 2011), which states that "the lack of detailed information regarding the distribution, abundance and ecological requirements of the LEPB make an assessment of threats difficult".

Conservation Objectives

The information gained through the monitoring and long term management measures would assist in achieving the following specific objectives:

- Identify priority roost and maternity sites for protection;
- Implement conservation and management strategies for priority sites; and
- Research the LEPB to augment biological and ecological data to enable conservation management.

3.4.2 Long Term Management

The Crown Land Reserve land parcel 68/752200 on Ironbark Creek is under a Reserve for Environmental Protection (R200001) and a Reserve for Public Recreation (R65785) managed by Crown Lands (See Appendix A, Annexure 1).

The Crown Land reserve is recommended to become a State Conservation Area for the purposes of protecting both bat species and threatened species in general. It has very high conservation value for both flora and fauna.

The conversion of the Crown Land reserve to a State Conservation Area would ensure that the two derelict gold mines presently providing breeding habitat for the LEPB would be actively managed and protected. Maintaining the existing population of LEPB within the Woodsreef Mine is dependent on the success of the compensatory habitat provided in Tunnels 1 and 3. However, even without these tunnels, the population of LEPB should still persist in the locality, albeit in lower numbers, due to the protection of the known breeding site in Tunnel 2 and the two derelict gold mine shafts in the Crown Land reserve.

NSW Trade & Investment are in the progress of securing a land covenant to provide legal protection of the offset areas and surrounding lands.

Conservation Objective

The objective of the long term site management is to;

- Protect and actively manage areas the Crown Land Reserve known to presently provide breeding habitat for the LEPB.

3.5 Additional Management and Conservation Measures

Previous research indicates that revegetation is not likely to be successful due to the existing conditions at the site. Due to the WH&S issues associated with the site, no additional conservation measures at the site are proposed.

4 Environmental Management

4.1 Internal Communication

4.1.1 Roles & Responsibilities

NSW Trade & Investment staff responsible for the environmental management of the Woodsreef Mine Major Rehabilitation Project are detailed in Table 4-1.

It is important that the internal and external (stakeholder) Directory provided are maintained and up to date. As new persons take office, or phone numbers or address change, the Directory shall be immediately updated and circulated to all Offset Management Plan holders, for insertion in their copy of the document.

Table 4-1: Responsible Staff Directory

Name	Role	Responsibly	Contact No.
Phil Spark	Principle Ecologist	Ongoing monitoring Review / analysis of monitoring results Visual inspection of tunnels and enhancement works.	P: 02-67642245 M: 0427642245 E: pdspark@activ8.net.au
Kate Maddison	Project Manager	Overall management of the Woodsreef Mine Rehabilitation Project	P: 02-49316506 M: 0418689291 E: kate.maddison@trade.nsw.gov.au
	Environmental Representative		

4.2 Reporting and Records

Reporting and records maintenance is the responsibility of the NSW Trade & Investment, Derelict Mines Project Manager. NSW Trade & Investment shall maintain legible records of all environmental control issues and activities.

4.2.1 Records

Records will be kept in hard and electronic format. These records would include:

- Monitoring records and data
- Evidence of action taken as a result of reviews, inspection and audits
- Document registers and distribution records
- Correspondence with statutory authorities
- Environmental incident statistics
- Environmental Induction and Training Register
- Public Complaints Register
- Waste Disposal Register
- Minor Incident Register

4.2.2 Survey Data

Responsibility: NSW Trade & Investment

Timing: Within 30 days of the request

Provided to: Department of the Environment

Content:

- All survey data collected which relates to the identification and / or conservation of MNES.
- All species and ecological survey data and related survey information from ecological surveys undertaken for MNES.

All survey data must conform to a reasonable standard such that it can be readily used by a third party or to data standards notified by the Department of the Environment.

4.2.3 Compliance Report

Responsibility: NSW Trade & Investment

Timing: Annually (within three months of every 12 month anniversary of the commencement of the demolition works).

Provided to: Department of the Environment

Content:

The report is to address compliance with each of the conditions of approval. Documentary evidence providing proof of the date of publication and non-compliance with any conditions of approval must be provided to the Department at the same time as the compliance report is published. The Compliance Report is to be consistent with *Annual Compliance Report Guidelines* (DoE, 2014).

The Compliance Report is to be published on the NSW Trade & Investment website.

4.2.4 Independent Compliance Audit Report

Responsibility: NSW Trade & Investment

Timing: When requested.

Provided to: Department of the Environment

Content:

The report must detail the independent audit of compliance with the conditions of approval. The Independent Compliance Audit Report must address the audit criteria (as agreed to by the Minister) to the satisfaction of the Minister.

4.2.5 Offset Review Report

Responsibility: NSW Trade & Investment

Timing: After the end of the two year monitoring period

Provided to: Department of the Environment

Content:

An Offset Review Report would be prepared to detail and analyse the monitoring and survey data obtained as part of the two year monitoring period.

The aim would be to document the findings to date and to evaluate the success of the compensatory habitat and the factors influencing the distribution of LEPB in the Woodsreef locality. The report would be developed to address the identified information deficiencies for the LEPB, namely;

1. How does the species use the landscape?
2. What environmental features predict occupancy?
3. What threatens the species?
4. What comprises optimal habitat?
5. What constitutes a maternity roost?
6. What features are important?
7. What factors are important in explaining distribution and use of the landscape and the species basic ecology?

4.2.6 Environmental Audit Reports

Responsibility: NSW Trade & Investment

Timing: Annually

Provided to: Department of the Environment

Content:

The Environmental Audit Report will:

- assess whether the implementation of the offsets are complying with relevant standards and performance measures as per the Offset Management Plan,
- review the adequacy of strategies, plans or programs required under the offset management plan,
- if necessary recommend measures or actions to improve the environmental performance of the offset implementation / management ,
- identify the major environmental controls used and assess their effectiveness;

4.2.7 Incident Reports

Responsibility: NSW Trade & Investment

Timing: within 24 hours of an incident

Provided to: Department of the Environment and NSW EPA (for pollution incidents see Section 6.4.2)

Content:

An incident report is to be undertaken for any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment. The report will outline the basic facts.

A detailed follow up report would to be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures.

4.3 Environmental Training

All personnel involved in the implementation of the offsets as per this Offset Management Plan are to be adequately qualified and experienced in fauna management and with specific experience in handling bats.

All personnel accessing the Woodsreef Mine are to be familiar with and are to act in accordance with the *Safety Protocol Entry to Former Woodsreef Asbestos Mine Site Near Barraba, NSW* (AECOM, 2009) provided in Appendix D of this Offset Management Plan.

Appropriate personnel protection equipment is to be worn at all times.

All personnel accessing the site would undergo the following environmental training as a minimum:

- A site induction (Level 1 or Level 2 depending on work proposed);
- Environmental emergency response training; and
- Familiarisation with site environmental controls and procedures;

4.3.1 Training Records

The environmental training records register (provided in Appendix E) is to detail the training carried out, dates, names of persons trained and trainer details. It is the responsibility of the NSW Trade & Investment or their representative to keep the training records register up to date.

4.3.2 Site Inductions

All visitors, consultants and contractors to the Woodsreef site are required to undergo a site induction (Level 1 or Level 2 depending on work proposed) by NSW Trade & Investment.

5 Implementation

5.1 Risk Assessment

A qualitative risk assessment to identify environmental risks and impacts associated with the implementation of the offsets (see Section 3.0 for description of the offsets) was undertaken using the consequence and likelihood scale and risk matrix tables provided in Appendix C of this Plan. The risk assessment is provided in Appendix C.

Only limited risks were identified due to the implementation of the offsets. The survey and data collection methods proposed as part of the offset monitoring have been implemented since monitoring commenced at the site in 2011 and have proven to have had limited impact on the bats and their behaviour.

Appropriate control measures have been developed based on the potential impact and level of risk associated with the implementation of the offsets and these are detailed further in Table 5-1 below.

5.2 Environmental Management Actions

Environmental management actions that will be implemented to achieve the offsets as described in Section 3.0 are provided in Table 5-1. These are based on the *Woodsreef Mine Major Rehabilitation Project Public Environment Report* (NSW Public Works 2014), Controlled Action Approval and those arising from the risk assessment (see Section 5.1 above). Any additional environmental safeguards such as those prescribed through best practice guidelines or technical standards have also been included.

Additional management measures proposed at the Woodsreef Mine to achieve other conservation objectives such as weed management, pest management and stock exclusion are also included.

Further details on how the actions will be monitored are provided in Section 6.1.

Table 5-1 Environmental Management Actions

Compensatory Habitat - Tunnel 1					
Objective;					
<ul style="list-style-type: none"> Exclude public and predators from the entrance to Tunnel 1. 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
1	Install man-proof chain-wire mesh fence around tunnel entrances. Barbed wire fencing is not to be used. Fence design not to impede bat flight path to tunnels and is to be pegged by an ecologist.	Pre demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B). Inspection by an ecologist
2	Wall off or fill in the bottom end of the tunnel leaving an air gap open to the surface. This could be constructed using recycled steel pipe for a snorkel and bricks recycled from the building. Locate the wall at the end of the tunnel at the current water level.	Pre demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B)
3	Erect a weatherproof sheet 1.2 m high across the bottom of the entrance to limit feral predator entry into the tunnel, and erect a sheet of weatherproof material across the top half of the entrance to deflect rain and light entry.	Pre demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B)
Objective:					
<ul style="list-style-type: none"> Reduce light intensity 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
4	Erect three baffles (brick or similar material) to reduce light entry; each baffle is to cover 110 cm (just over half the width of the tunnel). Baffles need to be spaced 2 m apart from the entrance of the tunnel.	Pre demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B). Inspection by an ecologist
5	Erect two ceiling baffles up to 60 cm deep across the width of the tunnel at 15 m and 25 m from the entrance. Use recycled material or strong marine ply sheet dyna-bolted to the roof.	Pre demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B). Inspection by an ecologist
Objectives:					
<ul style="list-style-type: none"> Provide roost habitat 					

- *Ensure roost habitat is at heights to avoid predators and is appropriately sized.*

Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
6	<p>Erect;</p> <ul style="list-style-type: none"> • five timber boxes 14 cm x 14 cm x 30 cm deep, • five timber boards 25 cm x 10 cm, • five concrete blocks and • five carpet squares behind the roof baffles and at the end of the tunnel. <p>The roost habitat can be glued, bolted or cemented. All timber used must be rough sawn or grooved for bats to cling to, and concrete blocks are to have one carpet surface glued to the inside.</p>	Pre demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B) Inspection by an ecologist

Compensatory Habitat - Tunnel 2

Objective;

- *Ensure the safety of workers undertaking enhancement works in Tunnel 2.*

Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
7	Undertake a detailed investigation of Tunnel 2 to determine the structural integrity of the tunnel and the asbestos exposure risk.	Pre demolition	NSW Trade & Investment	Complete	Investigation report.

Objective:

- *Prevent further loss of known LEPB habitat on the site.*
- *Minimise impacts to the LEPB using Tunnel 2*

Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
8	Undertake enhance works to Tunnel 2 if determined to be structural sound.	When at least 36 adult LEPB begin to use Tunnels 1 and 3.	NSW Trade & Investment	To be completed	Monitoring records
9	Only undertake enhancement works when bats unlikely to be present.	Feb, March, April or late August,	NSW Trade & Investment	To be completed	Monitoring records

		Sept & early Oct			
Objective:					
<ul style="list-style-type: none"> Prevent water / run off from entering Tunnel 2. 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
10	Block off water entry into the tunnel from the base of the silos.	When at least 36 adult LEPB begin to use Tunnels 1 and 3.	NSW Trade & Investment	To be completed	Visual inspections
11	Divert water away from the tunnel entrance through the creation of drainage channels				
Objective;					
<ul style="list-style-type: none"> Exclude public and predators from the entrance to Tunnel 2. 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
12	Erect a tall chain-wire mesh fence (similar to that used by NSW Roads and Maritime Services on the Pacific Highway for Koala proof fencing) around both entrances to the tunnel. Barbed wire fencing is not to be used.	When at least 36 adult LEPB begin to use Tunnels 1 and 3.	NSW Trade & Investment	Complete	Inspection by an ecologist
13	The location of the fence is to be pegged by an ecologist.		Phil Spark	Complete	Inspection by an ecologist
14	The fence is to be designed so as to not impede the bat flight path.		Phil Spark	Complete	Inspection by an ecologist
Objective:					
<ul style="list-style-type: none"> Provide roost habitat 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
15	Erect; <ul style="list-style-type: none"> five timber boxes 14 cm x 14 cm x 30 cm deep, five timber boards 25 cm x 10 cm, five concrete blocks, and five carpet squares behind the roof baffles. The roost habitat can be glued, bolted, or cemented.	When at least 36 adult LEPB begin to use Tunnels 1 and 3.	NSW Trade & Investment	To be completed	Inspection by an ecologist Evaluate roost sites for preference over two years (see Table 6-1).
16	All timber used must be rough sawn or grooved for bats to cling to, and	When at least 36	NSW Trade &	To be completed	

	concrete blocks are to have one carpet surface glued to the inside.	adult LEPB begin to use Tunnels 1 and 3.	Investment		
Objective;					
<ul style="list-style-type: none"> Provide information to enhance Tunnels 1 and 3 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
17	Record parameters of light, humidity and temperature in the maternity roosts.	Ongoing	NSW Trade & Investment	complete	Monitoring records

Compensatory Habitat - Tunnel 3

Objective;					
<ul style="list-style-type: none"> Control light and temperature within Tunnel 3 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
18	Install three baffles of weatherproof plywood material that close two thirds of the tunnel width to be erected at spacings at least 2 m apart.	Pre-demolition	NSW Trade & Investment	Complete	As per concept plans (Appendix B). Inspection by an ecologist.
Objective;					
<ul style="list-style-type: none"> Exclude predators (feral animals) from Tunnel 3. Specifically deter Swallows (previously observed in Tunnel 3) 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
19	Erect a strong weatherproof sheet across the top and bottom of the entrance to a height of 1.4 m.	Pre-demolition	NSW Trade & Investment	Complete	Swallow, Owl and other pest species presence in Tunnel to be monitored. Inspection by an ecologist
20	Allow 50 cm gap between the sheets for bats to enter.	Pre-demolition	NSW Trade & Investment	Complete	

Offset Monitoring

Objectives;

- Determine the impact to the bat population due to the removal of the Mill Building,
- Detect adverse impacts post demolition to the Mill Building,
- Research the knowledge gaps identified in the LEPB recovery plan.

Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
21	Band all the LEPB in Tunnel 2, the Mill Building, and King Solomon and Barney Bernato Mines. Banding to be undertaken in accordance with the Australian Bird and Bat Banding Scheme requirements.	Three monitoring sessions per year for two years, post demolition. Early January, May, and early October.	Phil Spark (on behalf of NSW Trade & Investment)	To be completed	Monitoring records (see Section 6.2 below).
22	Record the weight, size, sex and age of each bat, along with details of each roost location.			To be completed	
23	Attach data loggers to each roost location and nearby locations to record the temperature, light intensity, and humidity (these are already in place).			Complete. Data loggers are attached.	
24	Monitor of the populations in the two derelict gold mines and the three tunnels to determine whether: <ul style="list-style-type: none"> • the bats in the Mill Building do assimilate into the three other breeding colonies; • the compensatory habitat is effective; and • those colonies increase in size compared to pre-demolition recordings in 2011. 			To be completed	
25	All survey data must conform to a reasonable standard such that it can be readily used by a third party or to data standards notified by the DoE.	Recording of survey data	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
26	Review existing management measures based on the outcome of the monitoring phase and implement adaptive management as required, such as further protection of the derelict gold mine roosts and further enhancement of Tunnels 1 and 3.	After two year monitoring period.	Phil Spark	To be completed	Offset Review Report (see Section 4.2.5)

Research

Objective;					
<ul style="list-style-type: none"> Identify priority roost and maternity sites for protection 					
	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
27	Record the details of each of all roosts used for maternity sites and compare to other sites used only for roosting.	Following the capture of data.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
28	Identify the features most likely to influence maternity roost selection.	After two year monitoring period.	Phil Spark	To be completed	Offset Review Report (see Section 4.2.5 below)
Objective;					
<ul style="list-style-type: none"> Research the LEPB to augment biological and ecological data to enable conservation management. Determine factors which are important in explaining the distribution and use of the landscape and the species basic ecology 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
29	Record the movements of banded bats, possible use of radio tracking and/or miniature light sticks for light tag tracking, and Anabat recording to provide information on how LEPB uses the landscape.	During two year monitoring period.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
30	Record the details and surroundings of each known roost, tunnel, building, and mine utilised to provide information useful to predict occupancy.	During two year monitoring period.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
31	Identify potential threats at each known roost, mine, tunnel and building utilised.	During two year monitoring period.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
32	Record the bat abundance in Tunnel 2 pre and post security fencing (to exclude predators) to provide an indication of the current level of predation.	During two year monitoring period.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
33	Monitor populations to identify which Tunnel, mine or building regularly records the highest abundance of bats and is considered to be optimal habitat.	During two year monitoring period.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)
34	Ongoing recording of light temperature and humidity of each roost microhabitat and ambient external readings.	During two year monitoring period.	Phil Spark	To be completed	Monitoring records (see Section 6.2 below)

35	Analyse and correlate data regarding bat abundance, behaviour of male and female bats and roost type.	Post monitoring	Phil Spark	To be completed	Offset Review report (see Section 4.2.5)
Objective;					
<ul style="list-style-type: none"> Implement conservation and management strategies for priority sites 					
Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
36	Analyse the information and data gathered to determine appropriate conservation and management strategies for priority sites.	After two year monitoring period.	Phil Spark	To be completed	Offset Review report (see Section 4.2.5)
37	Review conservation and management strategies and determine whether modifications are required.	After two year monitoring period.	Phil Spark	To be completed	Offset Review report (see Section 4.2.5)
38	Revise Offset Management Plan with updated conservation and management strategies and seek approval from the Department of the Environment.	Following review of monitoring data.	NSW Trade & Investment	To be completed (if required)	Ministers written approval.
39	Implement revised Offset Management Plan.	Once approval from the Minister is granted.	NSW Trade & Investment	To be completed (if required)	Revised Offset Management Plan
40	Undertake any specific revisions to the Offset Management Plan as requested by the Minister for the Department of the Environment. Submit the revised plan for the Minister's written approval and implement. Continue to implement the originally approved plan, until the revised plan is approved.	If requested by the Minister.	NSW Trade & Investment	To be completed (if required)	Ministers written approval.

Long Term Management

Objective;

- Protect and actively manage areas known to presently provide breeding habitat for the LEPB.
- Maintain the integrity of the site for the protection of bat roosting and foraging habitat.

Long Term Management

Ref	Environmental Management Action	Timing	Person / Organisation Responsible	Status	Monitoring / verification
41	Continue the investigating the feasibility of converting the Crown Land Reserve to a State Conservation Area	As soon as possible	NSW Trade & Investment	In progress	Land covenant documentation
42	Provide legal protection of the offset lands (including tunnels and derelict gold mines)	As soon as possible	NSW Trade & Investment	In progress	Land covenant documentation
43	Erect security fencing around the Crown Land Reserve to prevent access by feral animals and the public.	As soon as possible	NSW Trade & Investment	Complete	Visual / site inspections
44	Implement adaptive management of enhanced habitat to ensure artificial bat roosting environments are suitable and adapted to current knowledge of bat preferences	After two year monitoring period.	NSW Trade & Investment	To be completed	Offset Review report (see Section 4.2.5) and Ministers approval.

6 Monitor and Review

6.1 Environmental Monitoring and Corrective action

As part of the offsets proposed to compensate for the residual adverse impacts to the LEPB associated with the rehabilitation of the Woodsreef Mine, a long term monitoring program has been developed. This monitoring program will extend over a two year period and will include six monitoring sessions to be undertaken following the completion of demolition work, during early January, May and early October.

The details of the monitoring program and the performance targets, method, monitoring frequency and corrective action are provided in Table 6-1 below. This table also includes the monitoring details for the environmental management actions (see in Table 5-1 above) required to meet the conservative objectives for the offsets.

6.2 Monitoring / Survey Methods

The three tunnels and two derelict gold mines (King Solomon and Barney Bernato) would be monitored for two years to determine the impact to the bat population and research the knowledge gaps identified in the LEPB recovery plan. It is expected that approximately 20 field days would be required over the two years of monitoring and data collection.

Survey and monitoring of the Woodsreef Mine has been ongoing since 2011. Survey techniques used are consistent with the Office of Environment and Heritage (OEH) *Biodiversity Survey and Assessment: Guidelines for Developments and Activities* (NSW DEC, 2004). Monitoring as part of this Offset Management Plan will be consistent with previous survey and monitoring methods. This will involve;

1. daytime search of roosts,
2. harp trapping at night, and
3. ultrasonic bat call recording.

Daytime Searches

Bats found during daytime searches are to be caught with a dip net, processed and released.

Harp Trapping

Harp trapping is to be conducted using Ausbat harp traps at various locations across the site. Harp traps will be set in front of mineshafts and entrances tunnels. Traps are to be checked four hours after dark and at dawn, bats captured are to be processed and released.

Ultrasonic Bat Call Recording

Anabat recording is to be conducted at locations where harp trapping is considered impracticable and to determine foraging across the site.

Table 6-1 Environmental Monitoring

Monitoring Requirement	Performance Target / Criteria	Ref No. (Table 5-1)	Method	Monitoring Frequency	Corrective Action
Compensatory Habitat					
Fencing around tunnel entrances.	<ul style="list-style-type: none"> Fencing is maintained and free from damage 		Visual inspection	Every six months for two years.	Repair and reinstate
Weather proof sheeting to prevent predator entry to tunnels.	<ul style="list-style-type: none"> Sheeting is maintained in place at appropriate height above ground level. Sheeting is free from damage. Appropriate gap is maintained between top and bottom sheeting. 	3, 21,22	Visual inspection	Every six months for two years.	Repair and reinstate
Pest / feral animals	<ul style="list-style-type: none"> No owls, swallows or other pest species present in the Tunnels. 	-	Visual inspection	Every six months for two years.	Further deterrent measures are to be implemented.
Ceiling and light baffles inside of tunnels.	<ul style="list-style-type: none"> Baffles are maintained in place and are free from damage 	4,5,20	Visual inspection	Every six months for two years.	Repair and reinstate
Roost boxes.	<ul style="list-style-type: none"> Roost boxes are maintained in place and are free from damage. 	6,15,16	Visual inspection	Every six months for two years.	Repair and refix roost boxes.
Drainage works at the entrance of Tunnel 2.	<ul style="list-style-type: none"> Ensure runoff is being effectively diverted away from the tunnel entrance. 	10,11	Visual inspection	Every six months for two years.	Investigate reforming or redesign of drainage channels.
Existing conditions in Tunnel 2	<ul style="list-style-type: none"> Temperature, light intensity, and humidity in Tunnel 2 to be recorded. 	-	Data loggers	Every six months for two years.	Repair / replace data logger.
Offset Monitoring					
Gather information on the existing LEPB population in Tunnel 2.	<ul style="list-style-type: none"> All bats in Tunnel 2, the Mill Building, and King Solomon and Barney Bernato Mines are banded. 	23	In accordance with the Australian Bird and Bat Banding (ABBB) Scheme requirements.	One off, pre demolition	N/a
	<ul style="list-style-type: none"> Weight, size, sex and age of each bat, along with details of each roost location are 	24	As per survey methods used to	Pre demolition	N/a

Monitoring Requirement	Performance Target / Criteria	Ref No. (Table 5-1)	Method	Monitoring Frequency	Corrective Action
	recorded.		date.		
	<ul style="list-style-type: none"> Temperature, light intensity, and humidity of each roost location and nearby location are recorded. 	25	Data loggers	Ongoing	Repair / replace data logger.
Monitor bat populations in the two derelict gold mines and the three tunnels.	<ul style="list-style-type: none"> All bats observed to be banded. 	23	In accordance with the ABBB Scheme requirements.	Every January, May and early October for a two year period	N/a
	<ul style="list-style-type: none"> Weight, size, sex and age of each bat, along with details of each roost location are recorded. 	24	As per survey methods used to date.		N/a
	<ul style="list-style-type: none"> Temperature, light intensity, and humidity of each roost location and nearby location are recorded. 	25	Data loggers	Ongoing	Repair / replace data logger.
	<ul style="list-style-type: none"> Roosts used as maternity sites to be recorded. 	29, 30	As per survey methods used to date.	Every January, May and early October for a two year period	N/a
	<ul style="list-style-type: none"> Movement of bats to be recorded. 	26, 31	Radio tracking and / or miniature light sticks. Anabat recordings		N/a
	<ul style="list-style-type: none"> Bat abundance in Tunnel 2 pre and post security fencing (to exclude predators) to be recorded. 	26, 34	As per survey methods used to date.	Pre and post demolition	N/a
Review monitoring data.					
Collate and analyse data	Features most likely to influence maternity and roost selection to be identified.	29, 30	Data review and analysis.	After each monitoring session.	N/a
	Potential threats at each known roost, mine Tunnel and building utilised to be identified.	33	Data review and analysis.		N/a
	Effectiveness of security fencing to be identified.	34	Data review and		N/a

Monitoring Requirement	Performance Target / Criteria	Ref No. (Table 5-1)	Method	Monitoring Frequency	Corrective Action
			analysis.		
	Bat abundance, behaviour of male and female bats and roost type to be analysed and correlated.	37	Data review and analysis.		N/a
Determine optimal habitat	Highest abundance of bats at each Tunnel, mine or building to be recorded.	35	Data review and analysis.		N/a
Success of habitat enhancement measures	LEPBs utilise offset / enhanced habitat. Bats in the Mill Building assimilate into the three other breeding colonies. Compensatory habitat is effective LEPB colonies increase in size compared to pre-demolition recordings. No pest species detected in the tunnels.	31 -37	Data review and analysis.	After two years of monitoring.	Investigate further protection of the derelict gold mine roosts and further enhancement of Tunnels 1 and 3. Manipulate temp, humidity through baffles. Investigate alternative methods to deter pests.
Determine appropriate conservation and management strategies for priority sites.	All information and data gathered to be analysed.	37	Data review and analysis.	After two years of monitoring.	Revise Offset Management Plan with updated conservation and management strategies and seek approval from the Department of the Environment.
	Identify whether modifications to conservation and management strategies are required	38	Data review and analysis.	After two years of monitoring.	
Adaptive management					
Revised conservation and management strategies	Alternative, revised and new conservation and management strategies as based on the review and analysis of existing data are implemented as per Offset Management Plan.	39, 40, 41	As per revised Offset Management Plan	As per revised Offset Management Plan	As per revised Offset Management Plan
Long term management					

Monitoring Requirement	Performance Target / Criteria	Ref No. (Table 5-1)	Method	Monitoring Frequency	Corrective Action
Site Management	Offset lands including tunnels, derelict gold mines and surrounding lands are legally protected.	43, 44	Land covenant		Continuation negotiations to gain legal protection of the site.
	Security fencing around the Crown Land Reserve is free from damage.	45	Visual inspection	Every six months	Repair and reinstate
	Adaptive management of enhanced habitat is implemented.	46	As per revised Offset Management Plan	As per revised Offset Management Plan	As per revised Offset Management Plan

6.3 Non Compliances

A non-conformance occurs when a procedure or environmental control safeguards are not followed as described in this Offset Management Plan. Should a non-conformance occur, corrective and preventative procedures must be carried out. A Corrective Action Request (CAR) Form (proforma attached in Appendix D) must be filled out and corrective or preventative action undertaken immediately to reduce the environmental risk. The CAR will then be noted in the Non-conformance Control, Corrective and Preventative Procedures Register.

The NSW Trade & Investment shall review, analyse and record the cause of all detected nonconformities and develop corrective action to eliminate the cause of nonconformities. This must include both the determination of immediate action to prevent recurrence, as well as long term corrective action.

NSW Trade & Investment must rectify any notified nonconformity or environmental risk. Corrective/preventive action is to be initiated immediately to prevent recurrence of the nonconformity or remove the identified environmental risk and then should return the completed Corrective Action Request, within seven days after the Corrective Action Request is given to NSW Trade & Investment.

6.3.1 Non compliance with Conditions of Approval

NSW Trade & Investment must notify the Department of the Environment within two business days of becoming aware of any non-compliance with the Conditions of Approval for the controlled action.

6.4 Emergency Response

6.4.1 Emergency contacts

Emergency contact details for this Offset Management Plan are provided in Table 6-2 below. This table is to be regularly reviewed and updated.

Table 6-2 Emergency Contact Details

Agency	Contact
NSW EPA	131 555
NSW Police	000
NSW Fire and Rescue	000
NSW Ambulance	000
NSW State Emergency Service	132 500
Tamworth Rural Referral Hospital	6767 7000
WorkCover NSW	13 10 50

Liaison with the NSW Environmental Protection Authority

The Environment Representative is nominated under this Offset Management Plan as the assigned liaison personnel for contact with the NSW Environmental Protection Authority (EPA) and other related regulatory bodies.

In the event of a major environmental incident, the Environmental Representative will notify the EPA of the event. Each event of contact with the EPA will be documented.

6.4.2 Environmental Incident

Pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

In the event of pollution incident which does not cause or threatened to cause material harm to the environment, an incident report is to be completed, using the form provided in Appendix E.

To ensure all incidents are responded to effectively it is the responsibility of all personnel to promptly communicate any such events to the Environmental Representative. Consecutively, it is the responsibility of NSW Trade & Investment to ensure containment procedures have been initiated and that an account of the incident is submitted to the Environmental Representative. The Environmental Representative will carry out an appropriate investigation and instigate remedial measures or corrective actions as required.

An incident review is to be undertaken to evaluate why the incident occurred and what actions must take place to prevent it or similar incidents occurring in the future.

6.4.3 Environmental Emergency

An environmental emergency is any event that causes or has the potential to cause material harm to the environment.

Material harm to the environment is defined under Section 147 of the NSW *Protection of the Environment Operation Act 1997* (POEO Act) as an event that involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations).

There is a duty under the POEO Act to notify *pollution incidents* (see Section 6.4.2 above) causing or threatening *material harm*. The following notification procedure would be implemented in the event that notifiable pollution incident occurs;

- 1) A person carrying on the activity must, immediately after the person becomes aware of the incident, notify each relevant authority (see Table 6-2) of the incident and all relevant information about it.
- 2) A person engaged as an employee in carrying on an activity must, immediately after the person becomes aware of the incident, notify the employer of the incident and all relevant information about it. If the employer cannot be contacted, the person is required to notify each relevant authority.
- 3) An employer who is notified of an incident or who otherwise becomes aware of a pollution incident which is related to an activity of the employer, must, immediately after being notified or otherwise becoming aware of the incident, notify each relevant authority of the incident and all relevant information about it.
- 4) The occupier of the premises on which the incident occurs must, immediately after the occupier becomes aware of the incident, notify each relevant authority of the incident and all relevant information about it.
- 5) An employer or an occupier of premises must take all reasonable steps to ensure that, if a pollution incident occurs in carrying on the activity of the employer or occurs on the premises, as the case may be, the persons engaged by the employer or

occupier will, immediately, notify the employer or occupier of the incident and all relevant information about it.

It is noted that notification provisions under section 148 of the POEO Act extends to a person engaged in carrying on an activity as an agent for another. Therefore the above references to an employee extend to such an agent and a reference to an employer extends to the Principal.

It is noted also that notification provisions under the Act do not extend to a pollution incident involving only the emission of an odour.

6.4.4 Procedure for Uncovering Suspected Asbestos Materials and Emergencies

The procedure to be followed in the event that suspected asbestos is uncovered during the offset works is detailed in the Site Safety Protocol in Appendix D of this Offset Management Plan.

6.5 Audit and Review

6.5.1 Environmental Auditing

Auditing is to be undertaken as a management tool for monitoring and verifying the effective implementation of the Offset Management Plan. Audits are to include evaluation or verification of operational practices to ensure compliance with the Offset Management Plan. The scope of audits is to include:

- Compliance with up to date environmental legislation, regulations and policies;
- Compliance with environmental objectives and targets;
- Ensuring that environmental management practices, systems, procedures and instructions associated with the offsets are in place and are being followed;
- Ensuring that environmental records and documentation are being completed and are up to date;
- Ensuring that environmental incidents are being recorded and rectified;
- Need for preventative action is assessed and acted on; and
- Ensuring induction / training records are up to date.

6.5.2 Compliance Audit

Upon the direction of the Minister (of the Department of the Environment), NSW Trade & Investment will ensure that an independent audit of compliance with the conditions of approval is conducted. The independent auditor will be approved by the Minister prior to the commencement of the audit. The audit criteria must be agreed to by the Minister and audit report must address the criteria to the satisfaction of the Minister. The Compliance Audit Report will be submitted to the Minister.

6.6 Continuous Improvement

This Offset Management Plan is a dynamic document subject to review and improvement. The continuous improvement mechanism recognises the necessity for staff to assist in the development and improvement of this Offset Management Plan. This Offset Management Plan is to be reviewed annually by NSW Trade & Investment to ensure the document is

- properly established;
- properly maintained;
- effective as a means of implementing environmental management;
- consistent with approval conditions; and

- updated to reflect audit outcomes.

Incident and management procedures would be reviewed and updated as part of the review.

6.6.1 Change Management Procedures

The procedure for amending the Offset Management Plan is a formal process in order to ensure that the environmental implications for any amendments are acceptable. Changes to the Offset Management Plan shall be carried out in accordance with the following procedure;

- 1) Notify the Department of the Environment and detail the reasons for the amendment.
- 2) Gain written approval from the Minister of the Department of the Environment to modify the Offset Management Plan.
- 3) Following written approval of the change, the amendment and the responsible person shall be documented in the Change Request Form (Appendix E).
- 4) The Offset Management Plan is then updated to reflect the approved change.
- 5) The Offset Management Plan is forwarded to the Minister for approval.
- 6) Change request closed.

7 References

DEC (2004) *Biodiversity Survey and Assessment: Guidelines for Developments and Activities*

Department of the Environment (2014a) *Environmental Management Plan Guidelines*

Department of the Environment (2014b) *Annual Compliance Report Guidelines*

Department of Environment and Research Management, (2011) *National Recovery Plan for the Large-eared Pied Bat *Chalinolobus dwyeri**

Department of Primary Industries, Soil Conservation Service (2013): *Woodsreef Derelict Asbestos Mine - Sediment Movement Assessment*

NSW Public Works (2013) *Woodsreef Mine Major Rehabilitation Project Review of Environmental Factors*

NSW Public Works (2014) *Woodsreef Mine Major Rehabilitation Project Public Environment Report*
Report Number: DC12134

Appendix A Controlled Action Approval



Approval

Woodsreef Mine Major Rehabilitation Project (EPBC 2012/6437)

This decision is made under Sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Proposed action

person to whom the approval is granted NSW Trade & Investment

proponent's ACN (if applicable) 72 189 919 072

proposed action To demolish infrastructure and carry out rehabilitation works at the derelict Woodsreef asbestos mine, Woodsreef, NSW [See EPBC Act referral 2012/6437].

Approval decision


Controlling Provision	Decision
Listed threatened species and communities (Sections 18 & 18A)	Approved

conditions of approval This approval is subject to the conditions specified below.

expiry date of approval This approval has effect until 1 January 2034.

Decision-maker

name and position James Tregurtha
Assistant Secretary
South-Eastern Australia Environment Assessments

signature 

date of decision 4 July 2014

Conditions attached to the approval

Avoidance and mitigation of impacts

1. To minimise disturbance to the Large-eared Pied Bat (*Chalinolobus dwyeri*) (LEPB), the **approval holder** must commence the demolition of the mill building, office building and ore silos, establishment of asbestos encapsulation cells and any other works likely to disturb LEPB roosts between the months of February and May (inclusive) or during September, or during other times of the year if there are no LEPB breeding or raising young in the buildings to be demolished (as in accordance with Condition 2). Once commenced, these works must continue in a way which deters LEPB from roosting in the disturbed roost site/s until the relevant works are completed and for a period of not longer than one year (or for a longer period if required as a result of unfavourable weather conditions and if agreed to in writing by the **Department**).
2. The **approval holder** must undertake pre-demolition surveys for the LEPB in all structures to be demolished that have the potential to provide roosting habitat for LEPB. These surveys must be undertaken within one week prior to demolition taking place and, if LEPB are detected, appropriate measures undertaken to evict and deter the LEPB prior to demolition commencing, unless the LEPB are breeding or raising young, in which case, **commencement of demolition** cannot occur. The survey, eviction and deterrence of LEPB must be carried out in accordance with the methodology and protocols described in Section 7.1.2 of the **Public Environment Report**.
3. The **approval holder** must cover the entrance to **Tunnel 1** to adequately protect the integrity of LEPB habitat during demolition works and re-instate the entrance in a form which enables access to the tunnel by LEPB after the completion of the demolition works.
4. The **approval holder** must undertake the action to the effect that any asbestos containment cells that are constructed are located at least 10 metres away from the entrance of or LEPB flight paths into any of **Tunnels 1, 2 or 3** and are constructed in a way that does not negatively impact on the integrity of LEPB habitat.
5. The **approval holder** must minimise the impacts to native vegetation on site that may result from the action. The measures to be implemented to achieve this must be included in the Construction Environmental Management Plan and the Operational Environmental Management Plan described in the **Public Environment Report** (in Sections 9 and 10 respectively).

Offsetting of residual impacts

6. To compensate for the loss LEPB habitat the **approval holder** must secure the offsets identified in Section 8 of the **Public Environment Report**. These offsets must include:
 - a. compensatory habitat (on-site) comprising **Tunnels 1, 2 and 3** and the enhancement of these tunnels as described in Section 8.1 of the **Public Environment Report**;
 - b. offset lands (off-site) comprising suitable native vegetation and appropriate habitat features within the area identified in Section 8.2.2 of the **Public Environment Report**. These off-site offset lands must include the derelict gold mines which provide breeding habitat for LEPB (identified as Barney Bernato and King Solomon) and a buffer of native vegetation of a minimum of 30 metres around all entrances to these derelict mines. These derelict mine entrances and buffer areas are further described in detail in the additional information provided to the Department on the 14 May 2014, headed 'Woodsreef Mine Major Rehabilitation Project

EPBC 2012/6437 Request for Additional Information” and located on the aerial photos at Annexure 2, entitled “Large-eared Pied Bat Habitat and Covenant.”

7. The offsets that are secured by the approval holder must be consistent with and meet the requirements of the **EPBC Offsets Policy**.
8. In relation to the offset areas specified in Condition 6 (a) the **approval holder** must:
 - a. be in full control of the areas comprising **Tunnels 1,2 and 3** and have secured these areas for use as LEPB habitat prior to **commencement of demolition**;
 - b. undertake enhancement works to improve the habitat of these areas for LEPB;
 - c. undertake the enhancement works and manage these areas in accordance with the enhancement and management actions and timelines set out in Sections 8.1.2, 8.1.3 and 8.1.4 of the **Public Environment Report**;
 - d. investigate the scope for enhancing and/or increasing areas of native vegetation adjacent or proximate (within 200 metres) to these areas, including to create connectivity to other larger patches of native vegetation, to the benefit of the LEPB and implement measures to do so;
 - e. provide written evidence to the **Department** that these areas are protected by a legal instrument under relevant legislation within 6 months of **commencement of the action**.
9. In relation to the offset lands specified in Condition 6 (b) the **approval holder** must:
 - a. provide written evidence to the **Department** prior to the **commencement of demolition** that the lands (including native vegetation and derelict gold mines) will be secured and managed for the purpose of providing an environmental offset for the ongoing protection and conservation of the LEPB;
 - b. provide written evidence to the **Department** that these lands are protected by a legal instrument under relevant legislation within 9 months of **commencement of the action**.
10. The instruments referred to in Conditions 8 (e) and 9 (b) must:
 - a. provide for the legal protection of the land for the term of the effect of the impact;
 - b. prevent any conflicting future development activities;
 - c. ensure the active conservation management of the land.
11. The **approval holder** must provide to the **Department** the **offset attributes, shapefiles** and textual descriptions and maps to clearly define the location and boundaries of the offset sites specified in Condition 6, within 9 months of **commencement of the action**.
12. Within 9 months of **commencement of the action**, the **approval holder** must develop an Offsets Management Plan in consultation with the **Department**. The plan must be implemented. The Plan must include, but not be limited to:
 - a. reference to habitat enhancement and management activities described in Condition 8 and their implementation status;
 - b. long-term conservation objectives which are clearly set out, measurable and consistent with the conservation management intent described in Section 8 of the **Public Environment Report**;
 - c. implementation of other relevant management actions and conservation measures including those identified in Section 8 of the **Public Environment Report** and any

- other appropriate management actions such as, weed management, pest management, stock exclusion and ecological monitoring;
- d. a long-term LEPB monitoring program consistent with Section 8.3 of the **Public Environment Report**. This monitoring program must include a minimum of six LEPB monitoring session to be undertaken, after the completion of demolition works, during early January, May and early October over a two-year period, unless otherwise specified in writing by the **Department**;
 - e. identification of roles, responsibilities and funding sources to achieve the conservation objectives;
 - f. regular monitoring against conservation objectives and adaptive management as appropriate to achieve the conservation objectives.
13. Any LEPB captured during monitoring sessions must be banded in accordance with the Australian Bird and Bat Banding Scheme.

Reporting and auditing

14. All survey data collected for the project, which relates to the identification and/or conservation of matters of national environment significance, must be collected and recorded so as to conform to a reasonable standard such that it can be readily used by a third party or to data standards notified from time to time by the **Department**. When requested by the **Department**, the **approval holder** must provide to the **Department** all species and ecological survey data and related survey information from ecological surveys undertaken for matters of national environmental significance. This survey data must be provided within 30 business days of the request, or in a timeframe agreed to by the **Department** in writing. The **Department** may use the survey data for various purposes, which relate to the promotion of environmental protection and biodiversity conservation.
15. Within 14 days after the **commencement of the action**, the **approval holder** must advise the **Department** in writing of the actual date of **commencement of the action**.
16. Within three months of every 12 month anniversary of the **commencement of the action**, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. The **approval holder** must also notify any non-compliance with this approval to the **Department** in writing within two business days of becoming aware of the non-compliance.
17. Upon the direction of the **Minister**, the **approval holder** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

Revisions

18. If the **approval holder** wishes to carry out any activity otherwise than in accordance with the plans, as specified in the conditions, the **approval holder** must submit to the **Department** for the **Minister's** written approval a revised version of that plan. The varied activity shall not commence until the **Minister** has approved the revised plan in writing. The **Minister** will not approve a revised plan, unless the revised plan would result in an equivalent or improved

environmental outcome. If the **Minister** approves the revised plan that plan must be implemented in place of the plan originally approved.

19. If the **Minister** believes that it is necessary or convenient for the better protection of listed threatened species and communities or listed migratory species to do so, the **Minister** may request that the **approval holder** make specified revisions to the relevant management plan specified in the conditions and submit the revised plan for the **Minister's** written approval. The **approval holder** must comply with any such request. The revised approved plan must be implemented. Unless the **Minister** has approved the revised plan then the **approval holder** must continue to implement the originally approved plan, as specified in the conditions.
20. If, at any time after 5 years from the date of this approval, the **approval holder** has not substantially commenced the action, then the **approval holder** must not substantially commence the action without the written agreement of the **Minister**.

Publication of plans

21. The **approval holder** must maintain accurate records substantiating all activities and outcomes associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.

Definitions

approval holder – the person to whom the approval is granted, or to whom the approval is transferred under s145B of the *Environment Protection and Biodiversity Conservation Act 1999*.

commencement of the action – means any preparatory works required to be undertaken including clearing vegetation, the erection of any onsite temporary structures, tunnel enhancement works and the use of heavy duty equipment for demolition or other purposes relating to the action, including the breaking of ground.

commencement of demolition – means the purposeful disturbance of LEPB habitat or any works involving major disturbance or demolition of the mill building, office building and ore silos or any other structures subject to the action and any related movement of asbestos.

Department – the Australian Government Department responsible for the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Offsets Policy – means the EPBC Act environmental offsets policy and Offsets assessment guide, available at: www.environment.gov.au/resource/epbc-act-environmental-offsets-policy.

Minister – the Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister.

offset attributes – means an '.xls' file capturing relevant attributes of the Offset Area, including the EPBC reference ID number, the physical address of the offset site, coordinates of the boundary points in decimal degrees, the EPBC protected matters that the offset compensates for, any additional EPBC protected matters that are benefiting from the offset, and the size of the offset in hectares.

Public Environment Report – means the final assessment documentation provided to the **Department** on 12 February 2014 entitled *Woodsreef Mine Major Rehabilitation Project Public Environment Report* and prepared for NSW Trade & Investment, Division of Resources and Energy by NSW Public Works.

shapefiles – means an ESRI Shapefile containing '.shp', '.shx' and '.dbf' files and other files capturing attributes of the Offset Area, including the shape, EPBC reference ID number and EPBC protected matters present at the relevant site. Attributes should also be captured in '.xls' format. A geographically referenced raster 'img' file/s must be provided to provide context for the shapefiles.

Tunnels 1, 2 and 3 – means the existing tunnels on site which have been identified as existing or potential LEBP habitat and identified in Figure 1-4 of the **Public Environment Report**.

Attached to these Conditions:

Annexure 1: Copy of figure indicating the location of the mill building and **Tunnels 1, 2 and 3**.

Annexure 2: Aerial photographs indicating location of derelict gold mine entrances in off-site offset area, entitled "Large-eared Pied Bat Habitat and Cove[r]nant."

ANNEXURE 1

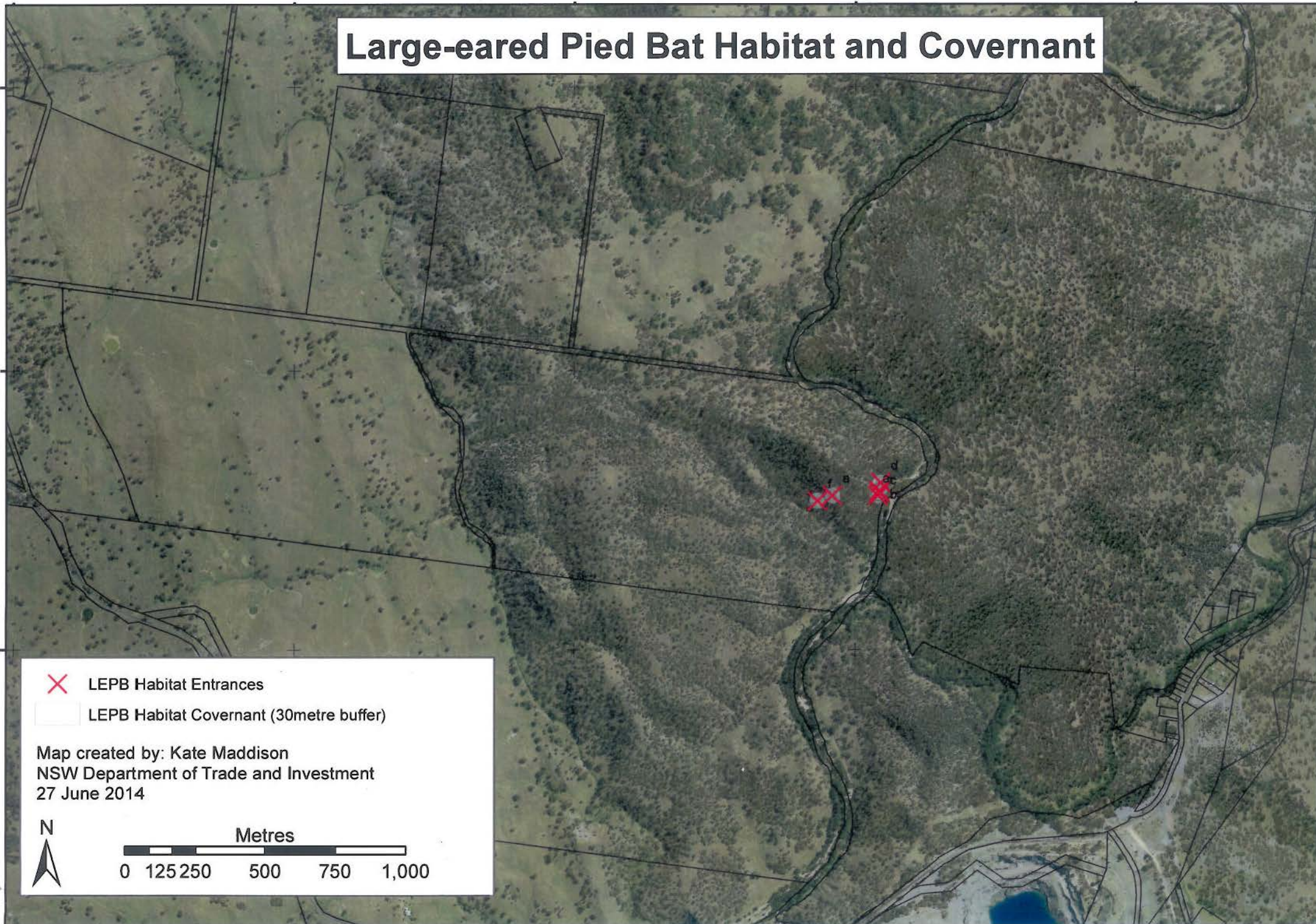
Woodsreef Mine Major Rehabilitation Project
Public Environment Report

Figure 1-4: Woodsreef Mine Infrastructure Aerial View

Source: Woodsreef Taskforce



Large-eared Pied Bat Habitat and Covenant



✕ LEPB Habitat Entrances

□ LEPB Habitat Covenant (30metre buffer)

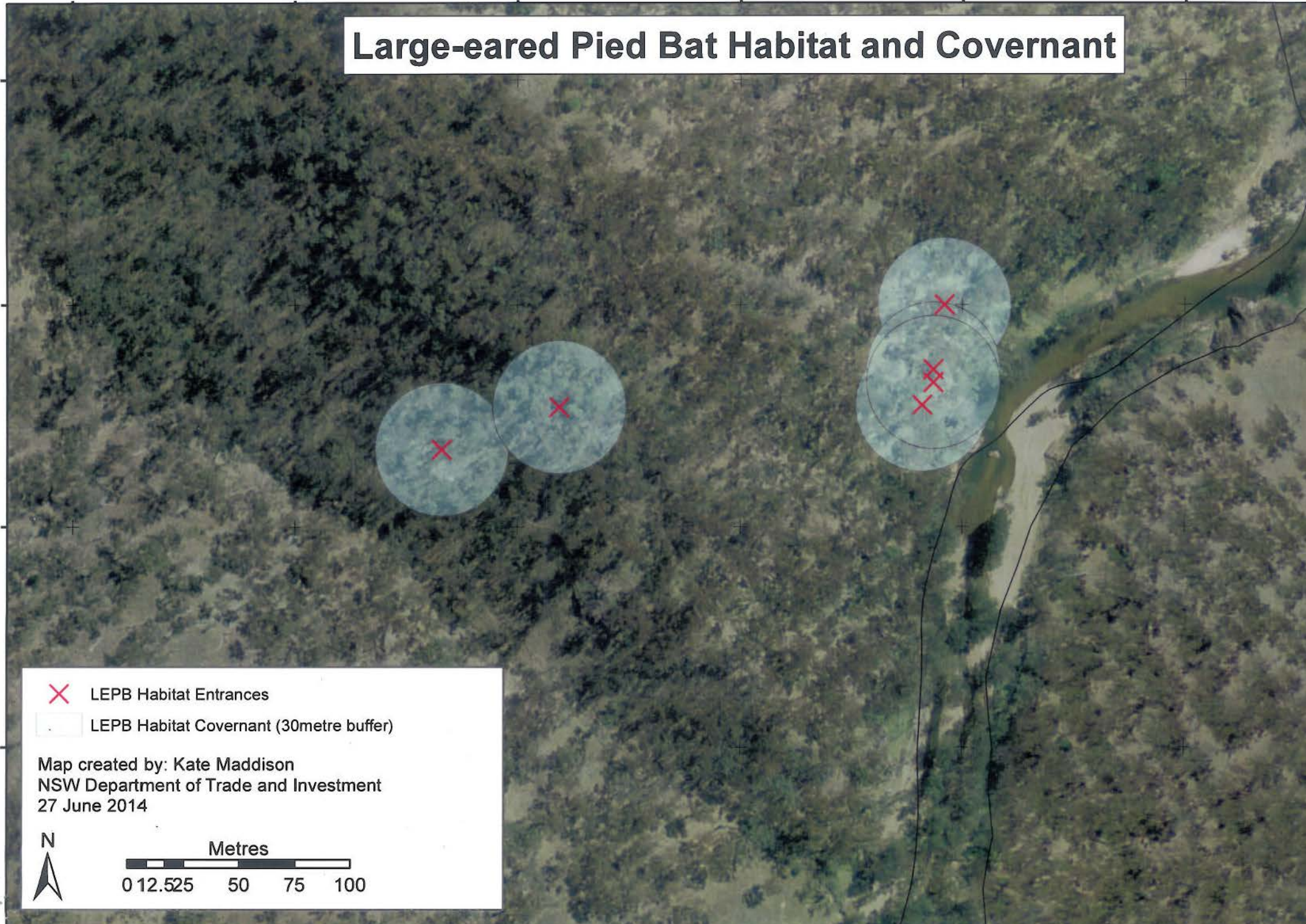
Map created by: Kate Maddison
NSW Department of Trade and Investment
27 June 2014

N



Metres
0 125 250 500 750 1,000

Large-eared Pied Bat Habitat and Covenant



✕ LEPB Habitat Entrances

○ LEPB Habitat Covenant (30metre buffer)

Map created by: Kate Maddison
NSW Department of Trade and Investment
27 June 2014

N

Metres

0 12.525 50 75 100

Appendix B Tunnel Enhancement Concept Design

Figure 14b. Adaptation of Mark Irvin's sketch of Tunnel 1, showing concept diagram of potential enhancements

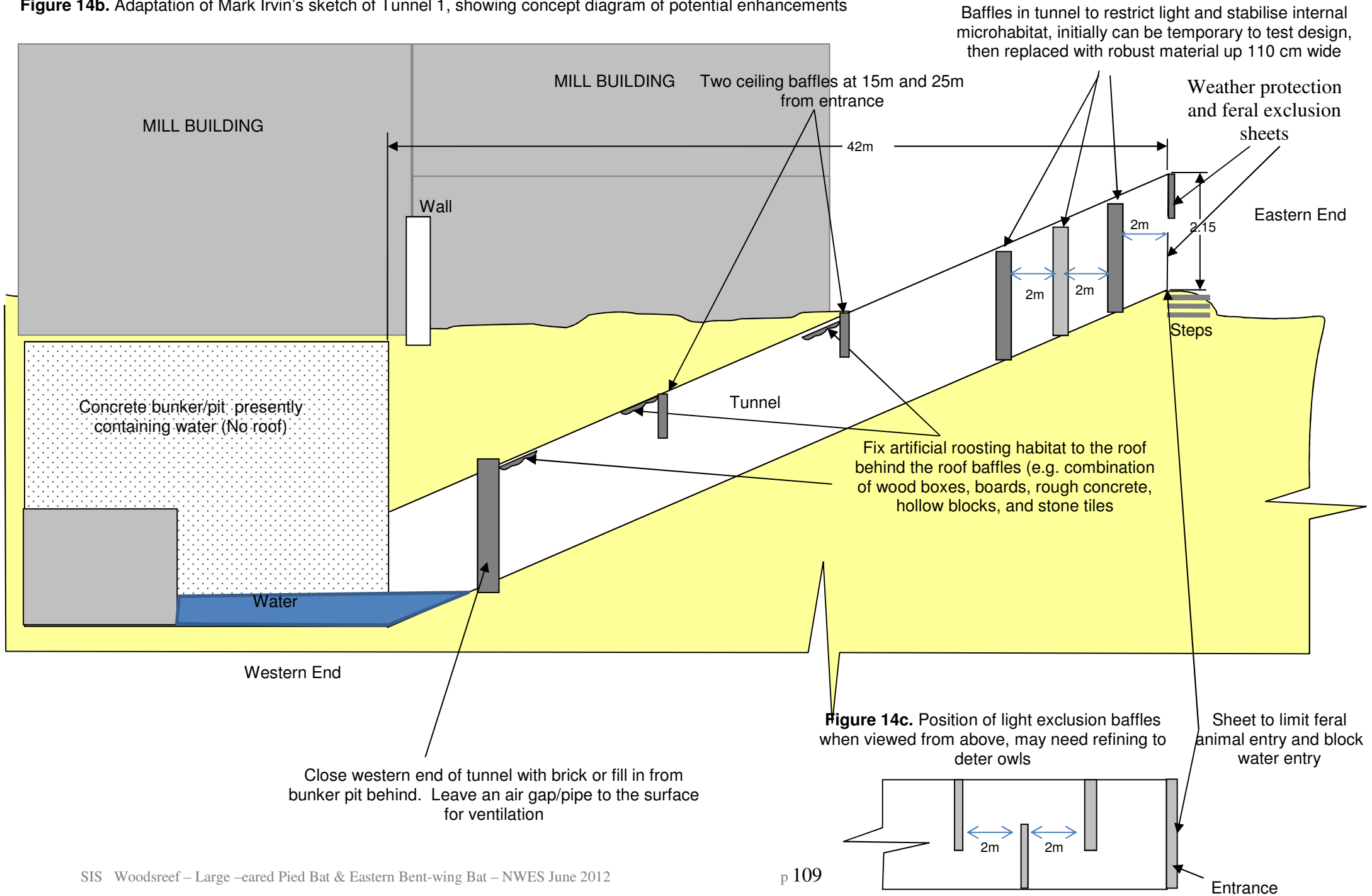
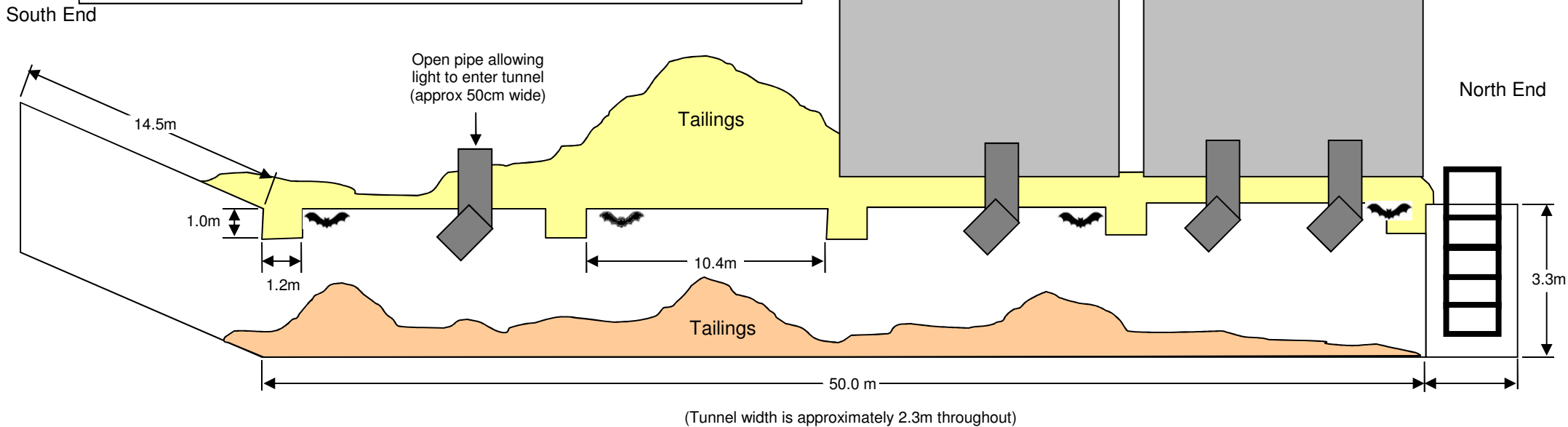


Figure 15a. Sketch of tunnel 2 showing approximate dimensions and layout of the northern tunnel running in a north south direction underneath the silos (drawing courtesy of Marc Irvin).



Bat silhouette indicates known *Chalinolobus dwyeri* roost locations.

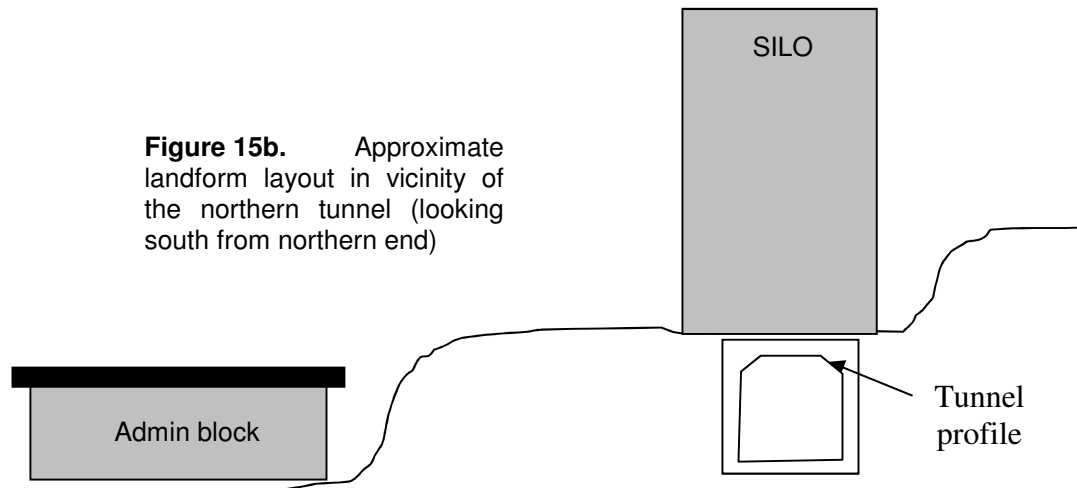
Enhancement to include - diverting water away from southern entrance and through base of silos. Remove debris and piles of material in tunnel. Line the floor with sand or soil. Erect 5 x boxes, boards, hollow bricks and rough tiles for potential roosts. Erect a fence to exclude people and predators around both entrances, designed to be out of bat flight path and not to use barbwire.



Notes

- Scattered metal debris throughout tunnel from asbestos elevators
- Bats roosting on rough part of roof (e.g. rough concrete and wood that has been fixed to concrete wall and roof)
- Standing water in parts of tunnel from recent heavy rain
- Entire tunnel is of concrete construction

Figure 15b. Approximate landform layout in vicinity of the northern tunnel (looking south from northern end)



Appendix C Risk Assessment

Consequence and Likelihood Scale

Consequence Level	Consequence descriptions		
	Natural / Physical Environment	Social / community	Heritage (Historical and Aboriginal)
Severe 4	Environmental Emergency Very serious long term environmental impairment of the environment.	Severe disruption to the community. Serious public or media outcry (international coverage).	Significant / permanent damage to items or sites of very high cultural significance.
Major 3	Serious medium term environmental effects. Major environmental loss.	Major disturbance to the community	Permanent damage to items or sites of high cultural significance
Moderate 2	Moderate, short term effects on the physical environment.	Moderate disturbance to the community	Impact to items of moderate cultural significance.
Minor 1	Routine incident Negligible or limited effects on the environment	Minor nuisance to the community.	Nil or negligible impacts to items / sites of cultural heritage significance.
Likelihood Scale	Likelihood Description		
Almost Certain 4	Is expected to happen		
Likely 3	Could easily happen and will probably occur		
Unlikely 2	Could happen but doubtful		
Rare 1	Could happen but only in extreme circumstances		

Risk Matrix Table

Consequence (Impact Severity)	Likelihood (How likely is the incident to cause harm)			
	Almost certain (4)	Likely (3)	Unlikely (2)	Rare (1)
Severe (4)	Very High (5)	Very High (5)	Major (4)	Moderate (3)
Major (3)	Very High (5)	Major (4)	Moderate (3)	Minor (2)
Moderate (2)	Major (4)	Moderate (3)	Minor (2)	Low (1)
Minor (1)	Moderate (3)	Minor (2)	Low (1)	Low (1)

Implementation of Offsets at Woodsreef Mine - Risk Assessment

Hazard / Issue	Potential Impact/Risk	Likelihood	Consequence	Risk	Comment	Environmental Management Actions	Residual Risk		
							Likelihood	Consequence	Risk
Disturbance of asbestos material during the implementation of the offset works in Tunnel 2.	LEPBs may be exposed to asbestos material	3	2	3	No research into the impacts of asbestos exposure on LEPB is known. It is suggested that due to the short life span of bats, this is likely to preclude the development of the disease as it does in humans. It is noted that the exposure to asbestos material has been ongoing at the site.	<ul style="list-style-type: none"> Measures to protect the safety of workers would also benefit any LEPB. Enhancement works would be undertaken over winter when the bats have moved away. 	2	2	2
	Staff exposed to asbestos material	3	4	5	Asbestos exposure is a serious human health issue.	<ul style="list-style-type: none"> Appropriate WH&S precautions (ie PPE) would be implemented. 	2	4	4
Bats are disturbed during data collection / recording.	Bats may abandon roost sites. Bats may abandon maternity sites.	2	2	2	Prior monitoring and survey techniques had no noticeable impact on bat behaviour.	<ul style="list-style-type: none"> To be undertaken by experienced fauna expert with expertise in bats. Previous monitoring / data collection techniques to be implemented. 	2	2	2
Predators are detected in Tunnel sites	Predators can compete with LEPB for habitat.	2	3	3	Tunnel entrances have been modified to restrict access by known predators / pests.	<ul style="list-style-type: none"> Tunnels to be regularly monitored. Site to be adaptively managed and new measures implemented if existing techniques prove to be ineffective. 	1	3	2
Enhancement works (ie baffles, roost boxes, entrance works) fail or are damaged.	Light disturbance Access for predators Removal of roost habitat	2	2	2		<ul style="list-style-type: none"> Site will be subject to regular monitoring to ensure early detection. 	1	2	1
Data loggers fail	Failure to record temperature, humidity and light intensity parameters.	2	1	1	Failure of the data loggers will be quickly detected remotely.	<ul style="list-style-type: none"> Data loggers are to be regularly maintained and batteries changed as per manufacturers 	1	1	1

Hazard / Issue	Potential Impact/Risk	Likelihood	Consequence	Risk	Comment	Environmental Management Actions	Residual Risk		
							Likelihood	Consequence	Risk
						requirements.			
Site fencing is compromised or damaged.	Public are able to enter the sites. Damage to tunnels due to vandalism. Disturbance to bats and roosting sites.	2	3	3		<ul style="list-style-type: none"> Site will be subject to regular monitoring to ensure early detection. 	2	3	3
Unable to secure the long term ownership / lease of the Crown Land Reserve.	Potential long term management of LEPB in the area is compromised.	2	3	3		<ul style="list-style-type: none"> NSW Trade & Investment are in the process of securing a conservation covenant for the site. 	1	3	2

Appendix D Site Safety Protocol

Prepared for:

**NSW Department of Primary Industries - Mineral Resources
Derelict Mine Groups
PO Box 344
Hunter Region Mail Centre NSW 2310**

Safety Protocol Entry to Former Woodsreef Asbestos Mine Site Near Barraba, NSW Final

AECOM

11 June 2009

Document No.: N2283801_SAFETY_PROTOCL_FINAL_11JUN09.doc

Distribution

Safety Protocol

Entry to Former Woodsreef Asbestos Mine Site Near Barraba, NSW

11 June 2009

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APPROVAL AND RECORD OF AMENDMENTS

ISSUE AND AMENDMENT CONTROL FORM				
Issue	Date	Description	By	Checked
Draft #1	15/05/09	First draft prepared for NSW DPI	SR	IF/PT
Draft #2	19/05/09	Second draft following comments received from NSW DPI	SR	PT
Final	02/06/09	Final issue following acceptance of second draft document.	SR	PT
Final	11/06/09	Final issue after inclusion of edits provided by NSW DPI	SR	PT

Distribution: Copy 1: NSW DPI Derelict Mines Officer.
Copy 3: AECOM - Project Manager.

Copy No. 1

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1.0 INTRODUCTION

This Safety Protocol has been developed, as a quality systems document, to ensure the safety and health of personnel during access to the former Woodsreef Asbestos Mine and processing plant located near Barraba, New South Wales (the site).

Mining and processing of asbestos-containing serpentine rock was discontinued at the site during the 1980's. There are significant safety hazards at the site, including those from:

- Asbestos fibre
- Unsafe buildings and structures
- Unsafe mine pits and unstable slopes
- Deep water bodies
- Confined spaces
- Drummed and Packaged Hazardous Materials

The site was the subject of a project to improve security. A wire fence was constructed around the perimeter of the mine, its surface infrastructure and waste dumps. This fence was designed to restrict access, but was not designed to be person proof. The condition of the fence and gates need to be monitored and maintained on a regular basis to ensure that access to the site is restricted. Fences and barriers were also installed and access-ways removed to restrict access to the Mill House building.

This safety protocol has been commissioned by the NSW Department of Primary Industries (NSW DPI) Derelict Mines Program for use solely by NSW DPI staff and companies or individuals accessing the site on behalf of, or at the request of, the NSW DPI.

It is noted that the Woodsreef Asbestos mine is crown land and is not owned by NSW DPI.

Periodic access to the mine site is required, and must be carried out in a manner that ensures the health and safety of all personnel is not adversely affected. Additionally, there may periodically be requirements to carry out works on the site.

While this document gives an overview of general site safety, it focuses primarily on the protection of those accessing the site, from the adverse effects of airborne asbestos fibre.

This Safety Protocol (Protocol) is part of an overall safety program which endeavours to satisfy the requirements of the *NSW Occupational Health and Safety Act 2000* and guidelines available on work in asbestos-contaminated areas. The Protocol has been updated from its original form to satisfy the requirements of the *NSW Occupational Health and Safety Act 2000* and the *NSW Occupational Health and Safety Regulation 2001*.

2.0 OCCUPATIONAL HEALTH AND SAFETY STATEMENT

The NSW DPI has a safety system designed to provide an operational framework with directions and guidelines designed to minimise risks to field staff.

The *NSW Occupational Health and Safety Act 2000* requires that employers provide information, instruction and training to employees to ensure their health, safety and welfare at work. Its provisions

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extend to all places of work throughout New South Wales and all employers including the State Government and its instrumentalities.

While it is primarily the NSW DPI's responsibility to ensure the health, safety and welfare of employees and Contractors entering the site, it is also up to the individual employees and Contractors to act in a sensible and responsible manner in supporting this aim.

The NSW DPI Derelict Mines Program Co-ordinator and/or officers or their nominated deputy (to be known as the Nominated Deputy) shall be the responsible person for managing the implementation of this Protocol and interfacing with visitors and Contractors.

3.0 SITE SAFETY HAZARDS

There are a number of hazards associated with access to the site. These include:

Asbestos Fibre

The site was an asbestos mine and processing plant using naturally occurring asbestos minerals. Asbestos is a respiratory hazard, causing lung disease. Exposure to asbestos fibre has the potential to cause asbestosis, lung cancer and mesothelioma, a cancer of the lung lining.

Exposure to asbestos fibre can be minimised by the adoption of safe work practices including the wearing of the appropriate personal protective equipment including respiratory protection and the adoption of safe industrial hygiene practices.

Unsafe Buildings and Structures

There are a number of derelict facilities at the site including the former processing plant, the office and materials handling facilities. These are unsafe, and there is potential for serious injury from falling building structures if safe access practices are not followed.

Unsafe Mine Pits and Unstable Slopes

The mine is a deep open cut and roadways extend from the surface to the bottom of the pit. There has been erosion since the mine ceased operations, and this coupled with steep spoil slopes has created an unstable situation.

There is potential for slopes to slide away if individuals or vehicles pass over them.

Deep Water Bodies

The pit has partially filled, and continues to fill with water. The water body at the bottom of the pit is deep and has been contaminated by asbestos production related by-products. Personnel should not enter this water body.

Confined Spaces

Some parts of the site, particularly around the processing plant contain confined spaces. These are hazardous, and access restrictions apply. A confined space access procedure should be developed in accordance with AS/NZ 2865 – 2001, Safe Working in Confined Space. Appropriate training is required for entry into a confined space as well as the completion of an appropriate Confined Space Entry Permit and Confined Space Risk Assessment.

Drummed and Packaged Hazardous Materials

There are a large number of drums of asbestos and other wastes at the processing plant. The contents of these drums should be regarded as hazardous, and they should not be accessed without appropriate personal protective equipment (PPE).

4.0 DEPARTMENT OF PRIMARY INDUSTRY (DPI) FIELD SAFETY MANUAL

All personnel entering the site must be familiar with the DPI's - Mineral Resources Field Safety Manual (the manual) for field offices and managers.

The Field Safety Manual is designed to provide an operational framework with directions and guidelines intended to minimise risks to field staff.

The Field Safety Manual broadly defines two areas where fieldwork may be required:

- Sparsely populated rural areas
- Closely settled urban areas

Woodsreef would fit the definition of a "sparsely populated rural area". As such, the Manual recommends the following:

- An EPIRB (New frequency 406 MHz introduced February 2009 - 121.5 MHz phased out)
- CB Radio
- Satellite Telephone
- GPS receiver
- Personal emergency first aid kit
- Compass / maps / photos
- Field Safety Manual;
- Water / water purification tablets
- Matches
- Knife
- Emergency food
- Appropriate protective clothing / equipment / products
- A suitable vehicle

5.0 STATUTORY REQUIREMENTS

This Protocol is based on the requirements of the *NSW Occupational Health and Safety Act 2000* as the umbrella legislation and is supported by the *NSW Occupational Health and Safety Regulation 2001*, Australian Standards, Codes of Practice, guides and the like from the various bodies that have legislative coverage of the site.

The requirements of NSW legislation shall be complied with when accessing the Woodsreef site.

6.0 SITE ENTRY REQUIREMENTS

The site is located approximately 15 km east of Barraba on the south-western slopes of the New England Tablelands. Access to the site is off the Barraba to Bundara Road. If this access is blocked due to works being carried out, then entry will be via Crow Mountain Road which is accessed from the Barraba to Tamworth road.

Please note the primary hazards at the site include asbestos, unstable slopes and pits, unsafe buildings and structures, confined spaces and deep and contaminated water bodies.

In order to protect personnel, it is recommended that the following safety requirements are complied with.

Prior to accessing the site, all personnel must undergo a Level 1 site induction. This will be carried out by the person nominated by the Department as the Nominated Deputy (Site Safety Officer).

The Nominated Deputy is also responsible for Level 2 site inductions prior to commencement of work, risk assessments, the approval of the Contractor Safety Management Plan (SMP) plus the authorisation of Clearances.

Only appropriately trained and assessed as competent employees who are responsible for taking the appropriate steps to prevent workplace injuries and illnesses and for contributing to a safe and healthy work environment are permitted on site.

6.1 Level 1 Entry Requirements

Level 1 entry is entry in which no site works are to be undertaken. An example of this type of entry is a site inspection visit in which a vehicle is to be driven around site and no physical work is to be undertaken. For this type of access, the following site safety standards are recommended:

6.1.1 Safety Helmets

Safety helmets complying with Australian Standard 1800 and 1801 shall be worn when inside the security fence of the site.

6.1.2 Footwear and Clothing

Steel toe capped footwear (work shoes or gumboots) complying with AS 2210 must be worn by all personnel accessing the site.

Employees must wear clothing which is suitable for the job at hand, no loose parts and kept as clean as possible.

Disposable overalls must be worn when inside the security fence. The disposable overalls must be removed when exiting the site, and placed in the disposal drum located adjacent to the access gate.

6.1.3 Smoking

Smoking is not permitted on the site. Any person who has accessed the site must wash their hands and face prior to eating or smoking offsite.

6.1.4 Alcohol and Drugs

The consumption of alcohol and drugs on this site or the entry of persons under the influence of alcohol or drugs is prohibited at all times.

6.1.5 Hand Protection

Gloves must be worn within areas as designated by the Nominated Deputy.

6.1.6 Respiratory Protection

The wearing of respiratory protection is compulsory when inside the security fence.

Respiratory protection must be at least Class P2 or better.

6.1.7 Eye Protection

Eye protection complying with AS 1337 is compulsory on the site, and must be worn once inside the security gate.

6.1.8 Warning Signs

Warning signs are placed for your protection. Read them and heed their warning.

The removal, shifting or destruction of any warning sign is forbidden without authorisation.

Should any sign be removed or destroyed accidentally, notify your Supervisor immediately and ensure the hazard identified by the sign is not left unprotected in the meantime.

6.1.9 Injury / Emergency / Fire

There are no first aid facilities at the site, the nearest being at Barraba, approximately 15 km away by road. Those accessing the site are to carry a basic first aid kit.

The following action should be taken should an accident occur:

- 1 Do not rush to the scene of the accident. Move quickly and calmly. Ensure there is no danger to you or the injured. If possible, do not leave the injured person and, if the accident scene is safe, do not move the injured person as this may cause further injury. If a fire is discovered on the site, if possible try and contain it. Do not place yourself at risk.
- 2 If injured person has been involved in a vehicle crash or rollover ensure the vehicle is stable before attending to injured person. Turn the engine off and, if possible, isolate the battery.
- 3 Contact a First Aider. Advise the type of injury, how bad it is, where you are and the number of people injured.

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- 4 Have someone call an Ambulance or Fire Brigade if the fire is uncontrollable, (112 on a mobile phone, 000 Barraba or the appropriate emergency number in a CB radio).
- 5 Provide details of:
 - a) Location of accident / emergency
 - b) Type of injury / emergency / fire
 - c) Severity of injury / emergency
 - d) Specific location of entry
 - e) Contact mobile / satellite telephone number
 - f) Have them advise you when they expect to arrive
- 6 Stay and wait for emergency team to arrive and direct them to the area.
- 7 Call Manager or Supervisor.
- 8 Send someone to guide the emergency vehicles.

6.1.10 Electric Shock of a Person

- 1 If safe, turn off or disconnect the power supply (for example switch off or jerk leads free from plugs with an insulated piece of material).
- 2 If you cannot turn off the power, DO NOT touch the person.
- 3 Attempt to remove the live electric equipment with an insulated piece of material (for example dry wood, rubber or plastic) and if possible wearing rubber soled shoes.
HIGH VOLTAGE – Do NOT attempt to rescue the victim until the current has been disconnected.
- 4 Once clear of the power supply contact a First Aider and call an ambulance.
- 5 If required, send someone to the front gate (if possible, with a radio or mobile phone for communication) to guide the emergency vehicles.

6.1.11 Fire Prevention

Employees are to act in the appropriate manner to ensure the prevention of the accidental starting of fires around the site.

6.1.12 Asbestos Fibre Hazards

The site is contaminated with asbestos fibres that can cause potentially fatal lung diseases. These fibres can be anywhere on site, are extremely small in size, are readily airborne and can stay airborne for extended periods of time.

Controls:

- Wear, as a minimum, a P2 respirator whenever you are located in the vicinity of known or presumed asbestos material or within the fenced area.
- Wear eye protection while on site.
- Wear steel toe caped safety footwear.
- Wear disposable overalls and dispose of in the appropriate manner at the gate when leaving.
- Wash hands and face before eating or smoking. Note that smoking and eating are not permitted whilst within the fenced area.

6.1.13 Unsafe Mine Pits and Unstable Slopes

The site has deep excavations, roads and spoil slopes and erosion has occurred since the mine closed, therefore there is the potential for edges, slopes and roads to subside. There is also potential for asbestos to be in this subsided material therefore appropriate precautions are required. It must be assumed that all subsided material contains asbestos and must be treated as such until proven otherwise.

Controls:

- Obtain a map during the site induction indicating safe areas of access;
- If you are unsure of the access to an area, obtain advice from the site access holders prior to progressing; and
- Ensure a clearance of at least 10 meters from any edge, slope or cracks in stable ground.

6.1.14 Unsafe Buildings and Structures

The site has a number of derelict facilities. There is risk of structures collapsing, cladding falling off or winds dislodging materials.

Controls:

- Do not approach closer than 5 meters to a structure and do not go under any overhead structures without obtaining an authorised clearance from the Nominated Deputy;
- Do not approach the downwind side of a building; and
- Wear appropriate PPE (e.g. hard hats and/or respirators) as stipulated in the induction.

6.1.15 Deep Water Bodies

The pits are filled with water. The water is contaminated and the edges may be unstable or difficult to climb.

Controls:

- Do not approach within 5 meters of water bodies without obtaining an authorised clearance.

6.1.16 Confined Spaces

The site has a number of confined spaces on site, particularly around the processing plant. These are enclosed or partially enclosed spaces or pits that may have atmospheric contaminants. A confined space access procedure should be developed in accordance with AS/NZ 2865 – 2001, Safe Working in Confined Space. Appropriate training is required for entry into a confined space as well as the completion of an appropriate Confined Space Entry Permit and Confined Space Risk Assessment.

Controls:

- Only personnel with the appropriate confined space training are permitted to approach or enter confined spaces and they must ensure they comply with all the

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associated rules and regulations. For example the completion of a confined space risk assessment and entry permit.

6.1.17 Drummed and Packaged Hazardous Substances

There are a large number of drums which contain asbestos, other waste products as well as empty drums that may be contaminated located at the processing plant. These are all potentially hazardous.

Controls:

- Keep a safe distance from the drums and do not handle them.
- Obtain the appropriate authorisation before handling drums which has identified the contents, the appropriate handling methods and PPE required.

6.1.18 Site Induction Training Procedures

Prior to accessing the site, all personnel must undergo a site induction. This will be carried out by the NSW DPI Derelict Mines Program Co-ordinator or Officer -

- NSW DPI Derelict Mines Program Co-ordinator – Scott Brooks (02) 4931 6604
- NSW DPI Derelict Mines Program Officer – Catherine Karpel (02) 4931 6603

A register of access and inductions will be maintained by personnel conducting the site induction.

Site inductions for Level 1 access will include a description of:

- Requirements for Level 1 entry as per **Section 6.1 Level 1 Entry**
- Other specific items identified by the inductor
- Details of where persons can access and what they can do in those areas
- Site map covering the above

6.2 Level 2 Entry Requirements

Where site works are to be undertaken, the Level 1 entry requirements shall be met. In addition, the Level 2 requirements noted below shall also be met. Level 2 activities include any site activity involving work.

Examples include: excavation, earthworks, demolition or site rehabilitation involving soil or rock disturbance.

6.2.1 Induction

Prior to commencing work on site all Contractors, including consultants and hygienists shall attend:

- An Occupational Health and Safety General Induction for Construction Work in NSW
- Level 2 Induction i.e. an Employer Work Activity Induction

6.2.2 Risk Management

The Contractor shall apply a risk management approach to all tasks. The Nominated Deputy will provide the Contractor with details of the site risks to be managed with the particular project. The

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Contractor shall prepare a Safety Management Plan (SMP). The SMP shall include Safe Work Method Statements (SWMS), Job Safety Analysis (JSA) or equivalent detailing each job step, identifying the hazards, assessing the risk and determining controls and responsibilities covering the generic Site risks as well as the Contractor job related risks. Draft copies are to be supplied to, and acknowledged as being reviewed by the Nominated Deputy prior to commencing work. All persons involved in the task shall be trained in the SWMS and a record kept of this training.

Where a task changes, the SWMS must be reviewed to ensure any new hazards are covered. Any changes must be communicated to personnel affected by the changes.

Generic SWMS are acceptable for routine tasks on site. Acceptability of generic or job specific SWMS will be determined between the Nominated Deputy and the Contractor.

Daily toolbox meetings before the start of any work are required to ensure all personnel are consulted in regard to the safe work practices, identified hazards and appropriate control measures prior to the day's work commencing.

As a minimum, SWMS are required for:

- Construction work involving structural alterations that require temporary support
- Construction work at a height above three metres
- Construction work involving excavation to a depth greater than 1.5 metres
- Demolition work for which a licence is not required
- Construction work in tunnels
- Construction work involving the use of explosives
- Construction work near traffic or mobile plant
- Construction work in or around gas or electrical installations
- Construction work over or adjacent to water where there is a risk of drowning and
- All High and Medium ranked risks (Refer to: Form 7 – Clearance to Work)

6.2.3 On site Clearance

A reviewed and Authorised Clearance is required prior to any work commencing on site.

The Authorised Clearance will be required to gain access to the site.

At the completion of the job the Authorised Clearance shall be returned to the Nominated Representative.

Additional Authorised Clearances may be required for Hot Work, Confined Spaces, Excavation Work, Asbestos Removal and Waste Handling.

6.2.4 Inspection and Test Plans

All tasks that have had critical processes identified by the Nominated Deputy or Contractor shall have an Inspection and Test Plan (ITP) prepared.

The ITP shall identify the:

- Critical process step
- Critical parameter

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- If the step is a hold or inspection point and
- Person responsible to check the step

The ITP shall be submitted to the Nominated Deputy prior to commencing work for approval.

6.2.5 Insurance

Principal Contractors must produce a copy of the relevant insurance cover to Nominated Deputy prior to commencing on site. Insurance includes

- Public Liability
- Workers Compensation
- Professional Indemnity and
- Contract Works

The Principal Contractor will ensure copies of sub Contractors insurances are also forwarded to the Nominated Deputy.

6.2.6 First Aid Facilities and Incident Reporting

First aid facilities and personnel are not provided on site. The Contractor must assess the risks of the job and provide facilities and personnel to meet their obligations. All injuries, incidents and dangerous occurrences must be reported to the Nominated Deputy as soon as practicable following their identification.

6.2.7 Housekeeping

All rubbish generated by the Contractor while on site shall be removed in the appropriate manner and the site kept tidy at all times.

6.2.8 Suitable Persons

The Contractor shall ensure persons are appropriately trained and competent to carry out the intended scope of work and are not under the influence of medication that may adversely affect their ability to work on site safely.

If non-English speaking persons are to be used on site the Contractor shall ensure supervision is bi-lingual and that all safety requirements, including inductions, are translated for these persons.

6.2.9 Safety Equipment

The Contractor shall provide as a minimum the following equipment:

- Safety helmet
- Safety eye protection with side shields
- Cotton drill long sleeve shirt and trousers
- Safety footwear with steel toe caps
- Hearing protection
- Respiratory protection (minimum P2) and
- All other safety equipment required for a task

6.2.10 Equipment

All portable electrical equipment must be fitted with a current electrical inspection tag (three monthly or monthly for construction work) and be protected by a Residual Current Device (RCD). This includes 415V and welding equipment. All generating equipment shall be appropriately earthed in accordance with AS3000 and Department of Mineral Resources Guidelines.

Oxy-acetylene equipment shall be inspected and tagged by a competent person prior to use on site.

Scaffolds shall be inspected and tagged prior to initial use and each month following.

Only persons with appropriate and current licences and certificates are permitted to operate plant and equipment on site. Drivers must possess a current NSW driver's licence. All road vehicles must be registered. Copies of certificates of competence are to be made available to the Nominated Deputy prior to commencing work.

All equipment shall be maintained to manufacturer's requirements by competent persons, shall be fit for duty and safe. Copies of records of maintenance shall be made available on request.

6.2.11 Chemicals and Wastes

Prior to chemicals being brought on site a copy a current (within five years of the issue date) Material Safety Data Sheet (MSDS) and an assessment of the risks and controls (Safe Work Method Statement (SWMS)) shall be provided to the Nominated Deputy for review.

Wastes, oils and substances are to be disposed of by appropriately licensed Contractors and are the responsibility of the Contractor unless directed otherwise by the Nominated Deputy. The Nominated Deputy shall be consulted as to the disposal arrangements prior to waste being disposed.

Handling of wastes on site shall be risk assessed and appropriate controls put in place before work commences.

This includes the appropriate disposal of asbestos material and related PPE.

6.2.12 Amenities

No amenities are provided on site.

6.2.13 Site Entry and Parking

Workers must park their vehicles as directed by the Nominated Deputy and be transferred to the work site access point.

6.2.14 Explosion and Gas Hazard

No work involving source of ignition shall be attempted near any pit, manhole, open sewer, drain vent, pipe trench or any space where there is reason to believe that flammable vapours may be present.

At locations similar to the ones above where there is reason to believe that toxic gas may be present, no work shall be performed in the location until protective measures have been taken.

In areas where flammable or toxic vapours or gases may occur, all work shall be done in accordance with hazardous areas work procedures.

6.2.15 Protection of Persons and Plant

The Contractor shall be responsible for the protection of the work and for the appropriate fencing, guarding, access and egress, lighting, flagging, safety signage, and watching of all work to ensure the safety of persons and protection of property.

Plastic tape is not an acceptable means of barricading a hazard.

Accesses shall be kept clear of obstructions at all times or appropriate barricading and alternate access shall be provided.

6.2.16 Isolation and Lockout

All sources of damaging energy shall be isolated, tagged, secured and tested before work commences. Where there is a risk of injury from electricity, mechanical movement, pneumatics, hydraulics, gravity, fluids or gases or other forms of energy the following process shall be followed:

- The items to be isolated shall be documented
- Each isolation point shall be isolated, secured with a lock, tagged, and if necessary multi lock jaws, valve covers and the like
- Each person on the job shall fit their own lock to each isolation point
- The energy source shall then be tested to ensure the isolation was effective
- Only when the isolation is proven effective shall the job commence
- The process for removing a lock when somebody has left site is as follows:
 - Contact the person(s) and have them return to site, no matter what the time;
 - Contact the person and ascertain they have left site and it is safe to remove the lock;
 - Obtain approval from the Nominated Deputy in consultation with the Contractor Supervisor (Manager) to remove the lock;
 - Cut off the lock; and
 - Fill out an incident report.

6.2.17 Environmental

The Contractor is responsible to ensure that their activities do not adversely impact on the environment and complies with all Acts and Codes and as such shall provide the necessary means to manage controlled or uncontrolled releases into the environment. Where the Contractor's works or materials brought onto site may impact on the environment an Environmental Management Plan (EMP) shall be developed. This may form part of the SMP.

Examples where an EMP may be required are controlled or uncontrolled:

- Emission to the atmosphere
- Discharged in drains and water ways
- Disposal of liquid trade waste
- Disposal of solid wastes and
- Contamination of the land

Consult with the Nominated Deputy to determine detailed site requirements.

No chemicals shall be disposed of on site without permission of the Nominated Deputy.

6.2.18 Failure to Comply

If failure to comply with the items as detailed below is detected, the Nominated Deputy reserve the right to suspend operations until compliance is achieved or remove the offending persons from site.

- Requirements listed in this Protocol
- The induction
- Nominated site procedures
- Legislative safety requirements

7.0 SAFETY MANAGEMENT ORGANISATION

Each Contractor will report to the Nominated Deputy, and will supply their own Safety Management Plan (SMP). The Contractors SMP should, at minimum, include the recommended requirements of this Protocol.

The Nominated Deputy will advise Contractors and others accessing the site of the site OH&S standards, on the adequacy of control procedures and carry out supervision of any site activities.

7.1 Contractor Safety Management

Prior to issuing a project to a Contractor, the Nominated Deputy shall complete the Risk Assessment stage of **SMP Form 7 Clearance to Work** and pass this onto the Contractor along with the conditions of contract and scope.

The Contractor shall submit a SMP with their Tender. The Contractor's SMP shall comply as a minimum with the contents of the WorkCover Subby Pack and the contents of the **SMP Form 5 Contractor OH & S Management System Review Checklist**.

Prior to the Contractor commencing on site the Nominated Deputy shall complete:

- **SMP Form 6 Site Establishment Checklist** and
- **SMP Form 7 Clearance to Work** giving the Contractor permission to start

7.2 Audits

Audits of the SMP will be performed by a third party independent auditor and will be carried out in accordance with documented auditing procedures.

Audits of the SMP will be shown on an audit schedule.

7.3 Internal Audits

Internal quality audits will be performed on a regular basis.

7.4 Corrective Actions

Corrective actions are raised as a result of a finding of non-compliance arising from an audit of Contractors compliance with the SMP, statutory requirements or SWMS.

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7.5 Non-Conformances

A non-conformance will be recorded on **SMP Form 4** when a non-conformance is identified. These observations will usually be made during routine site inspections by the independent auditor, or by the audit process. Non-conformance reports will be followed up as detailed below:

- The auditor will log the non-conformance report and forward a copy to NSW DPI
- The non-conformance will be investigated by NSW DPI
- The NSW DPI Manager will take appropriate action and may direct work to cease in the area where the non-conformance has been recorded

7.6 Incidents

When an incident is identified, it will be recorded on **SMP Form 2**.

- The NSW DPI Manager will maintain a register of incidents
- The incident will be investigated by the Nominated Deputy
- The Nominated Deputy will take appropriate action
- An Incident Report will then be issued to NSW DPI

8.0 ASBESTOS AIR MONITORING PROGRAMME

Although not required for Level 1 Access, air monitoring will be required for Level 2 entry where personnel are on site and working in asbestos-contaminated areas. This air monitoring may include:

- Environmental air quality monitoring
- Personal air quality monitoring during works where exposure to asbestos fibre is identified as a risk
- Air clearance monitoring following the completion of work in asbestos contaminated areas
- During plant asbestos surveys / registers
- Periodic background air quality monitoring and
- Meteorological monitoring - wind speed and direction

The need and scope of any asbestos air monitoring program will be determined by NSW DPI in consultation with a Consultant Occupational Hygienist.

8.1 Air Quality Criteria

The risk associated with asbestos relates to the inhalation of airborne asbestos fibres. These fibres may be liberated by disturbance of the asbestos-containing material.

Air quality criteria for a range of contaminants including asbestos have been set by Worksafe Australia. In addition, the *NSW Occupational Health and Safety Regulation 2001* has legislated the exposure standard for chrysotile in New South Wales. The exposure standard sets out the time-weighted average (TWA) fibre concentration of the air breathed by the worker throughout an eight hour work shift as measured over a representative shift period using the Membrane Filter Method. The TWA airborne

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concentrations for Asbestos shall not exceed the legislated exposure standard of 0.1 fibres/mL for an eight hour workday.

The exposure standard sets out the time-weighted average (TWA) fibre concentration of the air breathed by the worker over an eight hour work shift. The TWA airborne concentrations shall not exceed:

- | | | | |
|---|---|---|----------------------------|
| • | Chrysotile | - | 0.1 fibres per millilitre |
| • | Crocidolite | - | 0.1 fibres per millilitre |
| • | Amosite | - | 0.1 fibres per millilitre |
| • | Other forms of asbestos | - | 0.1 fibres per millilitre |
| • | Any mixture of these, or where the composition is unknown | | 0.1 fibres per millilitre. |

If works shifts greater than eight hours per day are adopted at the site, the exposure standards would need to be adjusted using the Brief and Scala Model recommended by the National Occupational Health and Safety Commission. This would result in a lower exposure standard being established for works at the site as the personnel are exposed over a longer time period.

Exposure Standards may be reviewed from time to time, therefore the most recent publication of the National Occupational Health and Safety Commission (NOHSC) Exposure Standards document *“Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment”* [NOHSC: 1003 (1995)] and NSW Legislation should be consulted for any variations.

DPI Management has undertaken to establish a Standard whereby corrective action is instigated when the lowest detection limit possible using the required Guidance Note on the 2nd Edition [NOHSC: 3003 (2005)] *“Membrane Filter Method for Estimating Airborne Asbestos Fibre”* – 0.01 fibres/mL is met or exceeded.

These values may be reviewed from time to time, therefore the most recent publication of the NOHSC Exposure Standards document [NOHSC:1003 (1995)] should be consulted for any variations.

An air quality monitoring program will be organised, in accordance with the procedures outlined in **Section 8.0**.

Air quality monitoring will be carried out using the internationally recognised sampling and analytical methodology – the Guidance Note on the 2nd Edition [NOHSC: 3003 (2005)] *“Membrane Filter Method for Estimating Airborne Asbestos Fibre”*. All monitoring will be undertaken by personnel from a laboratory registered and accredited by the National Association of Testing Authorities (NATA) Australia. Analysis is to be undertaken by NATA approved Signatories.

Where required, environmental and personal air quality monitoring will be undertaken daily to determine levels of airborne asbestos fibre during normal operations and activities within the security fence. This monitoring will establish background air quality data which can be used for comparison with results obtained during disturbance or work in asbestos contaminated materials.

Airborne asbestos fibre limits applicable to any asbestos removal project will include:

- <0.01 fibres/mL - acceptable limit (Equal to background and detectable limits. Level to achieve for air clearances)
- >0.01 fibres/mL - alert level (Locate source and rectify)
- >0.02 fibres/mL - action level (Cease work, locate source and rectify. Work may only recommence following receipt of air clearance monitoring results of <0.01fibres/mL)

8.2 Duration and Location of Monitors

Air monitoring will be undertaken by a NATA registered air monitoring company as required during work in asbestos contaminated areas. This may be environmental or occupational air monitoring and will be undertaken throughout the duration of the work shift. The location of monitors will be determined by the DPI Supervisor in consultation with the Consultant Occupational Hygienist.

8.3 Air Monitoring Results

Air monitoring results will be reported to the DPI Supervisor as soon as possible after the conclusion of the four hourly monitoring intervals. Results will be displayed in a prominent position and will be readily available and accessible to both management and employees.

9.0 PROCEDURES AND INSTRUCTIONS

A number of control procedures are to be put in place when working in asbestos-contaminated areas to ensure that the generation of asbestos fibre does not occur during asbestos related activities. These are as follows.

9.1 Work in Asbestos-Contaminated Areas

Activities carried out on site will be such as to ensure that all equipment used and all facilities erected and procedures used are designed and operated to eliminate the emission of dust and asbestos fibre into the atmosphere. Precautions will be taken to remove any risk to health arising from airborne asbestos dust caused by these activities. Adherence must also be made to the requirements of the WorkCover Authority of New South Wales.

Detailed procedures must be prepared where work is to be undertaken on site. The work undertaken may include building demolition, fencing, site rehabilitation or site cleanup.

9.2 Employee Responsibility

It is the responsibility of every employee to report any event which does not comply with the SMP as they occur to the Nominated Deputy and Project Manager.

9.3 Identification and Corrective Action

When a non-conformance is identified details are to be recorded on **SMP Form 4**.

Corrective action will involve:

- 1 Immediate positive action and notifications to the Site Supervisor.
- 2 Longer term corrective action to prevent recurrence of the problem.

9.4 Disposal of Asbestos-Contaminated Wastes

Asbestos waste will be disposed of onsite and will be undertaken in a manner which complies with the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002(2005)] and the requirements of the WorkCover Authority of New South Wales and the New South Wales Department of Environment and Climate Change.

Transport of small quantities of waste to the disposal location should be in designated, sealed plastic bags and must comply with the Australian Dangerous Goods Code. A maximum bag size of 1200 mm x 900 mm shall be observed, and bags filled to no more than 50 per cent capacity. Bags when purchased shall be labelled with appropriate regulatory labels.

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Large amounts of asbestos such as tailings will have to be removed in accordance with the Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC:2002(2005)] for example using appropriately lined removalist trucks.

9.5 Emergency Procedure

Emergency procedures on site will cover actions to be taken when asbestos exposure inadvertently occurs or catastrophic events occur. The procedure contained in **Appendix B** shall be followed in an emergency or if air monitoring indicates excessive levels of airborne asbestos dust.

It is important to remember that the first priority must always be the safety of any persons either workers or others involved in the events.

Catastrophic events may include but not limited to:

- Explosion
- Industrial accident
- Failure of construction structure
- Failure of single control structures
- Failure of a number of control structures
- Earthquake
- Flood
- Fire

In order to ensure that the occupational health impact of an emergency situation is minimised, the emergency procedures are to be followed. These include:

- 1 The person nominated as the Chief Warden takes charge of the situation and ensures the appropriate emergency response organisation i.e. Police, Ambulance and or Fire Brigade are contacted immediately.
- 2 In the event of an emergency situation the DPI Principal's Representative will be contacted immediately.
- 3 The Site Consultant Occupational Hygienist, or his nominated representative will be available at all times when asbestos related works are in progress and will take appropriate action during an emergency related to asbestos.
- 4 Following rectification of the situation a full report and clearance certification will be presented to DPI Principal's Representative by the Site Consultant Occupational Hygienist within 24 hours. The DPI Principal's Representative will arrange for appropriate external government authorities to be contacted without delay if necessary.

All emergency action should take place as soon as possible after the event and the first priority is to stabilise the situation and to prevent further exposure to the hazard(s) by personnel.

9.6 Signs and Barriers

When working with asbestos the work area will be isolated and defined by barriers and warning signs labelled: "Asbestos Removal Work Area - No Unauthorised Entry".

NB: The use of tape as the warning barrier may be acceptable when the hazard identified is asbestos.

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10.0 SAFETY MANAGEMENT RECORDS

All work records will be stored and maintained by the Site Occupational Hygienist on behalf of the Nominated Deputy.

The record system will contain:

- Records of inspection and test plans
- Records of corrective action
- Records of audits
- Original records of certification /approvals by statutory authorities
- Records of asbestos/hazardous material surveys
- Records of complaints from employees
- Records of inspections, maintenance and tests results
- Records of training and inductions
- Records of employee involvement in site works
- Records of asbestos work Clearances issued
- Records of Contractor SMS reviews
- Records of Site Establishment Checklist Reviews

These records will be passed to the Nominated Deputy at the completion of the project.

Appendix A

SMP Forms

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Commercial in Confidence

Safety Protocol

N2283801_SAFETY_PROTOCL_FINAL_11JUN09.doc

Environment

FORM 1
RECORD OF AMENDMENTS

SMP : FORM 1				
SMP ISSUE NO.	AMENDMENT NO.	AMENDMENT DATE	DESCRIPTION	INITIAL BY

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FORM 2
ASBESTOS INCIDENT REPORT

Report Number:

Time of Incident:

Date of Incident:

Details of Incident:

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Classification of Incident:

Minor Asbestos Incident

Major Asbestos Incident

Complaint

Breach of Occupational Health and Safety Regulations

WorkCover Inspection

Immediate Action Taken:

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Hygienist: Date: cc.....

Nominated Deputy: Date: cc.....

FORM 3
ASBESTOS ACTIVITY REPORT

Brief Description of Works:

.....

Location of Asbestos Works:

Date of Commencement of Works:

Date of Conclusion of Works:

Asbestos Removal Contractor Name:

Contractor Supervisor Name: Signature: Date:

Employees Engaged On Works:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Name: Signature: Date:

Site Inspected and Cleared By:

Signature: Date:

Brief Description of Findings:

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FORM 4
NON-CONFORMANCE REPORT

Details of Non-conformance:

Date:

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Recommended Corrective Action:

Date:

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AECOM's Site Occupational Hygienist: Signature:

cc. Nominated Deputy: Signature:

AECOM Project Manager Investigation:

Date:

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Action Taken:

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Completion Date:

AECOM's Project Manager: Signature: Date:

FORM 5
CONTRACTOR SMP REVIEW

Contract Name:.....			
Contract Description:.....			
Contract Manager:..... Date.....			
Contractor:.....			
Contractor to fill out and Nominated Deputy to cross check by sighting information.			
Note: Subby Pack is the accepted MINIMUM Standard for a system			
Indicate in the following manner:			✓
✓ Implemented and evidence available	X Not Implemented, no evidence	N/A Not Applicable	X
			N/A
1. OHS Policy and Management			
Company Health and Safety Policy			
The policy provided by the Contractor should:			
<ul style="list-style-type: none"> • Be signed by the CEO or equivalent • Outline clear statement of objectives • Show commitment to improve performance • Be relevant to company operations • Be reviewed on a regular basis 			
OHS Management System or Plan			
The company OHS Manual or Plan should include as a minimum:			
<ul style="list-style-type: none"> • Occupational health and safety policy • Management health and safety responsibilities • General occupational health and safety procedures • Safe work procedures relevant to the company operations • Public safety procedures • Induction and training procedures • Issue resolution and OHS consultation mechanisms 			
Health and Safety Responsibilities			
Health and safety responsibilities in the company should be documented and may comprise:			
<ul style="list-style-type: none"> • OHS responsibility statements • Part of employee's job description • Part of formal and informal performance appraisal 			
Line managers and supervisors should be formally held accountable for health and safety performance of their employees.			

2. Safe Work Practices and Procedures	✓	X	N/A
<p>Safe Work Procedures</p> <p>The Contractor should be able to demonstrate safe work procedures which:</p> <ul style="list-style-type: none"> • Are relevant to company operations • Contain a description of the tasks and associated hazards • Outline control measures & methods to minimise health and safety risks • Make reference to any relevant Legislation, Codes of Practice or Australian Standards 			
<p>Safe Work Permits</p> <p>Where relevant, the Contractor should be able to demonstrate safe work permits for the following types of work:</p> <ul style="list-style-type: none"> • Work in Confined Spaces (Confined Space Entry Permits) • Hot Work (Hot Work Permit) <p>Lockout permits (plant, electrical systems, steam)</p>			
<p>Incident Reporting and Investigation</p> <p>Contractors should be able to provide evidence of the following:</p> <ul style="list-style-type: none"> • Incident report and investigation form • Incident investigation procedure • Evidence of completed investigation forms 			
<p>Plant Safety</p> <p>The Contractor should have mechanisms in place for the identification of hazards, assessment of risks and the implementation of control measures associated with plant. This may include:</p> <ul style="list-style-type: none"> • Documented risk assessments for relevant plant or risk assessment procedure • Copy of plant operator licences, permits • Register of plant requiring registration • List of persons responsible for undertaking plant risk assessments • Plant maintenance and inspection forms • Pre-start daily safety inspection forms for plant • Plant fault reporting system and forms 			
<p>Hazardous Substances</p> <p>Contractor should provide evidence demonstrating safe handling and storage of hazardous substances:</p> <ul style="list-style-type: none"> • Manifest or register of chemicals used by the company • Material Safety Data Sheets for chemicals used • Safe handling procedures, including personal protective equipment • Relevant training documentation 			

<p>Manual Handling</p> <p>The Contractor should be able to demonstrate evidence of:</p> <ul style="list-style-type: none"> • Documented risk assessments for manual handling hazards • Systems used to control manual handling risks (eg: lifting aids, work procedures) 			
<p>Sub-contracting and Purchasing</p> <p>The Contractor should have mechanisms for sub-contractor and purchasing OH & S management. This should include:</p> <ul style="list-style-type: none"> • Policies and Procedures for purchasing that include OH & S details • Standards for the selection of sub-contractors 			

3. Health and Safety Training	✓	X	N/A
<p>The Contractor should be able to demonstrate evidence of:</p> <ul style="list-style-type: none"> Records of training and competencies of employees (licences, permits, certificates) Records of 'on the job' training Tool box meetings conducted Induction training program 			
4. Health and Safety Workplace Inspection	✓	X	N/A
<p>Regular Inspections</p> <p>The Contractor should provide evidence of:</p> <ul style="list-style-type: none"> Workplace inspection schedules Completed inspection reports Types of inspections undertaken 			
<p>Standard Inspection Checklists</p> <p>Copies of the types of inspection checklists used by the Contractor.</p>			
<p>Hazard Reporting from Contractor</p> <p>Evidence may include:</p> <ul style="list-style-type: none"> Documented hazard reporting procedure and forms Completed hazard reports 			
5. Health and Safety Consultation	✓	X	N/A
<p>Health and Safety Committee</p> <p>Evidence may include records which show:</p> <ul style="list-style-type: none"> Structure of committee Meeting schedule Minutes of meetings 			
<p>Employee Consultation</p> <p>Contractor should provide evidence of:</p> <ul style="list-style-type: none"> List of employee health and safety representatives Documented procedures for consultation and dissemination of information Employee involvement in inspections, accident investigations 			

6. OHS Performance Monitoring	✓	X	N/A
<p>Safety Performance Statistics</p> <p>Evidence may include:</p> <ul style="list-style-type: none"> • Reports on company health and safety injury trend data • Performance targets established (e.g.: lost time injuries, person days lost) 			
<p>Health and Safety Performance Information</p> <p>Evidence of information provided to employees:</p> <ul style="list-style-type: none"> • Records of who receives reports • Types of reports produced 			
<p>Conviction of Health and Safety Offence</p> <p>If conviction reported, determine:</p> <ul style="list-style-type: none"> • Nature and circumstances of incident • Corrective actions undertaken 			
<p>Nominated Deputy Comments:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>			
<p>Nominated Deputy Acceptance:</p> <p>Name:</p> <p>Signed: Date:</p>			

FORM 6

SITE ESTABLISHMENT CHECKLIST

Work Order:	Project Name:
Nominated Deputy:	
Contractor:	Contractor Representative:

Check Item	Response
Complies with relevant legislation, regulations and Codes of Practice.	
List equipment to be used.	
Equipment maintained? List.	
Relevant safety related training and certification in place. List.	
All workers have had General Construction Industry Induction. Evidence?	
All workers have had Employer Work Activity Induction. Evidence?	
All workers have had Site Induction. Evidence?	
If sub-Contractor involved name them.	





Check Item	Response
Contractor visited site and understands the risks. List.	
ITP submitted and approved.	
SWMS covers all Site Hazards nominated on the Clearance to Work Form.	
Risk Assessment and SWMS reviewed by Nominated Deputy.	
Site Procedures relevant to this project read and implemented.	
Number of employees, number involved in this job.	
Proof of Workers Compensation, Public Liability Insurance received. (Principle Contractor and Sub-Contractors)	
Location barricaded and lay down areas nominated.	
Current MSDS's received for all chemicals and risk assessment conducted. List	
Environmental issues identified and action plan in place. List.	

FORM 7

CLEARANCE TO WORK

Location:	Date: Nominated Deputy:
Description of Work:	
Contractor:	

Hazard Type:	Risk:	Control Measures:	Action:	Done
☠ = High risk of fatality	H - High M - Med L - Low		<ul style="list-style-type: none"> • Site • Contractor • Determine on site 	
Site Features:				<input type="checkbox"/>
Concealed power/communications				<input type="checkbox"/>
Sewerage				<input type="checkbox"/>
Gas				<input type="checkbox"/>
Traffic				<input type="checkbox"/>
Personnel Access				<input type="checkbox"/>
Public Access				<input type="checkbox"/>
Asbestos				<input type="checkbox"/>
Lead				<input type="checkbox"/>
Sensitive / restricted areas				<input type="checkbox"/>
Microwave tower				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Physical:				<input type="checkbox"/>
Extremes of temp (hot or cold)				<input type="checkbox"/>

Hazard Type:  = High risk of fatality	Risk: H - High M - Med L - Low	Control Measures:	Action: <ul style="list-style-type: none"> • Site • Contractor • Determine on site 	Done
Noise (above 85dB(A))				<input type="checkbox"/>
Flooding / Engulfment (i.e. be covered over by solid/liquid)				<input type="checkbox"/>
Lighting				<input type="checkbox"/>
Excavation				<input type="checkbox"/>
Structural alterations / temporary supports				<input type="checkbox"/>
Risk of falling  - opening				<input type="checkbox"/>
- roof				<input type="checkbox"/>
- scaffold				<input type="checkbox"/>
- structure				<input type="checkbox"/>
Caught in / struck by				<input type="checkbox"/>
Falling objects				<input type="checkbox"/>
Foreign objects in eyes				<input type="checkbox"/>
Collapse 				<input type="checkbox"/>
Demolition				<input type="checkbox"/>
Manual Handling				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Mobile Plant/vehicles: 				<input type="checkbox"/>
Shared plant / pedestrians				<input type="checkbox"/>
Poorly maintained				<input type="checkbox"/>
Unstable base / edge				<input type="checkbox"/>
Unqualified operator				<input type="checkbox"/>

Hazard Type: ☠ = High risk of fatality	Risk: H - High M - Med L - Low	Control Measures:	Action: • Site • Contractor • Determine on site	Done
Unauthorised access				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Chemical/ Flammable:				<input type="checkbox"/>
Fluids				<input type="checkbox"/>
Gases				<input type="checkbox"/>
Vapours				<input type="checkbox"/>
Dust				<input type="checkbox"/>
Ignition sources				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Confined Space/Atmospheric:				<input type="checkbox"/>
Reduced / enriched oxygen				<input type="checkbox"/>
Contaminated atmosphere				<input type="checkbox"/>
Engulfment				<input type="checkbox"/>
Partially enclosed, not a place of work, restricted access				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Hot Work:				<input type="checkbox"/>
Grinding or disc cutting				<input type="checkbox"/>
Flame cutting, heating or welding				<input type="checkbox"/>
Arc cutting or welding				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Environment:				<input type="checkbox"/>
Waterways				<input type="checkbox"/>

Hazard Type: ☠ = High risk of fatality	Risk: H - High M - Med L - Low	Control Measures:	Action: • Site • Contractor • Determine on site	Done
Drains				<input type="checkbox"/>
Dust contamination				<input type="checkbox"/>
Contamination				<input type="checkbox"/>
Other (specify)				<input type="checkbox"/>
Other Risk Factors:				<input type="checkbox"/>
Work on or near live electrics ☠				<input type="checkbox"/>
Equipment can start-up (requires isolating)		The following equipment is to be isolated:		<input type="checkbox"/>
Maintenance				<input type="checkbox"/>
Roof work				<input type="checkbox"/>
Working alone				<input type="checkbox"/>
Compressed air				<input type="checkbox"/>
Steam cleaning				<input type="checkbox"/>
Grit blasting				<input type="checkbox"/>
Spray painting				<input type="checkbox"/>
Multiple work parties				<input type="checkbox"/>
Work effecting other work party				<input type="checkbox"/>
Multiple entry points				<input type="checkbox"/>
Unauthorised access				<input type="checkbox"/>
Aptitude and competence of staff				<input type="checkbox"/>
Signage / barriers				<input type="checkbox"/>
Emergency / rescue				<input type="checkbox"/>

Hazard Type: ☠ = High risk of fatality	Risk: H - High M - Med L - Low	Control Measures:	Action: <ul style="list-style-type: none"> • Site • Contractor • Determine on site 	Done
Other (specify)				<input type="checkbox"/>

RISK RATING MATRIX						CONSEQUENCES	LIKELIHOOD
	Catastrophic	Major	Moderate	Minor	Insignificant		
Almost certain	25	23	20	16	8	Catastrophic: death, permanent disability/disease	Almost certain: is expected to occur in most circumstances
Likely	24	21	17	13	7	Major: extreme injury, long term illness	Likely: will probably occur in most circumstances
Possible	22	18	14	9	4	Moderate: medical attention, several days off work	Possible: might occur at some time
Unlikely	19	15	10	5	2	Minor: first aid	Unlikely: could occur at some time
Rare	12	11	6	3	1	Insignificant: no injury	Rare: may only occur in exceptional circumstances



The Higher the number, the Higher the priority for implementation of controls

Contractor

I _____ have read and understand the Sites Contractor Procedures and
Contractor Site Representative
Clearance to Work.

I will ensure that any sub-contractors and employees are aware of and abide by the Site Procedures and
_____ and SWMS.
Contractor Firm

Name Signature Date

Nominated Deputy

I, the Lands Department Nominated Deputy have reviewed the Contractor controls and approve work to commence:

Name Signature Date

This permit is valid from _____ to _____
Date Date

Job complete: _____
Name Date Time

Appendix B

Procedure for Emergencies and the Uncovering of Suspected Asbestos Materials

Use or disclosure of data contained on this sheet is subject to the restriction on the distribution page of this document.

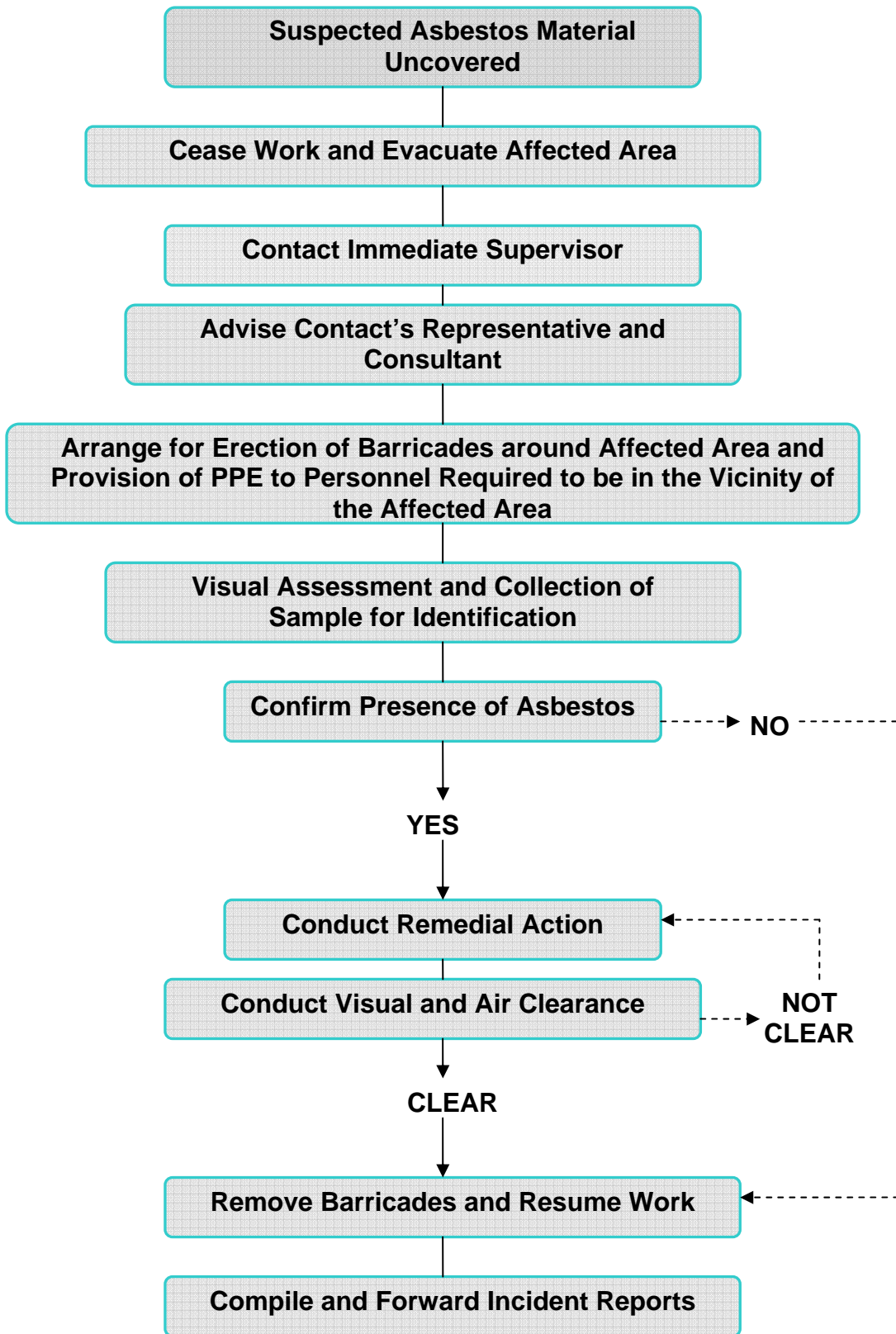
Commercial in Confidence

Safety Protocol

N2283801_SAFETY_PROTOCL_FINAL_11JUN09.doc

Environment

Procedure for Uncovering Suspected Asbestos Materials and Emergencies



Appendix C

Inspection and Test Checklists

Use or disclosure of data contained on this sheet is subject to the restriction on the distribution page of this document.

Commercial in Confidence

Safety Protocol

N2283801_SAFETY_PROTOCL_FINAL_11JUN09.doc

Environment

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 01 – Pre Site Establishment

	AECOM	Contractor
Has a complete Specification for the works been prepared?		
Has a Site Safety Management Plan been prepared based on the Specification?		
Are appropriate ITC's and ITP's in place?		
Has a full asbestos report been done by an appropriate consultant to identify type and location of all asbestos?		
Has a Safety Manual including proposed work procedures been prepared?		
Has a consultant been engaged to carry out environmental and occupational monitoring?		
Has the Contractor provided details of proposed work methodology?		
Has the Contractor provided a Safe Work Method Statement (SWMS) or Job Safety Analysis (JSA)?		
Have the Contractors personnel received suitable training and supplied certification of qualifications?		
Has the Contractor provided a work programme?		
Have all insurance requirements been met and copies of policies been received re workers compensation?		
Has WorkCover been notified and a Permit to Work supplied for the Project if required?		
Have all fees been paid?		

Comments:

.....

Name

Signature

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 02 – Decontamination Units and Change Areas

	AECOM	Contractor
Is the decontamination facility been set up properly? i.e. dirty contamination area (shower), clear contamination area (shower), and a change room.		
Ensure there is adequate airflow through the decontamination unit from the change room side to the asbestos removal work area.		
Has the change room adequate storage facilities for clear and dirty towels, clothing and equipment?		
Is there adequate storage facilities for respiratory protection?		
Is the general hygiene standards of the decontamination facility acceptable?		
Is the isolation valve for the water supply to the decontamination unit located external to the encapsulation?		
Has the water filter system been set-up properly and is it working and being serviced satisfactorily?		
There should be no excessive water outside the decontamination unit providing extra hazards.		
Are Emergency numbers and contacts posted within the change area?		
Is adequate lighting provided within the change area?		
Is the temperature and air quality satisfactory in the change area?		

Comments:

.....

.....

Name

Signature

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 03 – Air Monitoring Program Establishment

	AECOM	Contractor
Does the monitoring programme cover all areas of potential impact by an asbestos leakage from project operations?		
Does all monitoring procedures and equipment comply with NATA requirements, Codes and Regulations?		
Are the personnel conducting the monitoring adequately qualified and NATA Accredited where appropriate?		
Is the monitoring frequency adequate to reflect the activities of the removal Contractor and therefore representative of the shift?		
Are all Asbestos Removal Contractor activities to be monitored ie removal, bag-outs, etc?		
Have action levels been set and agreed upon by all relevant parties?		
Have communication mechanisms been established in the event of elevated readings?		

Comments:

.....

.....

.....

.....

Name

Signature

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 04 – Establishment of Laundries

	AECOM	Contractor
Is the laundry located as close as practical to the removal area to prevent transfer of contaminated clothing etc, over unnecessary distances?		
Has the laundry been robustly constructed?		
Does the laundry have adequate negative air and air filtration?		
Is all equipment ie washing machines and dryers appropriate for the task and do they have suitable air and water filtration?		
Is an approved wet vacuum present in the laundry at all times?		
Has provision been made in the case of an accidental flooding to central run-off?		

Comments:

.....

.....

.....

.....

Name

Signature

.....

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 05 - Demolition

	AECOM	Contractor
Has the extent of impact on asbestos been well defined prior to commencement of demolition?		
Have the persons conducting the demolition appropriate asbestos removal licences for the asbestos works component?		
Are adequate controls in place to prevent dispersion of asbestos dust?		
Are procedures in place to contain and dispose of contaminated waste generated?		
Is an appropriate airborne asbestos monitoring program in place?		
Is appropriate protective equipment supplied to operators?		
Is the demolition area isolated from outside intrusion?		

Comments:

.....

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.....

.....

Name:

Signature

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 06 - Site Establishment

	AECOM	Contractor
Are site amenities adequate i.e. Lunchroom, storage shed, toilet?		
Have all Contractors participated in Site Inductions?		
Is appropriate personal protective equipment readily available and accessible on site?		
Has the environmental and occupational monitoring programme been established?		
Is a weather station required, if so has it been commissioned?		
Has water been supplied to the site for dust suppression?		
Has a Decontamination Unit been established?		
Has an access/aggress point been established for the work area?		
Has electricity been connected?		
Has a telephone line or mobile telephone been supplied for emergency use?		
Are barricades and warning signs in place?		
Has the Principal been informed of the intention to commence work?		
Have all personnel involved with the project been supplied with and trained in the use of Personal Protective Equipment?		

Comments:

Name:

Signature:

Date:

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 07 - Daily Work Area Inspection

	AECOM	Contractor
Are all barricades and warning signs in place?		
Have all Contractors replaced or renewed their protective equipment from the previous day?		
Is environmental monitoring being conducted? Yes/No		
Is occupational monitoring being conducted? Yes/No		
Were the occupational air monitoring results from the previous day acceptable? Yes/No Details: If results are over 0.01 fibres/mL, has rectification action been carried out? If results are over 0.02 fibres/mL, has work ceased for rectification work to be completed before work recommences? Are all personnel informed of the monitoring results?		
Are site amenities clean and tidy?		
Is the Contractor's progress considered satisfactory? Yes/No		
Were environmental monitoring results acceptable from the previous day? Yes/No Details:		
Are the dust suppression practices still operative?		
Is the decontamination unit operating effectively?		
Is the OH&S Management Plan and associated procedures being adhered to?		

Comments:

Name:

Signature:

Date:

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 08 – General Hygiene Requirements

	AECOM	Contractor
Are all Contractors exiting the work area through the nominated access/egress locations?		
Are all Contractors removing disposable overalls, boots and respirators in the nominated area?		
Are overalls and disposable respirators being placed in the appropriate asbestos waste bags?		
Are all operators washing face and hands prior to leaving the site?		
Does each operator have their own respiratory protection?		
Are clean towels being supplied for each decontamination usage?		
Is the decontamination unit being cleaned daily?		

Comments:

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.....

.....

.....

Name

Signature

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 09 – Asbestos Waste Disposal

	AECOM	Contractor
Are all asbestos wastes suitably contained for transport and disposal?		
Is an approved registered landfill being used for the asbestos waste disposal? Name of Landfill:		
Are all transport vehicles registered for hazardous waste transport?		
Is all waste being transferred immediately to a registered landfill site?		
Are the Contractors supplying dumping certificates from the registered landfill?		

Comments:

.....

.....

.....

.....

Name **Signature** **Date**

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 10 – Clearance Inspections

	AECOM	Contractor
Are all precautions still being taken i.e. barriers, negative air supplies, etc?		
Are all asbestos removal areas readily accessible?		
Are adequate resources available to rectify residual asbestos remaining?		
Is lighting adequate for the visual inspection?		
Has any residual asbestos been found? Yes/No If yes,		
Has acceptable remedial work been conducted? Yes/No If no, where is the residual asbestos to be found?		
Is the area now free of visible residue and debris? Location inspected?.....		
Has airborne asbestos clearance monitoring been conducted and results acceptable?		
Has written clearance certification been forwarded to the Contractor and client?		

Comments:

.....

.....

Name

Signature

Date

INSPECTION AND TEST CHECKLIST

Health and Safety Management - Woodsreef Asbestos Mine

ITC 11 – De-Mobilisation

	AECOM	Contractor
Has all asbestos in bags and drums been removed from the enclosure?		
Have all tools and equipment not required for cleaning been removed?		
Has area been thoroughly vacuumed?		
Has a thorough visual inspection been carried out within the enclosure?		
Is there no evidence of asbestos left?		
Have all internal surfaces of plastic containment or work area been sprayed with PVA?		
Do results of air monitoring indicate asbestos levels below 0.01 fibres/mL within enclosure?		
Has plastic sheeting been properly dismantled, folded and disposed of?		
Has another visual inspection been carried out and air monitoring results been approved, following enclosure removal?		

Comments:

.....

.....

Name **Signature** **Date**

Worldwide Locations

Australia	+61-2-8484-8999
Azerbaijan	+994 12 4975881
Belgium	+32-3-540-95-86
Bolivia	+591-3-354-8564
Brazil	+55-21-3526-8160
China	+86-20-8130-3737
England	+44 1928-726006
France	+33(0)1 48 42 59 53
Germany	+49-631-341-13-62
Ireland	+353 1631 9356
Italy	+39-02-3180 77 1
Japan	+813-3541 5926
Malaysia	+603-7725-0380
Netherlands	+31 10 2120 744
Philippines	+632 910 6226
Scotland	+44 (0) 1224-624624
Singapore	+65 6295 5752
Thailand	+662 642 6161
Turkey	+90-312-428-3667
United States	+1 978-589-3200
Venezuela	+58-212-762-63 39

Australian Locations

Adelaide
 Brisbane
 Canberra
 Darwin
 Melbourne
 Newcastle
 Perth
 Singleton
 Sydney

www.aecom

Appendix E Forms and Registers

Environmental incident form

Non-compliance form

Change Request Form

Training records

Environmental Incident Report		
Location:		Report No:
Date:	Time:	
Type of Incident	Severity Potential	Recurrence Potential (0-5)
Hazardous material (asbestos exposure, hydrocarbon or chemicals)		
Water pollution		
Soil erosion		
Dust emissions		
Noise		
Other		
Description and Cause of Incident:		
Reported By		Date:
Action Taken		
Approved By		Date:
Proposed Corrective Action		
Reviewed By		Date:
Followed Up By		Date:
Copy to: <input type="checkbox"/> Environmental Representative <input type="checkbox"/> EPA <input type="checkbox"/> Other		

**Non-conformance and Corrective Action Request (CAR)
ENVIRONMENTAL ISSUES**

AUDIT or INSPECTION:DATE:CAR NO:

DESCRIPTION OF ACTIVITY:

LOCATION

AREA OF ENVIRONMENTAL SYSTEM AUDITED

NON-CONFORMANCE:

AUDITOR

STAFF MEMBER

NOMINATED DATE FOR RESPONSE TO CAR:

ACTION TO PREVENT RECURRENCE:

DATE COMPLETED

SIGNED

FOLLOW UP DETAILS

CAR CLOSE OUT DATE: SIGNED

AUDITOR OR INSPECTOR

Change Request Form	
Requested by:	Date:
Document Name:	
Section and Pages Number:	
Description of Change Required	
Reason for Change:	
Direct to:	
Date:	
Review by	
Date:	
Review Comments:	
Change Request Outcome: <input type="checkbox"/> Rejected <input type="checkbox"/> Accepted	
Signature:	Name
Signature:	Name
Document Revised and new issue release date:	
Signature:	Name
Change Request Close date:	
Signature:	Name

Environmental Training / Site Induction Records

Title	Name	Environmental training required	Environmental Training completed	Person or Organisation conducting training	Verification that training has occurred (Date & Signature)

Email Message

From: [Andrew Cruckshank \[SMTP:Andrew.Cruckshank@finance.nsw.gov.au\]](mailto:Andrew.Cruckshank@finance.nsw.gov.au)
To: [kate.maddison@trade.nsw.gov.au \[SMTP:kate.maddison@trade.nsw.gov.au\]](mailto:kate.maddison@trade.nsw.gov.au)
Cc:
Sent: 24/10/2014 at 10:40 AM
Received: 24/10/2014 at 10:41 AM
Subject: Fwd: Bat reports 19th & 20th and 21st and 22nd October 2014

Attachments: Untitled attachment 00095.bmp

Hi Kate,

Latest advice from Phil Spark for your information, including confirmation of relocation of bats from Tunnel 1.

Regards,

Andrew Cruckshank

Senior Project Manager

T 02 4908 4849 F 02 4908 4954 M 0422 385 956

Level 2, 117 Bull St Newcastle West NSW 2302

andrew.cruckshank@finance.nsw.gov.au www.publicworks.nsw.gov.au

A Division of the Department of Finance & Services

>>> Phil Dean <phild@deltagroup.com.au> 24/10/2014 10:34 AM >>>

Andrew,

Please see below report from Phil Sparks confirming female bats & Pups were successfully relocated from Tunnel 1 to Tunnel 2.

Shade cloth had been installed as a temporary measure to Tunnel 1, this has now been secured and fixed with corrugated sheeting (By Delta) to prevent bats entering until after the completion of the demolition.

Another Inspection will be carried out this evening by Phil will provide another report based on the nights events.

Regards,

Phil

19th and 20th October monitoring

19th Sunday

Anabat set up for all night recording with the sound and lights turned off.

Bats trapped at Mill doorway and Laboratory Doorway

Set meat baits to deter predator at Harp traps

20th Monday

Anabat files downloaded

Meat baits gone, no damage to Harp traps.

Bats captured at Mill Doorway

Large-eared Pied bat - *Chalinolobus dwyeri* - 7 males and 4 females (5 recaptures with bands)

Little Pied bat *Chalinolobus picatus* - 1 male not banded

Large Bentwing bat - *Miniopterus schreibersii* - 3 males and 2 females (nil banded)

Chocolate Wattled bat - *Chalinolobus morio* - 1 male banded

Eastern Horseshoe bat - *Rhinolophus megaphyllus* - 1 male

Bats captured Laboratory Doorway

Large-eared Pied bats *Chalinolobus dwyeri* - 3 males and 2 females (3 recaptures with bands)

Large Bentwing bat - *Miniopterus schreibersii* - 1 male and 1 female (nil banded)

Goulds Long-eared bat - *Nyctophilus gouldi* - 1 male

Those bats were released into King Solomon mine at dusk.

Bats observed at Tunnel 1

Seven female Large-eared Pied bats *Chalinolobus dwyeri* and 6 pups at roost, probably born on or about the 15th 16th October, there were no bats present in the Tunnel on the 11th October.

Inspection of Tunnels 2 and 3 found not bats.

Inspection of the Administration and Mill buildings found not bats.

Six of the bats caught on the 19th & 20th were bats that had been relocated into King Solomon mine on the 17th September 2014, some of those unbanded bats are likely to have been in the same group relocated from the Mill building. Relocation to King Solomon gold mine does not appear to work.

We wont know what is happening at the old gold mines until late January, until then they are not to be disturbed. They will be trapped late January when the young are weaned.

Noted that more fencing has been done to Tunnel 2, but the fence still has gaps under the wire to be fixed to be cat proof. The fencing at the northern end of Tunnel 2 is not important because of the deep drop into the tunnel, however the southern end is critical to keep predators out.

Still no bats in Tunnel 3 suggests that the steel construction is not suitable as a bat roost for Large-eared Pied bats.

21st Tuesday

Returned to Woodsreef to relocate the females and pups in Tunnel 1 into Tunnel 2, this was achieved successfully.

Set up two harp traps to catch bats in the Mill building doorway and Laboratory doorway with the lights on and the sound going.

Placed meat baits at both traps.

22nd Wednesday

Caught no bats in the two Harp traps which suggests that the noise and light is a major deterrence, however two female Large-eared Pied bats were captured in the mill building search, one under the laboratory stairway in a spot not lit up by floodlights and one in the electrical room on the brick wall that was in the area of the flood light. Those two females were released into Tunnel 2.

Seems some have become accustomed to the light and noise, two Swallows were caught in the traps which showed they were not deterred, and the Barn Owl and Peregrine Falcon are still present and dont seem to be deterred. Of the four sausage baits put out only one had been taken from the Mill doorway which suggests that the predator is deterred by the light and noise.

Erected a flagging tape barrier over the hole in the roof of Tunnel 2 and put more tin, rocks and steel over the cover to keep the light and rain out of Tunnel 2.

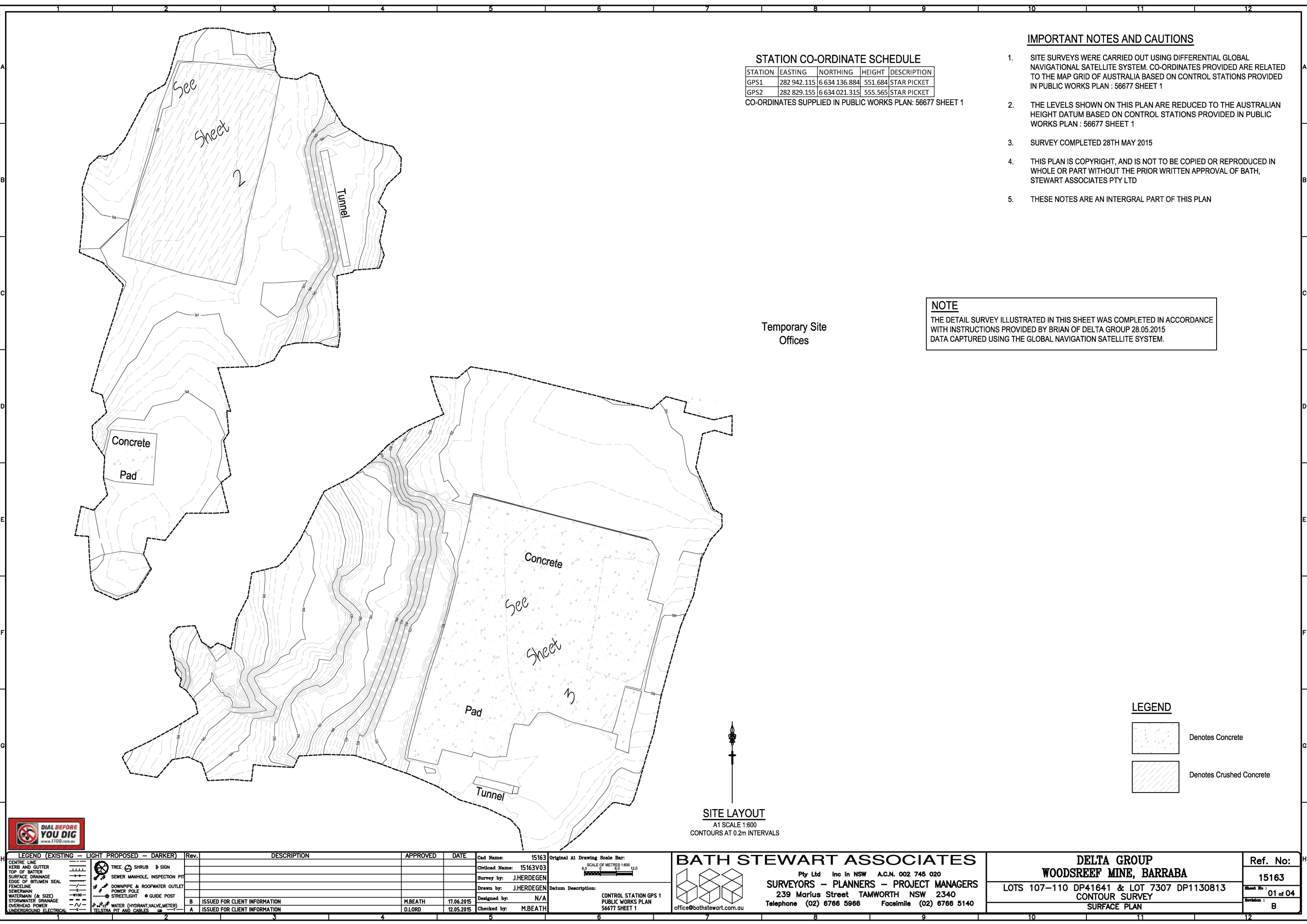
Discussed the need to protect the Tunnel 2 area with Brian and Phil, suggested that demolition of the silos be put back to last to allow the young pups to be large enough to be free flying before it happens.

Also barricaded Tunnel 1 with a temporary shade cloth cover which must be secured properly to keep bats out until after the demolition. -

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STATION CO-ORDINATE SCHEDULE

STATION	EASTING	NORTHING	HEIGHT	DESCRIPTION
GPS1	282 942.115	6 634 136.884	551.684	STAR PICKET
GPS2	282 829.155	6 634 021.315	555.565	STAR PICKET

CO-ORDINATES SUPPLIED IN PUBLIC WORKS PLAN: 56677 SHEET 1

IMPORTANT NOTES AND CAUTIONS

1. SITE SURVEYS WERE CARRIED OUT USING DIFFERENTIAL GLOBAL NAVIGATIONAL SATELLITE SYSTEM. CO-ORDINATES PROVIDED ARE RELATED TO THE MAP GRID OF AUSTRALIA BASED ON CONTROL STATIONS PROVIDED IN PUBLIC WORKS PLAN : 56677 SHEET 1
2. THE LEVELS SHOWN ON THIS PLAN ARE REDUCED TO THE AUSTRALIAN HEIGHT DATUM BASED ON CONTROL STATIONS PROVIDED IN PUBLIC WORKS PLAN : 56677 SHEET 1
3. SURVEY COMPLETED 28TH MAY 2015
4. THIS PLAN IS COPYRIGHT, AND IS NOT TO BE COPIED OR REPRODUCED IN WHOLE OR PART WITHOUT THE PRIOR WRITTEN APPROVAL OF BATH, STEWART ASSOCIATES PTY LTD
5. THESE NOTES ARE AN INTERGRAL PART OF THIS PLAN

NOTE

THE DETAIL SURVEY ILLUSTRATED IN THIS SHEET WAS COMPLETED IN ACCORDANCE WITH INSTRUCTIONS PROVIDED BY BRIAN OF DELTA GROUP 28.05.2015 DATA CAPTURED USING THE GLOBAL NAVIGATION SATELLITE SYSTEM.

Temporary Site Offices

LEGEND

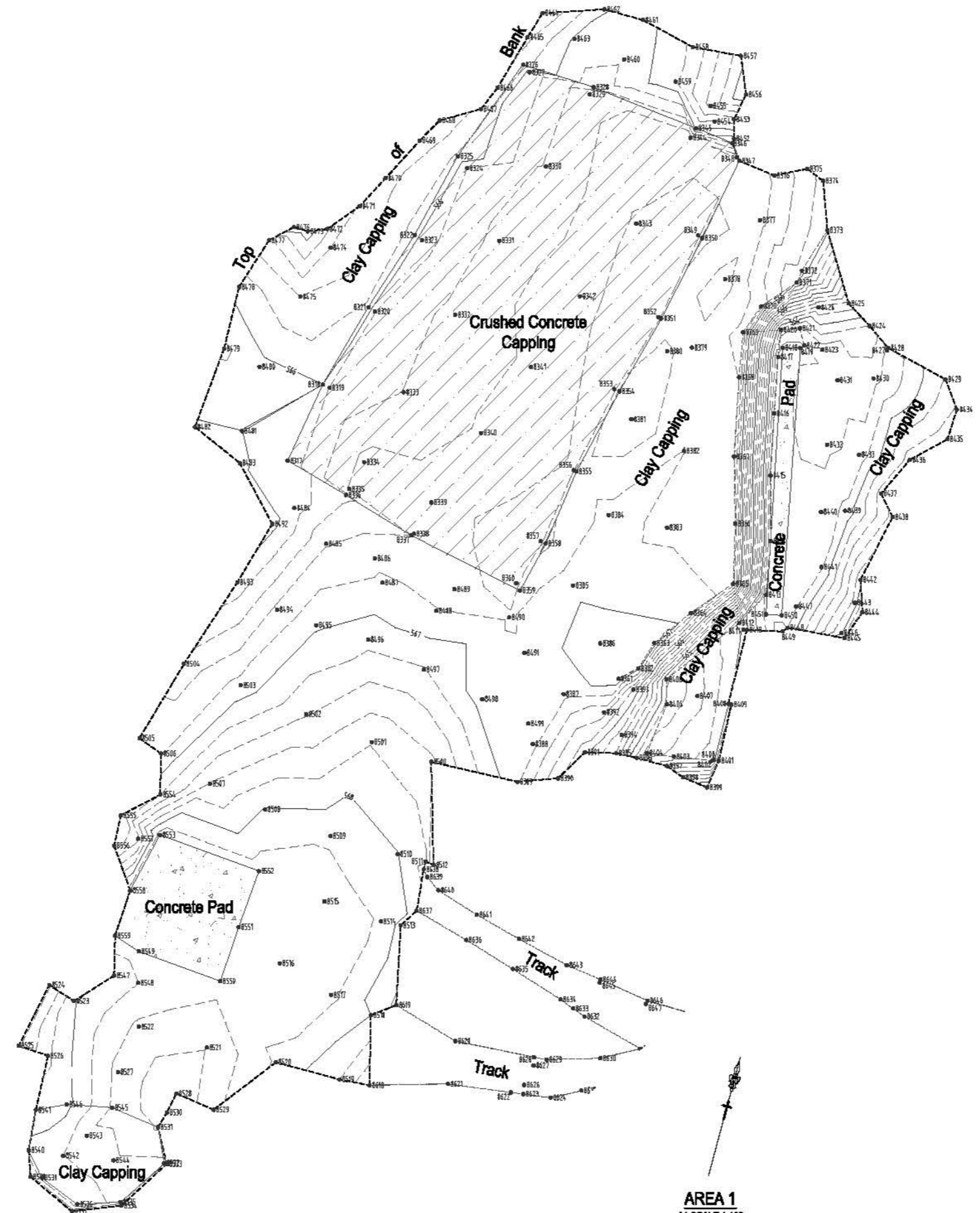
- Denotes Concrete
- Denotes Crushed Concrete

SITE LAYOUT
A1 SCALE 1:600
CONTOURS AT 0.2m INTERVALS





LEGEND (EXISTING - LIGHT PROPOSED - DARKER)	Rev.	DESCRIPTION	APPROVED	DATE	Cad Name: 15163	Original A1 Drawing Scale Bar:	BATH STEWART ASSOCIATES Pty Ltd Inc in NSW A.C.N. 002 745 020 SURVEYORS - PLANNERS - PROJECT MANAGERS 239 Marius Street TAMWORTH NSW 2340 Telephone (02) 6766 5966 Facsimile (02) 6766 5140 office@bathstewart.com.au	DELTA GROUP WOODSREEF MINE, BARRABA LOTS 107-110 DP41641 & LOT 7307 DP1130813 SURFACE PLAN	Ref. No: 15163 Sheet No: 01 of 04 Revision: B
CENTRE LINE KERB AND GUTTER TOP OF BATTER SURFACE DRAINAGE EDGE OF BITUMEN SEAL FENCELINE SEWERMAIN (ø SIZE) WATERMAIN (ø SIZE) STORMWATER DRAINAGE OVERHEAD POWER UNDERGROUND ELECTRICAL		TREE SHRUB SIGN SEWER MANHOLE, INSPECTION PIT DOWNPIPE & ROOFWATER OUTLET POWER POLE STREETLIGHT GUIDE POST WATER (HYDRANT, VALVE, METER) TELSTRA PIT AND CABLES			Civiloid Name: 15163V03 Survey by: J.HERDEGEN Drawn by: J.HERDEGEN Designed by: N/A Checked by: M.BEATH	SCALE OF METRES 1:600 0 6.0 12.0 Datum Description: CONTROL STATION GPS 1 PUBLIC WORKS PLAN 56677 SHEET 1			
	B	ISSUED FOR CLIENT INFORMATION	M.BEATH	17.06.2015					
	A	ISSUED FOR CLIENT INFORMATION	D.LORD	12.05.2015					

NOTE
 THE DETAIL SURVEY ILLUSTRATED IN THIS SHEET WAS COMPLETED IN ACCORDANCE WITH INSTRUCTIONS PROVIDED BY BRIAN OF DELTA GROUP 28.05.2015
 DATA CAPTURED USING THE GLOBAL NAVIGATION SATELLITE SYSTEM.




AREA 1
 A1 SCALE 1:400
 CONTOURS AT 0.2m INTERVALS

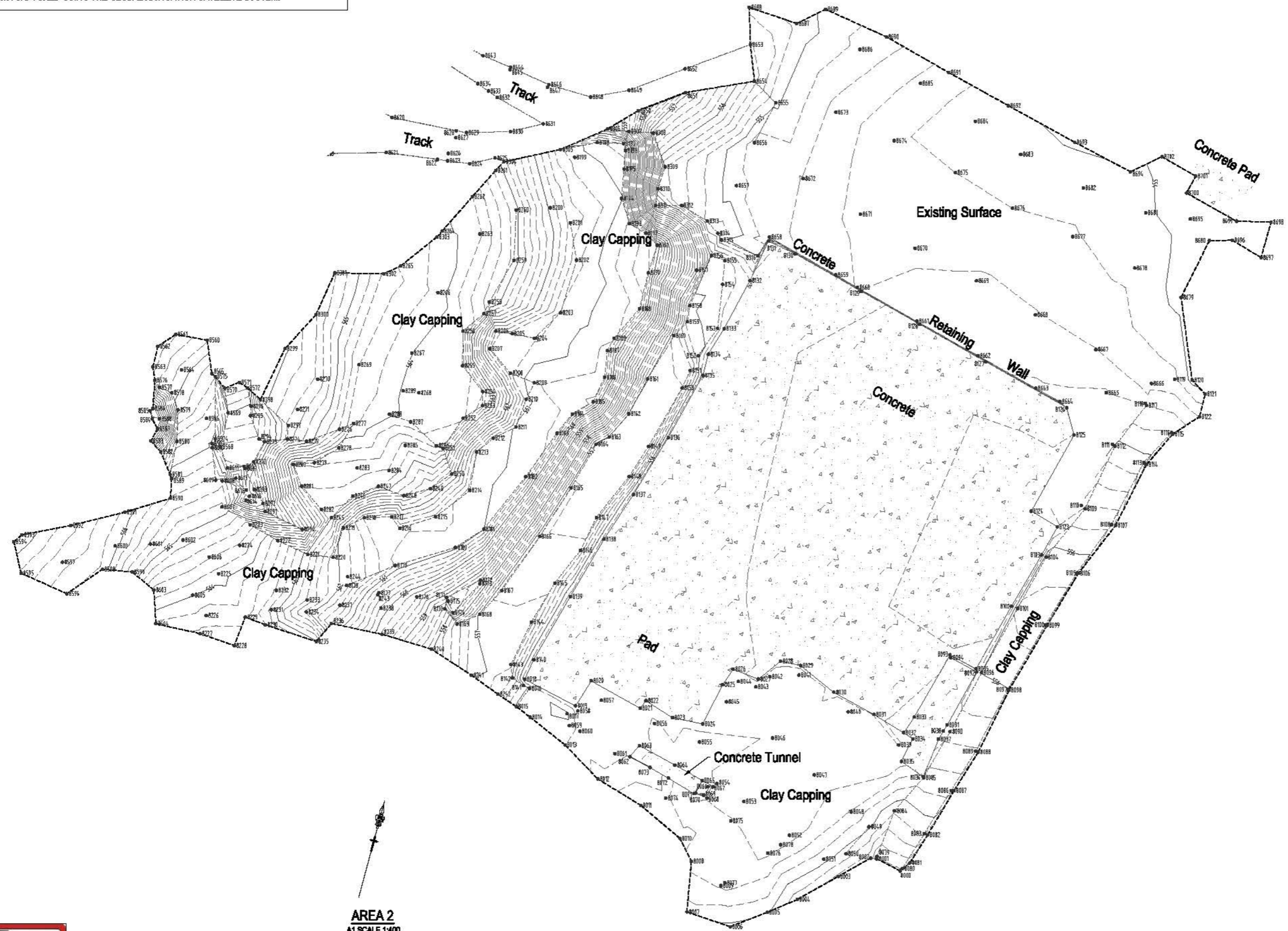
LEGEND

	Denotes Concrete
	Denotes Crushed Concrete



LEGEND (EXISTING - LIGHT PROPOSED - DARKER)	Rev.	DESCRIPTION	APPROVED	DATE	Code Name: 15163	Original A1 Drawing Scale Bar:	BATH STEWART ASSOCIATES  Pty Ltd Inc in NSW A.C.N. 002 745 020 SURVEYORS - PLANNERS - PROJECT MANAGERS 239 Marius Street TANWORTH NSW 2340 Telephone (02) 6786 5966 Facsimile (02) 6786 5140 office@bathstewart.com.au	DELTA GROUP WOODSREEF MINE, BARRABA LOTS 107-110 DP41641 & LOT 7307 DP1130813 CONTOUR SURVEY AREA 1 LAYOUT PLAN	Ref. No: 15163 Sheet No: 02 of 04 Revision: B
CENTRE LINE VENTS AND GUTTER TOP OF BITUMEN SURFACE DRAINAGE EDGE OF BITUMEN SEAL FENCELINE SEWERMAIN WATERMAIN (8" SIZE) OVERHEAD POWER UNDERGROUND ELECTRICAL TREE SHRUB SIGN SEWER MANHOLE, INSPECTION PIT DOWNPIPE & ROOFWATER OUTLET POWER POLE STREETLIGHT WATER (HYDRANT, VALVE, METER) TELEVISION PIT AND OVERLAYS	B A	ISSUED FOR CLIENT INFORMATION ISSUED FOR CLIENT INFORMATION	M.BEATH D.LORD	17.06.2015 12.05.2015	Civiloid Name: 15163V03 Survey by: J.HERDEGEN Drawn by: J.HERDEGEN Designed by: N/A Checked by: M.BEATH	Scale of metres 1:400 Datum Description: CONTROL STATION GPS 1 PUBLIC WORKS PLAN 56677 SHEET 1			

NOTE
 THE DETAIL SURVEY ILLUSTRATED IN THIS SHEET WAS COMPLETED IN ACCORDANCE WITH INSTRUCTIONS PROVIDED BY BRIAN OF DELTA GROUP 28.05.2015
 DATA CAPTURED USING THE GLOBAL NAVIGATION SATELLITE SYSTEM.



AREA 2
 A1 SCALE 1:400
 CONTOURS AT 0.2m INTERVALS

LEGEND

- Denotes Concrete
- Denotes Crushed Concrete



LEGEND (EXISTING - LIGHT PROPOSED - DARKER)	DESCRIPTION	APPROVED	DATE
	CENTRE LINE		
	KERBS AND GUTTER		
	SURFACE DRAINAGE		
	EDGE OF BITUMEN SEAL		
	FENCELINE		
	SEWER MAIN		
	WATER MAIN (A SIZE)		
	STORMWATER DRAINAGE		
	OVERHEAD POWER		
	UNDERGROUND ELECTRICAL		
	TREE		
	SHRUB		
	SIGN		
	SEWER MANHOLE, INSPECTION PIT		
	POWER POLE		
	DOWNPIPE & ROOFWATER OUTLET		
	STREETLIGHT		
	GUIDE POST		
	WATER (HYDRANT/VALVE/METER)		
	TELSTRA PIT AND CABLES		

Cad Name:	15163
Client Name:	15163V02
Survey by:	J.HERDEGEN
Drawn by:	J.HERDEGEN
Designed by:	N/A
Checked by:	M.BEATH

BATH STEWART ASSOCIATES
 Pty Ltd Inc in NSW A.C.N. 002 745 020
 SURVEYORS - PLANNERS - PROJECT MANAGERS
 239 Marius Street TAMWORTH NSW 2340
 Telephone (02) 8786 5988 Facsimile (02) 8786 5140
 office@bathstewart.com.au

DELTA GROUP
WOODSREEF MINE, BARRABA
 LOTS 107-110 DP41641 & LOT 7307 DP1130813
 CONTOUR SURVEY
 AREA 2 LAYOUT PLAN

Ref. No:	15163
Sheet No.:	03 of 04
Revision:	B

Point	Easting	Northing	Elevation	Description	Point	Easting	Northing	Elevation	Description	Point	Easting	Northing	Elevation	Description	Point	Easting	Northing	Elevation	Description	Point	Easting	Northing	Elevation	Description	Point	Easting	Northing	Elevation	Description										
8000	282757.19	6633929.85	554.15	Natural Surface	8089	282765.67	6633957.10	555.58	Bottom Bank	8178	282634.48	6633956.56	561.88	Top Bank	8267	282635.07	6634005.26	564.00	Natural Surface	8356	282613.38	6634145.85	566.83	Natural Surface	8445	282663.59	6634130.73	561.73	Natural Surface	8534	282572.81	6634009.76	568.55	Natural Surface	8624	282636.45	6634045.17	563.97	Top Bank
8001	282752.03	6633930.99	554.19	Natural Surface	8090	282759.66	6633959.60	555.68	Bottom Bank	8179	282642.94	6634133.18	561.17	Top Bank	8268	282638.52	6633997.88	564.08	Natural Surface	8357	282611.18	6634133.18	566.92	Natural Surface	8446	282662.92	6634131.42	562.02	Natural Surface	8535	282572.49	6634010.27	568.28	Concrete	8625	282641.05	6634047.60	563.10	Top Bank
8002	282750.47	6633930.80	554.50	Top Bank	8091	282758.73	6633960.76	555.65	Concrete	8180	282653.69	6633969.65	561.06	Top Bank	8269	282625.63	6634000.22	564.41	Natural Surface	8358	282612.07	6634133.03	566.56	Capping	8447	282654.55	6634133.73	563.23	Natural Surface	8536	282565.73	6634008.08	568.04	Concrete	8626	282631.70	6634046.06	564.32	Natural Surface
8003	282745.24	6633925.55	554.56	Top Bank	8092	282761.69	6633972.58	555.76	Concrete	8181	282658.24	6633974.67	561.00	Top Bank	8270	282628.06	6634124.49	565.72	Natural Surface	8359	282609.96	6634124.49	566.72	Capping	8448	282654.09	6634129.95	563.20	Natural Surface	8537	282565.19	6634006.71	568.54	Natural Surface	8627	282632.37	6634049.55	564.25	Natural Surface
8004	282738.64	6633918.89	554.69	Top Bank	8093	282755.64	6633974.55	555.60	Concrete	8182	282663.70	6633987.13	560.87	Top Bank	8271	282625.12	6633988.34	565.56	Natural Surface	8360	282609.08	6634125.47	566.88	Natural Surface	8449	282653.51	6634129.14	563.02	Natural Surface	8538	282557.12	6634010.44	568.50	Natural Surface	8628	282632.09	6634050.90	564.40	Top Bank
8005	282733.48	6633914.84	555.05	Top Bank	8094	282755.92	6633974.01	555.73	Concrete	8183	282667.49	6633997.22	560.75	Top Bank	8272	282609.92	6634114.61	567.13	Top Bank	8361	282629.35	6634114.61	567.13	Top Bank	8450	282652.56	6634101.78	568.10	Concrete	8539	282558.99	6634010.78	568.10	Concrete	8629	282632.09	6634051.07	564.54	Top Bank
8006	282726.99	6633910.09	554.96	Top Bank	8095	282761.43	6633973.19	555.58	Concrete	8184	282669.47	6634001.74	560.71	Top Bank	8273	282611.00	6633980.29	566.42	Top Bank	8362	282632.11	6634117.11	567.04	Top Bank	8451	282650.11	6634131.18	563.36	Concrete	8540	282555.69	6634014.62	568.08	Concrete	8630	282642.71	6634053.57	562.69	Top Bank
8007	282717.81	6633910.73	555.12	Bottom Bank	8096	282762.72	6633972.71	556.01	Bottom Bank	8185	282672.90	6634005.25	560.57	Top Bank	8274	282615.30	6633982.00	565.52	Top Bank	8363	282633.59	6634121.82	567.10	Top Bank	8452	282624.76	6634205.41	566.26	Natural Surface	8541	282555.12	6634021.29	567.85	Concrete	8631	282648.67	6634056.79	563.52	Top Bank
8008	282716.01	6633910.83	555.48	Bottom Bank	8097	282768.71	6633970.87	555.99	Bottom Bank	8186	282673.83	6634010.58	560.73	Top Bank	8275	282619.11	6633987.57	565.13	Top Bank	8364	282638.12	6634128.17	569.95	Top Bank	8453	282623.95	6634208.43	565.67	Natural Surface	8542	282564.32	6634015.20	567.80	Natural Surface	8632	282638.35	6634059.53	563.61	Top Bank
8009	282723.07	6633917.61	555.42	Natural Surface	8098	282768.98	6633970.76	555.93	Natural Surface	8187	282673.01	6634015.95	560.75	Top Bank	8276	282624.94	6633986.63	564.58	Top Bank	8365	282643.59	6634134.62	566.70	Top Bank	8454	282628.96	6634207.27	565.83	Natural Surface	8543	282564.33	6634019.39	568.39	Natural Surface	8633	282636.25	6634061.31	564.11	Top Bank
8010	282721.65	6633924.65	555.31	Bottom Bank	8099	282772.98	6633985.35	556.21	Natural Surface	8188	282673.69	6634018.71	560.82	Top Bank	8277	282627.40	6633988.54	564.23	Bottom Bank	8366	282643.59	6634144.26	566.73	Top Bank	8455	282619.66	6634209.62	565.34	Natural Surface	8544	282564.63	6634016.60	568.36	Natural Surface	8634	282632.85	6634061.20	563.99	Top Bank
8011	282720.26	6633929.08	555.24	Bottom Bank	8100	282772.66	6633985.37	556.33	Bottom Bank	8189	282677.07	6634025.74	560.72	Top Bank	8278	282625.80	6633982.95	563.86	Bottom Bank	8367	282638.29	6634154.85	566.66	Top Bank	8456	282624.80	6634212.92	564.79	Natural Surface	8545	282567.18	6634024.91	568.42	Concrete	8635	282624.98	6634064.02	565.29	Top Bank
8012	282693.49	6633931.98	555.54	Bottom Bank	8101	282766.38	6633987.09	556.22	Bottom Bank	8190	282676.92	6634033.27	560.41	Top Bank	8279	282621.79	6633978.81	563.64	Bottom Bank	8368	282635.73	6634167.88	566.60	Top Bank	8457	282622.34	6634218.82	565.10	Natural Surface	8546	282559.29	6634023.49	567.94	Concrete	8636	282616.33	6634066.64	566.57	Top Bank
8013	282685.33	6633936.92	555.83	Bottom Bank	8102	282765.04	6633987.21	555.62	Concrete	8191	282677.22	6634039.05	560.17	Top Bank	8280	282617.82	6633977.35	563.59	Bottom Bank	8369	282634.47	6634175.01	566.55	Top Bank	8458	282614.33	6634218.18	565.76	Natural Surface	8547	282561.82	6634045.98	568.04	Natural Surface	8637	282620.20	6634066.17	567.93	Top Bank
8014	282677.11	6633940.48	555.94	Bottom Bank	8103	282768.23	6633988.81	556.63	Concrete	8192	282674.38	6634040.81	560.40	Top Bank	8281	282620.53	6633973.54	563.39	Bottom Bank	8370	282636.24	6634179.93	566.48	Top Bank	8459	282613.03	6634211.95	565.84	Natural Surface	8548	282564.98	6634045.83	568.20	Natural Surface	8638	282606.53	6634076.03	567.74	Top Bank
8015	282673.84	6633941.84	555.96	Bottom Bank	8104	282769.24	6633988.59	556.10	Bottom Bank	8193	282674.72	6634041.84	560.77	Top Bank	8282	282625.63	6633970.06	563.21	Bottom Bank	8371	282640.73	6634185.18	566.00	Top Bank	8460	282603.95	6634213.29	566.17	Natural Surface	8549	282564.75	6634050.90	568.30	Concrete	8639	282607.40	6634075.00	567.48	Top Bank
8016	282675.65	6633946.06	555.94	Bottom Bank	8105	282776.08	6633997.13	556.15	Bottom Bank	8194	282677.83	6634046.35	561.01	Top Bank	8283	282620.40	6633980.05	563.47	Natural Surface	8372	282641.20	6634187.30	566.14	Top Bank	8461	282605.24	6634220.35	566.10	Natural Surface	8550	282578.95	6634049.64	568.33	Concrete	8640	282609.77	6634073.36	567.71	Top Bank
8017	282684.12	6633943.06	556.05	Natural Surface	8106	282776.38	6633997.12	556.07	Natural Surface	8195	282678.64	6634052.20	560.91	Top Bank	8284	282626.74	6633981.18	563.38	Natural Surface	8373	282643.51	6634194.81	566.04	Top Bank	8462	282598.64	6634220.41	565.99	Natural Surface	8551	282579.56	6634059.00	568.30	Concrete	8641	282614.90	6634071.10	566.31	Top Bank
8018	282674.07	6633947.61	555.64	Concrete	8107	282781.12	6634008.42	555.55	Natural Surface	8196	282679.52	6634055.90	560.71	Top Bank	8285	282638.59	6633986.19	563.33	Natural Surface	8374	282640.73	6634202.47	566.14	Top Bank	8463	282593.13	6634214.46	566.02	Natural Surface	8552	282580.40	6634068.74	568.29	Concrete	8642	282626.96	6634069.06	565.30	Top Bank
8019	282685.34	6633945.07	555.67	Concrete	8108	282780.27	6634008.36	555.76	Bottom Bank	8197	282685.32	6634057.12	560.57	Top Bank	8286	282644.69	6633988.48	563.66	Top Bank	8375	282637.67	6634203.69	566.26	Top Bank	8464	282588.98	6634217.18	565.41	Top Bank	8553	282563.16	6634070.28	568.30	Concrete	8643	282633.37	6634066.94	563.98	Top Bank
8020	282687.09	6633950.77	555.66	Concrete	8109	282774.30	6634010.03	555.66	Bottom Bank	8198	282690.20	6634055.96	560.85	Top Bank	8287	282638.42	6633991.79	563.94	Top Bank	8376	282632.73	6634201.24	566.59	Top Bank	8465	282587.65	6634212.76	565.54	Top Bank	8554	282562.48	6634070.70	568.20	Natural Surface	8644	282639.35	6634066.09	563.69	Top Bank
8021	282698.07	6633948.01	555.67	Concrete	8110	282773.39	6634010.50	555.47	Natural Surface	8199	282695.56	6634051.89	561.11	Natural Surface	8288	282633.90	6633992.18	564.05	Top Bank	8377	282632.36	6634193.54	566.66	Natural Surface	8466	282584.99	6634203.38	565.68	Top Bank	8555	282556.09	6634071.73	567.02	Natural Surface	8645	282639.35	6634065.58	563.43	Natural Surface
8022	282698.79	6633949.77	555.68	Concrete	8111	282776.24	6634024.05	554.89	Natural Surface	8200	282654.45	6634040.80	561.94	Natural Surface	8289	282635.35	6633997.46	563.98	Natural Surface	8378	282629.33	6634182.71	566.88	Natural Surface	8467	282583.28	6634199.31	565.66	Top Bank	8556	282556.63	6634066.63	567.09	Natural Surface	8646	282624.69	6634064.72	561.99	Top Bank
8023	282704.84	6633947.85	555.68	Concrete	8112	282776.66	6634023.83	555.06	Bottom Bank	8201	282659.11	6634038.93	561.53	Bottom Bank	8290	282622.89	6633965.21	564.76	Top Bank	8379	282626.98	6634170.39	566.75	Natural Surface	8468	282577.19	6634195.72	565.43	Top Bank	8557	282559.84	6634068.76	567.35	Natural Surface	8647	282647.60	6634066.41	561.84	Natural Surface
8024	282711.06	6633948.16	555.68	Concrete	8113	282783.33	6634022.09	555.07	Bottom Bank	8202	282662.26	6634031.96	561.26	Bottom Bank	8291	282624.75	6633966.72	566.07	Top Bank	8380	282623.19	6634168.73	566.53	Natural Surface	8469	282574.89	6634191.69	565.46	Top Bank	8558	282560.79	6634060.18	568.32	Concrete	8648	282656.51	6634064.49	559.89	Top Bank
8025	282712.87	6633956.88	555.68	Concrete	8114	282783.95	6634021.87	554.92	Natural Surface	8203	282663.93	6634040.90	561.19	Bottom Bank	8292	282623.93	6633968.20	566.43	Natural Surface	8381	282623.09	6634184.23	565.52	Top Bank	8470	282571.30	6634184.23	565.52	Top Bank	8559	282560.30	6634052.38	568.32	Concrete	8649	282659.64	6634067.80	558.47	Top Bank
8026	282714.13	6633960.45	555.66	Concrete	8115	282787.50	6634029.21	554.77	Natural Surface	8204	282668.15	6634044.55	561.24	Bottom Bank	8293	282621.52	6633970.48	566.91	Top Bank	8382	282630.11	6634153.64	566.80	Natural Surface	8471	282568.13	6634178.72	565.43	Top Bank	8560	282594.53	6633997.09	567.22	Natural Surface					

Environmental Management Plan



Delta Pty Limited ABN: 67 007 069 794

**Sydney Head Office: 83 Bourke Road, Alexandria,
NSW, Australia, 2015
Telephone– 02 8339 0588**

"Safety is no accident!"

PROJECT DETAILS

Date

10/12/2014

Client Name

Public Works

Address

Woodsreef Mine, Bundarra-Barrabarra Road, Woodsreef,
NSW 2347

Project Description

Demolition and encapsulation of structures at Woodsreef
mine

DISCLAIMER

This document has been developed to assist Delta Group to manage environmental aspects and impacts. While every effort has been made to ensure the accuracy of the material in this document, this publication is not meant to substitute for the legislation. For the specific requirements on an issue covered in this document, persons should refer directly to the relevant legislation in their location.

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1. INTRODUCTION

Woodsreef Mine is a derelict asbestos mine in the NSW Northern Tablelands. Open cut mining for asbestos first occurred at Woodsreef from 1919-1923. The Chrysotile Corporation of Australia carried out large scale mining at Woodsreef between 1970 and 1983. Approximately 500,000 tonnes of chrysotile, or white asbestos was produced from 100 million tonnes of mined material.

The former mine extends over an area of approximately 400 hectares. The site comprises a 75 million tonne waste rock dump, a 25 million tonne tailings dump and a number of open pits, some containing considerable quantities of water. There are also a number of derelict buildings within the site, including an eight-storey mill building.

Delta has been engaged NSW Public Works for the demolition works package at Woodsreef Mine.

This Construction Environmental Management Plan (CEMP) has been developed to detail the specific management, mitigation and monitoring requirements for the demolition & rehabilitation works at Woodsreef Mine.

2. AUTHORISATION AND CONTROL

This CEMP serves as a supporting document to the Project Management Plan where authorisation of the CEMP will be through the Project Management Plan. All project personnel are to ensure their work activities and those of Project Consultants, Contractors and Suppliers are carried out in accordance with the requirements of this Plan. Delta Group senior management acknowledges the importance of meeting NSW Public Works, statutory and regulatory requirements.

The Project Management Plan is the master document and any changes to supporting management plans or documents will result in revision control in this plan.

a. DISTRIBUTION

This Plan is a Controlled Document and must be distributed and revised under the guidance of the Project Manager. People who hold controlled copies are responsible for maintaining their copies up-to-date. We issue this document as a guide to all those working to our safety standards.

b. REVISION

The Project Manager will monitor the implementation of this Plan and review the need for change or improvements on an as needs basis. This document will be reviewed monthly. Document revisions may be viewed in the document "Properties". As the Project Management Plan is the master document any changes to this supporting management plan will result in revision control to the Project Management Plan.

Amendment Register

Rev	Date	Description	Page	Developed by	Approved by
0	17/09/2014	Draft QSE Plan	All	Yasser Haragli	Jason Simcocks
1	19/09/2014	Amended Document in accordance to comments	All	Yasser Haragli	Jason Simcocks
2	29/09/2014	Amended QSE Plan in accordance to PW comments	All	Yasser Haragli	Jason Simcocks
3	04/10/2014	Amended Environmental Plan in accordance to review	All	Kerry Huynh	Jason Simcocks
4	24/11/2014	Amended Plan in accordance to PW comments/Layout Change	All	Kerry Huynh	Jason Simcocks
5	25/11/2014	Amended plan in accordance to PW comments.	All	Kerry Huynh	Jason Simcocks
6	04/12/2014	Amended plan in accordance to Trade and Investment Comments and Delta Internal Comments	All	Kerry Huynh/Raymond Tran	Jason Simcocks
7	09/12/2014	Amended plan in accordance to NSW Public Works review	All	Kerry Huynh/Raymond Tran	Jason Simcocks
8	10/12/2014	Amended plan in accordance to NSW Public Works review	All	Kerry Huynh	Jason Simcocks

Distribution Register

Rev No.	Date of Issue	Name of Recipient	Position/Organisation
0	17/09/2014	Andrew Cruckshank	Senior Project Manager /NSW PW
1	19/09/2014	Andrew Cruckshank	Senior Project Manager /NSW PW
2	29/09/2014	Andrew Cruckshank	Senior Project Manager /NSW PW
3	04/10/2014	Andrew Cruckshank	Senior Project Manager /NSW PW
4	24/11/2014	Andrew Cruckshank	Senior Project Manager /NSW PW
5	25/11/2014	Andrew Cruckshank	Senior Project Manager /NSW PW
6	04/12/2014	Andrew Cruckshank	Senior Project Manager/NSW PW
6	04/12/2014	Mick Schoevers	Specialist Project Manager/NSW PW
7	09/12/2014	Mick Schoevers	Specialist Project Manager/NSW PW
7	09/12/2014	Andrew Cruckshank	Senior Project Manager/NSW PW
8	10/12/2014	Mick Schoevers	Specialist Project Manager/NSW PW
8	10/12/2014	Andrew Cruckshank	Senior Project Manager/NSW PW

3. PROJECT DESCRIPTION

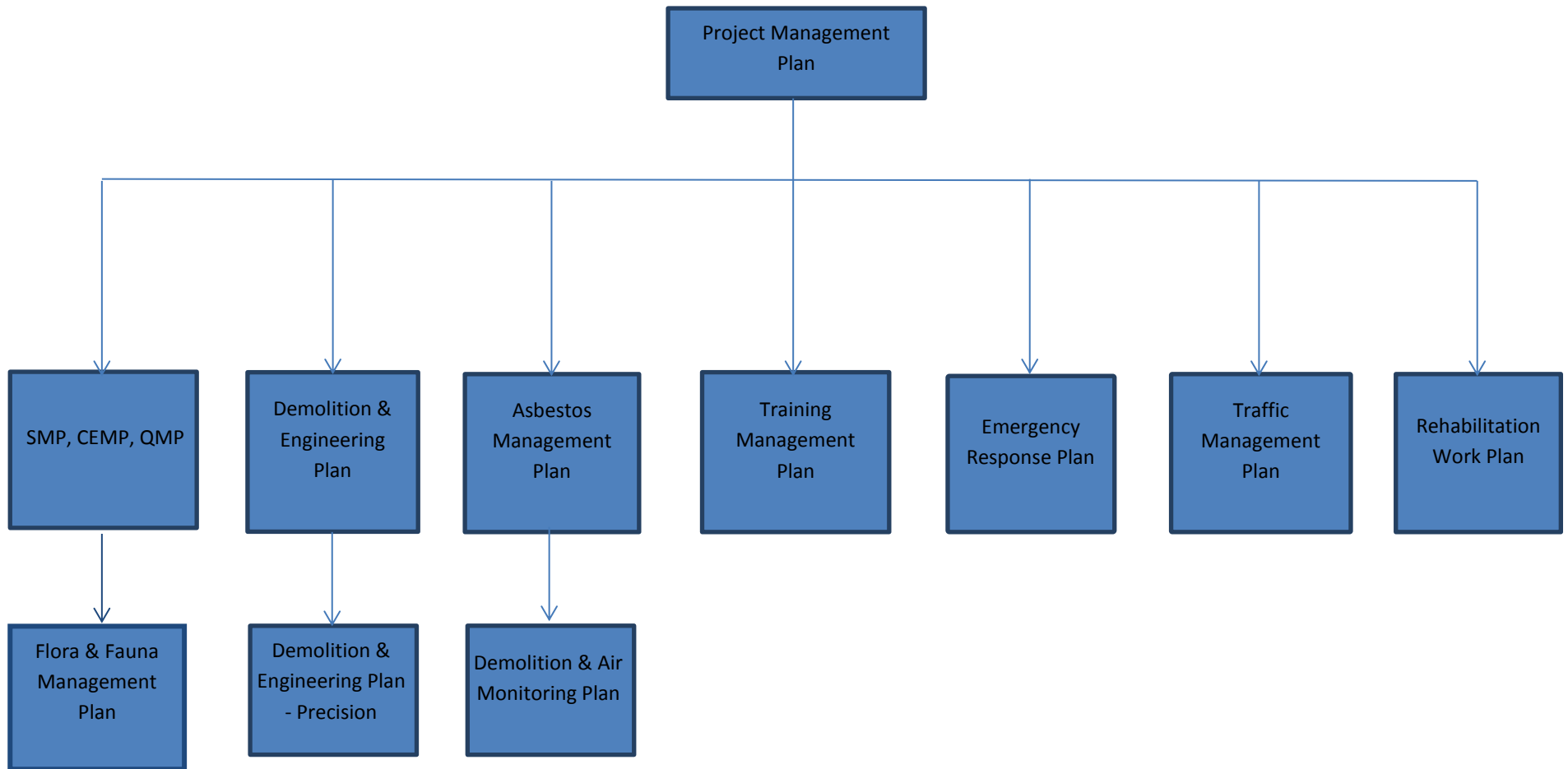
Contract Scope of Works includes:

- Site Management and Implementation of approved Management Plans & Methodologies
- Relocation of LEPB
- Site Establishment
- Removal of identified HAZMAT i.e. PCB's, UPSS and Transformers
- Demolition of Mill Building , Crushing Building, Storage Building,
- Demolition of surrounding structures i.e. Twin Storage Silos, Administration & Western Annex Building
- Collection of surface detritus that encourages visitation to the site within work area.
- Construction of containment cell
- Encapsulation of derelict structures within containment cells.

Delta propose to use mechanical methods to demolish structures including the use of heavy machinery. All methodologies have been detailed in Delta's Demolition and Engineering Plan that is approved by an independent engineer and Workcover NSW.

4. CONTEXT OF CEMP

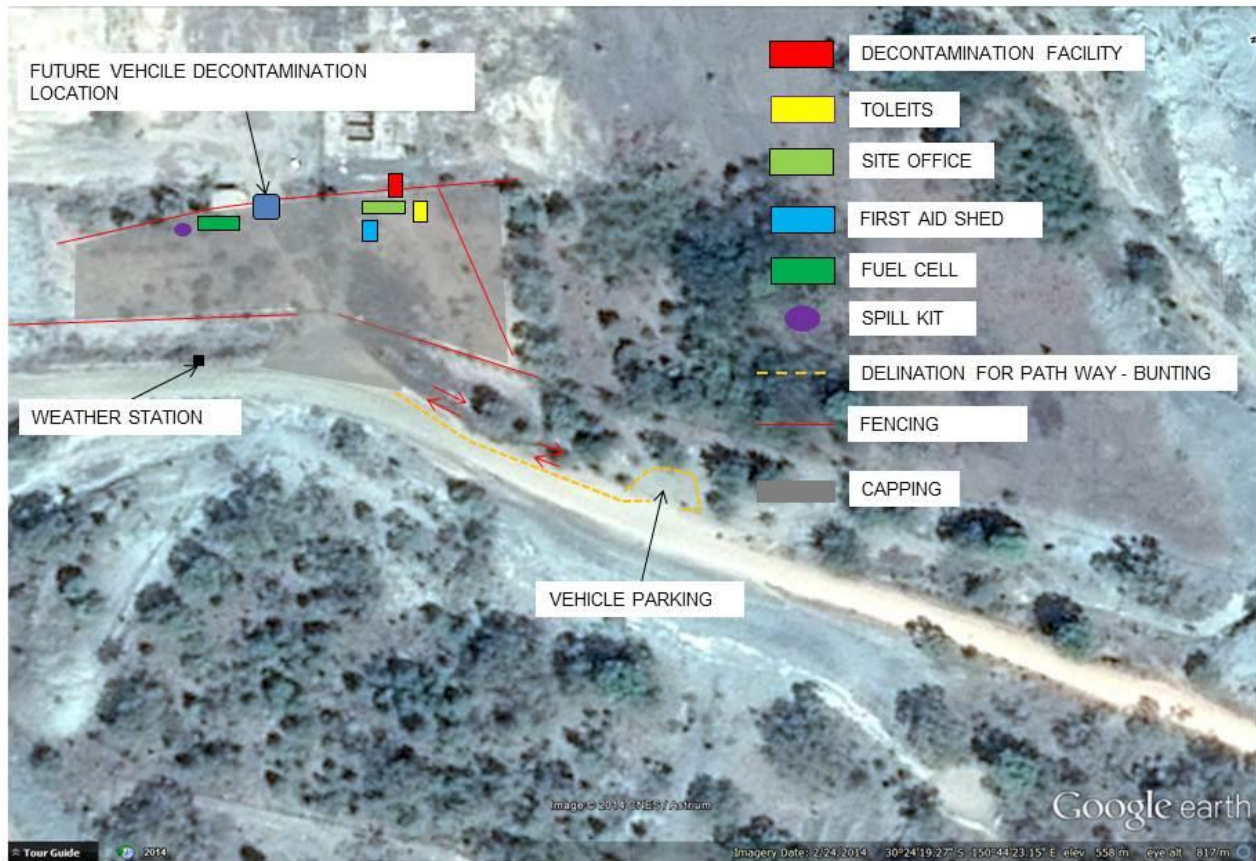
The CEMP is a key aspect of successful project delivery and supports the overall Project Management Plan



5. OBJECTIVES

NO	OBJECTIVE	TARGET	EVIDENCE
1	Ensure impacts to the local community are minimised	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
2	Minimise the impacts to neighbouring land owner due to the rehabilitation works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
3	Minimise Impacts associated with rehabilitation traffic during works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
4	Minimise impacts to soils and surrounding waterways due to the rehabilitation works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
5	Minimise impacts to flora and fauna (including LEPB) due to works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
6	Avoid impacts to historic and aboriginal heritage due to works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
7	Minimise the impacts to air quality due to the rehabilitation works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
8	Minimise waste generation due to works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
9	Minimise visual amenity impacts due to the rehabilitation works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
10	Minimise environmental risks due to the handling of hazardous and contamination materials during the rehabilitation works	Implemented environmental actions in Table 9.3 of the PER	Findings of Site Inspections and Monthly Auditing Programme.
<p>Monthly project report will be developed and submitted to NSW Public Works, to communicate progress and as an opportunity for Public Works to feedback levels of satisfaction. Following project completion a Customer Satisfaction Survey will be sent to Public Works for feedback. Survey will be recorded and used as a measure of success. Note: PER – Public Environment Report prepared by NSW Public Works</p>			

6. SITE PLAN



SITE PLAN



Figure 1 – Site Plan

7. DURATIONS

CONTRACT MILE STONES	DURATION
Mile Stone 1 – Permits and Approvals	6 Weeks
Mile Stone 2 – Site Establishment	4 Weeks
Mile Stone 3 – Demolition Works	30 Weeks
Mile Stone 4 – Demobilisation	2 Weeks
Total Construction Duration	42 Weeks

8. HUMAN RESOURCES

Task	Type Of Resource	Anticipated Max Quantity
Site Management	Project Manager	1
	Project Engineer	1
	General Foreman	1
Operators	Excavator	3
	Truck	1
	Water Cart	1
	Bobcat	1
Labourers	Labourer	2
Explosives	Supervisor	1
	Labourer	5
Air Monitoring	Independent Licenced Asbestos Assessor	1
Total		18

TASK SEQUENCE	PROGRAM TIMING
Site Mobilisation	2 weeks
Ecologist Works	1 Week
Clearance of Oils/Liquids within Mill Building	1 Week
Demolition of Mill Building	5 Weeks
Demolition of Administration Building	1 Day
Demolition of Twin Silos	1 Weeks
Demolition of Tanks and surrounding Structures	2 Weeks
Capping of Contaminated Material	5 Weeks

9. PLANT & EQUIPMENT

1.	47t Excavators x 2	7.	Skid Steer x 2
2.	33t Excavators	8.	Dozer
3.	Water Cart	9.	Generators
4.	Oxy Set	10.	Water Pumps
5.	Dust Fans x 5	11.	EWP
6.	Moxy (Dump Truck)	12.	Lasers

10. POLICY



Environmental Policy

Our goal is to improve the environments in which we operate.

This goal is not limited to minimising the environmental impact of our operations but includes taking active steps to reduce our energy usage, to reduce waste, to recycle everything we can and to be rigorous about safe disposal of any residual contaminants in strict compliance with regulatory requirements. This is at the heart of our business.

To achieve our goal we will:

- Maintain an Integrated Management System which meets the requirements of AS/NZS ISO14001
- Constantly challenge the system for better ways of doing things
- Apply our philosophy of "Right First Time" but when we don't get it right we will learn from our mistakes
- Set objectives and targets to measure and improve our environmental performance
- Strive to prevent pollution, reduce waste and recover and recycle with the aim of exceeding all relevant regulatory standards

Signed:

Stuart Gibson
Group General Manager
Delta Group

Date: 25/6/14

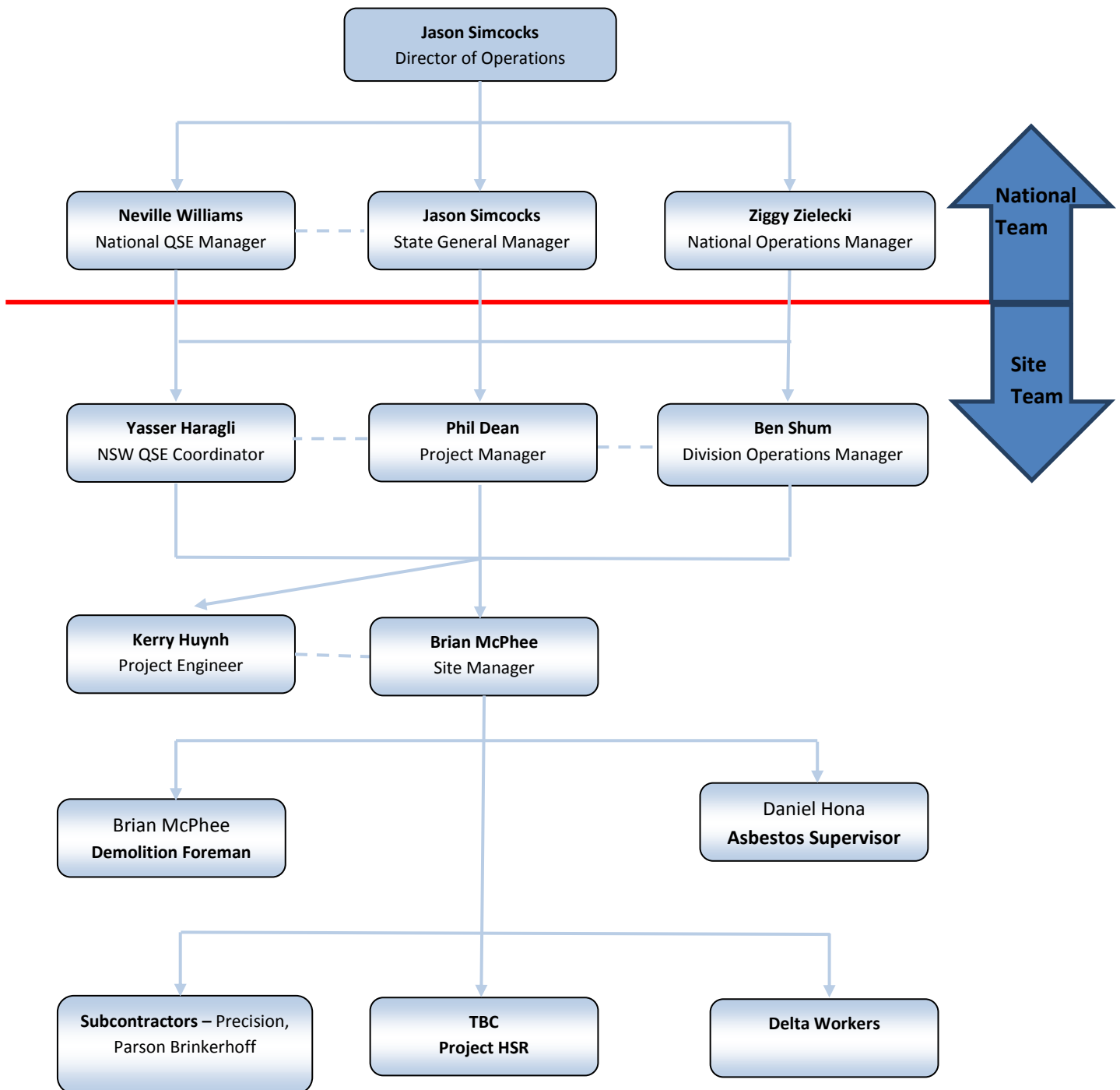


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1800 335 824

11. MANAGEMENT STRUCTURE

To ensure the project scope of works & objectives and targets are delivered, Delta have Certified Management System meeting AS14001, 4801 & 9001 which will be implemented on this project. Delta has allocated the following resources to ensure environmental performance and compliance as identified below:



12. ROLES AND RESPONSIBILITY

STATE GENERAL MANAGER is responsible for the following:

- Providing Leadership, direction, encouragement & Resources (Financial & Human) to achieve National objectives and target, as outlined in Delta's internal management systems and procedures and the relevant OHS&E legislation, ISO 9001, AS/NZS2001, AS/NZS 14001, OFSC Accreditation Criteria;
- Analyse and identify areas of improvement

PROJECT MANAGER is responsible for the following:

- Implementing & maintaining the Quality/Safety Plan and CEMP, PMP & supporting management plans;
- Undertake a detailed review of the project documentation & prepare a schedule of scope deliverables which form the basis of the Subcontractor Inspection Test Plan (ITP) process & records;
- Ensuring that the on-site Inspection and Testing are undertaken as set out in the Inspection and Test Plan (ITPs);
- Organisation of on-site personnel with regard to their responsibilities within the Management System and assist with site inductions;
- Organisation of on-site personnel with regard to their responsibilities within the Management Plans;
- Identify key safety/quality risks and opportunities to ensure high safety/quality outputs;
- Communicating with contractors/client to reduce safety/quality risks;
- Being a part of the planning and design stages of trade activities;
- Ensure that all staff under their control have adequate training and experience for the for the work in conjunction with operations supervisor;
- Ensure that all staff under their control has adequate equipment to carry out the works in conjunction with operations supervisor;
- Maintenance of project specific registers, forms and checklists/ITP's;
- Periodic audits of their safety management, quality and environmental control processes;
- Manage non-conformances (SEF 052) and initiate corrective action (SEF 005) as required;
- Manage defects on site to reduce the number of defects at completion;
- Promoting sound safety/environmental management and quality practices at every opportunity;
- Reviewing safety/quality reports and inspections, and following up on recommendations;
- Program works to include/ allow for training activities
- Make resources available to complete on-site training.
- Allocate Budget to implement Training
- Report on Implementation of Plan to Operations Manager & Senior Management

OPERATIONS MANAGER is responsible for the following:

- Work with the Site Foreman, and ensure that no unnecessary delays occur;
- Develop systems for the implementation of safe and efficient work methodologies for the completion of project tasks;
- Assist in planning the daily work procedures, resourcing and allocation of labor;
- Assist in ensuring safety management procedures are adhered to;
- Ensure communication is maintained between the subcontractor representative/s and Delta operations;
- Be responsible for providing appropriately trained personnel for the project and the hiring and expulsion of personnel;
- Organise the hiring of equipment and ensure its compliance with safety requirements
- Be responsible for providing appropriately trained & competent personnel for the project and up skilling workforce
- Report on implementation and review adequacy of Training Management Plan

- Review training feedback and report on appropriateness of training
- Select RTO(Registered Training Organisation) to deliver packages
- Undertake Competency Assessments – must be Cert 4 TAE (Certificate 4 in Training and Assessment)
- Analyse and identify areas of improvement
- Take appropriate action following Training Management Plan review

PROJECT ENGINEER is responsible for following:

- Understand the requirements of the Subcontract, i.e. specifications, scope of works, etc.;
- Undertake a detailed review of the projects documentation that make up the requirements of the Subcontract and prepare a detailed Schedule of Scope Deliverables that shall form the basis of the Subcontractors Inspection & Test Plan (ITP) process and records. Developing on-site Inspection & Testing are undertaken as set out in the Inspection and Test Plan (ITPs);
- Ensure that ITPs are being carried out properly and nominated hold points are verified prior to works proceeding;
- Manage non-conformances and initiate corrective action as required;
- Manage defects on site to reduce the number of defects at completion;
- Being a part of the planning and design stages of trade activities;
- Ensure all subcontractors submit and are supplied with relevant project documentation.
- Implementing and maintaining the supporting management plans of the Project Management Plan
- Report on Implementation of Plan to Operations Manager & Senior Management.

DEMOLITION FOREMAN is responsible for following:

- Implementing and maintaining the supporting management plans of the Project Management Plan.
- Understand the requirements of the contract and ensure the works are delivered in accordance with the contract;
- Deliver site inductions and toolbox talks;
- Ensure that ITPs are being carried out properly and nominated hold points are verified prior to works proceeding;
- Providing advice and assistance on QSE matters to employees;
- Undertaking inspection of the contracted or planned works to ensure that safety/quality/environmental management control measures are implemented and effective;
- Ensure that all defects and incidents are identified, actioned and closed out;
- Ensure that ITPs are being carried out properly and nominated hold points are verified prior to works proceeding
- Leading by example and promoting sound safety/quality/environmental practices at every opportunity;
- Regular attendance at on-site meetings to ensure QSE related issues are raised for review;
- Other safety/quality/environmental management related duties as directed by the Project Manager.

QSE MANAGER is responsible for following:

- Conduct internal audits and inspections of the QSE (Quality, Safety and Environment) management system
- Assist in the implementation of the QSE management plan;
- Assist where possible to communicate to the workforce including toolbox meetings & inductions
- Providing advice and assistance on quality matters to employees;
- Understand the requirements of the contract;
- Providing advice and assistance on safety matters to employees;
- Advise when training required;
- Ensure that all defects and incidents are identified, actioned and closed out;

- Leading by example and promoting sound QSE practices at every opportunity;
- Regular attendance at on-site meetings to ensure safety related issues are raised for review;
- Lead the process of ensuring safety audits undertaken periodically
- Other duties as directed by the Project Manager.

WORKERS are responsible for following:

- Being accountable to Demolition Foreman;
- Work according to Delta procedures and SWMS;
- Nominate and elect safety rep and safety committee;(where applicable)
- Work with all due diligence and care, ensuring their own personal safety, the safety of those working with them and condition of the surrounding environment;
- To work in accordance with the relevant WHS legislation and the Delta Management System;
- To cooperate and comply with all safety instructions given by Delta representatives;
- To immediately notify the Demolition Foreman of any unsafe situation and not to work in any way that could endanger themselves or their fellow workers;
- Compliance with Project specific safety requirements/procedures and guidelines, formulated and disseminated through Project inductions, SWMS's, toolbox meetings, site instructions and site specific requirements;
- Encouraging others to follow established safety/ environmental practices;
- Stopping any observed unsafe acts;
- Only commencing tasks once all associated hazards are reduced to as low a risk as is reasonably practical;
- Correct use of safety equipment and PPE supplied, and if unsure, ask questions;
- Ensuring the correct tools and equipment are used and maintained in good condition;
- Reporting to their Foreman, any defects in plant or equipment – immediately;
- Warning other employees of known hazards;
- Reporting immediately to the Site Foreman, all hazards, accidents, incidents and near misses;
- Responsibility for daily housekeeping in own working area.
- Participating & completion of Identified Training Programs
- Provide Feedback on completed training programs.

SUB-CONTRACTORS are responsible for following:

- Submit for approval 2 weeks prior to accessing site an appropriate Safety, Environment and Quality Plans, which includes Safe Work Method Statements and records for their works;
- Follow relevant approved Delta Management Plans and procedures.
- Maintain an approved QSE Plans, which includes safe work method statements and records for their works;
- Observe Contract and Statutory requirements relating to WHS and environment;
- Follow instructions issued by Delta management and supervisory personnel;
- Adhere to Delta policies and procedures ;
- Ensure all persons accessing site have attended a Delta site induction;
- Report all incidents, hazards, near misses or dangerous occurrences to Delta management
- Cooperate fully with site emergency and evacuation procedures and consultative arrangements;
- Completing Plant and equipment WHS verification paperwork (i.e. log books, maintenance records, plant risk assessments);
- Monitoring of, plant, substances, equipment, temporary structures used by them;
- Provide Delta with copies of all site documentation;
- Maintain inspection schedule as per subcontractor requirements
- Prepared to be subject to external and internal Audits and site inspections;
- Nominate employee OHS Representative;(where applicable)
- Have and nominate a Site First Aid officer; (where applicable)

- Provide copies of all relevant licensing, tickets competency for required activities and evidence of health surveillance records (where required).

13. EMERGENCY 24 HOUR CONTACTS

Emergency 24 Hour Contacts		
Contact Name:	Contact Number:	Company:
Brian McPhee	0413 870 625	Delta Group
Phil Dean	0413 602 608	Delta Group

EMERGENCY CONTACT LIST		
Emergencies	Address	Phone Number
Police	Barraba Police Station – 3 Maude St, Barraba NSW 2347	000 / (02) 6782 1003
Ambulance	Barraba Ambulance Service – Edward St, Barraba NSW 2347	000 / (02) 13 1233
Fire Brigade	Barraba Fire Brigade – 73 Henry St. Barraba NSW2347	000 / (02) 6782 1179
Relevant Electrical Authority	Essential Energy	13 15 35
Delta Preferred Doctor	Immex – 561 Botany Rd Waterloo	(02) 9319 5999
Nearest Doctor	Barraba Medical Centre – 8 Maude Street, Barraba NSW 2347	(02) 6782 1621
Nearest Hospital	Barraba District Hospital – Edward St, Barraba NSW 2347	000 / (02) 6782 2500
Poison - NSW Poisons Information Centre	212 Hawkesbury Road Westmead, NSW 2145	13 11 26
Relevant State Authority – WorkCover – Tamworth Office	126 Marius St, Tamworth	13 10 50
EPA – NSW Environment Protection Authority - Tamworth	85 Faulkner St, Armidale NSW 2350	(02) 6773 7000 24HR Hotline 131 555
Cultural/Heritage Discovery & Incidents - Department of Climate Change, Environment & Water	59 - 61 Goulburn Street, Haymarket NSW 2000	(02) 9995 5000

DELTA NUMBERS		
Title	Name	Phone Number
State General Manager	Jason Simcocks	0401 695 765
State QSE Manager	Yasser Haragli	0401 440 279
Operations Manager	Ben Shum	0423 796 946
Project Manager	Phil Dean	0413 602 608
Project Engineer	Kerry Huynh	0428 265 800
Demolition Foreman	Brian McPhee	0413 870 625
Asbestos Supervisor	Daniel Hona	0407 609 622
Site OH&S Representative	TBC	

14. ENVIRONMENTAL APPROVALS

The below table shows Environmental approvals required for the project:

Responsible	Approval licence permit	Verified by
NSW Trade Investment, Division of Resources Energy	Determination of the proposed activity under Part 5 of the EP&A Act	NSW Public Works
OEH	Concurrence in accordance with Section 1112C of the EP&A Act for a significant impact on a listed threatened species	NSW Public Works
Department of Environment	Approval for a Controlled Action in relation to a significant impact on a Matter of National Environmental Significance (threatened species listed under the EPBC Act)	NSW Public Works
Tamworth Regional Council	Validation report required to be issued to Council 60 days after the remediation of the UST is completed	NSW Public Works

The demolition works are to be conducted in accordance with all relevant state legislation including, but not limited to, legislation identified in the completed Impact and Risk Assessment and SWMS.

- National Strategy for Ecologically Sustainable Development 1992;
- National Strategy for the Conservation of Australia's Biological Diversity 1996;
- National Greenhouse Strategy 1998; and
- National Environmental Protection (Ambient Air Quality) Measure 1998
- Risk: AS 31000 Risk Management
- National Environmental Protection (Assessment of Site Contamination) Measure 1999
NEPC
- AS/NZS 4581 Management System Integration
- AS1216 Hazard Identification and Information Systems for Dangerous Goods
- AS1678 Emergency Procedures Guidelines Transport
- AS1940 Storage and Handling of Flammable and Combustible Liquids
- AS3580 Methods of Sampling and Analysis of Ambient Air
- AS2436: Guide to Noise Control of Construction, Maintenance and Demolition Sites
- AS2012.1-1990 Acoustics-Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors-Stationary.
- Stationary test condition. Part 1: Determination of compliance with limits for exterior noise
- AS/NZS 1596 – The storage and handling of LP Gas
- AS/NZS 3833 - The storage and handling of mixed classes of dangerous goods.
- AS 1940: The storage and handling of flammable and combustible liquids
- AS 3780: The storage and handling of corrosive substances
- AS 4326: The storage and handling of oxidising agents
- AS 4332: The storage and handling of gases in cylinders
- Heavy Vehicle National Law Regulations
- NHVR Code of Practice for the Approval of Heavy Vehicle Modifications
- Environmental Planning and Assessment Act 1979 (NSW)
- Protection of the Environment Operations Act 1997 (NSW)
- Work Health and Safety Act 2011 (NSW)
- Water Act 1912 (NSW)
- Threatened Species Conservation Act 1995 (NSW)
- Environment Protection and Biodiversity Conservation Act 1999 D(Commonwealth)
- NSW Work Health and Safety Regulation 2011
- Code of Practice for the Safe Removal of Asbestos 2 Edition [NOHSC:2002(2005)]
- Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018 (2005)]
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2 Edition [NOHSC:3003(2005)]
- Waste Avoidance and Resource Recovery Act 2001
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulations 2008

- Protection of the Environment Operations (Waste) Regulations 2005
- Waste Classification Guidelines – Part 1 Classifying Waste (DECCW,2009)

15. TRAINING AND COMPETENCY

All site personnel working on the site will be required to complete the following:

- Asbestos Awareness
- Site Specific Induction
- Management plan induction
- Induction into relevant SWEMS (Safe Work and Environmental Method Statement)
- Standard Operating Procedures (SOP's)

All site personnel working on the site will be required to provide evidence of all tickets/licences, verification of competency achieved. All records will be kept on site and in accordance to record management procedures.

Delta maintains for its employees an electronic data base for training and competency which is updated as training is completed. N:\Ticket Register\TICKET REGISTER\New ticket register.
Subcontractors will provide Delta with evidence of training and competency for their employees.

16. COMMUNICATION PLAN

TYPE	AUDIENCE	METHOD	FREQUENCY	SENDER
Contract, Variations & Claims	NSW Public Works Project Manager	Outlook	Monthly	Project Manager
Safety & QA Plans/ Documents/ Inspections	NSW Public Works Project Manager	Sent via Outlook	As developed & Approved	Project Manager
Community Consultation Meetings – Task Force Meeting	Task Force & Community	Meetings with minutes distributed	Monthly	PW
Drawing Distribution	Delta Site Foreman	Hand Delivered	As updated	Project Manager
Performance Reports	Delta Management	Outlook	Monthly	Project Manager
Resource Requirements	Delta Operation Manager	Outlook/ Phone	Weekly	Project Manager
Site Communications	Employees	Pre Starts	Daily	Foreman
	Employees	Toolbox	Weekly	Foreman
Subcontractor Management	Subcontractor	Outlook/Phone	As required	Project Manager/ Foreman
Air Monitoring/Weather Monitoring	Site Team	Noticeboard	Daily	Project Manager
Meeting Minutes/ Alerts	Site Team	Noticeboard	Weekly	Project Manager
Notification of Rehabilitation works	Closest Landholders	Letter	28 days prior to works	Delta Project Manager (Australia Post)

17. COMPLAINTS HANDLING

Delta will implement the following complaints handling process on each occurrence of a complaint

1. All complaints received to be acknowledged and recorded in **Issue Management Register SEF 032**.
2. NSW Public Works to be notified of complaint and have access to register.
3. All complaints to be investigated by Project Manager and findings reported to Delta General Manager and NSW Public Works.
4. Following investigation any identified appropriate corrective/ preventative action recommended to be sent to Delta General Manager and NSW Public Works.
5. Following Delta General Manager and NSW Public Works approval – Complainant to be informed in writing of findings and proposed action.
6. If complainant satisfied with response – complaint closed and register updated, if not satisfied repeat complaints handling procedure.

18. PLANNING

Delta will carry out a qualitative risk assessment to identify environmental risks associated with each of the project activities. Appropriate control measures will be developed based on the level of risk. The outcome of the risk assessment is to be used to develop suitable environmental safeguards and placed in the CEMP.

Delta will assess any new or previously unidentified environmental risk resulting from the construction activities and whether the mitigation measures developed are still appropriate to achieve the desired environmental outcomes. Mitigation measures will be modified, deleted or added so that specific environmental outcomes are achieved in a more efficient or practicable manner.

a. ENVIRONMENTAL SAFE GUARDS

Delta will detail potential environmental impacts and the environmental management control measures that will be implemented to prevent or minimise adverse impacts on the environment. Environmental safe guards are based on the Review of Environmental Factors and SIS (Species Impact Statement) for the rehabilitation works, Conditions of Approval (including those issued by the Department of Environmental and OEH in relation to threatened species) and any measures arising from Delta's Impact and Risk Assessment

Environmental safe guards are listed in Delta's Risk and Impact Assessment. (Refer to section 47 – Risk and Impact Assessment).

19. TRAFFIC MANAGMENT

Delta have prepared a Traffic Management Plan (TMP) that has been sent to Tamworth Regional Council for review. The TMP has been developed in accordance to:

- RTA's Traffic Control at Work Sites Manual, Issued December 1998
- Australia Standard 1742.3 to 2002 Traffic Control Devices for Works on Roads

20. Soil and Water Management Plan



SOIL AND WATER MANAGEMENT PLAN



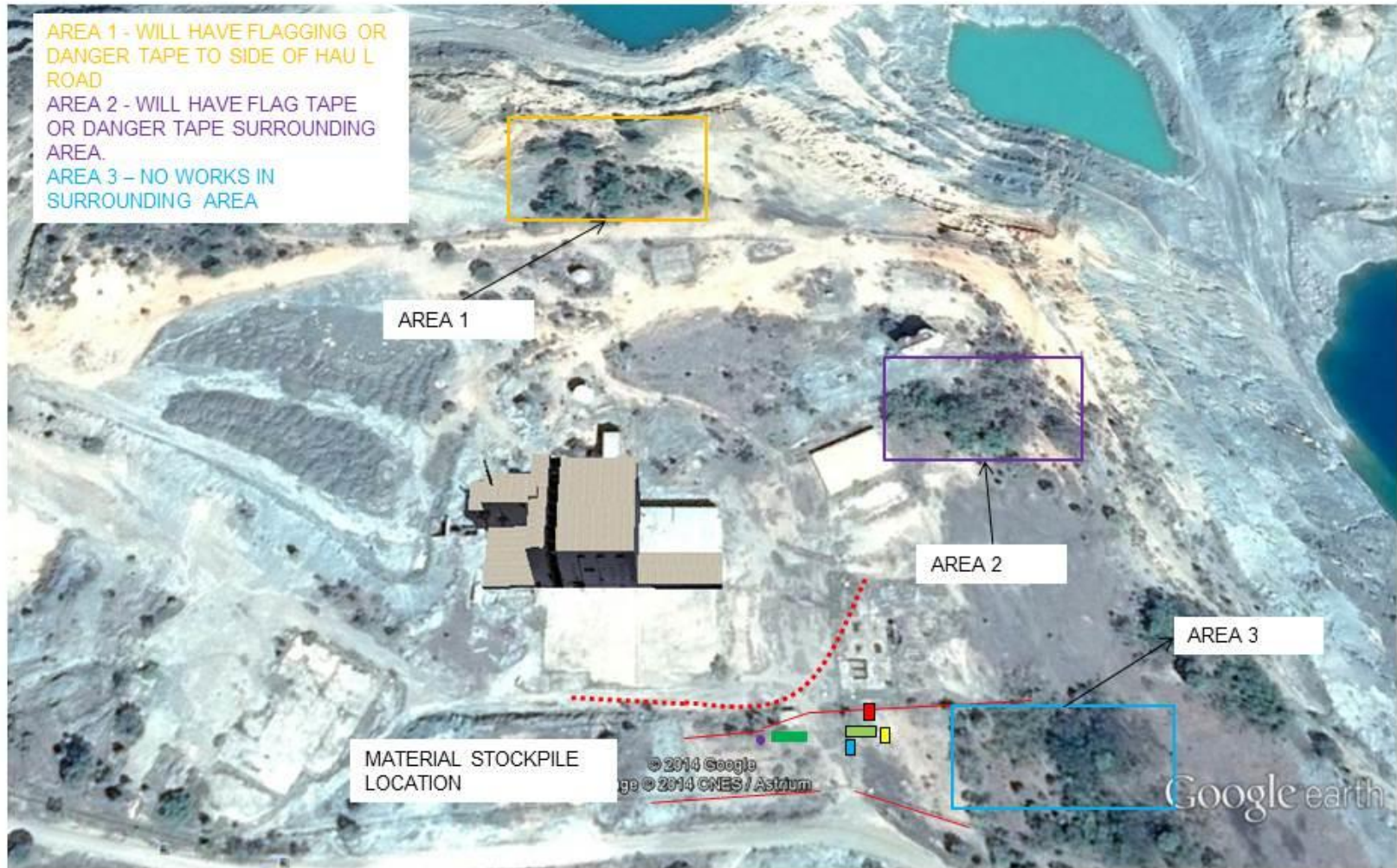
Figure 2 – Soil and Water Management Plan 1



SOIL AND WATER MANAGEMENT PLAN



Figure 3 – Soil Water Management Plan 2.



SENSITIVE FLORA ZONES PLAN



Figure 4 – Nominated Sensitive Area's

21. .GEOLOGY, SOILS, TOPOGRAPHY AND WATER QUALITY

A detailed soil and water management plan has been developed and will be implemented. Erosion and sediment will be managed in accordance with sound environmental practices to prevent sediment laden water from entering any drainage or natural waterway

a. PLACEMENT AND MANAGEMENT OF STOCKPILES

All on-site/imported material that is required to be stockpiled will be placed in areas which will minimise erosion, such as placing stockpiles on the existing concrete hard stand.

During movement of stockpiled material, dust suppression methods will be employed i.e. use of DSU (dust suppression units) and water carts.

Movement of stockpiles will be kept to a minimum to minimise handling time of material by placing material next to the work zones.

Stockpiles that will be left on site for long periods of time will be sprayed with PVA mist and covered with geofabric material and danger tape installed.

Any excess material that is not used in the containment cell will remain on site and re-worked around site in such a manner to avoid creating an erosion hazard.

b. SPOIL MANAGEMENT

Delta will aim to reuse all excavated material/fill onsite as part of rehabilitation works. Any surplus spoil will be seeded to minimise the likelihood of it being transported offsite through wind or water action.

Delta will use hydromulch product equivalent to spray grass and will apply as per manufacturer's specifications on excess spoil stockpiles and the containment cell.

In the event that the cover doesn't establish as per manufacturer's specification, Delta will reapply spray grass.

In the event that this is unsuccessful Delta will investigate alternative solutions.

c. MANAGEMENT OF BATTERS

Any batters which are created will be cut to a slope of 1.5/1 (rise/run) as to reduce the risk of slope failure and erosion. Where necessary, control devices will be used to stabilise and control any erosion or sediment created from the construction of batters.

d. WATER QUALITY

Prior to use, water from the pit will be tested by a third party environmental consultant. In the absence of a guideline for dust suppression water, samples will be compared to the following:

- National Environmental Protection Council (NEPC), 1999, National Environmental Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B1 and B2
- NHMRC/NMMRC (2011) Australian Drinking Water Guidelines, human health and aesthetics criteria.

The relevant criteria can be seen in Appendix A as referenced above. Water has been tested and has been deemed suitable for dust suppression purposes.

Upon receiving results from the samples collected, Delta to take necessary actions in accordance to the environmental consultant's recommendations. As a minimum requirement, testing of pit water will be conducted monthly and Delta will provide quantities of water usage to hygienist who will determine if more frequent testing is required.

e. DUST CONTROL ON HAUL ROADS (WITHIN DIRTY WORKS ZONE)

Delta will:

- Identify and mark up haul roads and communicated at site inductions and wall notices.
- All vehicles inside work area are to only use haul roads for access to structures
- Water Truck will spray haul roads on an on-going basis throughout the day.
- On-site vehicles will be limited to 3 excavators, 2 skid steer, 1 utility and 1 water truck
- Monitor through site inspections.



Figure 5 – Clean & Dirty Zones

f. DUST CONTROL ON MINE ROAD

Vehicle movement will be limited to:

- 2 x Personnel mover for site operatives (troop carrier or similar)
- 1 vehicle for Delta site team
- 1 vehicle for PB (Parson Brinkerhoff) site team
- Truck deliveries as required.

Front gate will be locked at all times with access limited to key personnel. All visitors and deliveries must contact Delta site team for access. All vehicles entering site must follow site rules with regards to speed limit and keeping windows up at all times.

g. DUST MANAGEMENT

Delta have developed a detail dust management strategy which forms part of the Asbestos Management Plan. This includes:

- PVA sealant will be diluted to ratio 5:1 with water and sprayed to external surfaces of structures. Solution will be sprayed using PVA machine and boom lift for access.
- Before structural demolition, in-situ ACM sheets will be removed mechanically and stockpiled in containment cell.
- Sprinkler systems will be installed to wash down residual dust throughout the Mill Building.
- Water Cart, Dust suppression units and sprinkler systems will saturate levels G, 2 & 4 where dust is expected to be generated prior to the detonation of charges to the Mill Building.
- Dust suppression units (DSU's) will be installed in safe locations around the structure to form a water curtain during detonation of charges to the Mill Building.
- Water Cart, Dust suppression units will be used to suppress during demolition to surrounding structures and contaminated areas.
- Water Truck will spray haul roads on an on-going basis throughout the day.
- Demolition works that will produce dust will not commence unless planned dust suppression method is in place and operational. Verified in pre-start inspection.



Figure 6 – Dust Suppression Water System.

h. SILT SOCKS/FENCES

Silt sock or silt fences will be utilised to prevent sediment laden water leaving site from dust suppression activities or weather conditions. This will also allow the redirection of the flow of water from leaving site as proposed in *Figure 2 – Sediment and Water Management Plan*

Run off will be captured in the sediment pond created as per *Figure 2 – Sediment and Water Management Plan*

Silt socks will be placed in the secondary containment cell or disposed to a licensed disposal facility when no longer required. Refer to section 33 for detail of demobilisation stages.

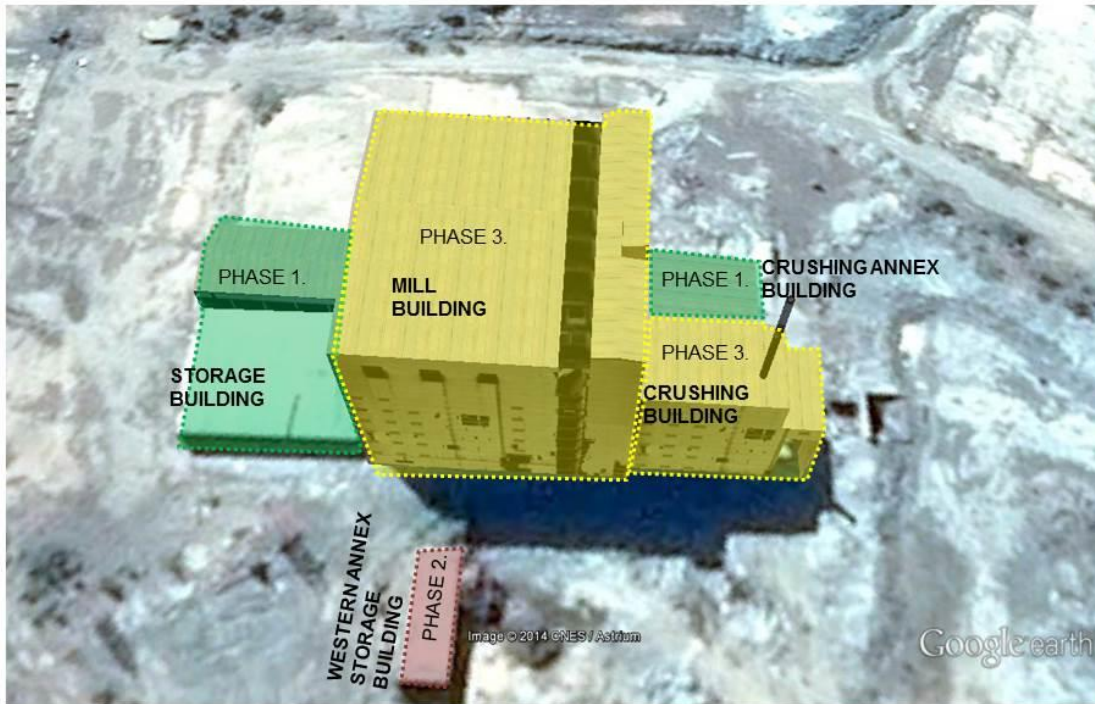
i. STAGING OF WORKS

Works on-site will be completed at set locations as to ensure that sufficient dust controls are prepared prior to demolition works commencing. By adopting a set sequence of works and clear methodologies, less time will be spent on site therefore minimising the potential to disturb sensitive area.

Demolition works have been sequenced as follows:

1. Demolish Storage Building and Crushing Annex Building.
2. Demolish Western Annex Building
3. Demolish Main Mill Building and Crushing Building
4. Demolish Administration Building
5. Demolish Twin Storage silos
6. Demolition of Western Silos
7. Demobilisation and Decommissioning.

Figure 7 shows demolition phases of the Mill Building, while *Figure 8* shows surrounding structures locations to the Mill Building referred to in the above sequence.



BUILDING DEMOLITION
PHASE



Figure 7 – Mill Building



Figure 8 – Structure Locations

j. **VEHICLE NO-GO AREAS**

Refer to clean and dirty areas and procedure in *Delta Asbestos Management Plan*.

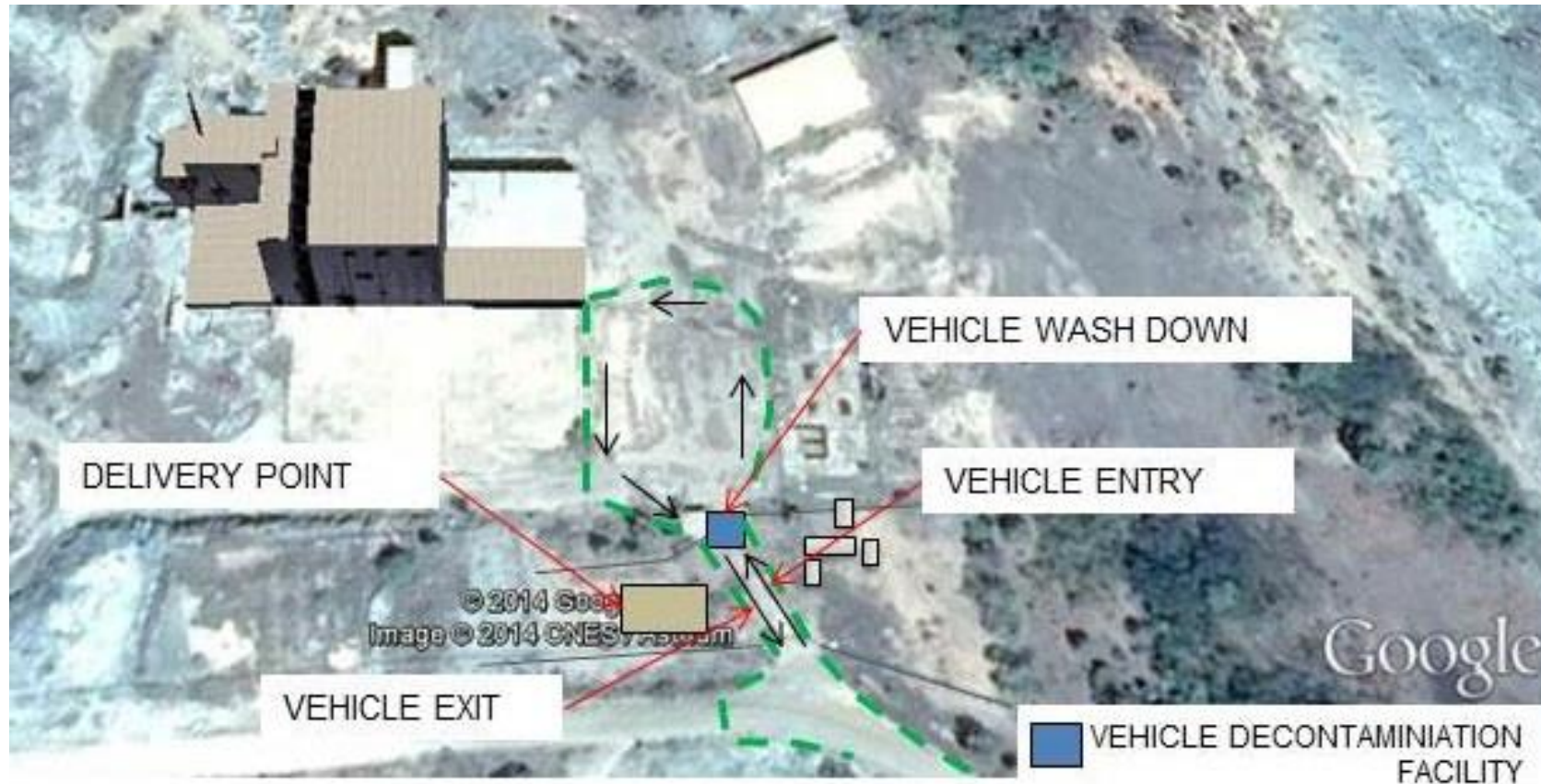


Figure 8 – Truck ingress/egress

22. WATER MANAGEMENT

The runoff and disposal of site water will be managed in accordance with sound environmental practices to prevent sediment laden or any contaminated water from entering any drainage or natural waterway.

a. STORM WATER MANAGEMENT

The protection of newly constructed or existing storm water systems will have sediment controls implemented to ensure the systems are maintained and kept unblocked during the course of the project. No materials or machinery will be stored in a drainage lines.

Storm water controls will consist of the following:

- Geo-fabric covering grated pit inlets
- Silt socks covering side entry pits
- Hay bales in open cut drains
- Sediment pond
- Diversion drains
- Stored water in sediment pond will be discharged to nearest pit via water cart
- Prior to being discharged water will be tested and records kept

Refer to *Figure 3 – Soil and Water Management Plan 2* for identified location of storm water drain that will require protection.

b. DE-WATERING SITES

If the site requires dewatering following wet weather, Delta will use the following management strategies:

- Hay bales in open cut drains
- Settlement pond
- Diversion drains
- Stored water in sediment pond will be discharged to nearest pit via water cart
- Prior to being discharged water from the sediment pond will be tested and records kept

Refer to *Figure 9 – Water Collection* for nominated mine pits for discharge and section 22.d for water collection and discharge

c. WASH DOWN AREAS

Any plant/tools and vehicles leaving the 'dirty' area will be required to go through decontamination process as per *Section 9.2.14 - Asbestos Management Plan* and must have clearance certificate by an independent licenced asbestos assessor.

Truck wash down area will be within site boundary as indicated by *Figure 8 – Truck ingress/egress*

d. WATER COLLECTION

Water will be collected and discharged in the following manner:

1. Water Pumped from Open cut pit into water cart
2. Water Cart to pump water into storage tank
3. Storage Tank to pump water into dust fans for dust suppression with use of water cart
4. Water run-off collected and stored in sediment pond
5. Water from sediment pond transported to closest pit once full via water truck.

Note: Water will be tested prior to discharge into the mine pit.

Please refer to *Figure 9 – Water Collection* for nominated open cut pit used for water collection and discharge and *Figure 6 – Dust Suppression Water System*.



Figure 9 - Water collection

e. WATER RUN OFF

It has been determined from previous surveys that the mill building is placed at known low point with noticeable high points surrounding the demolition site. Water runoff will flow towards the eastern side of the demolition works area therefore sediment controls will be put in place on the eastern side of the site (*Refer to Figure 2 Soil and Water Management Plan 1*). Silt fences have been considered but due to the concrete hardstand on the eastern side of the demolition site this will not be possible to install. It is anticipated that water will naturally evaporate due to climate condition when demolition works commence. If water does not

evaporate, water will flow towards the northern side into a sediment pond as shown in Figure 2 – Soil and Water Management Plan 1. Once sediment pond is full, water will be transported to the closest pit via the water truck. Prior to discharge water will need to be tested and records kept.

f. WASTE WATER

Waste water created from toilets will be directed to a waste holding tank underneath toilet amenities. Waste will be collected once holding tank is full, and disposed accordingly. A bi-weekly check on holding tank will be conducted and recorded in cleaning register as a check item.

g. WATER SPRAYING

Water spraying will be conducted throughout the duration of the demolition works. Water truck will spray buildings with hose mist devices fitted to the vehicle. Water spraying will also be supplied when high volumes of Delta traffic are present on nominated hauls roads within the work zones. Dust suppression units will be set up as per *Figure 6 – Dust Suppression System* to spray building prior to demolition work commencing.

23. PROTECTION OF EXISTING FLORA AND FAUNA

All significant flora and fauna on site must be protected as highlighted in *Figure 4 – Location of Sensitive Areas*. The fauna in question is the Large Eared Pied Bat (LEPB) located in the Mill Building, where they will be relocated by a qualified ecologist to tunnels 1 & 2.

Prior to commencing demolition works to the Mill Building and adjacent structures, an ecologist clearance will be provided stating that the Large Eared Pied Bats have been evicted from the premises and are not within the exclusion area. Delta will ensure appropriate controls and measures are implemented around the demolition site to prevent bats from further entering the main mill building.

No flora is to be removed on site, and will be protected in the form of establishing exclusion zones to Area's 1 & 2. Area 3 is not within any demolition work zones and therefore is not at risk of potential damage from works. Area 3 will be highlighted in Delta site induction to notify personnel the importance of area. A fence has been established to delineate area from site compound as per *Figure 1 – Site Plan*.



Figure 10 – Tunnel Locations for tunnels

a. LARGE EARED PIED BATS (LEPB)

Since bats will be hibernating during colder months, eviction and demolition works are to be under taken after April, or during late August, September, and early October to ensure that full eviction of LEPB is conclusive. Protection to tunnel 1 will be erected to ensure that LEPB do not roost in areas.

Prior to starting demolition, a qualified ecologist is to conduct an investigation of the Mill Building and provide clearance that LEPB have been evicted from the Mill Building. Once clearance is received, demolition of the Mill Building can commence.

If LEPB are still present within the Mill Building the following procedure is to be followed as per the Public Environment Report:

1. Use of floodlights at 13 strategic locations for three nights throughout the building determined by the ecologist
2. If not successful, block minor entry/exit points and erect one-way plastic flaps to major entry/exit that will allow LEPB to leave roosting location but deny re-entry.
3. If not successful, sound broadcasting at five strategic locations using high and low frequency sounds and recorded calls from LEPB when handled.
4. If not successful, trial the use of artificial predators such as owls, hawks and pythons placed around the building in strategic locations determined by the ecologist.
5. If not successful, trap and remove bats to release at King Solomon Mine.

The above procedures will be trailed for three days, including monitoring the effectiveness of each method used. During these processes, demolition of the surrounding structures to the

Mill Building (Administration Building, Western Annex Building and Twin Silos) will commence if the ecologist is satisfied for Delta to do so.

b. NOXIOUS FLORA (WEEDS)

In order to eliminate the generation of new noxious flora during demolition works, Delta will minimise earth moving until excavation works is to be conducted for capping layer. Delta will avoid using weed infected topsoil during capping phase of the project to limit spread. Machinery will be washed down to remove weed propagules prior to site entry at the wash down area shown in *Figure 8 – Truck ingress/egress*

c. EXCLUSION ZONE

In accordance to the project REF, it has been identified that Area 2 is within close proximity of the two structures that are to be demolished and will require delineation. Prior to works, exclusion zones will be established to prevent machinery and personal entering area. Personnel will be informed during Deltas Site Induction of locations of exclusion zones.

Exclusions zone can be identified on-site by physical barriers (barrier tape and flagging) around the locations shown in *Figure 4 – Nominated Sensitive area's* while *Figure 10 – Woodsreef Important Flora Locations* details overall locations of important flora areas.



Figure 11: Woodsreef Important Flora Locations.

d. RE-VEGETATION

Clearing of vegetation will be kept to a minimum. It is anticipated areas that will require minor clearing are:

- Site Compound
- Excavated area of capping material
- Location of encapsulation.

Delta will use hydromulch product equivalent to spray grass and will apply as per manufacturer's specifications on areas that have been cleared.

In the event that the cover doesn't establish as per manufacturer's specification, Delta will reapply spray grass.

In the event that this is unsuccessful Delta will investigate alternative solutions.

e. BUSH FIRES

Please refer to emergency response plan section 8.2 for procedures to follow and necessary precautions in placed for prevention

24. HISTORIC HERITAGE

Delta will:

- Provide photographic record of the building which will be achieved using digital images
- Salvage items of interest
- Take progressive photos of stages of demolition to various buildings
- Take all care to preserve concrete building slabs

25. ABORIGINAL HERITAGE

Delta will:

- Through site inductions, all site personnel will be informed of their obligation that under National Wildlife Act 1974 it is illegal to harm a relic, without approval from Office of Environment and Heritage. This includes damaging, moving, and/or destroying the relic.
- Works will cease immediately within the vicinity of Aboriginal objects that have been identified within works area, and the Office of Environment and Heritage consulted on the appropriate course of action.

Heritage and/or Cultural Item/Site

1. Alert personnel in the immediate area.
2. Notify Foreman and Project Engineer of discovery
3. Project Engineer to notify the appropriate authorities (OEH)
4. Appropriate course of action will be determined by OEH and actioned on site
5. Prior to recommencing works any permits/approvals will need to be obtained.

26. AIR QUALITY

a. AIR MONITORING

Air Monitoring to be undertaken at all stages of the project with background monitoring completed prior demolition works. Air monitoring and analysis to be carried out by an independent licensed asbestos assessor in line with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOOHSC: 3003(2005)]*. The below concentration of asbestos fibres shall be dealt with as follows:

Concentration	Action
<0.01fibres/mL	Continue with control measures;
Between 0.01fibres/mL and 0.02fibres/mL	Review control measures, investigate the cause and implement additional controls to prevent further release
Greater than 0.02 fibres/mL	Stop work immediately.

During demolition works air monitors will be placed as per Air Monitoring Plan.

A copy of Air Monitoring results will be provided on a daily basis to key stake holders.

b. WEATHER MONITORING

A meteorological weather station will be established at the site to monitor environmental conditions. Data obtained from the weather station would be used to correlate the weather condition with the data obtained from the Asbestos Monitoring Program and for the purpose of comparing results. The following parameters would be measured:

- Wind speed
- Wind direction
- Rainfall
- Temperature
- Humidity

Data obtained will also allow the on-site independent asbestos assessor to determine air monitoring locations.

c. RESTRICTIONS ON HIGH WIND DAYS

In order to reduce dust creation, little to no loose materials will be shifted during days of high winds (25km/hr). Weather monitoring will be conducted during activities which require disturbance of loose materials and the appropriate dust controls will be in place. The metrological weather station will monitor the wind speed and wind direction and provide this information on an hourly basis to the site supervisor and the licensed asbestos assessor

Furthermore, real time dust monitors will be installed to nominated locations as per *Figure 5: Location of Dust Deposition Gauges (DDG) and Real Time Dust Monitors (RTDM) of the Air Monitoring Plan* where information will be reported to the central computer located on-site. Dust monitors will monitor concentrations of dust and information can be access by the assessor.

The site supervisor and the assessor will use this information to devise and implement effective dust control measures to work zones to ensure air quality concentration do not exceed limits. Works will cease if an assessment is made that the current dust suppression/control measures are insufficient and unsatisfactory and that the air quality concentration will likely be exceeded.

Using the monthly data collected, the wind speed and direction will be accurately forecasted prior to the felling of the Mill Building. An assessment will then be made to ensure that the dust control measures are effective, sufficient and complies with the code for this activity. Ideally, no wind is preferred for the duration of this activity however, light westerly and southerly winds are considered acceptable. Once the wind speed exceeds 15km/hr, a reassessment of the blast day will be undertaken by the site supervisor and licensed asbestos assessor. Wind speed and direction will be recorded in the Blast Day Checklist.

d. AIR POLLUTION

In order to minimise and limit combustion emissions the following practices will be implemented –

- All machinery to be turned off when not in use
- Implement site speed limits (trucks and water cart)
- Combustible waste shall not be burnt on site

On-site monitoring and inspection by the site foreman will be conducted to ensure that the above controls are being conducted. The above rules will also be presented in the site induction prior to starting works for all workers working on site.

27. SOLID WASTE MANAGEMENT

Litter and Waste must be contained on site, before disposal in a responsible manner

a. WASTE MANAGEMENT

Delta will:

- Encapsulate material within designated 'dirty' work zone that cannot be decontaminated. (Refer to *Figure 5 – Clean & Dirty Zones*)
- Any extensive areas of good quality fill found will be reused onsite as backfill. Surplus spoil will be seeded, pending recommendations from relevant consultants.
- Any material removed from site will be classified and disposed of appropriately.
- Non-recyclable waste (within the 'clean zone' e.g. general rubbish from site compound) will be disposed of at an appropriate waste disposal licensed facility.

b. LITTER COLLECTION STORAGE AND REMOVAL

All general rubbish generated from site amenities excluding water waste is to be disposed of at the local waste facility Barraba Land Fill located in Barraba weekly.

28. HAZARDOUS MATERIALS DISPOSAL

a. ASBESTOS

Delta will dispose of identified hazardous materials as per Asbestos Management Plan. This includes use of primary and secondary containment cell and off-site disposal to licensed facility.

b. PCB MANAGEMENT

Prior to demolition works Delta will:

- Review HAZMAT survey and verify locations and quantities
- Conduct independent testing on HAZMAT to verify if contaminants are present.
- Remove all identified PCB's and transformers as per Asbestos Management Plan methodology. Refer to *Section 4 of the Asbestos Management Plan*.
- Obtain clearance certificate
- Handled and disposed PCB's in accordance with PCB Chemical Control Order in Relation to Material and Wastes Containing Polychlorinated Biphenyl, 1997 and PCB Management Plan.

Delta will ensure:

- All PCB capacitors and transformers are to be identified, removed, and placed and goose neck tied in 200um plastic bags, or otherwise wrapped;
- All waste and consumables used during the works are to be double wrapped or double bagged and disposed as contaminated waste;
- All bagged PCB waste will be placed into metal drums, which are stored on 2 layers of 200um plastic in the HAZMAT bund located south east of the Mill Building.
- Drums are to be sealed for transportation. Waste is to be transported by a company licensed by the EPA who is to ensure a receipt for all waste removed from site.

c. UNDERGROUND PETROLEUM STORAGE SYSTEMS

Delta will develop a work method for the purging and filling of the UPSS in accordance to the appropriate regulations and guidelines. Below figures (*Figure 9 &10*) show method for the filling of the UPSS while a full detail methodology will be developing within the SWMS.

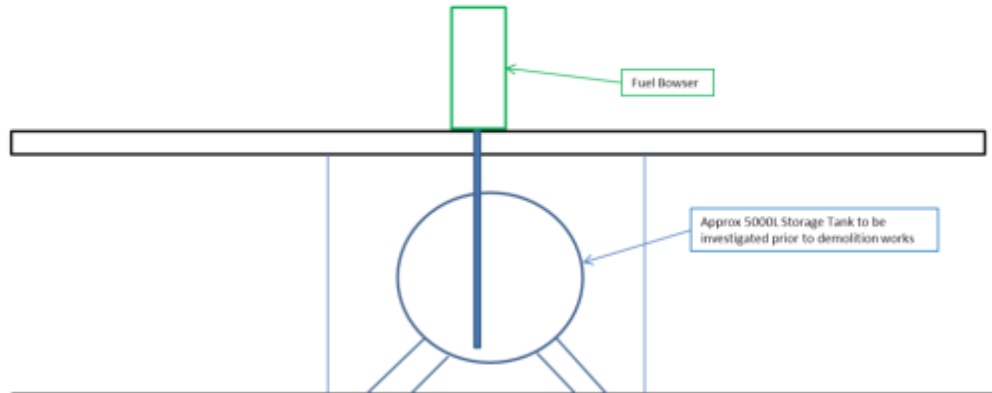
The work methodology will be in accordance to following guidelines:

- Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (DECW,2009)
- Code of Practice: Storage and Handling of Dangerous Goods (NSW Work Cover Authority 2005)
- UPSS Technical Note: Site Validation Reporting (DECCW,2010)
- UPSS Technical Note: Decommissioning, Abandonment and Removal of UPPS (DECCW, 2010)
- AS 1940-2004 : Storage and handling of flammable and combustible liquids

Fig 1

Steps

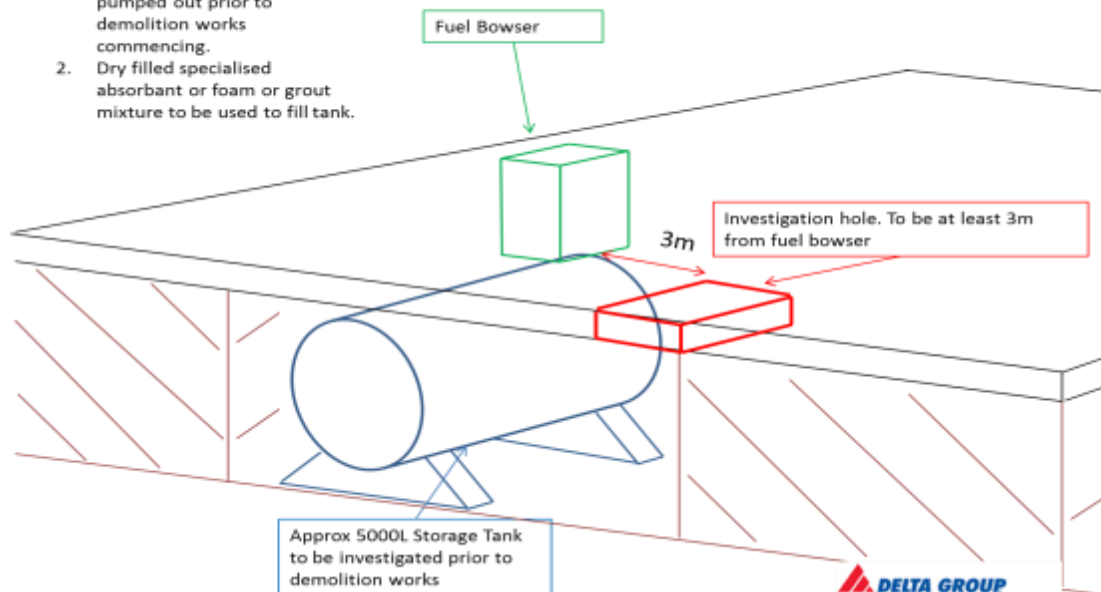
1. Liquid within tank to be pumped out prior to demolition works commencing.
2. Dry filled specialised absorbant or foam or grout mixture to be used to fill tank.



- Figure 12 – Underground Petroleum Storage System diagram 1

Steps

1. Liquid within tank to be pumped out prior to demolition works commencing.
2. Dry filled specialised absorbant or foam or grout mixture to be used to fill tank.



- Figure 13 – Underground Petroleum Storage System diagram 2

d. SEWERAGE

Delta will engage a sub-contractor to remove any sewerage, resulting from the use of portable/temporary amenities. Sewerage levels will be checked on a weekly basis, and sub-contractor contacted to remove sewerage when necessary.

e. GENERAL SOLID WASTE

Delta will ensure that all general rubbish, or solid waste, generated from site amenities within the 'Clean Zone' (excluding water waste), is to be disposed of at the local waste facility, Barraba Land Fill, weekly.

f. RECYCLABLE MATERIALS

Delta will ensure that all recyclable material encountered within site, will be decontaminated as required, and then processed at Barraba Land Fill. Material that will be recycled will be recorded in the WRAPP report.

29. AMENITIES

Delta will:

- Assess area and establish compound where there is minimal clearing of vegetation required
- Encapsulate compound to ensure a safe and 'clean' area.
- Adequately seal amenities from the external environment
- Operate A/C units to recycle internal air.
- Ensure smoke testing of the site compound will be carried out weekly by a Licensed Asbestos Assessor to check integrity of seals
- Position site amenities upwind of prevailing winds to minimise potential contamination
- Keep site amenities free of visible dust to site amenities by HEPA vacuuming and wet wiping regularly (daily)
- Should significant dust be accumulated within facilities, settled dust testing will be undertaken.

a. VEHICLE PARKING

Please refer to Figure 1 – Site Plan which illustrates the allocated parking area for vehicles on site.

30. ASBESTOS CONTAINING MATERIAL

Delta will:

- Develop and implement an Asbestos Management Plan.
- Develop Safe Work procedures in relation to management of hazardous and contamination material and decontamination of people, plant and vehicles.
- Ensure that access is strictly controlled to prevent unauthorised access.
- Any access to the site will be in accordance with Delta 'Site Entry Requirements'.

a. CAPPING OF CONTAMINATED MATERIAL

Stockpiles of Asbestos Ore and nominated tailings will be transported to the containment cell location. Onsite excavated material will be used as backfilling layers to cap contaminated material and compact to required specifications. The containment cell will be constructed within the existing Mill Building Perimeter.

Once the processing of the demolition has been completed a 'correction layer' (minimum thickness 300mm) will be formed to ensure an even working surface is available for compaction equipment to work safely. A separation geo-fabric will be placed on top of the 'correction layer' to prevent the wash out of fines from the 'capping layer'.

Once the separation geo-fabric is placed, the 'capping layer' can be installed. The 'capping layer' will need to be installed in loose layers not greater than 300mm while achieving the following:

- 98% compaction
- Minimum thickness of 1m.
- Minimum fall of 1% across the 'capping layers' surface area.
- If slope length is greater than 30m contour banks to be installed on batters.

Toe drains are to be installed at low points of the containment cell that comprise of crush concrete (free of fine material) encapsulated by a filament nonwoven needle punched polyester geo-textile.

Once the capping layer is installed an 'erosion layer' will be placed to keep the 'capping layer' intact and prevent erosion. This layer will include 100mm of top soil and a hydromulch product equivalent to spray grass and will be applied as per manufactures specifications.

A final survey will be conducted of the 'capping layer' to ensure that fall specifications are met.

Refer to *Figure 14 – Containment Cell Section* of cross section of the containment cell.

CAPPING OF CONTAINMENT CELL OVERVIEW

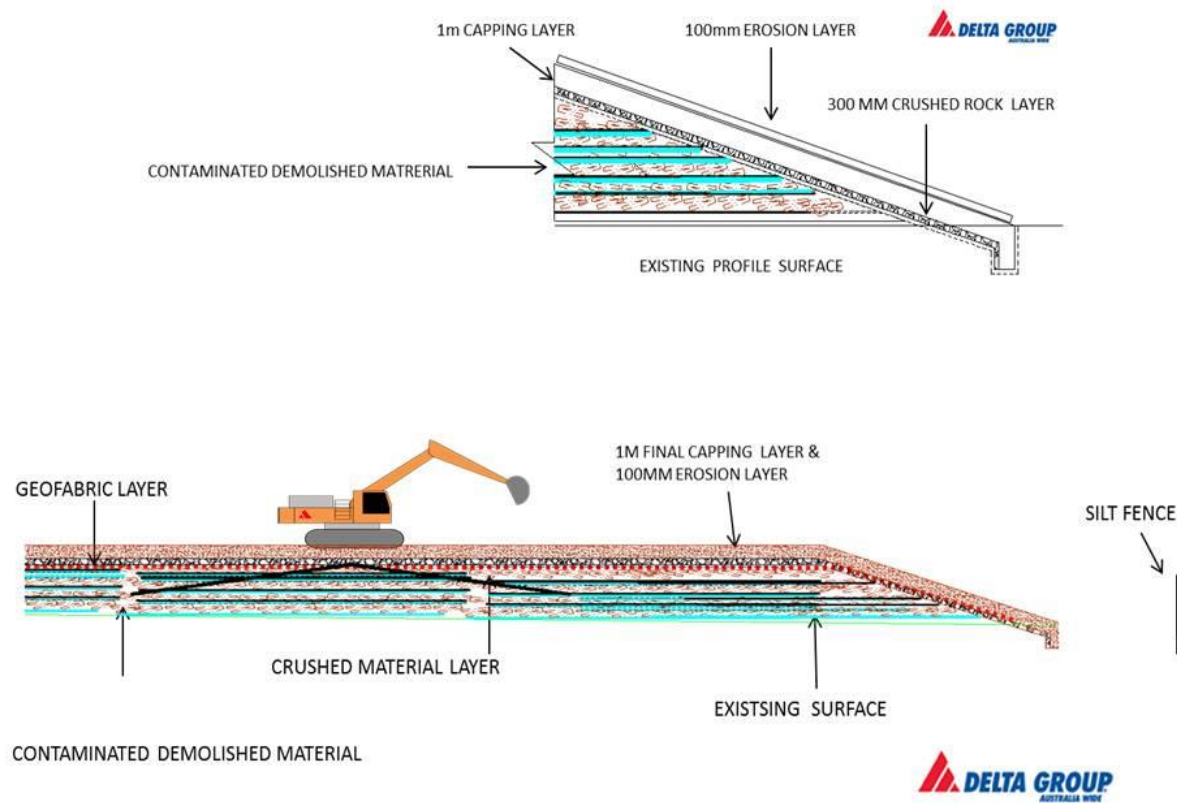


Figure 14 – Containment Cell Section

31. NOISE AND VIBRATION

Noise and Vibration will be kept to a minimum to ensure that neighbouring parties to the site are not disturbed unreasonably. Non percussive techniques will be employed in demolition methodologies with excavators to reduce noise emissions throughout the project.

Control measures will consist of the following:

a. RESTRICTION OF HOURS OF OPERATIONS

Delta will work as per DECC Interim Construction Noise Guideline and per the Project Review of Environmental Factors (REF) Prepared by NSW Public Works. Furthermore the following conditions apply:

- That noise and vibration from the use of any plant equipment and/or building services associated with the premises shall not give rise to an offensive noise as defined under the provisions of the Noise Control Act 1975.
- As part of the noise mitigation treatment for the project, all trucks and machinery will be checked for defective exhaust systems and general servicing.

PROJECT NORMAL CONSTRUCTION WORKING HOURS		
DAYS	NORMAL CONSTRUCTION	BLASTING
Monday	7am – 6pm	9am – 5pm
Tuesday	7am – 6pm	9am – 5pm
Wednesday	7am – 6pm	9am – 5pm
Thursday	7am – 6pm	9am – 5pm
Friday	7am – 6pm	9am – 5pm
Saturday	8am – 1pm	9am – 1pm
Sunday	N/A	N/A
Public Holidays	N/A	N/A

b. SELECTION OF MACHINERY

Only machinery appropriate for works being undertaken will be used throughout the duration of the project. Any other machinery which could be deemed noisy will be used to a minimum and at designated times during the day.

c. PLACEMENT OF MACHINERY

Machinery will only be working inside the perimeters of the job site unless all relevant applications and permits have been obtained for outside works. It is not anticipated that outside work will be required.

32. PLACEMENT OF TEMPORARY INFRASTRUCTURE

a. MINIMISATION OF AREA DISTURBED

Delta will establish a site compound for site amenities. The size of the compound will be as required based on anticipated personnel.

b. STORAGE OF MATERIALS & EQUIPMENT

Delta will:

- Designate location and bunding for Hazardous Waste
- Designate location and storage for chemicals and fuels
- Designate location of tool containers.
- Store Hazardous/Dangerous goods in quantities that will be consumed over a short period as far as reasonably practical.

All chemicals used on site must have the relevant Material Safety Data Sheets (MSDS) available where the chemical will be stored and/or handled.

Refer to Site Lay Out for locations of bunded and storage areas. Quantities of materials will be placed in the hazardous and dangerous goods register **SEQ 33 Register – MSDS – Dangerous Goods and Hazardous Substance Register**



STORAGE AREA



Figure 15 – Storage Area's

Any materials which will be used in the construction process will be placed at a safe working distance from where they are needed or alternatively directly into location where required. All materials will be stored out of the main water flow areas on high ground in case of heavy rain.

c. CLEAN-UP EQUIPMENT (SPILL KITS)

As per *Figure 2 – Sediment and Water Management Plan* three 250L General purpose spill kits will be placed across site. Map will be posted of locations to allow easy access for all personnel on site.

All personnel are to be aware of and be able to access the chemical spill management and chemical spill guidelines and know how to use the spill kit in case of an emergency

Spill kits will be restocked following use and the contents will be checked on a monthly basis.

33. DEMOBILISATION

Delta will demoblise in the following stages:

Stage	Items	Process	Documentation Required	Responsible
1	All generated demolished material from structures and site clean up. Note: Will include 4/5 DSU hose and pipes. All PPE used throughout demolition works. Consumable Items including: Bunting, silt socks, shade cloth, hay bales, geo-fabrics	Place in containment cell	Completed ITP	Delta
2	Consumable Items including: Bunting, silt socks, shade cloth, hay bales, geo-fabrics	Using sediment pond as secondary containment cell	Completed ITP	Delta
3	Non-consumable items including plant, tools and equipment and site compound	Establish cleaning bay and wash down area. Use of water cart, dust suppression unit, water gurney and iso wipes to clean and decontaminate non-consumable items.	Itemised Clearance Certificate	Delta & Parson Brinkerhoff.
4	Consumable Items left over from stage 3 including: Bunting, silt socks, shade cloth, hay bales, geo-fabrics, PPE, hoses and pipes	Bagged and wrap in 200 micron plastic. Transported to licensed disposal facility.	Tipping Dockets	Delta
5	All items from stage 3 and 4	Transport off site	Stock take all plant and equipment	Delta
6	Dilapidation report	Use dilapidation report and update.	Post Works Dilapidation Report	Delta

34. THIRD PARTY CERTIFICATION

The international standard for environmental management is the ISO 14000 series.

Delta will maintain certification throughout the contract and have management plans reviewed with ongoing site audits/ inspections

35. Monitoring & Review

Delta will monitor the following:

TYPE	CONDUCTED BY	FREQUENCY	RESULTS CC'D TO
Air Monitoring	Delta / Parsons Brinkerhoff	Daily	NSW PW
Weather Monitoring	Delta / Parsons Brinkerhoff	Daily	NSW PW
Dust Monitoring	Delta/ Parsons Brinkerhoff	Daily	NSW PW
DDG(Dust Deposit Gauges) Monitoring	Delta/ Parsons Brinkerhoff	Monthly	NSW PW
Decontamination Unit	Delta	Daily	Delta
Safety/Environmental Controls	Delta	Daily	Delta
LEPB Monitoring	Delta	Daily	NSW PW
Water Quality	Delta	Monthly	NSW PW

36. AUDIT PROGRAM FOR PROJECT

Delta audits its QSE procedures on a monthly basis as per its Integrated Management System Audit Schedule to ensure effective implementation and identify areas of improvement.

At a project level, Delta undertakes complete Project Audits to ensure implementation of Project specific management plans and procedures.

As part of Delta and Contract Conditions the following audit schedule will be met until practical completion.

AUDIT TYPE	CONDUCTED BY	WHEN
Site Inspection	Kerry Huynh	Weekly
1st Delta Project Inspection	Internal Auditor	Week Between 22-25/10/14
1st Monthly Site Inspection	3rd Party Auditor	Week Between 27-29/10/14
2nd Delta Project Inspection	Internal Auditor	Week Between 10-14/11/14
2nd Monthly Site Inspection	3rd Party Auditor	Week Between 17-21/11/14
3rd Delta Project Inspection	Internal Auditor	Week Between 8-12/12/14
3rd Monthly Site Inspection	3rd Party Auditor	Week Between 15-19/12/14
4th Delta Project Inspection	Internal Auditor	Week Between 12-16/1/15
4th Monthly Site Inspection	3rd Party Auditor	Week Between 19-23/1/15
5th Delta Project Inspection	Internal Auditor	Week Between 9-13/2/15
5th Monthly Site Inspection	3rd Party Auditor	Week Between 16-20/2/15
6th Delta Project Inspection	Internal Auditor	Week Between 9-13/3/15
6th Monthly Site Inspection	3rd Party Auditor	Week Between 23-27/3/15
1st Bi Monthly Audit	3rd Party Auditor	Week Between 17-21/11/14
2nd Bi Monthly Audit	3rd Party Auditor	Week Between 19-23/1/15
3rd Bi Monthly Audit	3rd Party Auditor	Week Between 23-27/3/15

	Weekly Internal Audits to be conducted by Site Engineer Kerry Huynh.- Criteria – Site Safety and Environmental Safeguards Actions.
	Monthly internal Audits to be conducted by Ben Shum (Delta Operations Manager) Criteria - Delta IMS and Site Inspections
	3 rd Party Audits to be conducted by Roy Pentland from Equal Assurance. Criteria – All Management Plans

37. REPORTING REQUIREMENTS

Delta will submit the following reports:

TYPE	FREQUENCY
Air & Dust Monitoring Report	Daily
Weather Monitoring Report	Daily
DDG (Dust Deposit Gauges) Monitoring Report	Monthly
Safety & Environmental Report	Monthly

Air Monitoring Report:

The Air Monitoring report that will be issued daily to NSW Public Works will include the following information:

- Sample Analysis
- GPS Location of Samples
- Instances of Elevated Fibres Counts, Including investigation into cause and actions taken to mitigate contamination
- Instances of Elevated dust counts, including investigation into cause and action taken to mitigate contamination.
- Details of activity undertaken by workers
- Type of Plant used.

Weather Monitoring Report:

The Weather Monitoring report that will be issued daily to NSW Public Works will be incorporated into the Air Monitoring report and provide the following information:

- Wind Speed
- Wind Direction
- Rain Fall
- Temperature
- Humidity

DDG (Dust Deposit Gauge) Monitoring Report

The DDG Monitoring Report that will be issued monthly to NSW Public Works will provide the following information:

- Sample Analysis
- GPS Location of Samples
- Instances of Elevated dust counts, including investigation into cause and action taken to mitigate contamination.

Safety and Environmental Report

The Safety and Environmental Report will be issued monthly to NSW Public Works as a contract requirement and will entail the following information:

- Safety
 - a) Inspection, Testing and Servicing
 - b) Incident Management and Corrective Actions
 - c) Review (Internal and External Audits)

- Environmental
 - a) Management and Planning
 - b) Incident Management and Responses
 - c) Reviews (Internal and External Audits)

38. SUBCONTRACT WORKS

All subcontractors and suppliers will be required to implement appropriate sections of the CEMP. Sub-contractors will be supplied with a copy prior to commencing on site and through site induction.

39. INCIDENT REPORTING

In the event of any person sustaining an injury or illness, near miss, property damage, unsafe act, increased environmental impact, non-conformance service/product or similar, they will be required to report the matter immediately to their supervisor (SEF 010). No matter how minor, the incident must also be reported to the QSE department (24HR) so an action of investigation, corrective action or root cause analysis can take place.

40. STATUTORY AUTHORITY REPORTING

Delta will notify the Authority immediately after becoming aware that a notifiable incident has occurred at a Delta workplace. Delta will report all notifiable incidents to the regulatory body in a timely manner, and within 48 hours after notifying the Authority, Delta will also give the Authority a written record of the incident, in the form approved in writing by the Authority

A notifiable incident will also require the site to remain undisturbed until advised otherwise by the Regulatory Authorities field officer. When a notifiable incident occurs, the Project Manager or Supervisor will immediately notify the Delta National QSE Manager so a report can be made to Workplace Services within the prescribed period.

When a Regulatory Inspector visits a Delta worksite, the Delta QSE Advisor/Foreman (as a minimum) shall accompany the Inspector, recording details of all discussions and events. A copy of the entry report must be uploaded into the Delta system for reporting purposes.

POEO Act 1999 summary:

There is a duty to notify 'relevant authorities' as specified in section 148(8) of the POEO Act (the EPA, local authority, Ministry of Health, WorkCover Authority and Fire and Rescue NSW) of pollution incidents where material harm to the environment is caused or threatened. Material harm includes actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial or that result in actual or potential loss or property damage of an amount over \$10,000. Failure to do so is an offence.

41. INCIDENT CLASSIFICATION (Guide)

a. MINOR

An occurrence usually minor event or condition that is subordinate to another incident resulting in or a near miss with the potential to cause:

- One injury requiring no more than First Aid treatment (FAI) on site
- Property damage with a value less than \$1,000
- Negligible Impact to the Environment

b. MEDIUM

An Incident resulting in or a near miss with the potential to cause:

- Medical Treatment Injury (MTI) or multiple First Aid treatments
- Property damage with a value greater than \$1,000 but less the \$10,000
- Minor on site impact to the Environment

c. MAJOR

An Incident resulting in or a near miss with the potential to cause:

- Lost time Injury (LTI) or greater, alternate work duties, multiple MTI
- Property damage with a value greater than \$10,000
- Derailment of rolling plant, collision or explosion
- Moderate onsite and minor offsite impact to the Environment

42. NON-CONFORMANCES/CORRECTIVE ACTION REPORT

Non-conformances or system defects issued by the client will be closed out and evidence provided. Proposed corrective actions will be issued to the client for approval prior to commencing rectification. Non-conformances will be rectified in a timely fashion and as stipulated in the Non-conformance Report. The non-conformance details will be recorded in the Action Register.

The non-conformance register shall be updated and made available to the Client when a non-conformance notice is generated. The person or persons responsible for determining the method of disposition will be identified on the corrective action report (CAR) (SEF 005). The Project manager or the QSE department carry responsibility for issuing corrective action reports and closing out non-conformances.

Non-conforming product found at delivery shall not be accepted and returned to the manufacturer/supplier. Where the product cannot be immediately returned, the non-conforming product shall be clearly marked and segregated to prevent its use on site.

A Non-conformance report (SEF 052) will be raised and issued to the client for information. Non-conforming product found during the installation works shall be immediately rectified and re-inspected prior to proceeding.

Non-conforming product that cannot be rectified immediately shall be documented as a Non-Conformance and the client will be notified. The client will be advised of the proposed corrective action report for approval. The rectified product will be subject to re-inspection to verify its conformity.

43. CORRECTIVE ACTION

Corrective Action Report (SEF 005) shall be initiated where a non-conformance or a potential non-conformance has been detected to prevent occurrence or re-occurrence of a non-conformance on the project.

The requirements for corrective action report result from the detection of a non-conformance or potential non-conformance.

On receipt of a non-conformance corrective action report, the management representative shall;

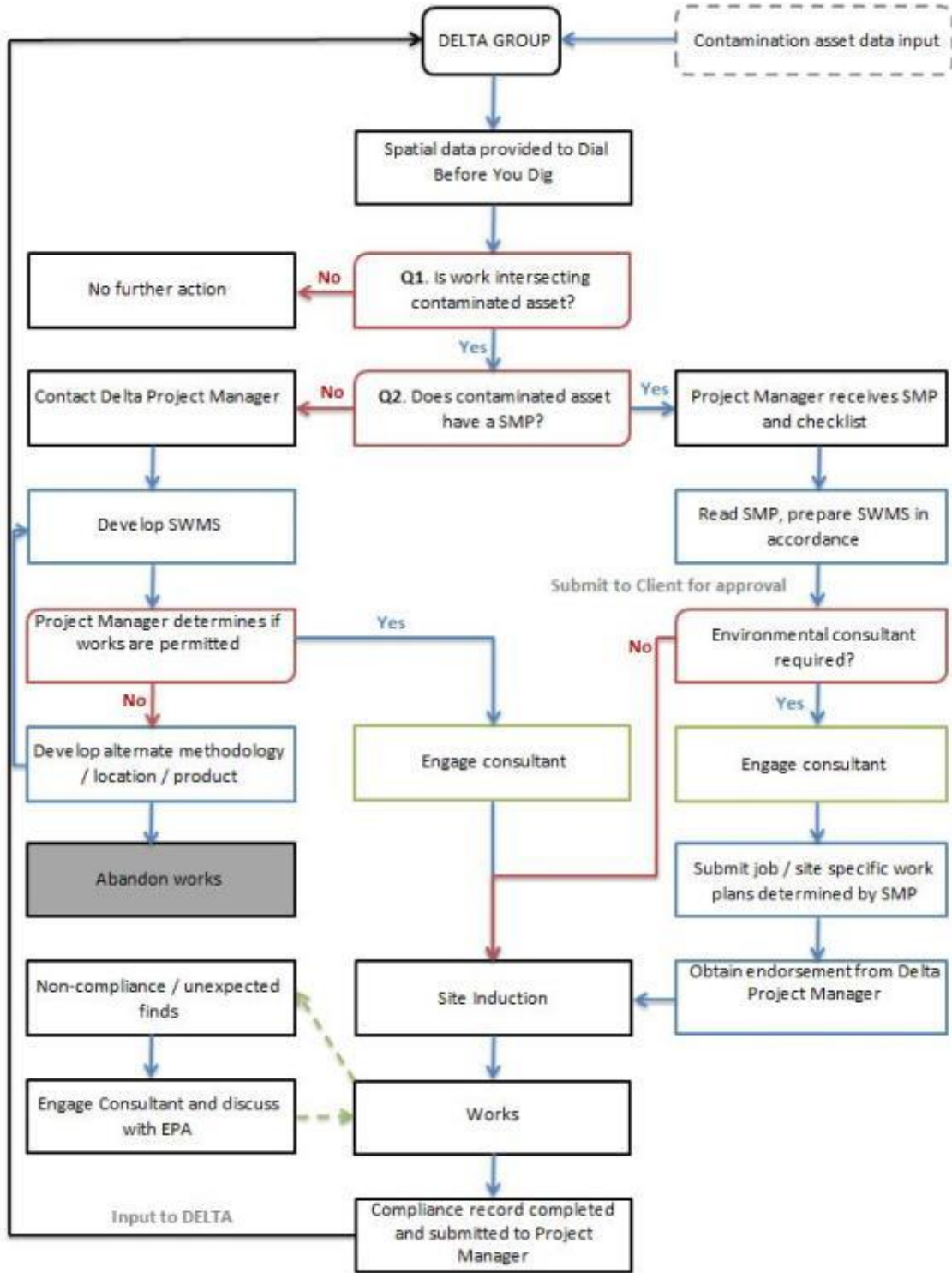
1. Assess the non-conformance to determine how the non-conformance occurred;
2. Develop, where possible, a revised method of carrying out works to ensure that the same non-conformance does not re-occur;
3. Regularly check operational methods following the implementation of corrective action to ensure revised methods of works are effective;
4. Submit to the Client's Quality Manager or nominated representative, all details of corrective actions implemented for all non-conformances.

Project Manager or delegate is responsible for carrying out and recording site inspections.

44. EMERGENCY PREPAREDNESS AND RESPONSE

Refer to Emergency Response Plan

45. CONTAMINATED ASSETS



46. DEFINITIONS

The terms used include the following and those defined in ISO 14001 and ISO 9000.

The term **'audit' or 'review'** means an examination of a random or particular sample of processes to determine whether or not correct procedures are being followed, and includes a document review or an examination of activities or an examination of documents and activities, to assess their conformity with requirements.

The **'certification'** of an Environmental Management System is the attestation by certificate that the Environmental Management System meets certain defined requirements for use for a certain scope of activities (usually following an audit by another organisation accredited to provide such certifications, as the certifier).

The term **'client'** means the owner of the asset to be procured or project product, and representative of the end users of the asset.

The term **'construction'** means all organised activities concerned with demolition, building, landscaping, maintenance, civil engineering, process engineering, heavy engineering and mining.

The term **'consultant'** means a professional person or organisation that contracts with a customer to provide design, management or other services.

The term **'contractor'** means an organisation that contract with a Principal to carry out the work under the contract, including construction and related services, to deliver an asset or construction product.

The term **'design'** means the process (and product) of converting a brief into design details ready for documentation, including concept design and design development, and then documentation or detailing of the technical and other requirements for the project in a written form that details the project product sufficiently for it to be constructed or otherwise provided.

The term **'environmental opportunity'** means a potential for beneficial environmental impacts.

The term **'environmental risk'** means a potential for adverse environmental impacts.

The term **'management'** means the planning and interactive controlling of human and material resources to achieve time, cost, quality, performance, functional and scope requirements. It involves the anticipation of changes due to changing circumstances and the making of other changes to minimise adverse effects.

The term **'project'** means an undertaking with a defined beginning and objective by which completion is identified. Project delivery may be completed using one contract or a number of contracts.

The term **'subcontractor'** means an organisation that contract with a contractor as the customer to carry out construction and related services, and/or provide other products.

47. RISK & IMPACT ASSESSMENT

Project:	Woodsreef Rehabilitation Project	Job Number:	N4-270
Address:	Woodsreef Mine	Risk Audit Y/N:	Y
Task/Activity:	Demolition of Derelict Structures	Date:	29/09/2014

DEVELOPED BY:

Kerry Huynh

APPROVED BY:

Yasser Haragli

RISK MATRIX

		Consequences					Likelihood or Probability					
		People	Environment	Plant Property Assets	Program / Time	Regulatory / Cost	Reputation	A	B	C	D	E
								Almost Certain (expected)	Likely (will probably occur)	Moderate (might occur - has happened)	Unlikely (could occur - known to happen)	Rare (practically impossible)
1	No Incident or First Aid Injury	Negligible Impact	Low \$ Loss < \$1000	Less than ½ Day	Fine < \$1K	Minimal Publicity	High 15	Medium 19	Low 22	Low 24	Low 25	
2	Medical Treatment	Minor on-site impact	Medium \$ Loss >\$1000 - < \$10K	½ Day - 1 Day	Fine \$1K - \$10K	Some Local Media Coverage	High 10	High 14	Medium 18	Low 21	Low 23	
3	Alternate Work or Lost Time Injury	Moderate onsite impact	High \$ Loss >\$10K - < \$50K	>1 Day - < 1 Week	Fine \$10K - \$50K	Media Coverage at State Level	Extreme 6	High 9	High 13	Medium 17	Medium 20	
4	Serious or Permanent Injury	Minor offsite or Major onsite impact	Major \$ Loss >\$50K - < \$100K	> 1 Week - < 1 Month	Fine > \$50K or Legal Proceedings	Adverse Publicity	Extreme 3	Extreme 5	Extreme 8	High 12	High 16	
5	Fatality	Major offsite impact	Huge \$ Loss > \$100K	> 1 Month	Shutdown of Project Due to Regulatory Breach	Extreme Adverse Publicity	Extreme 1	Extreme 2	Extreme 4	Extreme 7	High 11	

Risk Ranking	Risk Description	Control Application
Low 21 – 25	Tolerable. Monitor, manage and carryout activity in accordance with identified controls.	Any hazard assessed as presenting a low and/or medium risk level will be permitted to be controlled using a combination of controls as appropriate.
Medium 17 – 20	Implement strict control measures reduce hazard to ALARP. <u>Management must determine appropriate level of supervision required.</u>	
High 9 – 16	Implement strict control measures reduce hazard to ALARP. <u>Activity must not commence without Workplace Manager or higher approval and appropriate supervision present.</u> Review process.	Any hazard assessed as presenting a high risk level will only be allowed to be controlled using a combination of at least one engineering control and lower level controls as appropriate.
Extreme 1 – 8	Intolerable. <u>Activity must not commence.</u> Eliminated hazard or introduce further controls to reduce to ALARP.	Any hazard assessed as presenting an extreme risk level will only be allowed to be controlled using elimination and engineering as the primary source of controls.

Hierarchy of Control	
Eliminate (E)	Removal of the risk;
Substitute (S)	Replacing the plant or substance with another with a lower risk;
Isolation (I)	Removing or separating people from the hazard;
Engineering Control (EC)	Changing the physical characteristics of plant or workplace to remove or reduce risk;
Administrative (A)	Using policies, procedures, SWMS & training;
Person Protective	Equipment or clothing Equipment designed to provide protection.

HAZARD IDENTIFICATION CHECKLIST

Mark boxes next to the description box to show types of hazards identified on the project.

No.	Description		Risk Level	Item	Description		Risk Level
1	Asbestos	<input checked="" type="checkbox"/>	H	26	Live services e.g. (Electrical, Optical, Gas, Water)	<input type="checkbox"/>	H
2	Biological	<input type="checkbox"/>	H	27	Manual Handling	<input checked="" type="checkbox"/>	M
3	Confined Space	<input type="checkbox"/>	H	28	Multiple Contractors On Site	<input type="checkbox"/>	M
4	Clients workplace (activities)	<input type="checkbox"/>	M	29	Noise & Vibration	<input checked="" type="checkbox"/>	M
5	Contaminated Waste(Soil, Asbestos, PCB's, Syringes)	<input checked="" type="checkbox"/>	H	30	Overhead Hazards (Unintended Contact with Utilities)	<input type="checkbox"/>	H
6	Dangerous Goods	<input checked="" type="checkbox"/>	H	31	Portable Tools & Equipment	<input type="checkbox"/>	M
7	Demolition	<input checked="" type="checkbox"/>	H	32	Public activities	<input type="checkbox"/>	M
8	Design (Buildability)	<input type="checkbox"/>	N/A	33	Plant (Mobile or fixed)	<input checked="" type="checkbox"/>	H
9	Dust	<input checked="" type="checkbox"/>	M	34	Radiation (including Solar)	<input checked="" type="checkbox"/>	M
10	Electrical	<input type="checkbox"/>	H	35	Remote Location	<input checked="" type="checkbox"/>	H
11	Environment (HOT)	<input checked="" type="checkbox"/>	M	36	Scaffold	<input type="checkbox"/>	M
12	Environment (COLD)	<input type="checkbox"/>	M	37	SMF (synthetic mineral fibre)/	<input checked="" type="checkbox"/>	H
13	Environment (WET)	<input type="checkbox"/>	M	38	Traffic & Vehicles Site Access & Egress	<input type="checkbox"/>	M
14	Environment (DARK)	<input type="checkbox"/>	M	39	Trapped Heat	<input type="checkbox"/>	M
15	Night Work	<input type="checkbox"/>	M	40	Trench Access & Egress	<input type="checkbox"/>	H
16	Excavation	<input checked="" type="checkbox"/>	H	41	Underground Activity	<input type="checkbox"/>	H
17	Fire & Explosion	<input checked="" type="checkbox"/>	H	42	Underground Services (Unintended Contact with Utilities)	<input type="checkbox"/>	H
18	Flooding & Overflow	<input type="checkbox"/>	M	43	Waste Disposal	<input checked="" type="checkbox"/>	M
19	Gas, Fumes & Foul Air / Contaminated Atmospheres	<input type="checkbox"/>	M	44	Working At Heights (including Falling Objects)	<input checked="" type="checkbox"/>	H
20	Hazardous Equipment	<input type="checkbox"/>	H	45	Working Over, Near, On, In or Under Water	<input type="checkbox"/>	H
21	Hazardous Substances &/or Chemicals	<input checked="" type="checkbox"/>	H	46	Purchase of Goods/Services, Labour Hire	<input type="checkbox"/>	M
22	Hot Metal	<input type="checkbox"/>	M				
23	Hot Surfaces	<input type="checkbox"/>	M				
24	Hot Work	<input checked="" type="checkbox"/>	M				
25	Hydraulic Pressure	<input type="checkbox"/>	L				

Signed – Project Manager / Site Supervisor

Project Manager	Signature	Date
Phil Dean	Phil Dean – hard copy on site	29/9/14
Supervisor	Signature	Date
Brian McPhee	Brian McPhee – hard copy on site	29/9/14

TABLE OF CONTENTS FOR SITE SPECIFICATION TASKS

ACID SULPHATE SOILS	AIR QUALITY	ASBESTOS & HAZARDOUS BUILDING MATERIALS	CONCRETE & PAINT WASTES	CONSERVATION AND HABITAT
N/A	<input checked="" type="checkbox"/> Creation of dust from earthworks, construction and demolition works <input checked="" type="checkbox"/> Emissions from construction plant & traffic <input checked="" type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Damage or works to structures containing asbestos <input type="checkbox"/> Disposal of asbestos and other hazardous building wastes	N/A	<input checked="" type="checkbox"/> Identification and Protection of Ecosystems <input checked="" type="checkbox"/> Damage / destruction to protected habitats due to construction works <input checked="" type="checkbox"/> Threatened Species <input checked="" type="checkbox"/> Significant Species <input type="checkbox"/> Visual Impact
CONTAMINATED SOIL AND WATER	DANGEROUS GOODS / CHEMICALS / SUBSTANCES	ELECTRICAL	EMERGENCY	FIRE/EXPLOSION
<input type="checkbox"/> Conducting works in areas of unidentified contamination <input type="checkbox"/> Creation of contaminant migration pathways during works <input type="checkbox"/> Spillage of contaminated water <input type="checkbox"/> Unprotected storage of contaminated soils <input type="checkbox"/> Disposal or re-use of contaminated soils/water <input type="checkbox"/> Cross contamination of clean and contaminated areas of the site	<input checked="" type="checkbox"/> Storage / use of dangerous goods / chemicals <input checked="" type="checkbox"/> Fuel and chemical spills <input type="checkbox"/> Fluid under pressure <input type="checkbox"/> Single & Long term contact <input type="checkbox"/> Transport and disposal of dangerous goods wastes <input type="checkbox"/> Sewage Collection and Domestic Waste water (Construction)	<input checked="" type="checkbox"/> Contact with services <input type="checkbox"/> Contact with live hidden elect. Wires <input type="checkbox"/> Contact with visible elect. Wires <input type="checkbox"/> Contact with live electrical boards <input checked="" type="checkbox"/> Tool or equipment faults	<input checked="" type="checkbox"/> Injury Incident <input checked="" type="checkbox"/> Environmental Incident <input type="checkbox"/> Property Damage <input checked="" type="checkbox"/> Public Health/Safety Incident <input type="checkbox"/> Emergency Services/ Authority Intervention <input type="checkbox"/> Fire <input type="checkbox"/> Bomb Threat <input type="checkbox"/> Natural Disaster <input checked="" type="checkbox"/> Protest Rally/Media <input checked="" type="checkbox"/> Remote location	<input checked="" type="checkbox"/> Ignition of Materials <input checked="" type="checkbox"/> Combustion of Fuel/ Gas/ Vapour
GRAVITATIONAL	HERITAGE & CULTURAL	KINETIC (MOVEMENT)	LIGHT SPILL	MANUAL HANDLING
<input type="checkbox"/> Fall on same level <input checked="" type="checkbox"/> Fall > 2m (Greater than) <input checked="" type="checkbox"/> Fall < 2m (Less than) <input checked="" type="checkbox"/> Fall Excavation. > 1.5m (Greater than) <input checked="" type="checkbox"/> Fall Excavation. < 1.5m (Less than) <input type="checkbox"/> Falling objects <input type="checkbox"/> Subsidence	<input type="checkbox"/> Presence of early European settlement buildings and structures <input type="checkbox"/> Presence of known Aboriginal sites, artefacts or relics <input type="checkbox"/> Unexpected find <input type="checkbox"/> Area of known cultural significance	<input checked="" type="checkbox"/> Hitting/hit stationary object <input checked="" type="checkbox"/> Hitting/hit moving object <input type="checkbox"/> Stepping/kneeling/sitting on objects <input type="checkbox"/> Hit/bitten by animal / insect <input checked="" type="checkbox"/> Hit/bitten by person <input checked="" type="checkbox"/> Hit by moving machinery	<input type="checkbox"/> Illumination created by construction work or security lighting	<input checked="" type="checkbox"/> Back injury <input type="checkbox"/> Repetitive Strain <input type="checkbox"/> Other strains/sprains <input type="checkbox"/> Re-occurring <input type="checkbox"/> Posture/physical workload
MICROBIOLOGICAL	NEIGHBOURHOOD PARTICIPATION	NOISE & VIBRATION	PROCUREMENT	STORMWATER & EROSION
<input checked="" type="checkbox"/> Insect, spider, snake	<input checked="" type="checkbox"/> Increase in complaint and negativity regarding construction. <input checked="" type="checkbox"/> Media/Public relations <input checked="" type="checkbox"/> Community meetings	<input checked="" type="checkbox"/> Public amenity <input checked="" type="checkbox"/> Site operations <input type="checkbox"/> Exposure to single sudden sound <input type="checkbox"/> Long term exposure to sound <input type="checkbox"/> Noise in excess of statute requirement <input type="checkbox"/> Exposure to mechanical vibration	<input checked="" type="checkbox"/> Australian Standard Compliance <input checked="" type="checkbox"/> Provision of Safety information <input checked="" type="checkbox"/> Provision of Environment Information	<input checked="" type="checkbox"/> Uncontrolled stormwater/ sediments entering receiving environments <input checked="" type="checkbox"/> Disposal of collected stormwater <input checked="" type="checkbox"/> Runoff and potential erosion from stockpiles/excavations areas. <input checked="" type="checkbox"/> Generation of runoff/sediment from construction compounds & roadways

TEMPERATURE	TRAFFIC & PARKING	VEHICLES/MOBILE EQUIP/MACHINERY/TOOLS	WASTE MANAGEMENT	WORK RELATED STRESS
<input checked="" type="checkbox"/> Contact hot objects, fire, flame etc. <input type="checkbox"/> Contact cold objects, liquefied gas, dry ice etc. <input checked="" type="checkbox"/> Sunstroke, heat exhaustion <input type="checkbox"/> Frostbite, hypothermia	<input type="checkbox"/> Increased local traffic & parking during construction <input checked="" type="checkbox"/> Site Access <input checked="" type="checkbox"/> Access and Egress	<input checked="" type="checkbox"/> Hit by Plant/Machinery <input checked="" type="checkbox"/> Rollover <input checked="" type="checkbox"/> Structural failure <input checked="" type="checkbox"/> Mechanical failure <input checked="" type="checkbox"/> Component failure	<input checked="" type="checkbox"/> Generation of solid/liquid waste from construction or demolition <input type="checkbox"/> Collection and temporary storage of wastes <input checked="" type="checkbox"/> General Litter and Waste Recycling <input checked="" type="checkbox"/> Waste transportation	<input checked="" type="checkbox"/> Waste disposal <input checked="" type="checkbox"/> Witness violent events, anxiety at work <input type="checkbox"/> Behavioural issues
SOP Required				
<input type="checkbox"/> SOP 04 Boring drill rig AF80 <input type="checkbox"/> SOP 05 Chainsaw <input type="checkbox"/> SOP 07 Demo saw <input type="checkbox"/> SOP 09 Dozer <input type="checkbox"/> SOP 10 EWP <input type="checkbox"/> SOP 11 Excavator <input type="checkbox"/> SOP 12 Fire Extinguisher & Hose Reel	<input type="checkbox"/> SOP 13 Forklift <input type="checkbox"/> SOP 17 Haul Truck <input type="checkbox"/> SOP 18 Hilti Drill <input type="checkbox"/> SOP 19 Hot Works <input type="checkbox"/> SOP 20 Isolation and Lock Out of Plant & Equipment <input type="checkbox"/> SOP 21 Jack Hammer	<input type="checkbox"/> SOP 22 Laser Operation <input type="checkbox"/> SOP 23 Loading Trucks <input type="checkbox"/> SOP 24 Manual Handling <input type="checkbox"/> SOP 28 Mobile Scaffold <input type="checkbox"/> SOP 29 Needle-Syringe clean up <input type="checkbox"/> SOP 30 OXY <input type="checkbox"/> SOP 31 Penetration Covers <input type="checkbox"/> SOP 33 Platform Ladder	<input type="checkbox"/> SOP 40 Reciprocating Saw <input type="checkbox"/> SOP 41 Refuelling vehicles-plant-equipment <input type="checkbox"/> SOP 42 Roller Compactor <input type="checkbox"/> SOP 43 Scissor Lift	<input type="checkbox"/> SOP 44 Skid steer <input type="checkbox"/> SOP 45 Spill Management and Response <input type="checkbox"/> SOP 46 Stockpiling and Loading Out <input type="checkbox"/> SOP 50 Water Truck <input type="checkbox"/> SOP 53 Working at Heights
SWMS Required				
Works <input type="checkbox"/> Civil - Bulk Earthworks <input type="checkbox"/> Civil - Contaminated Soil <input type="checkbox"/> Civil - Dewatering Site <input type="checkbox"/> Civil - Traffic Management and Control	<input type="checkbox"/> Demo - Breaking Out Glass <input type="checkbox"/> Demo - Collapse Miscellaneous Low Structures with Excavator <input type="checkbox"/> Demo - Concrete Sawing - Beam <input type="checkbox"/> Demo - Create Wall Penetration <input type="checkbox"/> Demo - Demolition of Brick Block Walls <input type="checkbox"/> Demo - Demolition of Concrete Floor	<input type="checkbox"/> Demo - Hot Works - Oxy and LPG cutting (Use of the Oxy Set) <input type="checkbox"/> Demo - Oxy Cutting from EWP	<input type="checkbox"/> Demo - Scissor Lift Operation <input type="checkbox"/> Demo - Using a Mobile Scaffold <input type="checkbox"/> Demo - Working at Heights, Edges, Penetrations, EWP & Mobile Scaffolds <input type="checkbox"/> Other - Confined Spaces <input type="checkbox"/> Other - Storage and Handling of Hazardous Substances <input type="checkbox"/> Other - Traffic Controllers	<input type="checkbox"/> Other - Using an Excavator as a Crane <input type="checkbox"/> Other - Working Around or Near Services

Process for monitor & review:

The Site Supervisor will conduct regular inspections of the work activities and work environment applicable to monitor the effectiveness of the control measures. The risk assessment will be reviewed regularly where workers, supervisors and managers will be provided with an opportunity to have input into the effectiveness of the control measures stipulated in the work method. A record of all inspections / audits and tool box talks used in the monitoring and reviewing will be retained on-site.

Foreman/Supervisor to review (risk/s) this document – monthly

Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Date reviewed	Name/Signed:	Change	Yes <input type="checkbox"/>	No <input type="checkbox"/>		Toolbox	Yes <input type="checkbox"/>	No <input type="checkbox"/>

The Risk/IMPACT Assessment must identify and consider any barriers to meeting our objectives of efficiency and productivity

GRAVITATIONAL	FIRE/EXPLOSION	AIR QUALITY
Fall on same level	Ignition of Materials	Creation of dust from earthworks, construction and demolition works
Fall > 2m (Greater than)	Combustion of Fuel/Gas/Vapour	Emissions from construction plant & traffic
Fall < 2m (Less than)	DANGEROUS GOODS / CHEMICALS / SUBSTANCES	Vapours from contamination soils
Fall Excavation. > 1.5m (Greater than)	Storage / use of dangerous goods / chemicals	Ozone Depleting Substances (refrigerants)
Fall Excavation. < 1.5m (Less than)	Fuel and chemical spills	Greenhouse Gas Emissions
Falling objects	Fluid under pressure	TRAFFIC & PARKING
Subsidence	Single & Long term contact	Increased local traffic & parking during construction
ELECTRICAL	Transport and disposal of dangerous goods wastes	NEIGHBOURHOOD PARTICIPATION
Contact with services	Sewage Collection and Domestic Waste water (Construction)	Increase in complaint and negativity regarding construction.
Contact with live hidden elect. Wires	ASBESTOS & HAZARDOUS BUILDING MATERIALS	Media/Public relations
Contact with visible elect. Wires	Damage or works to structures containing asbestos	Unauthorised access to site and use of mine road
Contact with live electrical boards	Disposal of asbestos and other hazardous building wastes	Public questioning job
Tool or equipment faults	WASTE MANAGEMENT	Vandalism to plant/equipment
MANUAL HANDLING	Generation of solid/liquid waste from construction or	Community meetings
Back injury	Collection and temporary storage of wastes	HERITAGE & ARCHAEOLOGY
Repetitive Strain	General Litter and Waste Recycling	Presence of early European settlement buildings and structures
Other strains/sprains	Waste transportation	Presence of known Aboriginal sites, artefacts or relics
Re-occurring	Waste disposal	Unexpected find
Posture/physical workload	CONTAMINATED SOIL AND WATER	CONSERVATION AND HABITAT
KINETIC (MOVEMENT)	Conducting works in areas of unidentified contamination	Identification and Protection of Ecosystems
Hitting/hit stationary object	Creation of contaminant migration pathways during works	Damage / destruction to protected habitats due to construction works
Hitting/hit moving object	Spillage of contaminated water /	Threatened Species
Stepping/kneeling/sitting on objects	Unprotected storage of contaminated soils	Significant Species
Hit/bitten by animal / insect	Disposal or re-use of contaminated soils/water	Visual Impact
Hit/bitten by person	Cross contamination of clean and contaminated areas of the site	LIGHT SPILL
Hit by moving machinery	CONCRETE & PAINT WASTES	Illumination created by construction work or security lighting
VEHICLES/MOBILE EQUIP/MACHINERY/TOOLS	Liquid and solid waste spills from concrete/paint wash-out	ACID SULPHATE SOILS
Hit by one of the above	Waste disposal	Works in the area of actual acid sulphate soils
Rollover	STORMWATER & EROSION	Works in the area of potential acid sulphate soils
Vehicle accident		
Structural failure	Uncontrolled stormwater/ sediments entering receiving environments	Re-use or disposal of actual / potential acid sulphate soils and water
Mechanical failure	Disposal of collected stormwater	EMERGENCY
Component failure	Runoff and potential erosion from stockpiles/excavations areas.	Injury Incident
TEMPERATURE	Generation of runoff/sediment from construction compounds &	Environmental Incident
Contact hot objects, fire, flame etc.	NOISE & VIBRATION	Property Damage
Contact cold objects, liquefied gas, dry ice etc.	Public amenity	Public Health/Safety Incident
Sunstroke, heat exhaustion	Site operations	Emergency Services/Authority Intervention
Frostbite, hypothermia	Exposure to single sudden sound	Fire
MICROBIOLOGICAL	Long term exposure to sound	Bomb Threat
Contact with fungi, bacteria, parasites, viruses	Noise in excess of statute requirement	Natural Disaster
Insect, spider, snake etc.	Exposure to mechanical vibration	Protest Rally/Media
WORK RELATED STRESS	PROCUREMENT	Remote location
Witness violent events, anxiety at work	Australian Standard Compliance	
	Provision of Safety information	
	Provision of Environment Information	

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR	
A	START UP								
Environmental & Safety Plans / Safe Work Method Statement	All	E4	<ul style="list-style-type: none"> CEMP and Site Safety Plan to be developed and implemented on this project QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works No works, whether planned or unplanned are to commence without an Impact & Risk Assessment and a Safe Work Method Statement which complies with the requirements of legislation, Standards and codes workers must be consulted in the preparation of these, and must be inducted and signed off on the contents of the SWMS prior to the works commencing. SWMS are to be site and task specific, and works may be stopped if they are not complying with the SWMS and legislation 	A A A A A	H11	Delta Foreman Delta Project Engineer Delta Project Manager	Start up	Audit	
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc</u> Induction & Training						
Inductions	Emergency situations	E4	<ul style="list-style-type: none"> All personnel present on site, engaged in work on site must attend a site specific induction prior to commencing work. This will detail all Emergency situations that may be encountered onsite and what to do in those circumstances. All personnel must have an industry approved construction induction Card/White-Green Card (no exceptions) and relevant asbestos tickets. – Minimum Asbestos Aware Certificate. 	A A	H11	Delta Foreman Delta Project Engineer	Prior to works	Audit	

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<ul style="list-style-type: none"> Personnel to have been inducted into their employers Safety Plan and Safe Work Method Statement/s, on site prior to site induction then ongoing as required for site specific works. Inductions will be daily. Attendees to bring proof that they have been inducted into their company's SWMS's (or by agreement after this time but before employees work on site) 	A A		Delta Project Manager		
			Management System Reference <u>Proc</u> Induction & Training					
Site Communications Systems	Emergency situations	E4	<ul style="list-style-type: none"> Combination of Two Way Radios. Mobile, Email and on request by client a web based program will be used on this project. Onsite communication will be shown in site specific site induction. 	EC	H11	Delta Foreman Delta Project Engineer Delta Project Manager	Prior to works	Audit
			Management System Reference <u>Proc</u> Consultation, Communication & Reporting					
Hours of Work	Work Related Stress, Community relations	H14	<ul style="list-style-type: none"> All personnel must comply with working hours detailed in the Project Management Plan & CEMP Out of hour's works to be agreed with by Delta/Client 	A A A	L23	Delta Foreman Delta Project Engineer Delta Project Manager	During works	Audit
			Management System Reference Project Management Plan					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Drugs and Alcohol Abuse	Personnel behaviour	M18	<ul style="list-style-type: none"> Delta employees and subcontractors are subject to Drug & Alcohol testing as detailed in the Fitness for Work procedure Delta employees and subcontractors must be inducted into Delta's Fitness for Work procedure. 	EC A	L21	Delta Foreman Delta Project Engineer Delta Project Manager	Prior & during works	Audit
			Management System Reference <u>POL 4</u> Drug and Alcohol					
QSE Management System	Specific site & environmental safety training	H13	<ul style="list-style-type: none"> Establish a Project Specific safety/environmental system and plan for the safe delivery of the project. (Site Safety plan & CEMP) Induct the Delta site team into the approved safety systems to ensure requirements of the system are adopted as required into subcontracts, method statements & SWMS. Include in Tender Document Package and verify understanding, ability and commitment to comply at Tender Review Meeting Develop Delta Team Roles and Responsibilities 	A A A A	M20	Delta Foreman Delta Project Engineer Delta Project Manager	Prior to works	Audit
			Management System Reference Site Safety Management Plan Construction Environmental Management Plan <u>Proc</u> Subcontractor Management <u>QF 026</u> Subby OHS&E Requirements					
Training & Skills	Untrained personnel	E5	<ul style="list-style-type: none"> Assessment to be undertaken on the skills required to complete the project. Skills gap analysis to be undertaken to identify training requirements. Training and up skilling to be organised through QSE department. 	A A A	H16	Delta Foreman Delta Project Engineer	Prior and during works	Audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<ul style="list-style-type: none"> Ticket register to be kept up to date Delta Management to follow site specific Training Management Plan. 	A A		Delta Project Manager		
			Management System Reference <u><i>Proc Competency Induction & Training</i></u>					
Subcontractor Skills	Untrained personnel	E5	<ul style="list-style-type: none"> All subcontractors to ensure their workers have participated in the industry induction, the site induction and are inducted into their company safety plan All subcontractors are to provide an up to date skills register to Delta prior to commencement of work. All activities to be covered by site specific SWMS 	A A A	H16	Delta Foreman Delta Project Engineer Delta Project Manager	Prior to works	Audit
			Management System Reference <u><i>Proc Competency Induction & Training</i></u> <u><i>QF 026</i></u> Subby OHSE Requirements <u><i>Proc Subcontractor Management</i></u>					
Consultation	Uncontrolled work environment	E8	<ul style="list-style-type: none"> Employees on site will be regularly consulted and informed of changes to site procedures, OH&S, Community and Environment issues relating to the site. Consultation will consist of daily pre start meetings, weekly toolbox talks and committee meetings (if required) All personnel are to be given tool-box talk explaining the SWMS for the respective work procedure that they will carry out by the relevant Delta/subcontractor foreman. Everyone is encouraged to identify and report hazards. Appropriate trained person from the Delta or 	A A A	H16	Delta Foreman Delta Project Engineer Delta Project Manager	Prior and during works	Monthly audits

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<ul style="list-style-type: none"> subcontractor to deliver Tool Box talks. Appropriate documentation content to be recorded at Tool Box talk and forwarded to Delta. 	A				
			Management System Reference <u>Proc</u> Consultation, Communication and Reporting Procedure	A				
First Aid	Emergency Situations	H10	<ul style="list-style-type: none"> First aid facilities to be established on site according to legislative requirements 	EC	L23	Delta Foreman Delta Project Engineer Delta Project Manager	Prior, during	Monthly audit
			Management System Reference <u>Proc</u> Emergency Preparedness and Response					
Emergency Management	Emergency Situations	E2	<ul style="list-style-type: none"> Two way radios will be the main communication method during emergencies. All employees and subcontractors to be inducted into principal contractors emergency management plan 	EC A	H11	Delta Foreman Delta Project Engineer Delta Project Manager	Prior to works	Monthly audit
			Management System Reference <u>Proc</u> Emergency Preparedness and Response					
Fire Protection	Emergency Situations	E2	<ul style="list-style-type: none"> FFE must be available in the immediate vicinity of any hot works. Employees to be trained in the use of FFE Hot Works Permits will be completed and approved by Delta prior to hot works commencing. Personnel to be inducted into Delta Site Specific Emergency Response Plan 	EC A A A	H11	Delta Project Manager Delta	Prior to works	Monthly Audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management System Reference	<u>Proc</u> Emergency Preparedness and Response			Foreman Delta Project Engineer		
Site Signage	Uncontrolled Workplace	M18	<ul style="list-style-type: none"> Task specific signage will be utilised throughout the project. 	<u>Proc</u> Risk Management	A	L23	Delta Foreman	Prior to works	Monthly audit
			Management System Reference				Delta Project Engineer Delta Project Manager		
Use of Permits	Uncontrolled Workplace	E4	The following work activities require a permit prior to works commencing <ul style="list-style-type: none"> Hot Works Work at Heights Working in Confined Spaces Excavation and Drilling All permits to be completed and approved by foreman before works commence 		A A	H11	Delta Foreman Delta Project Engineer Delta Project	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management System Reference	<u>Proc</u> Risk Management			Manager		
Traffic Management	Hit by stationary object Hit by moving object Hit by moving machinery	E4	<ul style="list-style-type: none"> Traffic Management Plan to be established and reviewed with the relevant parties prior to implementation. All subcontractors need to consider traffic management when drafting SWMS. Delta to detail traffic management requirements at subcontractor tender stage and at site induction. Site Traffic Management Plan to be regularly reviewed. Construction traffic to follow designated traffic route. Speed limits set at 5kph (on site) Construction traffic route to avoid major pedestrian access. Works to be conducted within the specified hours of operation. Schedule deliveries and collections from site to avoid inconvenience to local road users. Vehicle / deliver waiting area to be considered and discussed with the council if need be. Meetings to be conducted with regular delivery companies such as concrete, reo, formwork etc. to ensure they understand the traffic management requirements (including demolition and excavation) Tamworth Council to be consulted with Delta Traffic Management Plan 		A A A A A A A A A A A A	H11	Delta Foreman Delta Project Engineer Delta Project Manager	Prior to works	Monthly audit
			Management System	<u>Proc</u> Traffic management					

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			Reference	Traffic Management Plan					
Vehicle movements – Entry and Exit from Site & Delivery to site	Gravitational Hit by stationary object Hit by moving object Hit by moving machinery Vehicles Unauthorised access to site and use of mine road	E4	<ul style="list-style-type: none"> • Loads on vehicles to be within Roads Traffic Authority legal weight limits, vehicles to travel only on approved roadways, loads secured and covered. • Appropriate sight lines for entry gates • Trade Contractor to allow for vehicles with load covers, and ensure that they are used. • Conduct orientation meetings with frequently used cartage operators e.g. Concrete trucks, reo deliveries, rubbish removal, couriers etc. • Spotters to be used on footpaths • Site map showing gates, roads, unloading and storage areas. • Delivery drivers driving to site to take 2 hourly breaks or as driver see fits • Responsible driver to be assigned for delivery to site • Roadworthy trucks to be used for deliveries to site • High-Vis vests to be worn when controlling traffic, working next to roads or with earthmoving plant and equipment, reflective at night. 		EC EC EC A A A A A A P	H11	Delta Project Manager Delta Project Engineer Delta Foreman	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Traffic management Traffic Management Plan					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Visitors	Gravitational Kinetic Vehicles	E5	<ul style="list-style-type: none"> All visitors must arrange their visit with Delta prior to attending site, and report to site office upon arrival on site. Visitors to be accompanied on site by an inducted person Visitors register to be established & maintained, including visitor rules. Adequate amount of PPE to be available for visitors at main office 		A A A P A	H16	Delta Foreman Delta Project Engineer Visitor	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Competency Induction & Training					
Working in public areas	Gravitational Kinetic Vehicles Neighbourhood Participation. Perception of contamination of hotel, houses causing cleaners perceived to be exposed.	H9	<ul style="list-style-type: none"> Work area to be barricaded & signage posted to protect public. Work area to be left clean and tidy at all times. Plant and equipment to be placed within site boundaries and not in the public area and gates locked at end of day Risk assessment and Safe Work Method Statements required for works in public areas. Traffic management plans may be required. Signage to be erected to deter public from entering construction zones. Present decontamination strategy if required. Complaints/Enquiries system to be put in place including letter box drop, email set up for complaints and enquiries and separate phone for calls Workers to sign into emergency response plan and follow procedure listed 24hr surveillance to work area 		EC EC I A A A A A A A E	M20	Delta Foreman Delta Project Engineer Delta Project Manager	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management System Reference	<u>Proc</u> Risk Management					
Media	Inaccurate response given Inaccurate view on work	H13	<ul style="list-style-type: none"> • Medial liaison officer to be elected – Project Manager • Media Policy to be included in Site Induction – Placed in emergency response plan • Personnel not to liaise if approached by media and refer them to Jenny Ward • Media Card to be created that refers media to Jenny Ward 		A A A A	M17	Delta Foreman	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management			Delta Project Engineer Delta Project Manager		
UV exposure	Temperature, Sunstroke, heat exhaustion	H10	<ul style="list-style-type: none"> • Appropriate amenities to be provided for workers on site. • Subcontractors to include risk management controls in QSE documentation to be supplied to and approved by Delta. • Be aware of the potential for and the symptoms of heat stress and work accordingly • Delta clothing requirements to be implemented • Sun cream and hard hat brims available on site • The use of hardhat brim and sunburn cream can reduce the risk of sunburn. On hot days drink plenty of water 		EC A A P P P	L21	Delta Foreman	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor			Delta Project Engineer Delta Project Manager		

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
				Management <u>Proc</u> PPE <u>Proc</u> Management of Health Issues					
Occupational Stress	Work related stress	M18	<ul style="list-style-type: none"> Subcontract companies to consult with workers on work activity vs performance requirements. Subcontract or employers are to monitor their site personnel’s activities and behaviour to identify potential stress issues. Subcontractor QSE documentation as supplied and approved, must identify potential site related issues and control measures. Subcontractor employers are to identify equipment, machinery and methods of work which mitigate against occupational stress. Delta site personnel are to monitor worker behaviour to identify potential stress issues and implement corrective action where such situations are identified. 	A A A A A	L23	Delta Foreman Delta Project Engineer Delta Project Manager		Monthly audit	
			Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc</u> Management of Health Issues					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR	
B	OPERATIONS								
General Access and Egress	Gravitational	E2	<ul style="list-style-type: none"> External hoardings/fencing or other forms of barricading of exclusion areas to be erected to the perimeter of the project and any other high-risk project areas by Delta Access lighting/emergency lighting to be installed/maintained at access points and work areas. Ladder or other access to be installed / maintained where required. Ladders to be kept clean and dry installed correctly and secured and fit for purpose. Stairwells, aisles, corridors and other access ways are to be kept free of waste and materials and kept clean and clear at all times. Stairs to be hand railed/and or catch scaffold erected for fall protection Do not carry tools, materials or equipment when climbing ladders. Use devices to lower or raise these, or provide scaffold access stairs. 	EC	H11	Delta Foreman Delta Site Workers	Prior to works	Monthly audit	
			<table border="1"> <tr> <td>Management Reference</td> <td>System</td> </tr> <tr> <td></td> <td><u>SOP 24</u> Manual Handling <u>SOP 53</u> Working at Heights</td> </tr> </table>	Management Reference					System
Management Reference	System								
	<u>SOP 24</u> Manual Handling <u>SOP 53</u> Working at Heights								
Working at heights	Gravitational	E2	<ul style="list-style-type: none"> Exclusion zone barricades to be installed where required. A SWMS is required for all works where a person or materials can fall more than 2m and to include emergency procedures. A working at heights permit is to be completed and approved by foreman. Current test certificates to be supplied or tags to be sighted for lifting equipment, static lines and fall arrest 	EC A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit	

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR			
			<ul style="list-style-type: none"> equipment Platform ladders to be used rather than ladder (if needed ladders to be used as last resort) Harness only to be used as a last resort and only after consultation and approval from Delta except where it is a legislative requirement i.e.; Boomlift, Crane man box, Swing stage scaffold. A LL harness permit is to be filled in and approved prior to works commencing. 	A P							
			<table border="0"> <tr> <td>Management Reference</td> <td>System</td> <td><u>Proc</u> Risk Management <u>SOP 53</u> Working at Heights <u>Proc</u> PPE</td> </tr> </table>	Management Reference	System	<u>Proc</u> Risk Management <u>SOP 53</u> Working at Heights <u>Proc</u> PPE					
Management Reference	System	<u>Proc</u> Risk Management <u>SOP 53</u> Working at Heights <u>Proc</u> PPE									
Edge protection	Gravitational	E2	<ul style="list-style-type: none"> All live edges created during demolition will be fitted with compliant handrails. Hierarchy of control methodology to be adopted. 	EC A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit			
			<table border="0"> <tr> <td>Management Reference</td> <td>System</td> <td><u>Proc</u> Risk Management <u>SOP 53</u> Working at Heights</td> </tr> </table>	Management Reference	System	<u>Proc</u> Risk Management <u>SOP 53</u> Working at Heights					
Management Reference	System	<u>Proc</u> Risk Management <u>SOP 53</u> Working at Heights									
Penetrations	Gravitational	E2	<ul style="list-style-type: none"> Penetrations to be secured to prevent falls. E.g. handrails, covers. Penetrations over 200mm to have mesh and plywood covers bolted down. Uncovered manholes and pits to be highlighted, barricaded, protected or monitored to prevent people from falling in. Penetration to be clearly marked and / or sign posted. 	EC EC EC A	H11	Delta Foreman Delta Site Workers Delta	Prior to works	Monthly audit			

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<ul style="list-style-type: none"> Chamber lids and manhole covers are not to be left open and unattended Safe Work Procedure required for works where a person can fall 2m or more. 	A A		Project Engineer		
Use of Elevated work platforms (EWP's)	Gravitational, Kinetic, Vehicles, Mobile equipment, Electrical	E2	<ul style="list-style-type: none"> Exclusion zones to be in place Plant to be site inducted Plant / Maintenance inspections prior to use. Maintenance and service records to be available and up to date. Working at Heights permit required for operation of Boom Lift Plant register to be completed Subcontractors are to have SWMS for EWP use. Operator to be suitably ticketed and trained. EWP's are never to be used as a form of access. Look out for overhead wires/obstructions and underground service Full harness to be used in boom lift. 	EC A A A A A A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Risk Management <u>SOP Elevate Work Platform</u>				

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Loading / Unloading of trucks.	Gravitational	E5	<ul style="list-style-type: none"> Loading and unloading to be done in designated areas Where possible arrange loads to be pre-slung before coming to site. Ensure loads are not stacked to high. Height mitigation strategies must be considered if personnel are required to work off the back of a truck. Communicate to subcontractors setting out the guidelines for loading trucks and require justification if loads greater than 2m need to be delivered to site. Truck driver induction to be completed 	A A A A A	H12	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
			Management System Reference System <u>SOP 53</u> Working at Heights					
Working overhead	Gravitational	E8	<ul style="list-style-type: none"> Exclusion zones to be in place below works Lanyards or wrist straps are to be used to secure the tools being used when personnel may be at risk. Warning signs to be in place 	EC EC A	H16	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
			Management System Reference System <u>SOP 53</u> Working at Heights					
Use of / working with electrical equipment / installations.	Electrical	E2	<ul style="list-style-type: none"> Use cable stands or insulated hooks where possible to suspend electrical leads 2m off floor Any new works, portable power tools, leads; generators and temporary electrical will be protected by earth leakage devices Switchboards to be fitted with Class 2 RCD's which are tested monthly & calibrated every 3 months 	EC EC EC	H11	Delta Foreman Delta Site Workers	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<ul style="list-style-type: none"> • Ensure that all temporary DB's are installed with a minimum 2m clearance to the front face of the board. Maintain 1.2m exclusion zone around all boards • Decommission and sign-off procedure for existing buildings to be implemented. • All in ground services are to be identified prior to works. • Any temporary distribution boards to be tested on installation and periodically as per Code for Electrical Practices in Construction. • Risk Assessment and Safe Work Method Statements required for working near live electrical. NO LIVE WORK. • All RCD's to be tested and tagged prior to use and then once a month. Electrical equipment, amenities and electrical appliances in these to be tested and tagged 3 monthly • Only appropriately licensed and authorised workers to conduct any electrical works. Leads and electrical practices to conform to Code for Electrical Practices for Construction Work. • Electrical Register to be maintained by all subcontractors and Delta • QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works 	EC A A A A A A A A		Delta Project Engineer		
Management System Reference			<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Existing Ground Services and Overhead Services	Electrical.	E2	<ul style="list-style-type: none"> Hand excavate and expose services which may be affected. Carry out a detailed services investigation and on site search. Risk Assessment / SWMS must be submitted and approved prior to any works commencing. Permits to Excavate to be completed and approved by foreman Existing drawings to be reviewed prior to commencing any excavation. (if available) Dial before you Dig information to be filed and held on site for information Identify all isolation valves, switches etc. early in project. Post emergency contact list for infrastructure services 	S A A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
Cranage	Gravitational, Kinetic, Vehicles, Mobile equipment Machinery, Tools	E1	<ul style="list-style-type: none"> Communication system (Radios) required at all times between Crane Operator & Dogman. QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works. All mobile cranes are to be fit for purpose to safely complete the given task/s. Expert advice to be obtained to ensure compliance. All major lifts by mobile cranes are to have outrigger footing / foundations assessed by a competent person. Areas nominated for any mobile crane use to be rated appropriately in the structural design of the footings and slabs 	EC A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit

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			<ul style="list-style-type: none"> Mobile cranes are to carry maintenance logs and must be site inducted prior to use on site. Mobile Crane to be checked by competent person daily and log book completed. All crane drivers and dogmen are to hold relevant tickets which are to be provided at induction prior to operating the crane on site. All workers are to be inducted to the specific work procedures for the tasks to be undertaken. All lifting gear to be inspected prior to use and have current tag. 	A A A A A				
Plant and Equipment	Kinetic, Manual handling, Gravitational	E2	<ul style="list-style-type: none"> All civil machinery to be fitted with Roll Over Protection/ Falling Object Protection and reverse warning lights, beepers & flashing beacons. Prior to operation or erection of major plant and equipment (e.g. excavators, bobcat, forklift, cranes, Manitou, scaffolding, concrete placement pumps, booms and lines) the subcontractor or owner to provide current maintenance, repair or engineer's certification of equipment – by a qualified person i.e. fitter, plant mechanic or engineer. All mobile plant must be site inducted The maintenance and use of major plant must be in accordance with the manufacturer's specifications and the plant must be suitable for purpose, safe and fit for use. Plant requiring Work Cover registration must be 	EC A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit

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			<p>registered.</p> <ul style="list-style-type: none"> Operators must be adequately trained, instructed and certified, and complete daily log books where required by Manufacturer, Legislation, and Australian Standards. Any safety switches, isolation devices, safety rails and guards as specified by the Manufacturer and relevant Codes, standards and regulations to be operable and in place. Registers, log books and other records as required by legislation to be established and maintained. Plant and equipment to conform to the Plant Code of Compliance and all other National plant and equipment standards and any other appropriate legislation. People using powered portable tools must be adequately trained, experienced, and if required by legislation, certified, in the use and care (e.g. chainsaws, whackers packers, vibrators, power saws, EPT). No scaffolding is to be erected unless by certified scaffolder, and with appropriate certification on scaffold components, inspection and sign off records. Design details by qualified persons are to be maintained on site. Chains, slings, lifting cages and the like must be listed on plant and equipment register, regularly inspected and serviced by a competent person (e.g. certified plant operator, rigger, dogman, fitter, welder, engineer), and records kept. Lifting gear and plant and equipment to be lifted must be rated for the lift SWMS to be developed and implemented for all tasks involving mobile plant 	<p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p> <p>A</p>				

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			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Management Reference</td> <td style="width: 25%;">System</td> <td style="width: 50%;"><u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc Mobile Plant</u> <u>SOP</u> for relevant plant</td> </tr> </table>	Management Reference	System	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc Mobile Plant</u> <u>SOP</u> for relevant plant					
Management Reference	System	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc Mobile Plant</u> <u>SOP</u> for relevant plant									
Manual Handling	Manual Handling	E5	<ul style="list-style-type: none"> • Where possible mechanical methods of lifting should be adopted. • Where not possible to use mechanical aid, team lifting should be utilised. • Back straight Knees bent when lifting. • Subcontractors to include manual task risk management controls in QSE documentation to be supplied to and approved by Delta. • All personnel doing manual tasks to be inducted into Manual Handling SOP. • Delta to monitor worker behaviour to identify occupational stress issues. • Gloves to be worn for all manual tasks <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Management Reference</td> <td style="width: 25%;">System</td> <td style="width: 50%;"><u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc</u> Management of Health Issues <u>SOP 24</u> Manual Handling</td> </tr> </table>	Management Reference	System	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc</u> Management of Health Issues <u>SOP 24</u> Manual Handling	E EC EC A A A P	H16	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
Management Reference	System	<u>Proc</u> Risk Management <u>Proc</u> Subcontractor Management <u>Proc</u> Management of Health Issues <u>SOP 24</u> Manual Handling									

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Radiation / Welding / Lasers	Temperature Exposure to radioactive materials contained within the existing facility. Fire / Explosion	H9	<ul style="list-style-type: none"> Welders shall use adequate Personal Protective Equipment, set up flash screens and signage to protect others against welding flashes, and provide fire extinguishers. Where lasers are used appropriate signage must be used. Risk assessments and Safe Work Method Statements to be developed. Depending on the Class of laser used, appropriate controls and training shall be implemented according to Australian Standard 2211. Suitable Ultra Violet protection e.g. wide brim hats, neck flaps, sunscreen, long sleeve shirts and trousers should be worn for all external works. 	EC A A A A	M20	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Risk Management <u>SOP 22</u> Laser Operation <u>Proc</u> PPE				

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Confined Spaces	Air quality Manual Handling (restricted movement / posture) Extremes in temperature (body overheating / hypothermia) Fire & explosion	E2	<ul style="list-style-type: none"> • Provide Portable Ventilation Units where required • Delta to undertake Risk Assessment / SWMS to identify where confined spaces exists. • No one to enter confined spaces without a Risk Assessment / SWMS for that specific space. • Risk Assessment / SWMS to identify controls and procedures to safely work within confined spaces. • Anyone working in confined spaces must have the relevant training and qualifications to do so and confined space entry permit. • Ensure that work is not solo work. Ensure that a second operative with a level first aid certificate is at hand to obtain assistance in emergency, • Confined Space Permit issued prior to the commencement of works. • Minimum 2 men crew • Confined Space Checklist and Register to be utilized during works • Daily inspections of equipment and work area required by working personnel. • “DANGER” signage to be placed in visible positions to warn of dangers. • Appropriate Personal Protective Equipment including harnesses (for emergence retrieval not for fall arrest), respirators, gas detectors and rescue equipment as identified, to be provided, used and worn by Delta/subcontractor. “Safe entry and working in confined space” and relevant Australian Standards and Codes. 	EC A A A A A A A A P	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> Confined Space <u>Proc</u> PPE <u>Proc</u> Subcontractor Management					
Demolition	Gravitational Noise / Vibration, Manual handling Electrical Fire / Explosion Gravitational Waste Management Community Relations, Hazardous Materials. Kinetic	E2	<ul style="list-style-type: none"> Ensure that temporary safety barriers (both at the work face and around the drop zone on ground) complete with full signage requirements are erected prior to commencement of work. All plant is to have roll over / roof protection. Site Safety Plan (demolition plan) and task specific SWMS approved prior to commencement. Electrical and all services (gas, water sewer) inspection and signoff completed prior to commencement Air Quality / Dust Mitigation Plan to be implemented minimise impact to site workforce and adjoining property owners. All employees to complete Site induction and Industry Induction prior to commencement on site. Ensure that all operatives have been trained in the safe use of all demolition tools (e.g. demolition saw, chainsaws, etc.). Demolition contractor and operatives to be appropriately licensed. Demolition Plant operators to be licensed/competent. Daily inspections of equipment and work area required by working personnel. QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works PPE to be used. 		EC EC A A A A A A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> Demolition and Civil Management <u>Proc</u> PPE <u>Proc</u> Subcontractor Management	P				
Use of Explosives	Incorrect use No Licence Flying Objects Storage Handling on site Mass Explosion	E4	<ul style="list-style-type: none"> Exclusion zones to be implemented in accordance to 'Demolition and Engineer Plan' Use of specialist sub-contractor Engineering plan to be signed off 47T Excavator to be on standby Material to be handled as per legislation and corrective licences e.g. Blasting explosives user's licence, Licence to transport by vehicle, worker cover notification, NSW explosives Act Sub-Contractor to follow management plan Bring the required materials only and not in excess Relevant permits to be obtained by explosives sub-contractor 	I A A A A A A A	H11	Delta Project Manager & Engineer Delta Foreman Sub-contractor responsible for explosives	Prior to works	Monthly audit	
			Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> Legal Requirements <u>Proc</u> Subcontractor Management					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
On site storage of explosives	Theft of explosives	E8	<ul style="list-style-type: none"> Excess explosive materials not be placed on site Explosive materials to be placed in locked containers at all times. (Container must be locked at all times) Only authorised personnel to be allowed to enter explosives container. Security to be placed onsite when explosives are stored on site. Gates to be locked after site working hours 	I A A A A	H12	Delta Project Manager & Engineer Delta Foreman Sub-contractor responsible for explosives	Prior to works	Monthly audit
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> Legal Requirements <u>Proc</u> Subcontractor Management <u>Proc</u> Dangerous Goods & Hazardous Substance Management					
Breaking glass	Cuts, Lacerations	H10	<ul style="list-style-type: none"> Clean glass up and or stockpile and barricade immediately Where possible to break glass from an elevated position to prevent glass falling on worker Inspect type of glass E.g. plate, toughened, and laminated Remove all loose material around windows and doors to prevent cuts and glass falling All workers that are breaking glass will have eye and face protection (Safety glasses / Face Shield) All workers will wear long sleeve and long pants and gloves 	I A A A P P	M18	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> PPE					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Windy environment causing material and dust movement	Material Falling Debris from site on road causing damage to travelling vehicles	E6	<ul style="list-style-type: none"> • All out door loose material will be secured at all times • All work areas will be assessed for safe work practices in windy conditions • A check for loose material will be completed at the end of each work day • All loose roof top material will be removed as work progresses if unable to remove they will be secured with rope, heavy material and or machinery • Ensure all dust control within the vicinity are implement as per Asbestos Control Plan. • Erect ATF fencing around the affected areas with shade cloth. • Machine operators working in affected areas to be tool boxed regarding possible issues. • Dust/Water suppression used to keep dust levels down. • Exclusion zone barricades to be installed. • "DANGER" signage to be placed in visible positions to warn of dangers. • QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works • Daily inspections of equipment and work area required by working personnel. • Daily Air Monitoring and Weather Monitoring conducted • BOM readings in daily pre-start 		A A A A EC I I A EC I I A A A A	M17	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
			Management System Reference	<u>Proc</u> Risk Management					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Fire & Explosion	Fire/Explosion, Burns	E1	<ul style="list-style-type: none"> All flammable material to be cleaned as work progresses Do not complete hot works near flammable material Fire extinguishers or water hose with all hot works Flashback arrester on both ends of oxy sets Hot works permits on total fire ban days Emergency Management Plan for site (Delta) 	<p>Management System Reference</p> <p><u>Proc</u> Dangerous Goods & Hazardous Substance Management Proc Risk Management <u>SOP 19</u> Hot Works</p>	E I E C E C A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
Working outside	Heat stress, sun burn	E6	<ul style="list-style-type: none"> Be aware of the potential for and the symptoms of heat stress and work accordingly The use of hardhat brim and sunburn cream can reduce the risk of sunburn. On hot days drink plenty of water 	<p>Management System Reference</p> <p><u>Proc</u> Risk Management <u>Proc</u> PPE <u>Proc</u> Management of Health Issues</p>	A p	M17	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Excavation	Gravitational Electrical Contaminated soil and water Kinetic Structural Failure / collapse of excavation walls. Pollution to roads & footpaths Stormwater	E2	<ul style="list-style-type: none"> Ensure that safety barriers are erected around the excavation (where the excavation is not battered) and there is a sheer drop greater than 1.5m Equipment and spoil at least 600 mm from the sides of the trench Adequate segregation of plant / equipment and personnel. Task specific SWMS approved prior to commencement. Traffic Management Plan approved Geotech investigation to be considered to determine procedures to be adopted for the safe execution of the works. Provide adequate planning and supervision to ensure that plant does not “work over the top of each other”. All employees to complete Site induction and Industry Induction prior to commencement on site. All plant to be used only for designated purposes unless competent person has made an assessment that the change in use does not present an increased health and safety risk. Daily inspections of equipment and work area required by working personnel. “DANGER” signage to be placed in visible positions to warn of dangers. Appropriate access / egress to be provided for excavations >1.5m deep 		EC EC EC A A A A A A A A A A A	H11	Delta- Project Manager, Site Foreman, Site Engineer and all workers	Prior to works	Monthly audit
			Management System Reference	Proc Risk Management Proc Mobile Plant	A				

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR		
Multiple contractors on site	Congestion, noise, movement, tasks	H10	<ul style="list-style-type: none"> Separation of subcontractors where possible Site management and consultation on a daily basis Staging of works. What tasks are subcontractors completing? Site induction for all workers SWMS to completed on all task Site PPE&C to be worn at all times <table border="1"> <tr> <td>Management System Reference</td> <td> <u>Proc</u> Risk Management <u>Proc</u> PPE <u>Proc</u> Subcontractor Management <u>Proc</u> Competency Induction & Training </td> </tr> </table>		Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> PPE <u>Proc</u> Subcontractor Management <u>Proc</u> Competency Induction & Training	I A A A A A P	L23	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
Management System Reference	<u>Proc</u> Risk Management <u>Proc</u> PPE <u>Proc</u> Subcontractor Management <u>Proc</u> Competency Induction & Training										

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR		
Injuries from uncontrolled or unexpected movement plant / equipment	Personal injuries, Unexpected injuries	E1	<ul style="list-style-type: none"> Where feasible the work zone should be quartered off to ensure that only authorized personnel enter the work zone. Be aware of the presence of bystanders around the edge of the work zone All personnel should be aware of the hazards associated with plant equipment such as spinning and moving parts, falling objects, bursting compressed air and hydraulic hoses etc. Whenever working close to machinery is not required, safe distance should be maintained from the plant in case of accidents or faults 	I A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit		
Structural collapse/ Over Loading	Gravitational Structural	E1	<ul style="list-style-type: none"> Use workers experienced in the removal of concrete panels Make sure the crane has the weight and control of the load before the supports are removed Make sure the cored lifting holes are no less than 1m from the top off the load (if concrete panel) Refer to structural Engineer report Make sure the lifting equipment and the crane are in a satisfactory condition Use a qualified dogmen and crane operator (with VOC) 	EC A A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit		
			<table border="1"> <tr> <td>Management Reference</td> <td>System <u>Proc</u> Risk Management <u>Proc</u> Mobile Plant</td> </tr> </table>	Management Reference	System <u>Proc</u> Risk Management <u>Proc</u> Mobile Plant					
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ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Local fauna in or impeding demolition of structures	Public Outrage Conservation and Habitat	E4	<ul style="list-style-type: none"> Local fauna to be removed by licensed wildlife handler in accordance with permit approvals e.g. goats, kangaroo and snakes or lizards Ecologist to provide sign off prior to starting demolition works to structures identified to have local fauna - Large-Eared Pied Bats Information about local fauna (LEPB) to be provide into site section inductions to inform all personnel. 	E A	H11	Delta Project Manager &Engineer Delta Foreman Delta Site Workers	Prior to works	Monthly audit
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> _____ Consultation, Communication and Reporting Procedure					
Availability of services and plant	Plant/Vehicle Lead time to delivery new plant/equipment	H13	<ul style="list-style-type: none"> Local suppliers to be sourced for plant and equipment Operators to do daily plant pre-checklist prior to starting Weekly equipment check 	A A A	M18	Delta Foreman Delta Site Workers	Prior to works	Monthly audit
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> Mobile Plant					
Water truck onsite	Plant/Vehicle Water truck driver lost on project	E4	<ul style="list-style-type: none"> Road to be graded if required Road to be assessed prior to use Daily road inspection conducted Signage to be placed in on-site haul road 	I A A A	H11	Delta Project Engineer Delta	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
	Unstable roads Road to lake not accessible		Management Reference	System <u>Proc</u> Risk Management <u>Proc</u> Mobile Plant			Foreman		
Water supply	Contamination of supply Project Water Supply	E7	<ul style="list-style-type: none"> Water Truck to use water that has been cleared with clearance certificate. Implementation of dust control plan to ensure no shortage of water for the project is encountered Water trucks to follow marked roads to ensure quick deliveries of water 		A A A	H11	Delta Project Manager and Project Engineer	Prior to works	Monthly audit
			Management Reference	System <u>Proc</u> Risk Management <u>Proc</u> Traffic management <u>Proc</u> Mobile Plant			Delta Foreman		
Asbestos	Plant Exposure Personnel Exposure Nearby House Exposure	E4	<ul style="list-style-type: none"> HEPA filter Clean Equipment and Plant prior to leaving site Detailed clean & clearance before remobilisation Air monitoring Daily monitor of VOM recorded in site diary ITP for go or no go based on winder direction Weather station to be placed on site Personnel must be inducted in asbestos awareness training Must be inducted Workers must have friable asbestos training Decontamination plan for personnel Minimum PPE requirements placed in inductions Use of PPE in cab 		EC A A A A A A A A A PP PP	H11	Delta Project Manager and Project Engineer Delta Foreman	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management Reference	System <u>Proc</u> Risk Management <u>Proc</u> Asbestos Management and Removal					
Cutting and grinding – hot works	House keeping Gravitational PPE / Manual handling injuries. Kinetic Mobile equipment Temperature Electrical Chemicals Waste management Fire / Explosion	E5	<ul style="list-style-type: none"> • FFE to be in the area of all hot works • QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works • Induct all subcontractor employees and ensure they understand and sign the SWMS. • Ensure testing and tagging of electrical equipment. • Ensure Operatives are trained in the safe use of grinding & cutting equipment, and that the equipment is stored according OH&S regulations. • Hot Works Permit to be completed and approved by foreman • Face shields to be worn at all times and where possible screens erected in grinding / cutting areas. • Ensure that all employees have appropriate PPE including vests, hardhats, boots, gloves, eye protection, hearing protection 	<ul style="list-style-type: none"> • <u>Proc</u> Risk Management • <u>Proc</u> PPE • <u>Proc</u> Subcontractor Management • <u>SOP 19</u> Hot Works 	EC A A A A A P P	H12	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
C	ENVIRONMENTAL								

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Local fauna and flora	Public Outrage Conservation and Habitat	E4	<ul style="list-style-type: none"> Local fauna to be removed by licensed wildlife handler in accordance with permit approvals e.g. goats, kangaroo and snakes or lizards Ecologist to provide sign off prior to starting demolition works to structures identified to have local fauna - Large-Eared Pied Bats Exclusion Zones to be placed around area considered to have a conservation level i.e. Area's 1 and Area's 2 Keep within haul roads when tracking across site During Demolition excavators to only stand on ground and not over local flora Information about local fauna (LEPB) to be provide into site section inductions to inform all personnel. 	E A A A	H11	Delta Project Manager &Engineer Delta Foreman Delta Site Workers Prior to works Prior to works	Monthly audit	Prior to works
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> Consultation, Communication and Reporting Procedure					
Demolition of existing building Noise / vibration	Work related stress Noise / Vibration Neighbourhood participation	E5	<ul style="list-style-type: none"> Equipment and machinery to comply with statutory requirements for noise control. Warning signs to be in place Personal Protective Equipment to be utilised as per Delta PPE Policy and SWMS. Noise and/or vibration monitoring to be conducted where required and/or appropriate. Regular engagement of user groups/occupants to ensure both Delta and occupants understand each other's requirements. No yelling, loud talk or swearing. Ensure that all delivery drivers are informed of site hour 	A A A A	H12	Delta Foreman Delta Site Workers Delta Project Engineer Prior to works Prior to	Monthly audit	Prior to works

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			<p>restrictions and do not deliver or pick up outside of these hours.</p> <ul style="list-style-type: none"> Where vibration may affect adjacent structures or an excavation, a risk assessment will be undertaken to identify appropriate procedures. 	A A		works		
			<p>Management System Reference</p> <p><u>Proc</u> Risk Management <u>Proc</u> PPE <u>Proc</u> Management of Health Issues</p>					
Biological	Neighbourhood participation Microbiological	H9	<ul style="list-style-type: none"> Site inspection to be conducted to remove all syringes before works commence and as required during project. Sharps container to be available on site. Adequate washroom and lunch facilities will be provided Site amenities are required to be kept clean and maintained by those using them. First aid office and suitably qualified/competent first aid nominee to be on site during working hours. Emergency response procedures as per the site induction. No-one to misuse, interfere or remove site safety and rescue equipment. Use appropriate procedures SWMS and PPE where odours or gas are present. Workers to be made aware to report unknown substances or odours. 	EC A A A A A A	M17	Delta Foreman Delta Site Workers Delta Project Engineer Prior to works Prior to works	Monthly audit	Prior to works
			<p>Management System Reference</p> <p><u>Proc</u> Management of Health Issues</p>					

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Dust/Inhalation of dust	Dust exposure, eye damage, contaminated dust	H10	<ul style="list-style-type: none"> Limiting vehicle access to site Water hoses to be used to minimise dust exposure Suppression of dust with water e.g. use of water trucks, dust bosses, excavators with hose attachments, gurney and water truck on haul road Crushed rock to haul roads and access tracks if required Inhalation of dust can be avoided by dampening the soil, minimizing disturbance Environmental management plan Dust control plan Areas sign of at completion Glasses to be worn P2 dust mask to be worn 	I I EC EC EC EC A A P P	L21	Delta Foreman Delta Site Workers Delta Project Engineer Prior to works Prior to works	Monthly audit	Prior to works
			Management System Reference <u>Proc</u> Risk Management <u>Proc</u> PPE <u>Proc</u> Management of Health Issues					
Pollution	Neighbourhood participation Dangerous Goods /Chemicals /Substances Air quality Conservation and	E2	<ul style="list-style-type: none"> Environmental controls as per Environmental management plan – sedimentation fences, washout areas or containers, stormwater inlet protection, dust suppression, waste management strategy, contaminated materials removal and disposal. Refuelling spills, and excess waste materials which may lead to pollution to be identified and controlled and disposed of as per EPA requirements. Spill kits to be available on site, where required, and personnel trained in their use. Use F/T water cart / truck to minimise dust. Ensure that adequate washout / retention facilities are provided. Provide chemical waste storage facility if 	EC EC EC EC	M17	Delta Foreman Delta Site Workers Delta Project Engineer Prior to works Prior to works	Monthly audit	Prior to works

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
	habitat Stormwater and erosion Contaminated soil and water		required. <ul style="list-style-type: none"> • Drains to be protected so that sediment remains on site and does not flow to adjacent waterways. • Appropriate storage of Hazardous substances and dangerous goods to be established and maintained • Environmental issues and controls to form part of the site induction. • Dust is to be managed to levels that mitigate potential impact on the construction zone and local community • Subcontractors to be made aware of the potential problems at induction stage. • Air monitoring during hazardous materials removal. • Remediation plan to be developed / implemented based on soil investigation • Machines to be turned off if not in use • Plant to be serviced as per requirements to stop excessive visible smoke forming. 	EC EC EC A A A A A				
Flooding and overflow	Engulfment, flooding of roof,	E2	<ul style="list-style-type: none"> • Do not block drains • Filter cloth placed on drains • Ensure SWMP has been implemented • Weekly site walks to ensure SWMP has been implemented • Water run-off to flow in sedimentation pond. 	A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer Prior to works	Monthly audit	Prior to works
Management System Reference	<u>Proc</u> Management of Health Issues <u>Proc</u> Dangerous Goods and Hazardous Substance Management	Management System Reference	<u>Proc</u> Risk Management					

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							Prior to works		
Waste Management	QSE hazards / dangers created by poor Waste management, Public Relations problems (High waste generating industry). Incorrect record keeping of waste & recycling	H14	<ul style="list-style-type: none"> All wastes removed from site, recycling separation off site due to site space restrictions. Sufficient waste bins to be positioned in all areas to enable daily removal of all rubbish. Contaminated materials to be disposed of as per EPA requirements and this plan. Documented and verified waste management and disposal system (traceability). Display or Publish recycling rates / figures. Demolition waste (percentage of) to be recycled in accordance with client requirements. 		E	L23	Prior to works Prior to works	Monthly audit	Prior to works
			EC A A A A	Management System Reference <u>Proc</u> Dangerous Goods and Hazardous Substance Management					
Unexpected find not identified in HAZMAT report			<ul style="list-style-type: none"> Move item away from work zone if deemed safe by Hygienist Works to cease within the vicinity until identification of HAZMAT item can be determined The following procedure to be followed: <ol style="list-style-type: none"> Works within the area to cease Worker to call on supervisor Supervisor to assess and call out hygienist Test/Sample to be taken if required Exclusion Zone to be placed until further instructions. 						

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
Working Near Major Live Road ^a	Debris from site on road causing damage to travelling vehicles	B3	<ul style="list-style-type: none"> Erect ATF fencing around the affected areas Machine operators working in affected areas to be toolboxed regarding possible issues. Dust/Water suppression used to keep dust levels down. Exclusion zone barricades to be installed. “DANGER” signage to be placed in visible positions to warn of dangers. QSE documentation to be supplied by subcontractors and approved by Delta prior to commencement of works Daily inspections of equipment and work area required by working personnel. 	EC A A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit
Asbestos (contamination)	Plant Exposure Personnel Exposure Nearby House Exposure	E4	<ul style="list-style-type: none"> HEPA filter to be fitted on excavators. Clean Equipment and Plant prior to leaving site following appropriate decontamination procedures Detailed clean & clearance before remobilisation Air monitoring Daily monitor of VOM recorded in site diary ITP for go or no go based on winder direction Weather station to be placed on site to determine best location for air monitors during demolition Personnel must be inducted in asbestos awareness training Workers must be inducted into Delta’s Site Specific inductions. Workers must have friable asbestos training as per Delta Asbestos Management Plan. 	EC A A A A A A A A A	H11	Delta Project Manager and Project Engineer Delta Foreman	Prior to works	Monthly audit
Management System Reference			<u>Proc</u> Risk Management					

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY	HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<ul style="list-style-type: none"> Decontamination plan for personnel Minimum PPE requirements placed in inductions PPE (P3 half face respirators) to be used in excavator cab. 	PP PP				
Air Quality	Spread of air borne fibres to neighboring residents Excessive emissions from plant	H8	<ul style="list-style-type: none"> Ensure stockpiles are wet down prior to movement Ensure stockpiles are sprayed with PVA and covered with geo-fabric if being left for long periods Independent Licensed Asbestos Asser to follow relevant guidelines for monitoring. Conduct background air monitoring prior to starting demolition Weather station to be installed to assist in determining air monitoring locations Plant and equipment to be turned off if not in use All personnel to be inducted into relevant emergency procedures (Site Induction) 	I I A A A A A	H13	Delta Project Manager and Project Engineer Delta Foreman	Prior and during works	Monthly Audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			Management Reference	System <i>Proc</i> Risk Management Delta Asbestos Management Plan Relevant SOP's for machinery used					
Local Heritage	Heritage and Archaeology	E8	<ul style="list-style-type: none"> All personnel to be inducted in to CEMP If personnel come across any heritage items of the like (historical or aboriginal) personnel to follow procedure listed in CEMP and Delta Emergency Response Plan No Aboriginal Heritage shall be destroyed Works to cease if any heritage items are found within the area until actions have been provided 		A A A A	H13	Delta Project Manager and Project Engineer Delta Foreman	Prior to works	Monthly audit
Hazardous Substances/Dangerous goods	Emergency, Fire, Explosion, Burns	E2	<ul style="list-style-type: none"> Oils to be stored in accordance with AS 4681-2000: The storage and handling of Class 9 (miscellaneous) dangerous goods and articles All Unleaded fuel, two stroke and diesel will be locked stored in accordance with AS 1940-2004 The storage and handling of flammable and combustible liquids All gas cylinders must be stored in the lock up cages provided. AS/NZS 1596 - 2008: The storage and handling of LP Gas Spill kits and FFE to be accessible at all times All hazardous substances are to be identified and relevant notification and MSDS to be issued to Delta prior to product being brought to site. A MSDS register to be established. Personnel to be trained in the use SWMS to high light the training & PPE required as per 		EC EC EC A A A	H11	Delta Foreman Delta Site Workers Delta Project Engineer	Prior to works	Monthly audit

ASPECT (Environmental) or ACTIVITY	HAZARD/ IMPACT	PRE-CONTROL RISK LEVEL	ACTION/ CONTROL/ METHODS USED TO REDUCE THE LIKELIHOOD AND/OR THE SEVERITY		HIERARCHY OF CONTROL	POST-CONTROL RISK LEVEL	RESPONSIBLE	WHEN	MONITOR
			<p>the MSDS requirements.</p> <ul style="list-style-type: none"> • Signage to delineate type of HS & DG (Flammable Liquid sign, Flammable Gas sign/Oxidizing Gas Sign) • All Signs are to be placed on main entrance and where dangerous goods are stored. • Personal Protective equipment 		A A P P				
			Management System Reference	<u>Proc</u> Dangerous Goods and Hazardous Substance Management <u>Proc</u> Risk Management					

48. DOCUMENTS AND RECORDS

a. SITE FILE DOCUMENT INDEX (SEF 050)



SITE FILE DOCUMENT INDEX

2wk	1mth	3mth	6mth	EACH SITE FILE CONTAIN THE FOLLOWING DOCUMENTS	
				SITE DIARY	REFERENCE
1	1	3	6	SITE DIARY FOLDER (30 pages per folder)	SEF 047
0		3	4	SITE KEY CONTACTS (In the site diary folder)	SEF 051
0	1	3	4	EMERGENCY SITE NUMBERS (In the site diary folder)	SEF 048
				RISK ASSESSMENTS	
			1	Risk assessment	SEF 043
1	1	2	2	Risk assessment chemical	SEF 042
				INDUCTIONS	
1	1	1	1	Induction read out	SEF 012
10	15	30	50	Induction site form	SEF 013
2	4	6	8	Induction truck driver	SEF 014
10	15	30	40	Induction plant and equipment	SEF 011
				PERMITS	
5	10	20	30	Permit excavation and drilling	SEF 018
4	8	12	15	Permit working at heights	SEF 020
1	2	2	3	Permit confined space	SEF 017
5	10	20	25	Permit hot works	SEF 019
				REGISTERS	
1	1	1	1	ITP Register	QF 014
2	2	4	6	PPE Register	SEF 035
1	2	2	4	SWMS Register	SEF 037
2	2	6	10	Action Register	SEF 024
1	1	1	1	First aid Register	SEF 029
2	2	4	8	Visitor Register	SEF 040
1	2	2	3	Asbestos Register	SEF 027
1	1	1	1	Training Register	SEF 039
1	2	3	4	Induction site Register	SEF 031
1	2	2	3	Asbestos control Register (Demo)	SEF 025
1	2	4	8	Plant and Equipment Register	SEF 034
1	1	1	2	Electrical test and tag Register	SEF 028
1	1	1	2	Asbestos entry and exit Register	SEF 026
1	1	1	1	Height safety equipment Register	SEF 030
1	1	1	3	Service sign off and isolation lock out Register	SEF 036
1	1	2	4	MSDS – Dangerous goods and Hazardous substances Register	SEF 033
				REPORTS and REQUESTS	
2	5	5	10	Hazard Report	SEF 009
1	2	4	7	Incident investigation Report	SEF 010
1	2	3	4	Corrective Action Report	SEF 005
1	2	2	2	System Breach – Non conformance	SEF 052
1	2	4	6	Training request	SEF 056
1	2	3	4	Letter to Doctor	SEF 016
				PROJECT PLANNING	
				Drawing Transmittal	
				Engineering Reports	
8	16	32	70	Earth disposal record (Civil)	QF 011
				Ground Anchor QA sheet	
				Inspection Test Plan	
				WALL NOTICES	
1	1	1	2	Emergency evacuation	SEF 058
1	1	1	2	QSE issues	SEF 059
1	1	1	2	Site rules	SEF 060
1	1	1	2	Syringe stick and scratch	SEF 061
1	1	1	2	Working near overhead electrical cables	SEF 062
1	1	1	2	Working near underground utilities	SEF 063
				PLANS	
1	1	1	1	QSE Management Plan (QSEMP)	
				Quality Management Plan (QMP)	
				Site Safety Management Plan (SSMP)	
				Environmental Management Plan (EMP)	

b. EMERGENCY SITE NUMBERS (SEF 048)

PROJECT:

SITE ADDRESS:

AMBULANCE:

FIRE:

POLICE:



DIAL 000

CONTACT	NAME / LOCATION	TELEPHONE
ELECTRICITY		
GAS		
HOSPITAL		
GENERAL PRACTITIONER MEDICAL CENTRE		
POISONS INFORMATION CENTRE		
WORKCOVER/WORKSAFE		
SECURITY FIRM		
STATE EMERGENCY SERVICE		
WATER SEWERAGE, DRAINAGE FAULTS		
ENVIRONMENTAL PROTECTION AUTHORITY		
TELSTRA EMERGENCY NUMBER		
DELTA SITE CONTACT/S		
DELTA HEAD OFFICE	577 Plummer Street Port Melbourne VIC 3207	03 96468277

h. CORRECTIVE ACTION REPORT (CAR) (SEF 005)

Delta PL – ABN 67 007 069 794
 Head Office: 577 Plummer Street,
 Port Melbourne 3207



CORRECTIVE ACTION REPORT – CAR (Maximum 5 items per form)

1) CAR: <input type="checkbox"/> AS/NZS4801 OSHMS - <input type="checkbox"/> ISO14001 EMS - <input type="checkbox"/> ISO 9001 QMS - <input type="checkbox"/> Other			
CAR ADDRESSED TO	COMPANY:		INITIATED BY
	DIVISION:		
	RECIPIENT:		NAME:
	LOCATION:		DATE:
	CLIENT NOTIFIED: <input type="checkbox"/> Yes <input type="checkbox"/> NA		Item No: #
		CAR Register No: #	Closed out date:
Item No: #		Item No: #	
CAR Register No: #		Closed out date:	CAR Register No: #
Item No: #		Item No: #	
CAR Register No: #		Closed out date:	CAR Register No: #
Item No: #		Item No: #	
CAR Register No: #		Closed out date:	CAR Register No: #
2) REASON FOR CORRECTIVE ACTION: (Cause of action - Root cause)			
<input type="checkbox"/> Lack of management	<input type="checkbox"/> 3 rd party audit	<input type="checkbox"/> N C to procedure	<input type="checkbox"/> External complaint
<input type="checkbox"/> Internal audit	<input type="checkbox"/> Lack of information	<input type="checkbox"/> Lack of training	<input type="checkbox"/> Fail to follow SWMS
CAR ISSUED BY:		DATE:	
3) RESPONDENT TO COMPLETE THIS SECTION			
CORRECTIVE ACTIONS TO BE TAKEN:			
COMPLETION DATE FOR CORRECTIVE ACTION:		SIGN:	
4) AUDITOR COMPLETES THIS SECTION			
CORRECTIVE ACTION AGREED WITH:		YES: <input type="checkbox"/>	NO: <input type="checkbox"/>
ADDITIONAL CORRECTIVE ACTION REQUIRED:			
5) REVIEWED BY (if applicable) <input type="checkbox"/> N/A			
QSE MANAGER:		OPERATIONS MANAGER:	
Comment:			
6) AUDITOR - VERIFY ACTIONS ARE EFFECTIVE AND CLOSED OUT. CAR'S FINALISED (Auditor)			
NAME:		CLOSED OUT: <input type="checkbox"/> Yes <input type="checkbox"/> No	DATE
SIGNED:		VERIFIED: <input type="checkbox"/> Yes <input type="checkbox"/> No	DATE

Delta Group Corrective Action Report

k. TOOLBOX INCIDENT & INJURY NOTIFICATION (SEF 064 /SEF 065)

DELTA GROUP STOP – THINK – ACT SITE TOOLBOX MINUTES

Project: _____ Date: _____
 Person that conducted meeting: _____

Toolbox Meeting Minutes – Items discussed
 Any corrective action to be recorded in Police Register:

1	Always work in a safe and controlled manner.
2	Ensure that correct PPE is worn at all times.
3	If you consider a task to be unsafe you must stop work and notify your Foreman / Safety Officer immediately.

When injuries occur - no matter how minor - ensure they are reported to your Site Foreman or First Aider **immediately**

Seek First Aid Treatment on site if required - complete **First Aid Treatment Register** and **First Aid Treatment Notice** for minor treatment that does not require an incident report (e.g. small cuts, bandaids, splinters)

If medical attention is required, Site Foreman to notify **Project Manager** and **National QSE Manager** **immediately**.

All injured employees to be accompanied to Delta preferred medical centre for further assessment with **Letter to Doctor**, outlining suitable duties available and be issued with a **WorkCover** medical certificate.

Delta Supports all employees in the Return to Work process and is able to provide suitable duties with majority of restrictions. Employees also have an obligation to fulfill the duties as per medical certificate.

Employees must also make all reasonable efforts to attend any follow up appointments and ensure they are issued with updated **WorkCover** medical certificates until GP certifies fit to resume normal duties.



l. MSDS – DANGEROUS GOODS AND HAZARDOUS SUBSTANCES REGISTER (SEF 033)

DELTA GROUP AUSTRALIA WINE **DANGEROUS GOODS/HAZARDOUS SUBSTANCE REGISTER**

PROJECT: _____

Dangerous goods are classified on the basis of immediate physical or chemical effects, such as fire, explosion, corrosion and poisoning, the effect on property, the environment or people.
 Hazardous substances are classified only on the basis of health effects (whether they be immediate or long term).

Product Name	Application	Location	Quantity	Product Labelled		MSDS		Classified as Hazardous in the MSDS		Dangerous Good		Expiry Date
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
				Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	

If the use of a Hazardous Substance requires a Risk Assessment, the risks and control measures associated with the use of the product/substance and the precautions for its use must be outlined in the Safe Work Method Statement.

STOP – THINK - ACT

m. HAZARD REPORT (SEF 009)



HAZARD REPORT FORM

This form is to be used when a hazard has been identified involving people, environment, plant or equipment.

Location / Project:		Date:
Source: <i>please tick</i>		
<input type="checkbox"/> Visual	<input type="checkbox"/> Incident	<input type="checkbox"/> Pre-start
<input type="checkbox"/> Toolbox	<input type="checkbox"/> Audit	<input type="checkbox"/> Other: _____

Tick appropriate box below

PEOPLE:		
<input type="checkbox"/> Safe behavior	<input type="checkbox"/> Unsafe behavior	
PROCEDURES:		
<input type="checkbox"/> Inadequate	<input type="checkbox"/> Not known	<input type="checkbox"/> Not understood
<input type="checkbox"/> Not followed	<input type="checkbox"/> Followed correctly	
ENGINEERING		
<input type="checkbox"/> Moving parts not guarded	<input type="checkbox"/> Electrical	
<input type="checkbox"/> Chemical	<input type="checkbox"/> Pressure	<input type="checkbox"/> Maintenance
ENVIRONMENT		
<input type="checkbox"/> Noise	<input type="checkbox"/> Dust	<input type="checkbox"/> Light
<input type="checkbox"/> Cold/Heat	<input type="checkbox"/> Chemical spill	<input type="checkbox"/> Housekeeping
TOOLS & EQUIPMENT		
<input type="checkbox"/> Test and Tag	<input type="checkbox"/> Unsafe condition	<input type="checkbox"/> Used incorrectly
<input type="checkbox"/> Wrong for area	<input type="checkbox"/> Wrong for job	<input type="checkbox"/> Fail to follow SWMS
FOLLOW UP ACTIONS REQUIRED		
<input type="checkbox"/> Review risk assessment	<input type="checkbox"/> Re induct individual	
<input type="checkbox"/> Toolbox	<input type="checkbox"/> Re induct workgroup	
<input type="checkbox"/> Review SOP	<input type="checkbox"/> System Improvement Notice (SIN)	
<input type="checkbox"/> Review SWMS	<input type="checkbox"/> Other: _____	
<input type="checkbox"/> Corrective Action Report (CAR)		
Name of person responsible to close out the report:		
Date closed out:		
Date Verified:		

n. INCIDENT REPORT (SEF 010)

DELTA GROUP INCIDENT REPORT
Complete this form and email it to the National Q&E Manager within 24 hours of incident occurring. qa@delta.com.au

Level 3 and above serious incident - System breach issued NO YES - Issued by: _____

1. Project Information

Project Name / Location: _____ Project Number: _____ Incident Number: _____
Office use only

Project Manager: _____ Division: _____ State: _____
 Supervisor: _____ Phone: _____
 Form completed by: _____ Phone: _____ Date: _____

2a. Incident Type - what is being reported?

MVA Injuries Environmental Property damage System breach
 Equipment damage Hear miss Unsafe act Psychological

2b. Incident details: **2c. Incident reported by:**

When did the incident occur? _____ a. Incident reported by: _____
 When was the incident reported? _____ b. Company: _____
 Who was the incident reported to? _____ c. Contact details: _____

3. Person(s) involved: Was the involved person injured? No No N/A (Witness details refer to item 22)

Details of person below:

Name: _____ Position: _____
 Birth date: _____ (Please FAKA email) Address: _____
 Business Unit: _____ Phone: _____
 Employee: P/T P/T Casual Contractor Member of the Public

4. Plant involved: Yes No N/A

Equipment Type: _____ Owned by others
 Details: _____ Rental
 Plant ID: _____ Company owned

5. Authority Notifications: No Yes WorkCover WorkSafe Police CFA
 Has a number been issued? Yes No (If Yes, attach a copy)

6. Incident information, what was supposed to happen

a. Describe the incident and events leading up to the occurrence

b. What did happen and why was there a difference (contributing factors) (i.e. control measure, time - pressure, oily or partition - waxy in, time, sunny - use of defective equipment - test not run properly - test wrong test or equipment - control decision - safety controls not properly - environmental factors)

c. Immediate action taken post the incident: (use one line drawing the incident to prevent an immediate re-occurrence)

d. What corrective actions would prevent the incident from re-occurring? (remedy of device, substitution - lubrication - wear - tightening - administration - re-ia - Training - Test methods with accident - fix not correct the test - Review control measures)

Page 1 of 4

DELTA GROUP INCIDENT REPORT
Complete this form and email it to the National Q&E Manager within 24 hours of incident occurring. qa@delta.com.au

7. Injury Details: N/A

Mechanism of injury:

Electrical Manual handling Other trades Sharp-edge Chemical Slips/trips and falls
 Fall from heights Followed Chemical Other
 Hit by moving object Struck Assaulted Other:

Nature of injury:

Abrasion Cut Crush Foreign body (eye) Bruising
 Sprain / Strain Burns Fracture Psychological Amputation
 Other (provide details): _____

Body part(s) affected:

_____ Left Right Front Back
 _____ Left Right Front Back
 _____ Left Right Front Back

Recordable injury class:

Fatality LT LTI P/L Report only
 Was there lost time injury? Yes No Was the injured person returned to work? Yes No N/A

Provide details: _____

8. First Aid Treatment: Yes, record first aider's details below No N/A

Name first aider: _____ Number: _____ Employer: _____

Type of treatment given:

Cleaning or flushing wound(s) on the surface of the skin Using bandages, gauze pads or butterfly bandages
 Use of hot or cold therapy (i.e. ice pack or heat pack) Using any non-IPGIC means of support (i.e. elastic bandages)
 Flushing of eyes Removing splinters or foreign material
 Drinking fluids for the relief of heat stress Other- specify in below: _____

9. Details of Medical Attention: N/A

Was the person taken to a medical centre or hospital? Yes provide details No

Name of hospital or medical centre: _____ Address and/or contact number: _____
 Treating physician's name and number: _____

Other medical assistance details - I.E. was the injured person taken to medical centre to undergo, test or x-ray? Did anyone go with them? Were they admitted to hospital? (include any test results, scan, x-ray, number). How long were they there? (Yes, when not to attend)

10. Corrective Action Recommended: Yes No **Systems breach issued (if any):** Yes No

ACTION REQUIRED	Due Date	Person Responsible	Closed Date	Signature

Page 2 of 4

DELTA GROUP INCIDENT REPORT
Complete this form and email it to the National Q&E Manager within 24 hours of incident occurring. qa@delta.com.au

11. Report copy issue: The completed report must be issued 3 to 2 (for their records. Legislation requires records to be kept:

1. Site Foreman	<input type="checkbox"/>	Signature:	Date received:
2. Project Manager	<input type="checkbox"/>	Signature:	Date received:
3. Operations Manager	<input type="checkbox"/>	Signature:	Date received:
4. C&E Team Member	<input type="checkbox"/>	Signature:	Date received:
5. National RTW Co-ordinator	<input type="checkbox"/>	Signature:	Date received:
6. Group General Manager (For all MTT's and above)	<input type="checkbox"/>	Signature:	Date received:
7. Regulatory Inspector - Name	<input type="checkbox"/>	Signature:	Date received:
8. Police - Name	<input type="checkbox"/>	Signature:	Date received:
9. Other - Details & Name	<input type="checkbox"/>	Signature:	Date received:

12. Further comments including estimated 3 (make good) costs of damage to property or materials:

13. Witnesses - details of persons involved

A. Name:	Number:	Statement	<input type="checkbox"/> Yes <input type="checkbox"/> No
B. Name:	Number:	Statement	<input type="checkbox"/> Yes <input type="checkbox"/> No
C. Name:	Number:	Statement	<input type="checkbox"/> Yes <input type="checkbox"/> No
D. Name:	Number:	Statement	<input type="checkbox"/> Yes <input type="checkbox"/> No
E. Name:	Number:	Statement	<input type="checkbox"/> Yes <input type="checkbox"/> No
F. Name:	Number:	Statement	<input type="checkbox"/> Yes <input type="checkbox"/> No

14. Attachments to the Report

Statements	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Medical Certificates	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Site induction forms	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Permits for work	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Toolbox or meeting minutes	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Engineer certificates	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Photos	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Evidence of certification, registration, maintenance, inspection etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
System Improvement Notice (SIN) - From a 2nd party	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Non-performance - System breach	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Regulatory authority entry report	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Risk / Hazard Assessment	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Attach other documents related to the incident (emergency services reports such as police, ambulance, Fire Department, WorkCover reports or notifications, and so on):

Other: Yes No
 Other: Yes No
 Other: Yes No

15. Date when the report will be closed out: **Current date:**

1st Report review date	2nd Report review date	3rd Close out date

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DELTA GROUP INCIDENT REPORT
Complete this form and email it to the National Q&E Manager within 24 hours of incident occurring. qa@delta.com.au

Injured person:

First aid notification: to be cut given to injured worker

Name:	DOB:	Date of incident:	Time of incident:
Occupation:	Industry:		
Date of injury:	Nature of injury:		
First Aid Treatment Given:			
Referred to GP <input type="checkbox"/> Yes <input type="checkbox"/> No		Referred to hospital <input type="checkbox"/> Yes <input type="checkbox"/> No	
First aider name:		Phone no:	
Details of Physician/Hospital:			

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49. SCHEDULE OF ENVIRONMENTAL SAFEGUARDS (Table 9.3 of PUBLIC ENVIRONMENTAL REPORT – PUBLIC WORKS)

Table 9-3 Schedule of Environmental Safeguards to be Implemented during Rehabilitation Works

Objective	Action	When Action to be taken	Person Responsible	Action Complete
Ensure impacts to the local Community are minimised	<p>COMMUNITY</p> <ol style="list-style-type: none"> 1. A complaints register would be kept by the contractor which documents community complaints received and any subsequent actions. 2. Complaints received shall be recorded and attended to promptly. On receiving a complaint, works shall be reviewed to determine whether issues relating to the complaint can be avoided or minimised. Feedback shall be provided to the complainant explaining what remedial actions were taken. 			
Minimise the impacts to neighbouring land owners due to the rehabilitation works.	<p>LOCATION AND LAND USE</p> <ol style="list-style-type: none"> 3. The closest landholders would be given 28 days notification of the rehabilitation works prior to commencement. 			
Minimise the impacts associated with rehabilitation traffic during the works.	<p>TRAFFIC AND ACCESS</p> <ol style="list-style-type: none"> 4. The successful contractor would prepare a Traffic Management Plan (TMP) in consultation with Tamworth Regional Council as part of the CEMP. This TMP is to be reviewed by NSW Trade & Investment, Division of Resources and Energy prior to commencement of works. The Traffic Management Plan would include site specific measures to minimise traffic impacts to ensure public safety and would be prepared in accordance with: <ol style="list-style-type: none"> a. RTA's Traffic Control at Work Sites Manual, Issued December 1998, and b. Australian Standard 1742.3 to 2002 Traffic Control Devices for Works on Roads. 5. Prior to the commencement of works, existing access tracks which would be used by heavy vehicles would be assessed for adequacy and upgraded where necessary. 6. Any temporary access tracks required for the works would be located so as to minimise disturbance to the existing environment. Following completion of the works the temporary tracks would be removed, topsoil provided and re- 			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>grassed. Existing tracks would be restored to their condition prior to works.</p> <ol style="list-style-type: none"> 7. Any disturbance to the nearest landowners as a result of vehicle movements and noise would be minimised by undertaking works in normal working hours (no works at night or on Sundays or public holidays). Construction activities would be undertaken in a manner that ensures access to nearby properties is maintained throughout the construction period. 8. All traffic would comply with all applicable traffic laws and regulations including speed limits. All construction vehicles would comply with the speed limits set for the roads accessing the site. 9. All roads would be kept clean and free of dust and mud at all times. 			
Minimise any impacts to soils and surrounding waterways (including water quality) due to the rehabilitation works.	<p>GEOLOGY, SOILS, TOPOGRAPHY AND WATER QUALITY</p> <ol style="list-style-type: none"> 10. A detailed Soil and Water Management Plan (SWMP) would be prepared as part of the CEMP. The SWMP would describe site specific the measures to be implemented for all works areas, in accordance with the standards outlined in the 2004 Landcom publication Managing Urban Stormwater: Soils and Construction, 4 edition ("The Blue Book"). The SWMP would need to be site specific and would need to address, but not be limited to, the following issues to prevent sediment loss and water quality impacts: <ol style="list-style-type: none"> a. identification of site specific sediment and erosion control measures wherever erosion is likely to occur; b. identification of environmentally sensitive areas on or near construction sites to ensure runoff is diverted away from sensitive areas; c. requirements for vegetation clearing to be kept to a minimum; and d. retention of all surface runoff on-site and where possible stormwater from off site would be diverted around the construction site. 11. All erosion and sediment controls would be regularly inspected, especially when rain is expected and directly after any rain events. 12. All areas where ground disturbance has occurred would be stabilised following completion of works to ensure there is no erosion hazard and 			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>restored to their pre-construction condition. This would involve, where required, reshaping the ground surface, covering it with topsoil excavated from the site and re-establishing an appropriate vegetation cover.</p> <p>13. Any excess spoil would be re-worked around the sites in such a manner as to avoid creating an erosion hazard. No excess spoil would be removed off site.</p> <p>14. Construction compounds would be located outside any drainage lines. Any hazardous materials stored on site would be stored in the compounds and within impervious and bunded enclosures capable of storing 120% of the volume of material stored there.</p> <p>15. Stormwater and wastewater would be contained within the works area for capture and disposal to the open cut pits within the site. Wastewater from the site would not be disposed of to, or be allowed to enter, any watercourses or drainage lines which may result in its movement outside the site.</p>			
Minimise impacts to flora and fauna (including LEPB) due to the works	<p>16. Demolition should be undertaken after weaning in February, March, April, or May (before winter hibernation and when the majority of the bats are normally leaving the building for the winter). If this is not possible, the works can alternatively be undertaken during late August, September and early October following winter and prior to breeding. No attempt should be made to evict the bats when the weather is cold and the bats are in torpor or hibernating, with such times obvious by cold temperature and the lack of LEPB activity in Anabat results.</p> <p>17. One week prior to commencement of any demolition on the site, conduct searches, trapping and Anabat recording to determine bat abundance and roost locations pre-demolition.</p> <p>18. During the week prior to demolition, trial the use of bright light and sound on one roost identified in an appropriate location in the Mill Building where bats can be observed to allow responses can be documented.</p> <p>19. Survey all of the Mill Building and external structures immediately prior to demolition to identify where the bats are roosting.</p> <p>20. Commence demolition of external structures not found to be roost sites.</p> <p>21. Continue to monitor the Mill Building to identify sections that are not roost</p>			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>sites that can be demolished, and demolish any such areas found.</p> <p>22. If bats are still present in sections of the Mill Building when it comes time to demolish areas of the building which do contain roosts, use the following deterrent methods. Three days monitoring should be undertaken for each method to determine its effectiveness:</p> <ol style="list-style-type: none"> Use floodlights at 13 strategic locations for three nights throughout the building (the brick and concrete rooms and flyways throughout the building). Operate them using a generator, and monitor the effect of light to deter the LEPB from roosting. If not successful, erect plastic sheets over the minor entry/exits to the brick and concrete rooms. Erect one way plastic flaps over the major entry/exits to allow bats to leave but stop their entry. Monitor the effect of blocking access to deter the LEPB from roosting. If not successful, try sound broadcasting at five strategic locations using high and low frequency sound and recorded calls from LEPB when handled. Monitor the effect of sound to deter the LEPB from roosting. If not successful, trial the use of artificial predators (owls, hawks, pythons) placed around the building in strategic locations. If not successful, trap and remove bats to release at King Solomon Mine. <p>23. No work would commence until it is satisfied that the LEPB have been successfully evicted.</p> <p>24. Demolition works would be restricted to daylight hours.</p> <p>25. An inspection by an ecologist of the entire works area is required before demolition begins, to ensure that no threatened species have moved into the proposed works area. If found, an action plan would be discussed with the OEH to formulate a plan that protects the species and enables work to commence as soon as possible.</p> <p>26. All demolition activity is to be kept strictly within the proposed works area.</p>			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>27. Clearing is to be minimised by careful planning, giving priority for protection to the Mugga ironbark section in Area 2.</p> <p>28. Clearing debris is to be retained and used to provide habitat in the rehabilitation area.</p> <p>29. No mature or hollow trees are to be removed without assessment and advice from an ecologist.</p> <p>30. The contractor and staff induction is to include all the above points in detail.</p>			
Avoid impacts to historic heritage items due to the works	<p>HISTORIC HERITAGE</p> <p>31. Prepare an archival photographic record of the building using the digital images taken to date by providing them on a CD, printing a selected range of photos to postcard size on long life paper, placing them in an album and lodge the mastercopy with Tamworth Council Library;</p> <p>32. Undertake salvage of items of interest such as plaques, signage and other items from the plant that can be cleaned free of asbestos contamination for the local museum.</p> <p>33. Take additional photographs to the standard of the current record during the demolition works, particularly at frame exposure stage following removal of cladding if available by the adopted demolition technique.</p> <p>34. Depending on the method used for demolition, preservation of the concrete building slabs on site as a record of where the various buildings once stood is desirable, but not essential.</p> <p>35. Subject to project funding, assist the Tamworth Library to undertake an oral history project to record the experiences of surviving employees of the mine as well as local visitors to the site as part of the business (e.g. delivery truck drivers).</p>			
Avoid impacts to Aboriginal heritage items due to the works	<p>ABORIGINAL HERITAGE</p> <p>36. All workers/contractors would be informed of their obligations under the <i>National Parks and Wildlife Act 1974</i>, namely that it is illegal to disturb, damage or destroy a relic without the prior approval of the Chief Executive</p>			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>Officer of the Office of Environment and Heritage.</p> <p>37. In the event that any Aboriginal artefacts or other archaeological material is found, all work likely to affect the site(s) would cease immediately at that location and OEH consulted in terms of the appropriate course of action. Prior to recommencement of works any required permits/approvals would be obtained.</p>			
Minimise impacts to air quality due to the rehabilitation works.	<p>AIR QUALITY</p> <p>38. Air monitoring would be undertaken during all of the phases of the rehabilitation works by a suitably qualified independent consultant engaged and managed by the contractor.</p> <p>39. A copy of air monitoring results would be provided by the Contractor on a daily basis, no later than midday the following working day. The daily report would include:</p> <ol style="list-style-type: none"> Site plan showing location of all air monitors (on site, site boundary and off site) Details of any activity-based air monitoring (e.g. type of plant, or activity being undertaken by worker(s)). Weather station results, minimum of hourly observations of wind strength and direction for the previous 24hrs. Any exceedance of allowable limits. Actions taken to rectify identified exceedance In the event that airborne dust is detected by real time dust monitors or asbestos fibres are detected in excess of allowable limits, the Contractor would cease works until adequate dust suppression measures are implemented. The Contractor is to advise the Principal immediately upon receiving air monitoring results which indicate levels higher than specified/allowed, and what action the Contractor proposes to rectify the matter. <p>40. Air monitoring requirements include an asbestos monitoring program which</p>			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>would address, but not necessarily be limited to, the following:</p> <ul style="list-style-type: none"> a. All air monitoring and analysis would be carried out by the consultant using National Association of Testing Authorities, Australia (NATA) accredited personnel to NATA Standards and in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2 Edition (NOHSC:3003(2005)). b. Air quality criteria for asbestos as set by the NOHSC, the <i>Work Health and Safety Act 2011</i> and <i>Work Health and Safety Regulation 2011</i>. Relevant criteria and exposure standards are discussed in Section 12.1.1 of the Asbestos Remediation and Demolition Plan prepared by Hazmat Services, dated October 2011. c. Background asbestos air monitoring would be undertaken prior to the commencement of the works to establish background data for comparison during the works. The background monitoring data would also be used to assess whether the control procedures being applied during the asbestos remediation works are satisfactory and that relevant levels are not being exceeded. d. Monitoring data would include: <ul style="list-style-type: none"> i. Exact location of static monitors including distinctive features of the workplace ii. Names and job titles of workers, location of work iii. Potential sources of asbestos emissions or exposure iv. Information on the particular process and control measures v. Weather conditions vi. Date and time of samplings vii. Name of person conducting the sampling and analysis e. Where a result of personal or control monitoring is considered high and/or is outside the site acceptable limits, the cause of the high reading is to be ascertained by the contractor and the Occupational Hygienist. The contractor would be responsible to take all remedial 			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>action at their expense to ensure that further high readings are not repeated. Procedures to be followed in the event of elevated air sampling readings would be developed by the contractor and approved by WorkCover NSW prior to commencing works on the site.</p> <ul style="list-style-type: none"> f. Personal exposure monitoring would be undertaken on operators or other personnel working within the Asbestos Work Area and inside operating plant and equipment. This would be undertaken at a frequency of at least twice per week for 10% of workers and plant, with a minimum of one person and one plant twice per week. g. General surveys, including visual inspection, settled dust analysis and/or air sampling, would be carried out periodically as determined by the consultant having regard to the amount of, and condition of, asbestos material at the site. h. Control monitoring would be undertaken continuously and reported at appropriate intervals (usually eight-hourly). The location of monitors would be at locations determined by the consultant in consultation with the Principal's Authorised Person and/or Contractor. <p>41. A meteorological weather station would be established at the site to monitor environmental conditions. Data obtained from the weather station would be used to correlate the weather conditions with the data obtained from the Asbestos Monitoring Program and for the purpose of comparing results. The following parameters would be measured:</p> <ul style="list-style-type: none"> a. Wind speed b. Wind direction c. Rainfall d. Temperature e. Humidity <p>Prevailing weather conditions may influence the spread of airborne asbestos fibre from the site to neighbouring properties and therefore influence production and operations at the site. All monitoring data would be continually appraised and appropriate adjustments made to work practices and</p>			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>operations to ensure the distribution of airborne asbestos fibre is minimised.</p> <p>42. The Contractor would monitor dust generation potential and be responsible for implementing all required dust suppression measures. Any stockpiled spoil/fill would be protected to minimise dust generation to avoid sediment moving offsite.</p> <p>43. Emergency procedures would be developed by the contractor in the event of an emergency which has the potential to cause a work health impact.</p> <p>44. Vehicles and equipment would be suitably serviced within the six-month period prior to commencement of rehabilitation activities and all necessary maintenance undertaken during the rehabilitation period to meet OEH air quality requirements.</p> <p>45. The excessive use of vehicles and powered equipment and plant would be avoided.</p> <p>46. All machinery would be turned off when not in use to minimise emissions.</p>			
Minimise waste generation due to the works.	<p>WASTE MANAGEMENT</p> <p>47. The contractor undertaking the works would detail waste management procedures in a Waste Management Plan to be included in the CEMP for the works. The contractor is to assume responsibility for the appropriate disposal of any waste generated. Adequate procedures should be established and detailed in the CEMP, including notification requirements to the OEH, for incidents that cause material harm to the environment. The CEMP would be prepared in accordance with the requirements of all appropriate Acts, Regulations and guidelines relating to waste management, including:</p> <ul style="list-style-type: none"> a. <i>Waste Avoidance and Resource Recovery Act 2001</i> b. <i>Protection of the Environment Operations Act 1997</i> c. <i>Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008</i> d. <i>Protection of the Environment Operations (Waste) Regulation 2005</i> e. <i>Waste Classification Guidelines – Part 1 Classifying Waste (DECCW,</i> 			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>2009)</p> <p>48. Excavated materials/fill would be reused onsite as part of rehabilitation works. Any surplus spoil disposed of in this manner would be seeded to minimise the likelihood of it being transported offsite through wind or water action.</p> <p>49. Any waste removed from the site would be classified and disposed of appropriately, and all non-recyclable waste would be disposed of at an appropriate licensed waste disposal facility.</p>			
Minimise visual amenity impacts due to the rehabilitation works.	<p>VISUAL AMENITY</p> <p>50. Clearing of vegetation would be kept to the minimum required to enable rehabilitation works.</p> <p>51. Construction compounds and areas for the parking of vehicles and storage of equipment would be located in cleared areas wherever possible.</p>			
Minimise environmental risks due to the handling of hazardous and contamination materials during the rehabilitation works.	<p>ASBESTOS CONTAINING MATERIALS</p> <p>52. Access must be strictly controlled to prevent unauthorised access. Any access to the site should be in accordance with NSW Public Works "Site Entry Requirements".</p> <p>53. Any removal of ACM is to be undertaken in accordance with the regulations and requirements of the NSW Government and the NOHSC, these being:</p> <ul style="list-style-type: none"> a. <i>NSW Work Health and Safety Regulation 2011;</i> b. <i>Code of Practice for the Safe Removal of Asbestos 2 Edition [NOHSC:2002(2005)];</i> c. <i>Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)];</i> d. <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2 Edition [NOHSC:3003(2005)];</i> e. <i>Any deviations from the above guidelines and standards would need to obtain WorkCover concurrence prior to commencement of relevant works.</i> 			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>54. Air monitoring should be carried out during the remediation works by a suitably qualified and independent hygienist.</p> <p>55. As required under the <i>NSW Work Health and Safety Regulation 2011</i>, an Asbestos Management Plan should be initiated to ensure personnel required to visit or undertake works at the property are made aware of the presence and location of all ACM.</p> <p>POLY CHLORINATED BIPHENYLS</p> <p>56. All fluorescent light fittings of a similar age and style as those identified as containing PCBs should be presumed to contain PCBs.</p> <p>57. Should capacitors other than those listed in the Hazardous Materials Survey be found, they should be handled and/or disposed of in accordance with the PCB Chemical Control Order in Relation to Materials and Wastes Containing Polychlorinated Biphenyl, 1997, issued by the NSW Environment Protection Authority and the PCB Management Plan issued by ANZECC until determined to be free of PCB by laboratory analysis.</p> <p>UNDERGROUND PETROLEUM STORAGE SYSTEM (UPSS)</p> <p>58. All appropriate Acts, Regulations and guidelines relating to UPSS would be adhered to, including the following as relevant to these works:</p> <ul style="list-style-type: none"> a. <i>Guidelines for implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (DECCW, 2009)</i> b. <i>Code of Practice: Storage and Handling of Dangerous Goods (NSW WorkCover Authority 2005)</i> c. <i>UPSS Technical Note: Site Validation Reporting (DECCW, 2010)</i> d. <i>UPSS Technical Note: Decommissioning, Abandonment and Removal of UPSS (DECCW, 2010)</i> e. <i>AS1940-2004: Storage and handling of flammable and combustible liquids</i> <p>GENERAL CONTAMINATION AND HAZARDOUS MATERIALS</p>			

Objective	Action	When Action to be taken	Person Responsible	Action Complete
	<p>59. Safe work procedures in relation to management of hazardous and contamination materials and decontamination of people, plant and vehicles would be developed by the construction contractor and included in the CEMP for the works, in accordance with the requirements of the WHS Act, WHS Regulation and any relevant guidelines, including those listed above.</p> <p>60. Any hazardous materials stored on site would be stored in the compounds and within impervious and bunded enclosures capable of storing 120% of the volume of material stored there.</p> <p>61. Safety sheets and appropriate emergency procedures are required to be included in the CEMP in accordance with best practice measures.</p> <p>62. Material Safety Data Sheets (MSDS) for all chemicals used in the rehabilitation process would be available where the chemical is stored or handled.</p> <p>63. Fuel and lubricants for machinery maintenance are to be stored and managed appropriately.</p> <p>64. Appropriate signage is to be maintained where chemicals are stored.</p>			

50. Appendix A – Water Quality Criteria

Section 10.3.7 Table 10.5 National Environmental Protection Council (NEPC), 1999, National Environmental Protection (Assessment of Site Contamination) Measure (NEPM), Schedule B1 and B2 and NHMRC/NMMRC (2011).

Characteristic	Guideline values (mg/L unless otherwise specified)		Comments
	Health	Aesthetic	
Acephate	0.008		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Acrylamide	0.0002		Minor impurity of polyacrylamide, used sometimes as a flocculant aid.
Aldicarb	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Aldrin & Dieldrin	0.0003 (combined)		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Aluminium (acid-soluble)	c.	0.2	Guideline value based on post-flocculation problems; < 0.1 mg/L desirable. Lower levels needed for renal dialysis. No health-based guideline value can be established currently.
Ametryn	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Amitraz	0.009		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Amitrole	0.009		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Ammonia (as NH ₃)	c.	0.5	Presence may indicate sewage contamination and/or microbial activity. High levels may corrode copper pipes and fittings.
Antimony	0.003		Exposure may rise with increasing use of antimony-tin solder.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Arsenic	0.01		From natural sources and mining/industrial/agricultural wastes.
Asbestos	c		From dissolution of minerals/industrial waste, deterioration of asbestos-cement pipes in distribution systems. No evidence of cancer when ingested (unlike inhaled asbestos).
Asulam	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Atrazine	0.02		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Azinphos-methyl	0.03		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Barium	2		Primarily from natural sources.
Benomyl	0.09		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Bentazone	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Benzene	0.001		Could occur in drinking water from atmospheric deposition (motor vehicle emissions) and chemical plant effluent. Human carcinogen.
Beryllium	0.06		From weathering of rocks, atmospheric deposition (burning of fossil fuels) discharges.
Bioresmethrin	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Boron	4		From natural leaching of minerals and contamination. <1 mg/L in uncontaminated sources; higher levels may be associated with seawater intrusion.
Bromacil	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Bromate	0.02		Possible by-product of disinfection using ozone, otherwise unlikely to be found in drinking water.
Bromophos-ethyl	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Bromoxynil	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Cadmium	0.002		Indicates industrial or agricultural contamination; from impurities in galvanised (zinc) fittings, solders and brasses.
Captan	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Carbaryl	0.03		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Carbendazim	0.09		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Carfentrazone-ethyl	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Carbofuran	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Carbon tetrachloride	0.003		Sometimes occurs as impurity in chlorine used for disinfection (it is not a disinfection by-product).
Carbophenothion	0.0005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Carboxin	0.3		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chloramine — see monochloramine			
Chlorantraniliprole	6		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chlorate	c e		By-product of chlorination. Insufficient data to set a health-related guideline value.
Chlordane	0.002		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chlorfenvinphos	0.002		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chloride	c	250	From natural mineral salts, effluent contamination. High concentrations more common in groundwater and certain catchments.
Chlorinated furanones (MX)	c e		By-product of chlorination. Insufficient data to set a health-related guideline value.
Chlorine	5 (4.1 for chloram- inated systems)	0.6	Widely used to disinfect water, and this can produce (free) chlorinated organic by-products. Odour threshold generally 0.6 mg/L, but 0.2 mg/L for a few people. In some supplies it may be necessary to exceed the aesthetic guideline in order to maintain an effective disinfectant residual throughout the system.
Chlorine dioxide	c	0.4	Oxidising agent and disinfectant in water treatment.
Chlorite	0.8		By-product of chlorine dioxide disinfection. Action to reduce chlorite is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than chlorite.
Chloroacetic acids chloroacetic acid dichloroacetic acid trichloroacetic acid	e 0.15 0.1 0.1		By-product of chlorination. Action to reduce chloroacetic acids is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than chloroacetic acids.
Chlorobenzene	0.3	0.01	Could occur in drinking water from spills or discharges. Taste/odour threshold (0.01 mg/L) is well below health level.
Chloroketones 1,1-dichloropropanone 1,3-dichloropropanone 1,1,1-trichloropropanone 1,1,3-trichloropropanone	e c c e c		By-product of chlorination.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Chlorophenols	e		By-product of chlorination of water containing phenol or related chemicals. Action to reduce chlorophenols is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than chlorophenols.
2-chlorophenol	0.3	0.0001	
2,4-dichlorophenol	0.2	0.0003	
2,4,6-trichlorophenol	0.02	0.002	
Chloropicrin	c		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns. Data are inadequate to set a health-based guideline.
Chlorothalonil	0.05		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chloroxuron	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chlorpyrifos	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chlorsulfuron	0.2		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Chromium (as Cr(VI))	0.05		From industrial/agricultural contamination of raw water or corrosion of materials in distribution system/plumbing. If guideline value exceeded, analyse for hexavalent chromium.
Clopyralid	2		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Colour (true)		15 HU	An important aesthetic characteristic for customer acceptance. Treatment processes can be optimised to remove colour.
Copper	2	1	From corrosion of pipes/fittings by salt, low pH water. Taste threshold 3 mg/L. High concentrations colour water blue/green. >1 mg/L may stain fittings. >2 mg/L can cause ill effects in some people.
Cyanide	0.08		From industrial waste and some plants and bacteria.
Cyanogen chloride (as cyanide)	0.08		By-product of chloramination. Action to reduce cyanogen chloride is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than cyanogen chloride.
Cyfluthrin, Beta-cyfluthrin	0.05		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Cypermethrin isomers	0.2		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Cyprodinil	0.09		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
2,4-D [(2,4-Dichlorophenoxy) acetic acid]	0.03		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
DDT	0.009		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Deltamethrin	0.04		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Diazinon	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dicamba	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dichlobenil	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dichlorobenzenes 1,2-dichlorobenzene 1,3-dichlorobenzene 1,4-dichlorobenzene	1.5 c 0.04	0.001 0.02 0.0003	Could occur in drinking water from spills, discharges, atmospheric deposition, leaching from contaminated soils. Health levels are well above offensive taste/odour thresholds.
Dichloroethanes 1,1-dichloroethane 1,2-dichloroethane	c 0.003		Could occur in drinking water from industrial effluents, spills, discharges.
Dichloroethenes 1,1-dichloroethene 1,2-dichloroethene	0.03 0.06		Rarely found in drinking water; found occasionally in groundwater from wells heavily contaminated by solvents.
Dichloromethane (methylene chloride)	0.004		Widely used solvent, commonly found in ground and surface waters overseas. Volatilises from surface waters and biodegrades in the atmosphere.
1,3-Dichloropropene	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dichloroprop / Dichloroprop-P	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dichlorvos	0.005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dicofop-methyl	0.005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dicofol	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dieldrin see Aldrin			
Difenzoquat	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Diffubenzuron	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dimethoate	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Diphenamid	0.3		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Diquat	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Dissolved oxygen	Not necessary	>85%	Low concentrations allow growth of nuisance microorganisms (iron/manganese/sulfate/nitrate-reducing bacteria), causing taste and odour problems, staining, corrosion. Low oxygen concentrations are normal in groundwater supplies and the guideline value may not be achievable.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Disulfoton	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Diuron	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
2,2-DPA	0.5		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
EDB	0.001		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Endosulfan	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Endothal	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Epichlorohydrin	0.0005d		Used in manufacture of some resins used in water treatment.
EPTC	0.3		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Esfenvalerate	0.03		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Ethion	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Ethoprophos	0.001		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Ethylbenzene	0.3	0.003	Natural component of petrol and petroleum products.
Ethylenediamine tetraacetic acid (EDTA)	0.25		Metal-complexing agent widely used in industry and agriculture, and as a drug in chelation therapy.
Etridiazole	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenamiphos	0.0005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenarimol	0.04		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenchlorphos	c		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenitrothion	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenoprop	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fensulfothion	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenthion	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fenvalerate	0.06		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Fipronil	0.0007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Flamprop-methyl	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fluometuron	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fluoride	1.5		Occurs naturally in some water from fluoride-containing rocks. Often added at up to 1 mg/L to protect against dental caries. >1.5 mg/L can cause dental fluorosis. >4 mg/L can cause skeletal fluorosis.
Fluproponate	0.009		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Formaldehyde	0.5		By-product of ozonation.
Formothion	0.05		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Fosamine	0.03		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Glyphosate	1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Haloacetonitriles dichloroacetonitrile trichloroacetonitrile dibromoacetonitrile bromochloroacetonitrile	e c c c c		By-product of chlorination.
Haloxypop	0.001		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Hardness (as CaCO ₃)	Not necessary	200	Caused by calcium and magnesium salts. Hard water is difficult to lather: <60 mg/L CaCO ₃ – soft but possibly corrosive. 60-200 mg/L CaCO ₃ – good quality. 200-500 mg/L CaCO ₃ – increasing scaling problems. >500 mg/L CaCO ₃ – severe scaling.
Heptachlor	0.0003		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Hexachlorobutadiene	0.0007		Industrial solvent.
Hexaflurate	0.03		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Hexazinone	0.4		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Hydrogen sulfide	c	0.05	Formed in water by sulfate-reducing microorganisms or hydrolysis of soluble sulfide under anoxic conditions. Obnoxious 'rotten egg' odour, threshold 0.05 mg/L.
Imazapyr	9		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Iodide	0.5		From mineral and salt deposits.
Iodine	c		Can be used as an emergency water disinfectant. Taste threshold 0.15 mg/L.
Iprodione	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Iron	c	0.3	Occurs naturally in water, usually at <1 mg/L, but up to 100 mg/L in oxygen-depleted groundwater. Taste threshold 0.3 mg/L. High concentrations stain laundry and fittings. Iron bacteria cause blockages, taste/odour, corrosion.
Lead	0.01		Occurs in water via dissolution from natural sources or household plumbing containing lead (e.g. pipes, solder).
Lindane	0.01		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Maldison (Malathion)	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Mancozeb	for ETU: 0.009		Mancozeb degrades in the environment to ethylene thiourea (ETU), hence the health-based guideline is based on the toxicity of ETU. Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Manganese	0.5	0.1	Occurs naturally in water; low in surface water, higher in oxygen-depleted water (e.g. groundwater at bottom of deep storages). >0.1 mg/L causes taste, staining. <0.05 mg/L desirable.
MCPA	0.04		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Mercury	0.001		From industrial emissions/spills. Very low concentrations occur naturally. Organic forms most toxic, but these are associated with biota, not water.
Metaaldehyde	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Metham	for MTIC: 0.001		Metham degrades to methylisothiocyanate (MITC) in the environment, hence the health-based guideline is based on the toxicity of MITC. Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Methidathion	0.006		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Methiocarb	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Methomyl	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Methoxychlor	0.3		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Methyl bromide	0.001		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Metiram	for ETU: 0.009		Metiram degrades in the environment to ethylene thiourea (ETU), hence the health-based guideline is based on the toxicity of ETU. Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Metolachlor/s-Metolachlor	0.3		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Metribuzin	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Metsulfuron-methyl	0.04		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Mevinphos	0.005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Microcystins	1.3 µg/L		Hepatotoxic peptide produced by a range of cyanobacteria, expressed as microcystin-LR toxicity equivalents.
Molinate	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Molybdenum	0.05		Concentrations usually <0.01 mg/L; higher concentrations from mining, agriculture, or fly-ash deposits from coal-fuelled power stations.
Monochloramine	3		Used as water disinfectant. Odour threshold 0.5 mg/L.
Monocrotophos	0.002		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Naphthalophos	c		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns. No value set, as the health concerns have not been fully evaluated.
Napropamide	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Nicarbazin	1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Nickel	0.02		Concentrations usually very low; but up to 0.5 mg/L reported after prolonged contact of water with nickel-plated fittings.
Nitralin	0.5		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Nitrate (as nitrate)	50		Occurs naturally increasing in some waters (particularly groundwater) from intensive farming and sewage effluent. Guideline value will protect bottle-fed infants under 3 months from methaemoglobinemia. Adults and children over 3 months can safely drink water with up to 100 mg/L nitrate.
Nitrioltriacetic acid	0.2		Chelating agent in laundry detergents (replacing phosphate). May enter water through sewage contamination.
Nitrite (as nitrite)	3		Rapidly oxidised to nitrate (see above).

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
N-Nitrosodimethylamine (NDMA)	0.0001 mg/L (100 ng/L)		By-product of chloramination and to a lesser extent chlorination. Action to reduce N-Nitrosodimethylamine is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than N-Nitrosodimethylamine.
Norflurazon	0.05		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Omethoate	0.001		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Organotins dibutyltin tributyltin oxide	c 0.001		Stabilisers in plastics. May leach from new polyvinyl chloride (PVC) pipes for a short time. Tributyltins are biocides used as antifouling agents on boats and in boiler waters.
Oryzalin	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Oxamyl	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns (for further information, see Information Sheet 1.6).
Ozone			As ozone used for disinfection leaves no residual, no guideline value or fact sheet has been provided.
Paraquat	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Parathion	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Parathion-methyl	0.0007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pebulate	0.03		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pendimethalin	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pentachlorophenol	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Permethrin	0.2		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
pH	c	pH 6.5–8.5	While extreme pH values (<4 and >11) may adversely affect health, there are insufficient data to set a health guideline value. <6.5 may be corrosive. >8 progressively decreases efficiency of chlorination. >8.5 may cause scale and taste problems. New concrete tanks and cement-mortar lined pipes can significantly increase pH and a value up to 9.2 may be tolerated provided monitoring indicates no deterioration in microbial quality.
Picloram	0.3		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Piperonyl butoxide	0.6		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Pirimicarb	0.007		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Pirimiphos-ethyl	0.0005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pirimiphos methyl	0.09		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Plasticisers di(2-ethylhexyl) phthalate di(2-ethylhexyl) adipate	0.01 c		Used in all flexible PVC products, and may leach from these over a long time. Could also occur in drinking water from spills.
Polihexanide	0.7		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Polycyclic aromatic hydrocarbons (PAHs) Benzo-(a)-pyrene	0.00001 (10 ng/L)		Widespread. Contamination can occur through atmospheric deposition, or leaching from bituminous linings in distribution systems.
Profenofos	0.0003		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Promecarb	c		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Propachlor	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Propanil	0.7		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Propargite	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Propazine	0.05		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Propiconazole	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Propyzamide	0.07		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pyrasulfotole	0.04		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pyrazophos	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Pyroxsulam	4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Quintozene	0.03		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Selenium	0.01		Generally very low concentrations in natural water.
Silica		80	An important characteristic for both aesthetics and treatment processes. Can form films on glass and can also affect reverse osmosis.
Silver	0.1		Concentrations generally very low. Silver and silver salts occasionally used for disinfection.

Characteristic	Guideline values (mg/L, unless otherwise specified)		Comments
	Health	Aesthetic	
Simazine	0.02		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Sodium	Not necessary	180	Natural component of water: Guideline value is taste threshold.
Spirotetramat	0.2		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Styrene (vinylbenzene)	0.03	0.004	Could occur in drinking water from industrial contamination.
Sulfate	500	250	Natural component of water, and may be added via treatment chemicals. Guideline value is taste threshold. >500 mg/L can have purgative effects.
Sulprofos	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
2,4,5-T	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Taste and odour	Not necessary	Not offensive to most people	May indicate undesirable contaminants, but usually indicate problems such as algal or biofilm growths.
Temephos	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Temperature	Not necessary	No value set	Generally impractical to control; rapid changes can bring complaints.
Terbacil	0.2		Pesticide, has occasionally been reported in Australian drinking waters, but unlikely to be found at levels that may cause health concerns.
Terbufos	0.0009		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Terbutylazine	0.01		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Terbutryn	0.4		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Tetrachloroethene	0.05		Dry-cleaning solvent and metal degreaser. Could occur in drinking water from contamination or spills.
Tetrachlorvinphos	0.1		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Thiobencarb	0.04		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Thiometon	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Thiophanate	0.005		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Thiram	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Tin	Not necessary		Concentrations in water very low; one of the least toxic metals.

Characteristic	Guideline values (mg/L unless otherwise specified)		Comments
	Health	Aesthetic	
Toltrazuril	0.004		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Toluene	0.8	0.025	Occurs naturally in petrol and natural gas, forest-fire emissions. Could occur in drinking water from atmospheric deposition, industrial contamination, leaching from protective coatings in storage tanks.
Total dissolved solids	Not necessary	600	Based on taste: <600 mg/L is regarded as good quality drinking water. 600-900 mg/L is regarded as fair quality 900-1200 mg/L is regarded as poor quality >1200 mg/L is regarded as unacceptable.
Triadimefon	0.09		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Trichlorfon	0.007		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Trichloroacetaldehyde (chloral hydrate)	0.02 e		By-product of chlorination. Action to reduce trichloroacetaldehyde is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than trichloroacetaldehyde.
Trichlorobenzenes (total)	0.03	0.005	Industrial chemical.
1,1,1-Trichloroethane	c		Could occur in drinking water from contamination/spills.
Trichloroethylene	c		Industrial solvent, cleaning fluid, metal degreaser. Could occur in drinking water from direct contamination or via atmospheric contamination of rainwater.
Triclopyr	0.02		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Trifluralin	0.09		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Trihalomethanes (THMs) (Total)	0.25 e		By-product of chlorination and chloramination. Action to reduce trihalomethanes is encouraged, but must not compromise disinfection, as non-disinfected water poses significantly greater risk than trihalomethanes.
Turbidity	c	5 NTU	5 NTU is just noticeable in a glass. <0.2 NTU is the target for effective filtration of <i>Cryptosporidium</i> and <i>Giardia</i> . <1 NTU is the target for effective disinfection.
Uranium	0.017		Occurs naturally, or from release from mill tailings, combustion of coal and phosphate fertilizers.
Vernolate	0.04		Pesticide, unlikely to be found in drinking water at levels that may cause health concerns.
Vinyl chloride	0.0003		From chemical spills. Used in making PVC pipes. Human carcinogen.
Xylene	0.6	0.02	Could occur in drinking water as a pollutant, or from solvent used for bonding plastic fittings.

Characteristic	Guideline values (mg/L unless otherwise specified)		Comments
	Health	Aesthetic	
Zinc	c	3	Usually from corrosion of galvanised pipes/fittings and brasses. Natural concentrations generally <0.01 mg/L. Taste problems >3 mg/L.

HU = Hazen units; NTU = nephelometric turbidity units; THMs = trihalomethanes.

- a. Aesthetic values are not listed if the compound does not cause aesthetic problems, or if the value determined from health considerations is the same or lower.
- b. If present at all in Australian drinking waters, concentrations of all organic compounds other than disinfection byproducts are likely to be very low relative to the guideline value.
- c. Insufficient data to set a guideline value based on health considerations.
- d. The guideline value is below the limit of quantitation. Improved analytical procedures are required for this compound.
- e. The concentration of all chlorination byproducts can be minimised by removing naturally occurring organic matter from the source water, reducing the amount of chlorine added, or using an alternative disinfectant (which may produce other byproducts). Action to reduce trihalomethanes and other byproducts is encouraged, but must not compromise disinfection.

Note: All values are as 'total' unless otherwise stated.

Note: Routine monitoring for these compounds is not required unless there is potential for contamination of water supplies (e.g. accidental spillage).



OUT14/36867

Manel Samarakoon
Assistant Director
Approvals Monitoring North Section
Post Approvals Section
Compliance and Enforcement Branch
Environment Assessment and Compliance Division
Department of the Environment
GPO Box 787
CANBERRA ACT 2601

Dear Mr Samarakoon

Woodsreef Mine Major Rehabilitation Project, Condition 9.a. – EPBC 2012/6437

NSW Trade & Investment is providing written evidence prior to demolition that Condition 9.a. of EPBC approval 2012/6437 is being progressed.

The following is a status of the security and management of the LEPB habitats within Lot 68/752200:

- NSW Trade & Investment, Derelict Mines Program has secured consent for temporary occupation of Lot 68/752200 for the purpose of fencing of protection zones (LEPB Habitat);
- Crown Land Reserve Lot 68/752200 is currently gazetted as a Reserve for Environmental Protection (R200001) and a Reserve for Public Recreation (R65785), managed by Crown Lands; and
- The Derelict Mines Program recommended Lot 68/752200 become a State Conservation Area for the ongoing protection of LEPB habitat. However, Crown Lands advised that Lot 68/752200 has an Aboriginal Land Claim over the land. Subsequently Derelict Mines Program, in consultation with Tamworth Local Aboriginal Land Council, is liaising with Crown Lands for a covenant to be placed on the title prior to the land transfer.

If you have any enquiries on this matter, please contact myself on 02 4931 6506.

Yours sincerely

Kate Maddison
Project Manager
10 November 2014



Trade &
Investment
Crown Lands

Reference: 14/09059

NSW Trade & Investment
Resources & Energy
Att: Kate Maddison
516 High Street
MAITLAND NSW 2320

Dear Kate

Letter of Authority – Woodsreef

Thank you for agreeing to the Schedule of Conditions and Special Terms and Conditions in Annexure B of the Letter of Authority and returning the signed consent.

Enclosed for your records is an endorsed copy of the consent bearing your signature and that of our Ministers delegate. A copy of the Consent is your official authority to occupy the Crown land and should be kept on hand during the term of your occupation.

Yours faithfully

Sharon Easton
Property Management Officer
Crown Lands Tamworth

10 November 2014

SCHEDULE OF CONDITIONS

**CONSENT FOR TEMPORARY OCCUPATION OF CROWN LAND
FOR THE PURPOSE OF Fencing of Protection Zones TO BE UNDERTAKEN AT
WOODSREEF FOR THE PERIOD FROM 28th October 2014 TO 27th October 2016**

1. For the purposes of this clause the term Minister shall include Her Majesty the Queen, Her Heirs and Successors the State of New South Wales, the Minister and the agents, servants, employees and contractors of Her Majesty, Her Heirs and Successors, the State of New South Wales and the Minister.
 - a) The Proponent agrees that they will indemnify and keep indemnified the Minister from and against all actions suits claims and demands of whatsoever nature and all costs charges and expenses in respect of any accident or injury to any person or property which may arise out of the use of the subject Crown land for the purpose of Protection Zone as may be authorised under this Consent notwithstanding that the conditions of this Consent shall in all respects have been observed by the Proponent or that any such accident or injury shall arise from any act or thing which may be authorised or compelled to do hereunder.
 - b) The Proponent expressly agrees that the obligations under this clause shall continue after the expiration or other determination of this Consent in respect of any act, deed, matter or thing happening before such expiration or determination.
2. The Proponent shall obtain all necessary Consents relative to the proposal and shall comply with all conditions that are the subject of such Consents.
3. The Proponent agrees to the ongoing maintenance of the proposed Fencing of Protection Zone works on Crown land at WOODSREEF.
4. The Proponent holds appropriate insurances sufficient to ensure the Crown is suitably indemnified against any action, suit or claim that may result as a consequence of work undertaken by the Proponent and/or its contractors. All costs to be the responsibility of the Proponent and/or its contractors.
5. The Proponent is responsible for safety induction of all persons onto the site. The Proponent or contractor is responsible at all times for ensuring safe systems of work and that the work site poses no occupational, health or safety risks to workers or the public. All persons engaged in any work relative to this approval must be qualified, trained or appropriately experienced in the work involved and the safe operation of associated tools or machinery. Relevant advice should be obtained from NSW WorkCover Authority.

SPECIAL TERMS AND CONDITIONS CLAUSES

CONSENT FOR TEMPORARY OCCUPATION OF CROWN LAND FOR THE PURPOSE OF Fencing of Protection Zones TO BE UNDERTAKEN AT WOODSREEF FOR THE PERIOD FROM 28th October 2014 TO 27th October 2016

The clauses appearing below are clauses of the Terms and Conditions, and form a part of the Consent.

1. Occupational Health and Safety Legislation requires anyone in control of the workplace to identify the potential hazards of the proposed work, assess the risks involved and develop controls to eliminate, or minimise, the risk.
2. The Proponent is responsible for assessing the site for any foreseeable hazards before commencement of any work. Examples of aspects that must be identified in a safety induction to the site include (but are not limited to) identifying the following hazards:
 - a) Overhead and underground power lines, transmission lines and any other services such as water and gas or sewerage;
 - b) Steep and/or unstable terrain (rocky, loose, slippery or swampy surfaces);
 - c) Embankments, retaining walls, gullies, drains, dams and watercourses;
 - d) The state of types of existing vegetation (tree height and stability), including wind blown or fallen trees;
 - e) The sighting of any buildings, structures, fences or other assets on the subject Crown land and any adjoining parcels immediately adjacent to proposed works;
 - f) Any hazardous rubbish or waste materials that may occur on the land;
 - g) The locality of any roads, railway lines or other traffic thoroughfares;
 - h) Any hazardous flora and fauna;
 - i) Trainees are to be under the direct supervision of a trained instructor at all times.
3. The work is to be conducted in a manner not to cause damage or increase soil erosion. Appropriate sediment control measures are to be provided for the duration of the works and until the site is stabilised. Follow up measures may include:
 - a) Disturbed areas of the land should be formed to the contour of surrounding terrain.
 - b) Vegetation or ground cover is to be restored over bare earth.
 - c) Every effort should be undertaken to minimise environmental impacts of equipment used on the site
 - d) The proponent will dispose of any rubbish or other material arising from the occupation and not present at the time of Consent.
4. The work must not contribute to the further spread of noxious weeds. Should any additional noxious weeds or other environmental hazard be present on the site, NSW Trade & Investment must be immediately informed. All weed material removed from site should be disposed in the appropriate manner.
5. The Proponent shall obtain all necessary consents relative to the proposal that go beyond the surveyed boundaries of the Crown land. Fences are not to be relied upon to define the boundary. The boundary may need to be identified by a registered surveyor.
6. In the event that issues relevant to wildlife corridors, the existence of threatened species, populations and / or ecological communities and / or aboriginal artefacts (if any) arise in the area, the advice of the Department of Environment, Climate Change and Water should be obtained. Specifically, advice is to be sought regarding the "assessment of significance" (Part 5A of the Environmental Planning and Assessment Act 1979) and any requirement for a Species Impact Statement (Division 2 Part 6 of the Threatened Species Conservation Act 1995).
7. The Proponent or contractor is not permitted to remove any native vegetation from the site or to

undertake any works contrary to SEPP No.14 Coastal Wetlands.

8. All revegetation works are to be carried out using indigenous native plants and seed, sourced from the local area.
9. NSW Trade & Investment is to be notified in writing (or email) when the works have been completed and occupation has ceased.
10. All pesticides used must be in accordance with the Pesticides Regulation 1995 (the Regulation) and applied to the Crown land in a safe, responsible manner, minimising harm to the community and the environment. Notice of pesticide use is to be provided in one or more of the following ways: -
 - The erection or placement of signs
 - Postage of letters or letterbox drops
 - Through the media
 - By telephone, fax, email or personal contact

To activate this Consent please sign below and return this document (Annexure B) to the office of NSW Trade & Investment Crown Lands via email tamworth.crownlands@crowmland.nsw.gov.au or post to PO Box 2185 DANGAR NSW 2309 within 30 days of the date of the accompanying letter.

Signature of Proponent:



Name of Proponent:
(BLOCK LETTERS)

Kate Maddison

Date:

10 Nov 14

Name of Delegated (Crown Lands):
(BLOCK LETTERS)

Scott Stanton
Group Leader, Tamworth

Signature of Delegated Officer:



Date:

10 / 11 / 14

TAMWORTH OFFICE
25-27 Fitzroy Street (PO Box 535), Tamworth NSW 2340
Phone: (02) 6764 5100 Fax: (02) 6766 3805

ADDITION TO RESERVED CROWN LAND

PURSUANT to section 88 of the Crown Lands Act 1989, the Crown land specified in Column 1 and shown by hatching on the diagram of the Schedule hereunder is added to the reserved land specified opposite thereto in Column 2 of the Schedule.

TONY KELLY, M.L.C.,
 Minister for Lands

SCHEDULE

COLUMN 1

Land District: Tamworth
 Local Government Area: Tamworth Regional Council
 Locality: Woodsreef

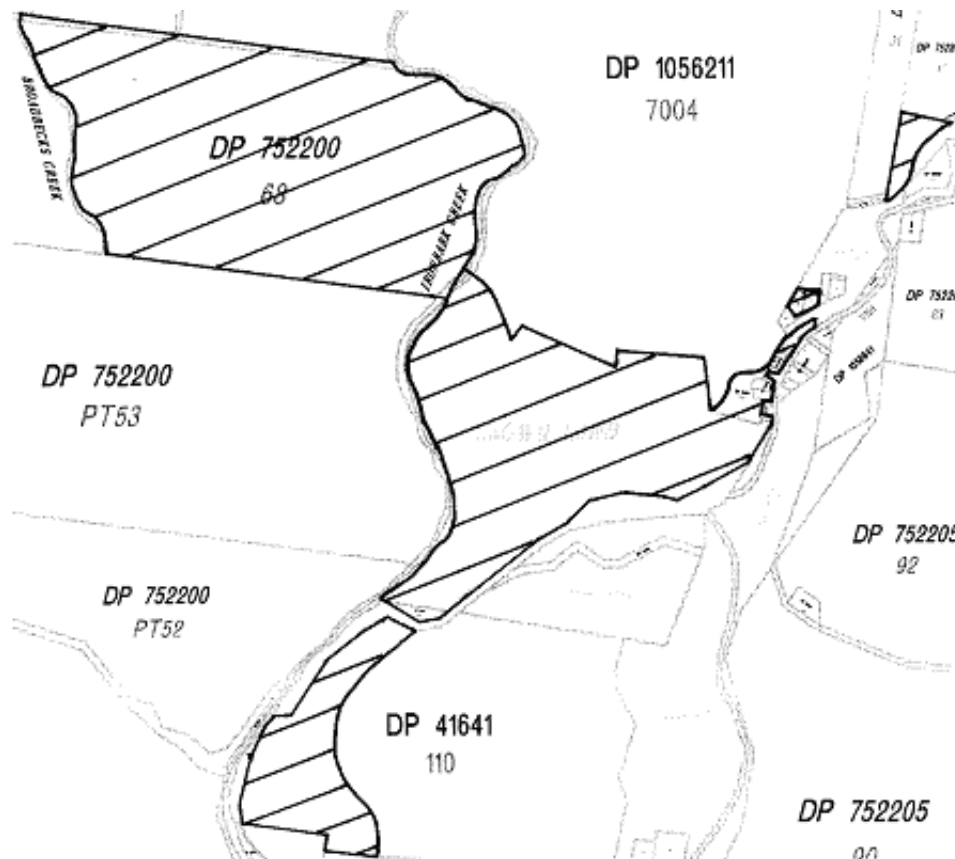
<i>Lot</i>	<i>D.P. No.</i>	<i>Parish</i>	<i>County</i>
99	752205	Woodsreef	Darling
68	752200	Tiabundie	Darling
102	752205	Woodsreef	Darling
41	752205	Woodsreef	Darling
82	752205	Woodsreef	Darling
83	752205	Woodsreef	Darling
84	752205	Woodsreef	Darling
85	752205	Woodsreef	Darling
86	752205	Woodsreef	Darling
87	752205	Woodsreef	Darling
74	752205	Woodsreef	Darling
6	44162	Woodsreef	Darling
PT 110	41641	Woodsreef	Darling
7016	94281	Woodsreef	Darling

Area: Approximately 159.3ha

File Reference: TH01R2/1

COLUMN 2

Reserve No. 200001
 Public Purpose: Environmental Protection
 Notified: 25th July 1986
 Lot D.P. No. Parish County
 7004 1056211 Woodsreef Darling
 New Area: 486.2ha



ADDITION TO RESERVED CROWN LAND

PURSUANT to section 88 of the Crown Lands Act 1989, the Crown land specified in Column 1 and shown by hatching on the diagram of the Schedule hereunder is added to the reserved land specified opposite thereto in Column 2 of the Schedule.

TONY KELLY, M.L.C.,
Minister for Lands

SCHEDULE

COLUMN 1

Land District: Tamworth
Local Government Area: Tamworth Regional Council
Locality: Woodsreef

Lot	D.P. No.	Parish	County
7004	1056211	Woodsreef	Darling
68	752200	Tiabundie	Darling
102	752205	Woodsreef	Darling
41	752205	Woodsreef	Darling
82	752205	Woodsreef	Darling
83	752205	Woodsreef	Darling
84	752205	Woodsreef	Darling
85	752205	Woodsreef	Darling
86	752205	Woodsreef	Darling
87	752205	Woodsreef	Darling
74	752205	Woodsreef	Darling
6	44162	Woodsreef	Darling
PT 110	41641	Woodsreef	Darling
7016	94281	Woodsreef	Darling

Area: Approximately 403.5ha

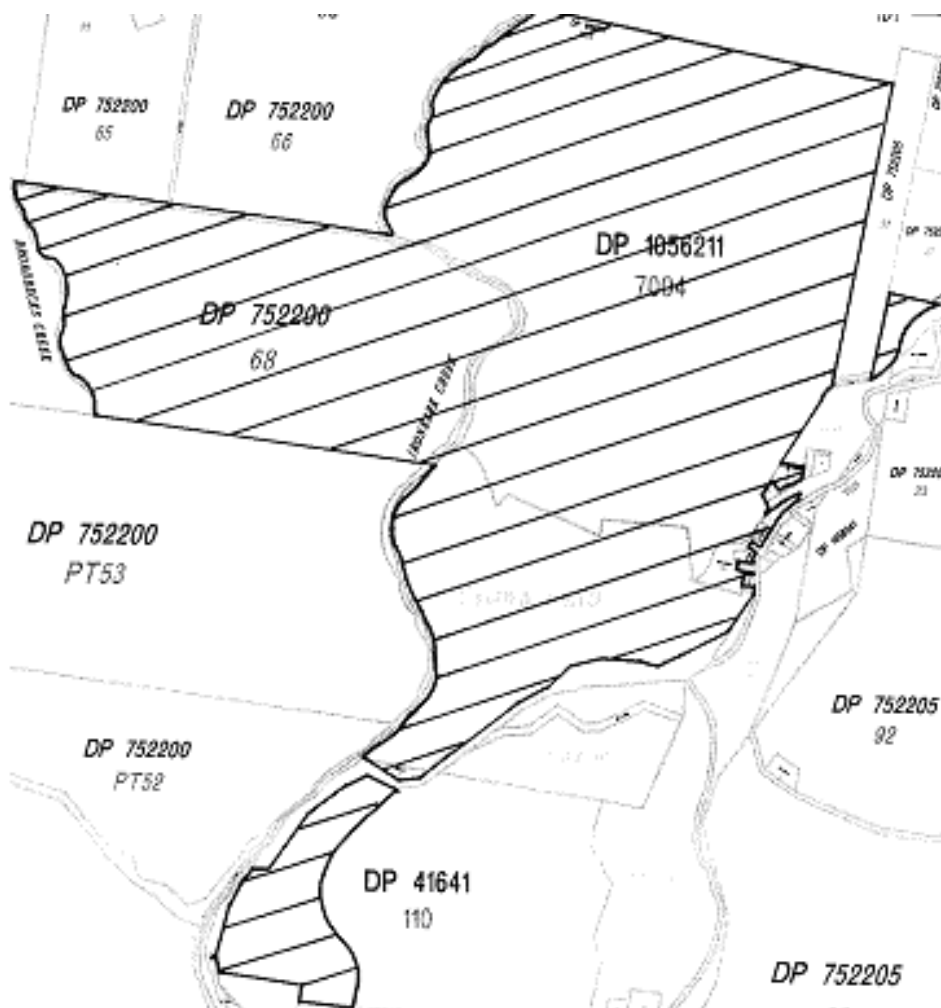
File Reference:TH01R2/1

COLUMN 2

Reserve No. 65783
Public Purpose: Public Recreation
Notified: 24th January 1936

Lot	D.P. No.	Parish	County
99	752205	Woodsreef	Darling

New Area: 486.2ha



RESTRICTION ON THE USE OF LAND VESTED IN PRESCRIBED AUTHORITY

Leave this space clear. Affix additional pages to the top left-hand corner.

New South Wales
Section 88D(3) Conveyancing Act 1919

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

(A) TORRENS TITLE	107-108/41641, 1/1192497 and 7306/1130813	
(B) LODGED BY	Document Collection Box	Name, Address or DX, Telephone, and Customer Account Number if any NSW Department of Primary Industries - Lands P O Box 865 DUBBO NSW 2830 Reference: LLPN: 123334F
	469S	
(C) PRESCRIBED AUTHORITY	Minister administering the Crown Lands Act.	
	CODE	RV

(D) The prescribed authority, being the registered proprietor of the abovementioned land, applies to have a recording made in the Register of a restriction on the use of land affecting that land the terms of which are set out in a true copy of the relevant order dated 12.11.2015 annexed hereto and marked "B" and certifies that no person or corporation has acquired an interest in the land.

My delegation pursuant to section 180 of the Crown Lands Act 1989 and with authority under section 13L of the Real Property Act 1900 from the Minister administering the Crown Lands Act 1989 on behalf of the State of New South Wales

DATE 12.11.2015

(E) I certify that I am an eligible witness and that an authorised officer of the prescribed authority signed this dealing in my presence. [See note* below].

Certified correct for the purposes of the Real Property Act 1900 by an authorised officer of the prescribed authority.

Signature of witness: Michelle Read

Signature of authorised officer: 

Name of witness: MICHELLE READ

Name: Danny Young

Address of witness: 26-27 FITZROY ST

Position: Manager North West

TAMWORTH NSW 2340

Crown Lands

* s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.

ANNEXURE "B"

ORDER S88D(2) Conveyancing Act 1919

By this Order the Prescribed Authority, being the Minister for Lands and Water, imposes the restriction on use shown in Schedule 1 and restriction on use shown in Schedule 2 on the Prescribed Land shown in Schedule 3 which is vested in the Prescribed Authority.

Schedule 1

Restriction on Use (Prevention of subdivision) pursuant to S77B(1)(a) of the Crown Lands Act 1989

Schedule 2

See Attachment "1" of this Order for restriction on use pursuant to S77A of the Crown Lands Act 1989

Schedule 3

The land to which the above restrictions on use apply is the freehold Crown estate in the land described below:

Lot	Deposited Plan	Parish	County	Folio Identifier
107	41641	WOODSREEF	DARLING	107/41641
108	41641	WOODSREEF	DARLING	107/41641
7306	1130813	WOODSREEF	DARLING	107/41641
1	1192497	WOODSREEF	DARLING	107/41641

Dated: 12 November 2015

Signature of

Authorised Officer: 

Name: **Danny Young**
Position: **Manager North West
Crown Lands**

The Hon NIALL BLAIR, MLC
Minister for Lands and Water

ATTACHMENT "1"

CONVEYANCING ACT 1919 – SECTION 88D RESTRICTION ON USE OF LAND

The prescribed authority imposes restriction on the use of the land as set out in Schedule 1 upon the land set out in Schedule 2.

SCHEDULE 1

The following works and activities must not be undertaken within Zone A:

- Clearing of native vegetation; or
- Tillage or application of herbicide; or
- Establishment of non-native crops or exotic pasture species; or
- Clearing or removal of standing or fallen dead timber; or
- Logging of native vegetation; or
- Removal of soil or inorganic material such as bush rock; or
- The use of motorised transport, other than on existing tracks for management purposes; or
- Horse riding; or
- Grazing by domestic livestock; or
- Earthworks, including the operation of Borrow Pits and Quarries and the dumping of fill; or
- Harming of native fauna.

Notwithstanding the above restrictions, works may be undertaken in accordance with:

- specific exclusions detailed in this schedule at **I** below; or
- specific management activities detailed in this schedule at **II** below.

Definitions for the purposes of these restrictions include:

"native vegetation" means any of the following types of indigenous vegetation:

- (a) trees (including any sapling or shrub, or any scrub),
- (b) understorey plants,
- (c) groundcover (being any type of herbaceous vegetation),
- (d) plants occurring in a wetland.

"remnant native vegetation" means any native vegetation other than regrowth.

"regrowth" means any native vegetation that has regrown (following a lawful clearing event) since 1 January 1990.

"protected regrowth" has the same meaning as under Section 10 *Native Vegetation Act 2003*.

vegetation is **"indigenous"** if it is of a species of vegetation, or if it comprises species of vegetation, that existed in the State of New South Wales before European settlement.

"groundcover" means any type of herbaceous vegetation, but it is only to be regarded as native vegetation for the purposes of this restriction if:

- (a) it occurs in an area where not less than 50% of the herbaceous vegetation covering that area comprises indigenous species, and

Signature of authorised officer:



Lot 107 & Lot 108 DP 41641, Lot 7306 DP 1130813,
Lot 1 DP 1192497

(b) not less than 10% of the area concerned is covered with vegetation (whether dead or alive).

“clearing” native vegetation means any one or more of the following:

- (a) cutting down, felling, thinning, logging or removing native vegetation,
- (b) killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.

“cultivation” in relation to land, includes the preparation of the land for cultivation and the further cultivation of the land if it has been cultivated.

“tillage” means the act of breaking up land or soil, or cultivating or working land for growing crops or pastures.

“herbicide” means an agent used to destroy or inhibit plant growth.

“logging” native vegetation means the selective removal of trees for timber production or clearing for forestry management purposes.

I. The activities not prevented by these restrictions because they are specific exclusions are those carried out in accordance with:

- (a) the *State Emergency and Rescue Management Act 1989* in relation to an emergency within the meaning of that Act,
- (b) the *Rural Fires Act 1997* in relation to any emergency fire fighting act within the meaning of that Act,
- (c) a bush fire management plan under the *Rural Fires Act 1997*,
- (d) a property management plan approved for the purposes of the *Threatened Species Conservation Act 1995*,
- (e) a licence issued under Division 1 of Part 6 of the *Threatened Species Conservation Act 1995*,
- (f) a permit issued under Division 3 or 4 of Part 7 of the *Fisheries Management Act 1994*,
- (g) a licence issued under Division 6 of Part 7A of the *Fisheries Management Act 1994*,
- (h) a licence issued under section 131 of the *National Parks and Wildlife Act 1974*,
- (i) a survey under the *Surveying Act 2002* that is undertaken by or under the direction of a surveyor,
- (j) prospecting or mining authorised by the *Mining Act 1992*,
- (k) prospecting, exploring or petroleum production authorised by the *Petroleum (Onshore) Act 1991*.

II. The specific management activities not prevented by these restrictions are:

- (a) the removal of noxious weeds under the *Noxious Weeds Act 1993*,
- (b) the control of pest animals under the *Local Land Services Act 2013*,
- (c) traditional Aboriginal cultural activities (except commercial activities),
- (d) any activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property,
- (e) the activities that comprise anything done pursuant to an obligation arising under an eradication order or pest control order under Part 11 of the *Local Land Services Act 2013*,
- (f) the clearing for the operation and maintenance of existing rural infrastructure and limited to the following infrastructure only within the distances or areas specified:
 - 1) permanent boundary fence - 6 metres total width of clearing,
 - 2) permanent internal fence - 6 metres total width of clearing,
 - 3) roads and tracks - 4 metres total width of clearing.
- (g) the maintenance of public utilities (such as those associated with the transmission of electricity, the supply of water, the supply of gas and electronic communication), specifically:
 - 1) The activities that comprise the maintenance of public utilities associated with the transmission of electricity include the following activities but only when those activities

Signature of authorised officer: _____



Lot 107 & Lot 108 DP 41641, Lot 7306 DP 1130813,
Lot 1 DP 1192497

are being undertaken by or at the written direction of the body in which the public utility concerned is vested or that has the responsibility for that public utility's safe operation:

- i) maintaining the necessary safety clearances under powerlines (conductors and structures) and around communication sites associated with the supply of electricity,
 - ii) minimising fuel loads under powerlines to minimise the chance of smoke from a fire resulting in a line trip,
 - iii) maintaining existing access roads and tracks.
- 2) The activities that comprise the maintenance of public utilities associated with the transmission of electricity do not include any of the following activities:
- i) construction of new access roads or tracks,
 - ii) removal of low growing groundcover,
 - iii) maintaining safety clearances from powerlines that exceed either of the following:
 - (i) the distance (measured from the centreline of the power line) set out in Column 2 of the Table to this clause opposite the nominal operating voltage of the power line set out in Column 1 of the Table; or
 - (ii) the minimum distance that will ensure reliability of supply under all loading and environmental conditions and minimise the risk of arcing.

Table	
Column 1	Column 2
Nominal operating voltage of powerline	Maximum clearing distance
up to 11 kV	5 metres
above 11 kV up to and including 33 kV	12.5 metres
above 33 kV up to and including 66 kV	15 metres
above 66 kV up to and including 132 kV	22.5 metres
above 132 kV up to and including 330 kV	30 metres
above 330 kV	35 metres

- (h) non-native weeds may be controlled by methods that will not damage, kill or destroy native vegetation.

SCHEDULE 2

The restrictions on use apply to the freehold land described below:

Lot	Deposited Plan	Parish	County	Folio Identifier
107	41641	WOODSREEF	DARLING	107/41641
108	41641	WOODSREEF	DARLING	107/41641
7306	1130813	WOODSREEF	DARLING	107/41641
1	1192497	WOODSREEF	DARLING	107/41641

Signature of authorised officer:

Name of authorised officer:

Position of authorised officer:



Danny Young
Manager North West
Crown Lands

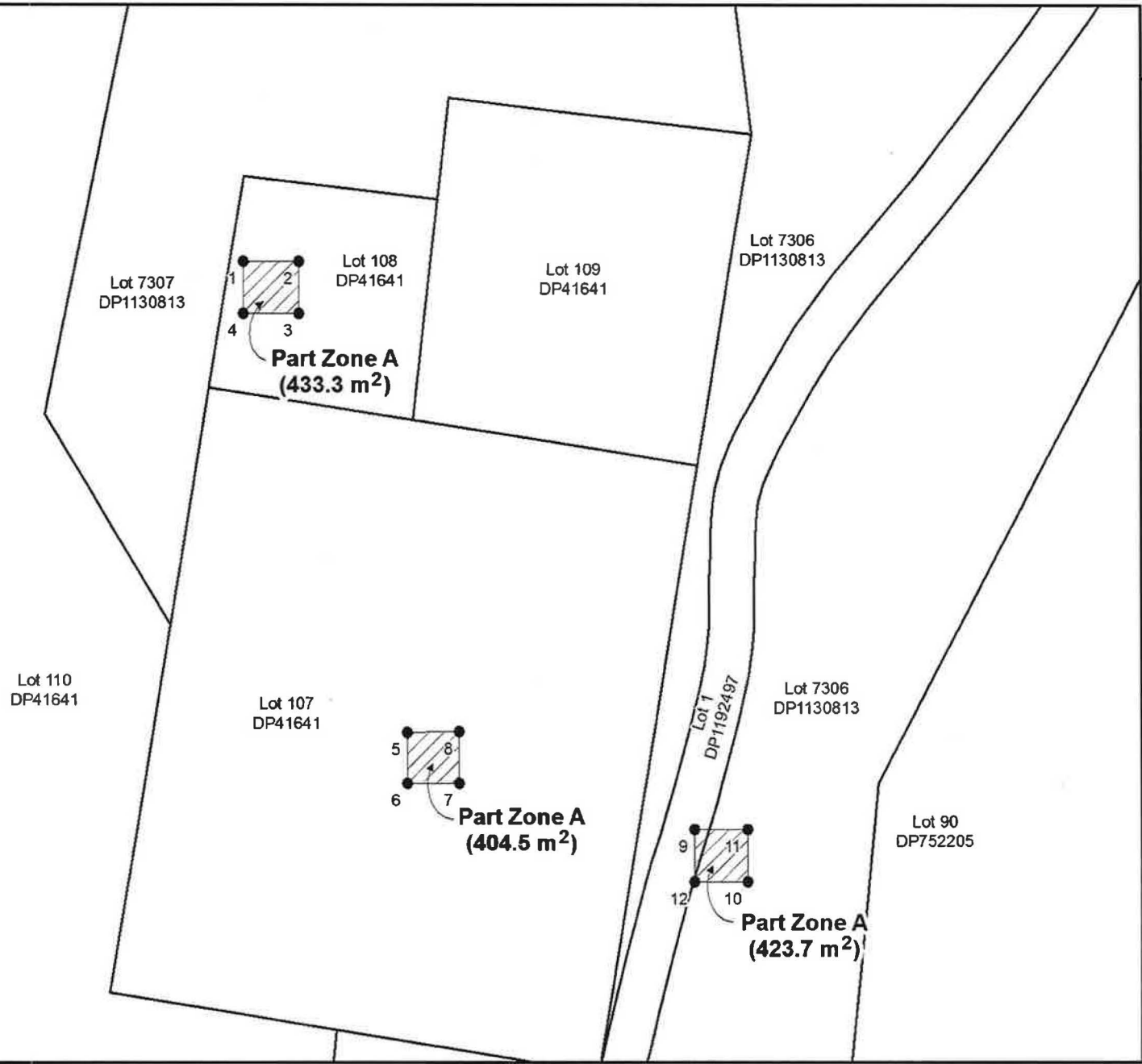
Signature of authorised officer:



Lot 107 & Lot 108 DP 41641, Lot 7306 DP 1130813,
Lot 1 DP 1192497

282500

6634200





6634200

282500

Diagram A
Sheet 1
Covenant Affecting
Lot 107 & 108 DP41641,
Lot 1 DP1192497 and
Lot 7306 DP1130813

Locality: Woodsreef
 LGA: Tamworth Regional
 Parish: Woodsreef
 County: Darling

Legend

-  Zone A
-  Points

Corners of zones not marked

Area of Covenants
 Zone A: 1261.6 m²

Not to Scale

Coordinate System: MGA Zone 56



Department of
 Primary Industries
 Lands

**Covenant Affecting Lot 107 and 108 DP 41641 and Lot 1 DP 1192497
and Lot 7306 DP1130813**

Metadata	
MGA Zone	56
Positional Accuracy	+/- 5 m

Coordinate for Corners

Capture Method: These coordinates have been determined by GPS locational field device

Corners	MGA Easting	MGA Northing
1	282643.8136	6634128.976
2	282665.2654	6634128.976
3	282665.2654	6634108.774
4	282643.8136	6634108.774
5	282706.8112	6633946.506
6	282706.8479	6633926.479
7	282727.0474	6633926.516
8	282727.0108	6633946.544
9	282818.3772	6633908.536
10	282839.2064	6633888.191
11	282839.2371	6633908.463
12	282818.3465	6633888.223

Ref No.

Authorised Officer

Signature: 
DANNY YOUNG

Name: AREA MANAGER NORTH WEST

Dated: 12 / 11 / 2015

**Registered Proprietor(s), Mortgagee
or Other Parties**

Signature:

Name:

Signature:

Name:

Seal

Dated:/...../.....

RESTRICTION ON THE USE OF LAND VESTED IN PRESCRIBED AUTHORITY

Leave this space clear. Affix additional pages to the top left-hand corner.

New South Wales
Section 88D(3) Conveyancing Act 1919

PRIVACY NOTE: Section 31B of the Real Property Act 1900 (RP Act) authorises the Registrar General to collect the information required by this form for the establishment and maintenance of the Real Property Act Register. Section 96B RP Act requires that the Register is made available to any person for search upon payment of a fee, if any.

(A) TORRENS TITLE	68/752200	
(B) LODGED BY	Document Name, Address or DX, Telephone, and Customer Account Number if any Collection NSW Department of Primary Industries - Lands Box P O Box 865 DUBBO NSW 2830 Reference: LLPN: 123334F 469S	CODE RV
(C) PRESCRIBED AUTHORITY	Minister administering the Crown Lands Act.	

(D) The prescribed authority, being the registered proprietor of the abovementioned land, applies to have a recording made in the Register of a restriction on the use of land affecting that land the terms of which are set out in a true copy of the relevant order dated 12.11.2015 annexed hereto and marked "B" and certifies that no person or corporation has acquired an interest in the land.

DATE 12.11.2015

By delegation pursuant to section 180 of the Crown Lands Act 1989 and with authority under section 13L of the Real Property Act 1900 from the Minister administering the Crown Lands Act 1989 on behalf of the State of New South Wales

Certified correct for the purposes of the Real Property Act 1900 by an authorised officer of the prescribed authority.

(E) I certify that I am an eligible witness and that an authorised officer of the prescribed authority signed this dealing in my presence. [See note* below].

Signature of witness: Michelle Read

Signature of authorised officer: 

Name of witness: MICHELLE READ

Name: Danny Young

Address of witness: 25-27 FITZROY ST
TAMWORTH NSW 2340

Position: Manager North West
Crown Lands

* s117 RP Act requires that you must have known the signatory for more than 12 months or have sighted identifying documentation.

ANNEXURE "B"

ORDER S88D(2) Conveyancing Act 1919

By this Order the Prescribed Authority, being the Minister for Lands and Water, imposes the restriction on use shown in Schedule 1 and restriction on use shown in Schedule 2 on the Prescribed Land shown in Schedule 3 which is vested in the Prescribed Authority.

Schedule 1

Restriction on Use (Prevention of subdivision) pursuant to S77B(1)(a) of the Crown Lands Act 1989

Schedule 2


See Attachment "1" of this Order for restriction on use pursuant to S77A of the Crown Lands Act 1989

Schedule 3

The land to which the above restrictions on use apply is the freehold Crown estate in the land described below:

Lot	Deposited Plan	Parish	County	Folio Identifier
68	752200	TIABUNDIE	DARLING	68/752200

Dated: 12 November 2015

Signature of
Authorised Officer: 

Name: **Danny Young**
Position: **Manager North West
Crown Lands**
The Hon NIALL BLAIR, MLC
Minister for Lands and Water

ATTACHMENT "1"

CONVEYANCING ACT 1919 – SECTION 88D RESTRICTION ON USE OF LAND

The prescribed authority imposes restriction on the use of the land as set out in Schedule 1 upon the land set out in Schedule 2.

SCHEDULE 1

The following works and activities must not be undertaken within Zone A and Zone B:

- Clearing of native vegetation; or
- Tillage or application of herbicide; or
- Establishment of non-native crops or exotic pasture species; or
- Clearing or removal of standing or fallen dead timber; or
- Logging of native vegetation; or
- Removal of soil or inorganic material such as bush rock; or
- The use of motorised transport, other than on existing tracks for management purposes; or
- Horse riding; or
- Grazing by domestic livestock; or
- Earthworks, including the operation of Borrow Pits and Quarries and the dumping of fill; or
- Harming of native fauna.

Notwithstanding the above restrictions, works may be undertaken in accordance with:

- specific exclusions detailed in this schedule at **I** below; or
- specific management activities detailed in this schedule at **II** below.

Definitions for the purposes of these restrictions include:

"native vegetation" means any of the following types of indigenous vegetation:

- (a) trees (including any sapling or shrub, or any scrub),
- (b) understorey plants,
- (c) groundcover (being any type of herbaceous vegetation),
- (d) plants occurring in a wetland.

"remnant native vegetation" means any native vegetation other than regrowth.

"regrowth" means any native vegetation that has regrown (following a lawful clearing event) since 1 January 1990.

"protected regrowth" has the same meaning as under Section 10 *Native Vegetation Act 2003*.

vegetation is **"indigenous"** if it is of a species of vegetation, or if it comprises species of vegetation, that existed in the State of New South Wales before European settlement.

"groundcover" means any type of herbaceous vegetation, but it is only to be regarded as native vegetation for the purposes of this restriction if:

- (a) it occurs in an area where not less than 50% of the herbaceous vegetation covering that area comprises indigenous species, and

Signature of authorised officer: 

(b) not less than 10% of the area concerned is covered with vegetation (whether dead or alive).

“**clearing**” native vegetation means any one or more of the following:

- (a) cutting down, felling, thinning, logging or removing native vegetation,
- (b) killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.

“**cultivation**” in relation to land, includes the preparation of the land for cultivation and the further cultivation of the land if it has been cultivated.

“**tillage**” means the act of breaking up land or soil, or cultivating or working land for growing crops or pastures.

“**herbicide**” means an agent used to destroy or inhibit plant growth.

“**logging**” native vegetation means the selective removal of trees for timber production or clearing for forestry management purposes.

I. The activities not prevented by these restrictions because they are specific exclusions are those carried out in accordance with:

- (a) the *State Emergency and Rescue Management Act 1989* in relation to an emergency within the meaning of that Act,
- (b) the *Rural Fires Act 1997* in relation to any emergency fire fighting act within the meaning of that Act,
- (c) a bush fire management plan under the *Rural Fires Act 1997*,
- (d) a property management plan approved for the purposes of the *Threatened Species Conservation Act 1995*,
- (e) a licence issued under Division 1 of Part 6 of the *Threatened Species Conservation Act 1995*,
- (f) a permit issued under Division 3 or 4 of Part 7 of the *Fisheries Management Act 1994*,
- (g) a licence issued under Division 6 of Part 7A of the *Fisheries Management Act 1994*,
- (h) a licence issued under section 131 of the *National Parks and Wildlife Act 1974*,
- (i) a survey under the *Surveying Act 2002* that is undertaken by or under the direction of a surveyor,
- (j) prospecting or mining authorised by the *Mining Act 1992*,
- (k) prospecting, exploring or petroleum production authorised by the *Petroleum (Onshore) Act 1991*.

II. The specific management activities not prevented by these restrictions are:

- (a) the removal of noxious weeds under the *Noxious Weeds Act 1993*,
- (b) the control of pest animals under the *Local Land Services Act 2013*,
- (c) traditional Aboriginal cultural activities (except commercial activities),
- (d) any activity reasonably considered necessary to remove or reduce an imminent risk of serious personal injury or damage to property,
- (e) the activities that comprise anything done pursuant to an obligation arising under an eradication order or pest control order under Part 11 of the *Local Land Services Act 2013*,
- (f) the clearing for the operation and maintenance of existing rural infrastructure and limited to the following infrastructure only within the distances or areas specified:
 - 1) permanent boundary fence - 6 metres total width of clearing,
 - 2) permanent internal fence - 6 metres total width of clearing,
 - 3) roads and tracks - 4 metres total width of clearing.
- (g) the maintenance of public utilities (such as those associated with the transmission of electricity, the supply of water, the supply of gas and electronic communication), specifically:
 - 1) The activities that comprise the maintenance of public utilities associated with the transmission of electricity include the following activities but only when those activities

Signature of authorised officer: 

are being undertaken by or at the written direction of the body in which the public utility concerned is vested or that has the responsibility for that public utility's safe operation:

- i) maintaining the necessary safety clearances under powerlines (conductors and structures) and around communication sites associated with the supply of electricity,
 - ii) minimising fuel loads under powerlines to minimise the chance of smoke from a fire resulting in a line trip,
 - iii) maintaining existing access roads and tracks.
- 2) The activities that comprise the maintenance of public utilities associated with the transmission of electricity do not include any of the following activities:
- i) construction of new access roads or tracks,
 - ii) removal of low growing groundcover,
 - iii) maintaining safety clearances from powerlines that exceed either of the following:
 - (i) the distance (measured from the centreline of the power line) set out in Column 2 of the Table to this clause opposite the nominal operating voltage of the power line set out in Column 1 of the Table; or
 - (ii) the minimum distance that will ensure reliability of supply under all loading and environmental conditions and minimise the risk of arcing.

Table	
Column 1	Column 2
Nominal operating voltage of powerline	Maximum clearing distance
up to 11 kV	5 metres
above 11 kV up to and including 33 kV	12.5 metres
above 33 kV up to and including 66 kV	15 metres
above 66 kV up to and including 132 kV	22.5 metres
above 132 kV up to and including 330 kV	30 metres
above 330 kV	35 metres

- (h) non-native weeds may be controlled by methods that will not damage, kill or destroy native vegetation.

Signature of authorised officer: _____





SCHEDULE 2

The restrictions on use apply to the freehold land described below:

Lot	Deposited Plan	Parish	County	Folio Identifier
68	752200	TIABUNDIE	DARLING	68/752200

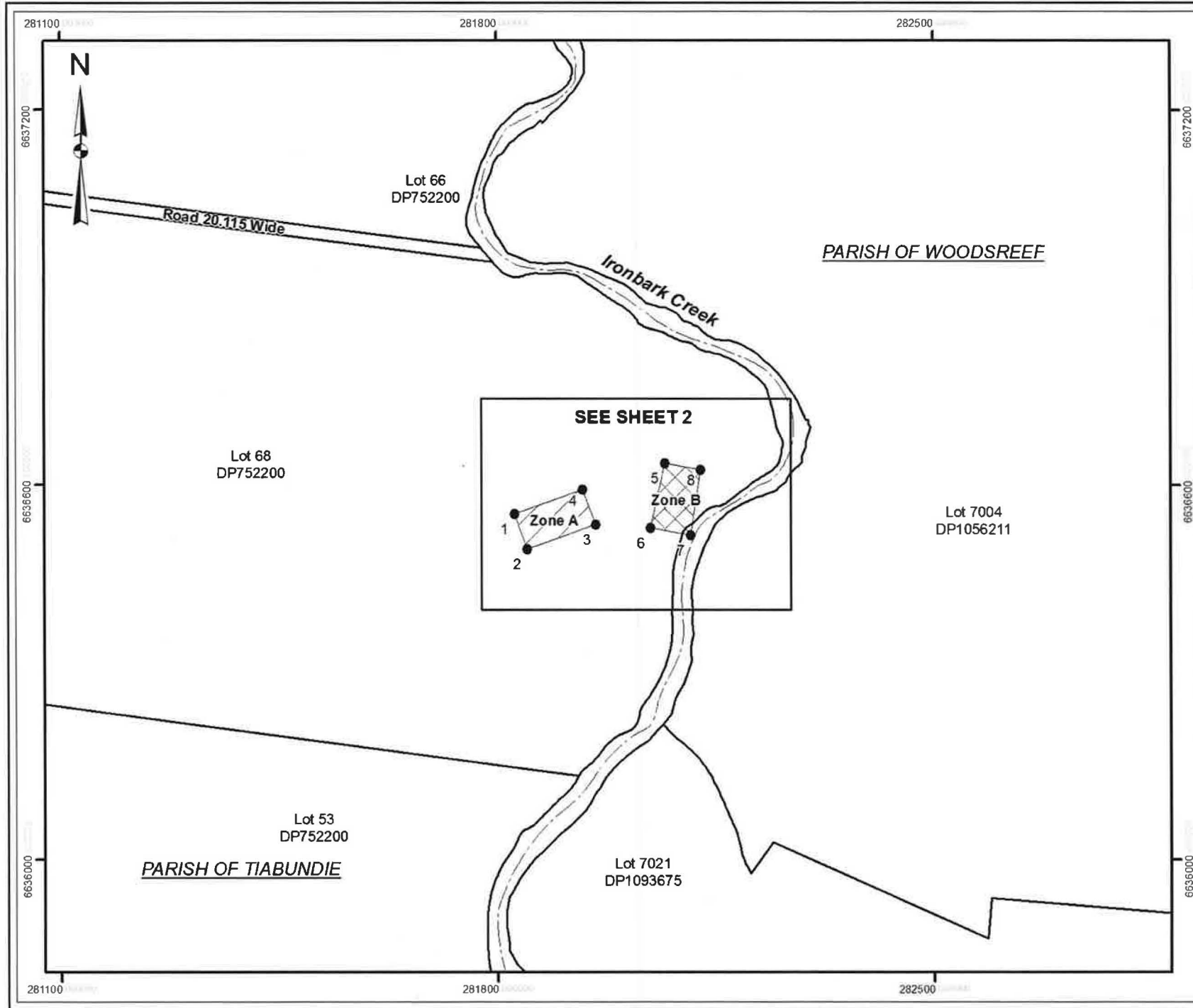
Signature of authorised officer: _____

Name of authorised officer:

Position of authorised officer:

Danny Young
Manager North West
Crown Lands




Signature of authorised officer: _____



**Diagram A
Sheet 1
Covenant Affecting
Lot 68 DP 752200**

Locality: Woodsreef
LGA: Tamworth Regional
Parish: Tiabundie
County: Darling

Legend

-  Zone A
-  Zone B
-  Corners

Corners of zones not marked

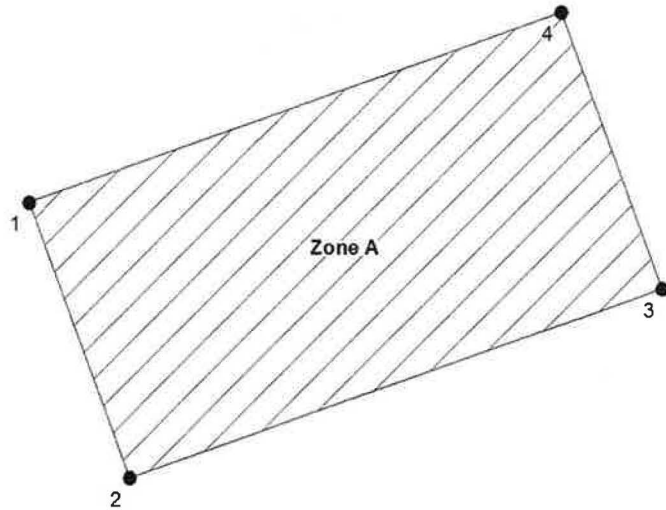
Area of Covenants
Zone A: 7009.5 m²
Zone B: 6577.3 m²

Not to Scale

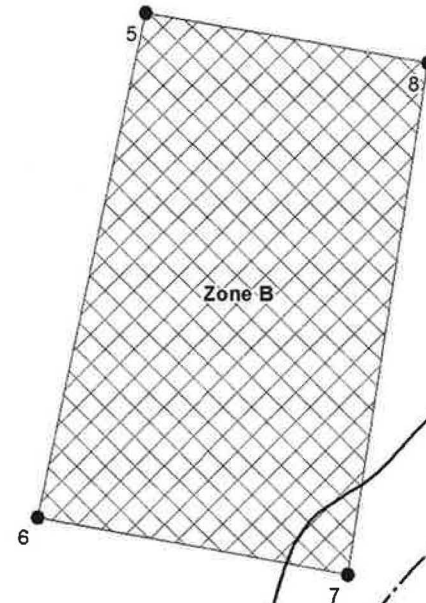
Coordinate System: MGA Zone 56



Lot 68
DP752200



PARISH OF TIABUNDIE



Lot 7004
DP1056211




PARISH OF WOODSREEF

Ironbark Creek

Diagram A
Sheet 2
Covenant Affecting
Lot 68 DP 752200

Locality: Woodsreef
LGA: Tamworth Regional
Parish: Tiabundie
County: Darling

Legend

-  Zone A
-  Zone B
-  Corners

Corners of zones not marked

Area of Covenants
Zone A: 7009.5 m²
Zone B: 6577.3 m²

Not to Scale

Coordinate System: MGA Zone 56



Department of
Primary Industries
Lands

Covenant Affecting Lot 68 DP 752200

Metadata	
MGA Zone	56
Positional Accuracy	+/- 5 m

Coordinate for Corners

Capture Method: These coordinates have been determined by GPS locational field device

Corners	MGA Easting	MGA Northing
1	281827.4395	6636553.338
2	281847.9019	6636496.79
3	281957.6059	6636535.489
4	281937.0329	6636592.257
5	282068.6995	6636634.42
6	282046.1563	6636530.758
7	282109.9677	6636518.851
8	282126.6269	6636624.094

Ref No.

Authorised Officer

Signature: 
DANNY YOUNG

Name: AREA MANAGER NORTHWEST

Dated: 12 / 11 / 2015

Registered Proprietor(s), Mortgagee or Other Parties

Signature:

Name:

Signature:

Name:

Seal

Dated:/...../.....

Email Message

From: [Kate Maddison \[SMTP:kate.maddison@trade.nsw.gov.au\]](mailto:kate.maddison@trade.nsw.gov.au)
To: manel.samarakoon@environment.gov.au
[\[SMTP:manel.samarakoon@environment.gov.au\]](mailto:manel.samarakoon@environment.gov.au)
Cc: [Andrew Cruckshank \[SMTP:andrew.cruckshank@finance.nsw.gov.au\]](mailto:andrew.cruckshank@finance.nsw.gov.au)
Sent: 10/11/2014 at 2:41 PM
Received: 10/11/2014 at 2:41 PM
Subject: EPBC 2012/6437

Attachments: out14-36867.pdf

Hello Manel

Please find attached NSW Trade & Investments response to Condition 9.a.

Regards

Kate

Kate Maddison | Project Manager

Derelict Mines Program

NSW Trade & Investment

516 High Street, Maitland NSW 2320 | PO Box 344, HRMC NSW 2310

T: 02 4931 6506 | M: 0418 689 291 | E: kate.maddison@trade.nsw.gov.au

W: www.resources.nsw.gov.au/environment/derelict

cid:978471704@19052014-339A



OUT14/36867

Manel Samarakoon
Assistant Director
Approvals Monitoring North Section
Post Approvals Section
Compliance and Enforcement Branch
Environment Assessment and Compliance Division
Department of the Environment
GPO Box 787
CANBERRA ACT 2601

Dear Mr Samarakoon

Woodsreef Mine Major Rehabilitation Project, Condition 9.a. – EPBC 2012/6437

NSW Trade & Investment is providing written evidence prior to demolition that Condition 9.a. of EPBC approval 2012/6437 is being progressed.

The following is a status of the security and management of the LEPB habitats within Lot 68/752200:

- NSW Trade & Investment, Derelict Mines Program has secured consent for temporary occupation of Lot 68/752200 for the purpose of fencing of protection zones (LEPB Habitat);
- Crown Land Reserve Lot 68/752200 is currently gazetted as a Reserve for Environmental Protection (R200001) and a Reserve for Public Recreation (R65785), managed by Crown Lands; and
- The Derelict Mines Program recommended Lot 68/752200 become a State Conservation Area for the ongoing protection of LEPB habitat. However, Crown Lands advised that Lot 68/752200 has an Aboriginal Land Claim over the land. Subsequently Derelict Mines Program, in consultation with Tamworth Local Aboriginal Land Council, is liaising with Crown Lands for a covenant to be placed on the title prior to the land transfer.

If you have any enquiries on this matter, please contact myself on 02 4931 6506.

Yours sincerely

Kate Maddison
Project Manager
10 November 2014



Trade &
Investment
Crown Lands

Reference: 14/09059

NSW Trade & Investment
Resources & Energy
Att: Kate Maddison
516 High Street
MAITLAND NSW 2320

Dear Kate

Letter of Authority – Woodsreef

Thank you for agreeing to the Schedule of Conditions and Special Terms and Conditions in Annexure B of the Letter of Authority and returning the signed consent.

Enclosed for your records is an endorsed copy of the consent bearing your signature and that of our Ministers delegate. A copy of the Consent is your official authority to occupy the Crown land and should be kept on hand during the term of your occupation.

Yours faithfully

Sharon Easton
Property Management Officer
Crown Lands Tamworth

10 November 2014

SCHEDULE OF CONDITIONS

**CONSENT FOR TEMPORARY OCCUPATION OF CROWN LAND
FOR THE PURPOSE OF Fencing of Protection Zones TO BE UNDERTAKEN AT
WOODSREEF FOR THE PERIOD FROM 28th October 2014 TO 27th October 2016**

1. For the purposes of this clause the term Minister shall include Her Majesty the Queen, Her Heirs and Successors the State of New South Wales, the Minister and the agents, servants, employees and contractors of Her Majesty, Her Heirs and Successors, the State of New South Wales and the Minister.
 - a) The Proponent agrees that they will indemnify and keep indemnified the Minister from and against all actions suits claims and demands of whatsoever nature and all costs charges and expenses in respect of any accident or injury to any person or property which may arise out of the use of the subject Crown land for the purpose of Protection Zone as may be authorised under this Consent notwithstanding that the conditions of this Consent shall in all respects have been observed by the Proponent or that any such accident or injury shall arise from any act or thing which may be authorised or compelled to do hereunder.
 - b) The Proponent expressly agrees that the obligations under this clause shall continue after the expiration or other determination of this Consent in respect of any act, deed, matter or thing happening before such expiration or determination.
2. The Proponent shall obtain all necessary Consents relative to the proposal and shall comply with all conditions that are the subject of such Consents.
3. The Proponent agrees to the ongoing maintenance of the proposed Fencing of Protection Zone works on Crown land at WOODSREEF.
4. The Proponent holds appropriate insurances sufficient to ensure the Crown is suitably indemnified against any action, suit or claim that may result as a consequence of work undertaken by the Proponent and/or its contractors. All costs to be the responsibility of the Proponent and/or its contractors.
5. The Proponent is responsible for safety induction of all persons onto the site. The Proponent or contractor is responsible at all times for ensuring safe systems of work and that the work site poses no occupational, health or safety risks to workers or the public. All persons engaged in any work relative to this approval must be qualified, trained or appropriately experienced in the work involved and the safe operation of associated tools or machinery. Relevant advice should be obtained from NSW WorkCover Authority.

SPECIAL TERMS AND CONDITIONS CLAUSES

CONSENT FOR TEMPORARY OCCUPATION OF CROWN LAND FOR THE PURPOSE OF Fencing of Protection Zones TO BE UNDERTAKEN AT WOODSREEF FOR THE PERIOD FROM 28th October 2014 TO 27th October 2016

The clauses appearing below are clauses of the Terms and Conditions, and form a part of the Consent.

1. Occupational Health and Safety Legislation requires anyone in control of the workplace to identify the potential hazards of the proposed work, assess the risks involved and develop controls to eliminate, or minimise, the risk.
2. The Proponent is responsible for assessing the site for any foreseeable hazards before commencement of any work. Examples of aspects that must be identified in a safety induction to the site include (but are not limited to) identifying the following hazards:
 - a) Overhead and underground power lines, transmission lines and any other services such as water and gas or sewerage;
 - b) Steep and/or unstable terrain (rocky, loose, slippery or swampy surfaces);
 - c) Embankments, retaining walls, gullies, drains, dams and watercourses;
 - d) The state of types of existing vegetation (tree height and stability), including wind blown or fallen trees;
 - e) The sighting of any buildings, structures, fences or other assets on the subject Crown land and any adjoining parcels immediately adjacent to proposed works;
 - f) Any hazardous rubbish or waste materials that may occur on the land;
 - g) The locality of any roads, railway lines or other traffic thoroughfares;
 - h) Any hazardous flora and fauna;
 - i) Trainees are to be under the direct supervision of a trained instructor at all times.
3. The work is to be conducted in a manner not to cause damage or increase soil erosion. Appropriate sediment control measures are to be provided for the duration of the works and until the site is stabilised. Follow up measures may include:
 - a) Disturbed areas of the land should be formed to the contour of surrounding terrain.
 - b) Vegetation or ground cover is to be restored over bare earth.
 - c) Every effort should be undertaken to minimise environmental impacts of equipment used on the site
 - d) The proponent will dispose of any rubbish or other material arising from the occupation and not present at the time of Consent.
4. The work must not contribute to the further spread of noxious weeds. Should any additional noxious weeds or other environmental hazard be present on the site, NSW Trade & Investment must be immediately informed. All weed material removed from site should be disposed in the appropriate manner.
5. The Proponent shall obtain all necessary consents relative to the proposal that go beyond the surveyed boundaries of the Crown land. Fences are not to be relied upon to define the boundary. The boundary may need to be identified by a registered surveyor.
6. In the event that issues relevant to wildlife corridors, the existence of threatened species, populations and / or ecological communities and / or aboriginal artefacts (if any) arise in the area, the advice of the Department of Environment, Climate Change and Water should be obtained. Specifically, advice is to be sought regarding the "assessment of significance" (Part 5A of the Environmental Planning and Assessment Act 1979) and any requirement for a Species Impact Statement (Division 2 Part 6 of the Threatened Species Conservation Act 1995).
7. The Proponent or contractor is not permitted to remove any native vegetation from the site or to

undertake any works contrary to SEPP No.14 Coastal Wetlands.

8. All revegetation works are to be carried out using indigenous native plants and seed, sourced from the local area.
9. NSW Trade & Investment is to be notified in writing (or email) when the works have been completed and occupation has ceased.
10. All pesticides used must be in accordance with the Pesticides Regulation 1995 (the Regulation) and applied to the Crown land in a safe, responsible manner, minimising harm to the community and the environment. Notice of pesticide use is to be provided in one or more of the following ways: -
 - The erection or placement of signs
 - Postage of letters or letterbox drops
 - Through the media
 - By telephone, fax, email or personal contact

To activate this Consent please sign below and return this document (Annexure B) to the office of NSW Trade & Investment Crown Lands via email tamworth.crownlands@crowmland.nsw.gov.au or post to PO Box 2185 DANGAR NSW 2309 within 30 days of the date of the accompanying letter.

Signature of Proponent:



Name of Proponent:
(BLOCK LETTERS)

Kate Maddison

Date:

10 Nov 14

Name of Delegated (Crown Lands):
(BLOCK LETTERS)

Scott Stanton
Group Leader, Tamworth

Signature of Delegated Officer:



Date:

10 / 11 / 14

TAMWORTH OFFICE
25-27 Fitzroy Street (PO Box 535), Tamworth NSW 2340
Phone: (02) 6764 5100 Fax: (02) 6766 3805

ADDITION TO RESERVED CROWN LAND

PURSUANT to section 88 of the Crown Lands Act 1989, the Crown land specified in Column 1 and shown by hatching on the diagram of the Schedule hereunder is added to the reserved land specified opposite thereto in Column 2 of the Schedule.

TONY KELLY, M.L.C.,
 Minister for Lands

SCHEDULE

COLUMN 1

Land District: Tamworth
 Local Government Area: Tamworth Regional Council
 Locality: Woodsreef

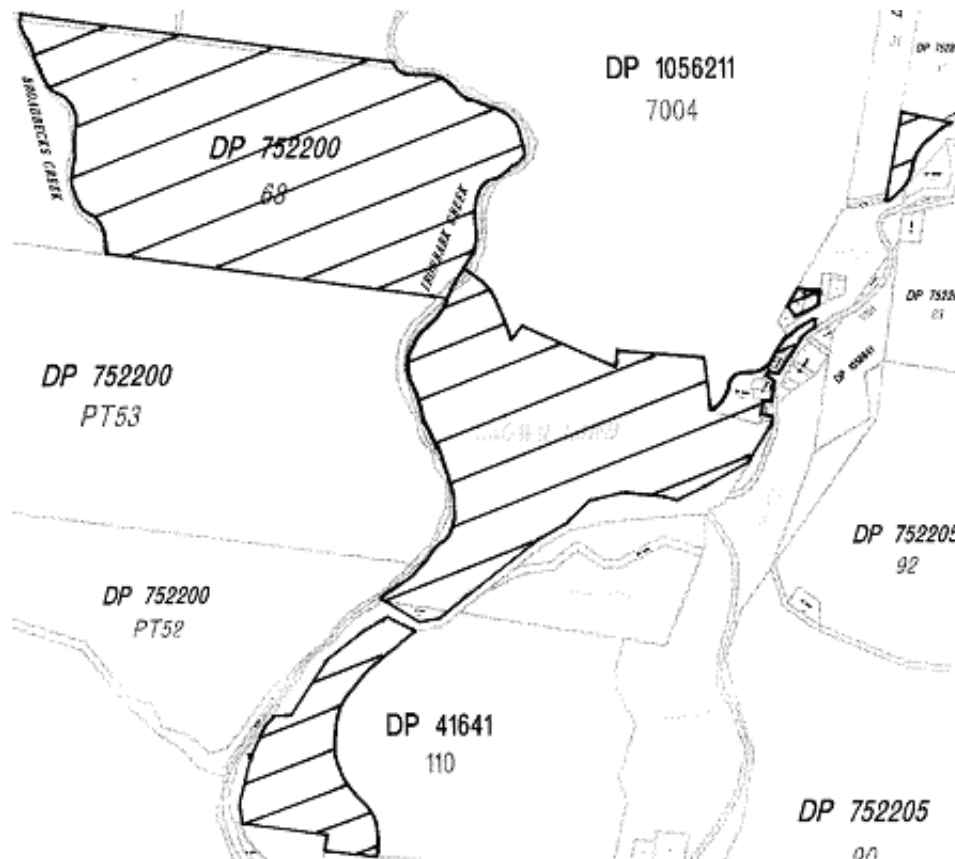
<i>Lot</i>	<i>D.P. No.</i>	<i>Parish</i>	<i>County</i>
99	752205	Woodsreef	Darling
68	752200	Tiabundie	Darling
102	752205	Woodsreef	Darling
41	752205	Woodsreef	Darling
82	752205	Woodsreef	Darling
83	752205	Woodsreef	Darling
84	752205	Woodsreef	Darling
85	752205	Woodsreef	Darling
86	752205	Woodsreef	Darling
87	752205	Woodsreef	Darling
74	752205	Woodsreef	Darling
6	44162	Woodsreef	Darling
PT 110	41641	Woodsreef	Darling
7016	94281	Woodsreef	Darling

Area: Approximately 159.3ha

File Reference:TH01R2/1

COLUMN 2

Reserve No. 200001
 Public Purpose: Environmental Protection
 Notified: 25th July 1986
Lot D.P. No. Parish County
 7004 1056211 Woodsreef Darling
 New Area: 486.2ha



ADDITION TO RESERVED CROWN LAND

PURSUANT to section 88 of the Crown Lands Act 1989, the Crown land specified in Column 1 and shown by hatching on the diagram of the Schedule hereunder is added to the reserved land specified opposite thereto in Column 2 of the Schedule.

TONY KELLY, M.L.C.,
Minister for Lands

SCHEDULE

COLUMN 1

Land District: Tamworth
Local Government Area: Tamworth Regional Council
Locality: Woodsreef

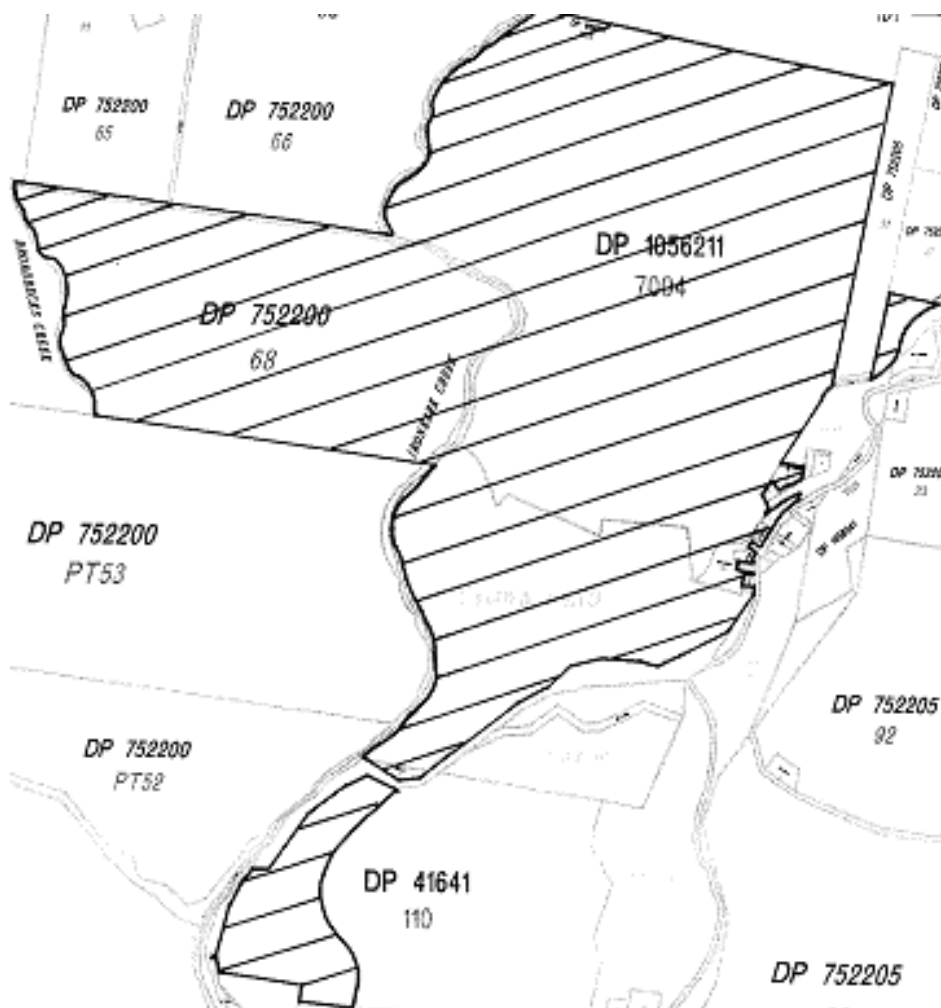
Lot	D.P. No.	Parish	County
7004	1056211	Woodsreef	Darling
68	752200	Tiabundie	Darling
102	752205	Woodsreef	Darling
41	752205	Woodsreef	Darling
82	752205	Woodsreef	Darling
83	752205	Woodsreef	Darling
84	752205	Woodsreef	Darling
85	752205	Woodsreef	Darling
86	752205	Woodsreef	Darling
87	752205	Woodsreef	Darling
74	752205	Woodsreef	Darling
6	44162	Woodsreef	Darling
PT 110	41641	Woodsreef	Darling
7016	94281	Woodsreef	Darling

Area: Approximately 403.5ha

File Reference:TH01R2/1

COLUMN 2

Reserve No. 65783
Public Purpose: Public Recreation
Notified: 24th January 1936
Lot D.P. No. Parish County
99 752205 Woodsreef Darling
New Area: 486.2ha



Kate Maddison


From: Kaminskas, Timothy
Sent: Tuesday, 13 October 2015 10:44 AM
To: 'Kate Maddison'
Subject: RE: 2012/6347 - Woodsreef Offset - GIS shapefiles [SEC=UNCLASSIFIED]

Hi Kate,
Thanks for that, I have sent that data through to our spatial team. I'll let you know if we have any issues.
By the way, can you confirm whether or not the offset sites have been secured?
Cheers

Tim Kaminskas

Post Approvals Section
Compliance and Enforcement Branch
Environmental Standards Division
Department of the Environment
GPO Box 787, Canberra City, ACT 2601
☎ (02) 6275 9516



 Please consider the environment before printing

From: Kate Maddison [mailto:kate.maddison@industry.nsw.gov.au]
Sent: Tuesday, 13 October 2015 8:53 AM
To: Kaminskas, Timothy
Subject: Re: 2012/6347 - Woodsreef Offset - GIS shapefiles [SEC=UNCLASSIFIED]

Hi Tim

ICT have assisted me in transferring the files to shape files. I have attached 5 zip files. Please let me know the

Regards
Kate

Kate Maddison | Derelict Mines Project Manager
NSW Department of Industry | Derelict Mines Program
516 High Street | Maitland NSW 2320
PO Box 344 | Hunter Region Mail Centre NSW 2210
T: 02 4931 6506 | F: 02 4931 6790 | M: 0418 689 291 | E: kate.maddison@industry.nsw.gov.au
W: www.industry.nsw.gov.au

On 14 September 2015 at 15:03, Kaminskas, Timothy <Tim.Kaminskas@environment.gov.au> wrote:

Hey Kate,

I sent through the data to our spatial data team. Apparently the files didn't work properly. See their comments below:

"I've taken a look at the attachments - the .mxd (ArcGIS map documents) are unfortunately not displaying the offset sites. The shapefile data is missing. The shapefiles need to be sent in ESRI format and normally comprise of the following extensions (.dbf, .prj, .sbn, .sbx, .shp, .shx). Could you please chase these up from the proponent? I'll then load them via GIS into our spatial database. Also, could you please tell me whether or not these offsets are proposed or secured?"

Are you able to check the Shapefiles and re-send? Also can you confirm if the Offsets are in fact secured?

Regards

Tim

Tim Kaminskas

Post Approvals Section

Compliance and Enforcement Branch

Environmental Standards Division

Department of the Environment

GPO Box 787, Canberra City, ACT 2601

☎ (02) 6275 9516



From: Kate Maddison [mailto:kate.maddison@industry.nsw.gov.au]

Sent: Thursday, 27 August 2015 2:17 PM

To: Kaminskas, Timothy

Cc: Andrew Cruckshank

Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim

Have you received the memory stick with the shapefiles on it.

Thanks

Kate

Kate Maddison | Derelict Mines Project Manager
NSW Department of Industry | Derelict Mines Program
516 High Street | Maitland NSW 2320
PO Box 344 | Hunter Region Mail Centre NSW 2310
T: 02 4931 6506 | F: 02 4931 6790 | M: 0418 689 291 | E: kate.maddison@industry.nsw.gov.au
W: www.industry.nsw.gov.au

From: Andrew Cruckshank [mailto:andrew.cruckshank@finance.nsw.gov.au]
Sent: Thursday, 27 August 2015 11:31 AM
To: Kaminskis, Timothy
Cc: 'Kate Maddison'
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim,

Apologies for delay; final version attached.

Please let me know if any issues.

Regards,

Andrew Cruckshank

Senior Project Manager

NSW Public Works | Department of Finance, Services and Innovation

p 02 4908 4849 | f 02 4908 4954 | m 0422 385 956

e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

Level 2, 117 Bull St Newcastle West NSW 2302



From: Kaminskas, Timothy [<mailto:Tim.Kaminskas@environment.gov.au>]
Sent: Friday, 21 August 2015 1:00 PM
To: Andrew Cruckshank
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Thanks Andrew, can you please send me the final revised document for our records?

Cheers

Tim Kaminskas

Post Approvals Section

Compliance and Enforcement Branch, EACD

Department of the Environment

GPO Box 787, Canberra City, ACT 2601

☎ (02) 6275 9516



From: Andrew Cruckshank [<mailto:andrew.cruckshank@finance.nsw.gov.au>]
Sent: Tuesday, 11 August 2015 2:35 PM
To: Kaminskis, Timothy; 'Kate Maddison'
Cc: Samarakoon, Manel
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim,

Confirming that Table 5-1 Items 17 status has been changed to complete (with the timing being “following enhancement works”).

This reflects the current status.

Please advise if you require any further clarification of the plan.

Thank You,

Andrew

Andrew Cruckshank

Senior Project Manager

NSW Public Works | Department of Finance, Services and Innovation

p 02 4908 4849 | f 02 4908 4954 | m 0422 385 956

e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

Level 2, 117 Bull St Newcastle West NSW 2302

From: Kaminskas, Timothy [<mailto:Tim.Kaminskas@environment.gov.au>]
Sent: Monday, 10 August 2015 10:38 AM
To: 'Kate Maddison'
Cc: Samarakoon, Manel; Andrew Cruckshank
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Kate,

Please see the highlighted section of the comment form, as this change does not seem to be in the final document. Once complete, please send through the final plan reflecting this change.

Thanks and regards

Tim Kaminskas

Post Approvals Section

Compliance and Enforcement Branch, EACD

Department of the Environment

GPO Box 787, Canberra City, ACT 2601

☎ (02) 6275 9516



From: Kate Maddison [<mailto:kate.maddison@trade.nsw.gov.au>]
Sent: Friday, 31 July 2015 3:03 PM
To: Kaminskas, Timothy
Cc: Samarakoon, Manel; andrew.cruckshank@finance.nsw.gov.au
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Sorry Tim.

Now attached.

Kate

Kate Maddison | Derelict Mines Project Manager
NSW Department of Industry | Derelict Mines Program
516 High Street | Maitland NSW 2320
PO Box 344 | Hunter Region Mail Centre NSW 2310
T: 02 4931 6506 | F: 02 4931 6790 | M: 0418 689 291 | E: kate.maddison@trade.nsw.gov.au
W: www.industry.nsw.gov.au

From: Kaminskas, Timothy [mailto:Tim.Kaminskas@environment.gov.au]
Sent: Friday, 31 July 2015 1:57 PM
To: 'kate.maddison@trade.nsw.gov.au'; 'andrew.cruckshank@finance.nsw.gov.au'
Cc: Samarakoon, Manel
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Kate,

Thanks for the amended plan. In addition to this, can you please address our comments in the sheet we provided you?

Kind regards

Tim Kaminskas

Post Approvals Section

Compliance and Enforcement Branch, EACD

Department of the Environment

GPO Box 787, Canberra City, ACT 2601

☎ (02) 6275 9516



From: Kate Maddison [<mailto:kate.maddison@trade.nsw.gov.au>]
Sent: Friday, 31 July 2015 1:40 PM
To: Post Approval
Cc: Samarakoon, Manel; andrew.cruckshank@finance.nsw.gov.au
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hello Tim

Please find attached the Woodsreef Offset Management Plan incorporating your comments.

Regards

Kate

Kate Maddison | Derelict Mines Project Manager
NSW Department of Industry | Derelict Mines Program
516 High Street | Maitland NSW 2320
PO Box 344 | Hunter Region Mail Centre NSW 2310
T: 02 4931 6506 | F: 02 4931 6790 | M: 0418 689 291 | E: kate.maddison@trade.nsw.gov.au
W: www.industry.nsw.gov.au

From: Post Approval [<mailto:PostApproval@environment.gov.au>]
Sent: Monday, 20 July 2015 12:31 PM
To: 'kate.maddison@trade.nsw.gov.au'
Cc: Samarakoon, Manel; 'andrew.cruckshank@finance.nsw.gov.au'
Subject: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Kate,

Please find attached to this email my comments on the Woodsreef Offset Management Plan.

Regards

Tim Kaminskas

Post Approvals Section

Compliance and Enforcement Branch, EACD

Department of the Environment



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**The new
state of
business**

\$1.3b 

NSW mining royalties for 2013/14
helped fund infrastructure and services

Number of NSW households &
small businesses using solar

290k 

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This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of their organisation.

Kate Maddison

From: Andrew Cruckshank
Sent: Thursday, 27 August 2015 11:31 AM
To: Kaminskas, Timothy
Cc: 'Kate Maddison'
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]
Attachments: Woodsreef Offset Management Plan Final v2.pdf

Hi Tim,

Apologies for delay; final version attached.

Please let me know if any issues.

Regards,

Andrew Cruckshank
Senior Project Manager

NSW Public Works | Department of Finance, Services and Innovation
p 02 4908 4849 | f 02 4908 4954 | m 0422 385 956
e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

Level 2, 117 Bull St Newcastle West NSW 2302



Public Works

From: Kaminskas, Timothy [<mailto:Tim.Kaminskas@environment.gov.au>]
Sent: Friday, 21 August 2015 1:00 PM
To: Andrew Cruckshank
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Thanks Andrew, can you please send me the final revised document for our records?

Cheers

Tim Kaminskas

Post Approvals Section
Compliance and Enforcement Branch, EACD
Department of the Environment
GPO Box 787, Canberra City, ACT 2601
☎ (02) 6275 9516



From: Andrew Cruckshank [<mailto:andrew.cruckshank@finance.nsw.gov.au>]
Sent: Tuesday, 11 August 2015 2:35 PM

To: Kaminskas, Timothy; 'Kate Maddison'

Cc: Samarakoon, Manel

Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim,

Confirming that Table 5-1 Items 17 status has been changed to complete (with the timing being “following enhancement works”).

This reflects the current status.

Please advise if you require any further clarification of the plan.

Thank You,

Andrew

Andrew Cruckshank
Senior Project Manager

NSW Public Works | Department of Finance, Services and Innovation
p 02 4908 4849 | f 02 4908 4954 | m 0422 385 956
e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

Level 2, 117 Bull St Newcastle West NSW 2302



From: Kaminskas, Timothy [<mailto:Tim.Kaminskas@environment.gov.au>]

Sent: Monday, 10 August 2015 10:38 AM

To: 'Kate Maddison'

Cc: Samarakoon, Manel; Andrew Cruckshank

Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Kate,

Please see the highlighted section of the comment form, as this change does not seem to be in the final document.

Once complete, please send through the final plan reflecting this change.

Thanks and regards

Tim Kaminskas

Post Approvals Section
Compliance and Enforcement Branch, EACD
Department of the Environment
GPO Box 787, Canberra City, ACT 2601
☎ (02) 6275 9516



From: Kate Maddison [<mailto:kate.maddison@trade.nsw.gov.au>]
Sent: Friday, 31 July 2015 3:03 PM
To: Kaminskas, Timothy
Cc: Samarakoon, Manel; andrew.cruckshank@finance.nsw.gov.au
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Sorry Tim.
Now attached.
Kate

Kate Maddison | Derelict Mines Project Manager
NSW Department of Industry | Derelict Mines Program
516 High Street | Maitland NSW 2320
PO Box 344 | Hunter Region Mail Centre NSW 2310
T: 02 4931 6506 | F: 02 4931 6790 | M: 0418 689 291 | E: kate.maddison@trade.nsw.gov.au
W: www.industry.nsw.gov.au

From: Kaminskas, Timothy [<mailto:Tim.Kaminskas@environment.gov.au>]
Sent: Friday, 31 July 2015 1:57 PM
To: 'kate.maddison@trade.nsw.gov.au'; 'andrew.cruckshank@finance.nsw.gov.au'
Cc: Samarakoon, Manel
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Kate,
Thanks for the amended plan. In addition to this, can you please address our comments in the sheet we provided you?
Kind regards

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From: Kate Maddison [<mailto:kate.maddison@trade.nsw.gov.au>]
Sent: Friday, 31 July 2015 1:40 PM
To: Post Approval
Cc: Samarakoon, Manel; andrew.cruckshank@finance.nsw.gov.au
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hello Tim

Please find attached the Woodsreef Offset Management Plan incorporating your comments.

Regards
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W: www.industry.nsw.gov.au

From: Post Approval [mailto:PostApproval@environment.gov.au]
Sent: Monday, 20 July 2015 12:31 PM
To: 'kate.maddison@trade.nsw.gov.au'
Cc: Samarakoon, Manel; 'andrew.cruckshank@finance.nsw.gov.au'
Subject: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

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Kate Maddison

From: Kaminskas, Timothy
Sent: Friday, 6 November 2015 3:16 PM
To: 'Andrew Cruckshank'
Cc: 'Kate Maddison'; Samarakoon, Manel
Subject: HPRM: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

HP Records Manager Record Number:
INW15/54883


Hi Andrew

Thank you for your query. The plan you submitted 27 August 2015 satisfies the requirements of condition 12. Condition 12 states that the Department has a 'consultative' rather than an 'approval' role in relation to the Offset Management Plan, therefore the plan does not require formal approval by the Minister or Minister's delegate.

Kind regards

Tim Kaminskas
Post Approvals Section
Compliance and Enforcement Branch
Environmental Standards Division
Department of the Environment
GPO Box 787, Canberra City, ACT 2601
☎ (02) 6275 9516



 Please consider the environment before printing

From: Andrew Cruckshank [mailto:andrew.cruckshank@finance.nsw.gov.au]
Sent: Friday, 6 November 2015 2:44 PM
To: Kaminskas, Timothy
Cc: 'Kate Maddison'
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim,

Can you please advise status of Offset Management Plan for Woodsreef? Formal acceptance / approval has yet to be provided.

Thank You,

Andrew Cruckshank
Senior Project Manager

NSW Public Works | Department of Finance, Services and Innovation
p 02 4908 4849 | f 02 4908 4954 | m 0422 385 956
e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

Level 2, 117 Bull St Newcastle West NSW 2302



From: Andrew Cruckshank
Sent: Thursday, 27 August 2015 11:30 AM
To: 'Kaminskas, Timothy'
Cc: 'Kate Maddison'
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim,

Apologies for delay; final version attached.

Please let me know if any issues.

Regards,

Andrew Cruckshank
Senior Project Manager

NSW Public Works | Department of Finance, Services and Innovation
p 02 4908 4849 | f 02 4908 4954 | m 0422 385 956
e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

Level 2, 117 Bull St Newcastle West NSW 2302



From: Kaminskas, Timothy [<mailto:Tim.Kaminskas@environment.gov.au>]
Sent: Friday, 21 August 2015 1:00 PM
To: Andrew Cruckshank
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Thanks Andrew, can you please send me the final revised document for our records?

Cheers

Tim Kaminskas

Post Approvals Section
Compliance and Enforcement Branch, EACD
Department of the Environment
GPO Box 787, Canberra City, ACT 2601
☎ (02) 6275 9516



From: Andrew Cruckshank [<mailto:andrew.cruckshank@finance.nsw.gov.au>]
Sent: Tuesday, 11 August 2015 2:35 PM
To: Kaminskas, Timothy; 'Kate Maddison'
Cc: Samarakoon, Manel
Subject: RE: 2012/6347 - Woodsreef Offset Management Plan - Review comments [SEC=UNCLASSIFIED]

Hi Tim,

Confirming that Table 5-1 Items 17 status has been changed to complete (with the timing being “following enhancement works”).

This reflects the current status.

Please advise if you require any further clarification of the plan.

Thank You,

Andrew

Andrew Cruckshank
Senior Project Manager

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e andrew.cruckshank@finance.nsw.gov.au | www.publicworks.nsw.gov.au

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TAMWORTH OFFICE
25-27 Fitzroy Street (PO Box 535), Tamworth NSW 2340
Phone: (02) 6764 5100 Fax: (02) 6766 3805

ADDITION TO RESERVED CROWN LAND

PURSUANT to section 88 of the Crown Lands Act 1989, the Crown land specified in Column 1 and shown by hatching on the diagram of the Schedule hereunder is added to the reserved land specified opposite thereto in Column 2 of the Schedule.

TONY KELLY, M.L.C.,
 Minister for Lands

SCHEDULE

COLUMN 1

Land District: Tamworth
 Local Government Area: Tamworth Regional Council
 Locality: Woodsreef

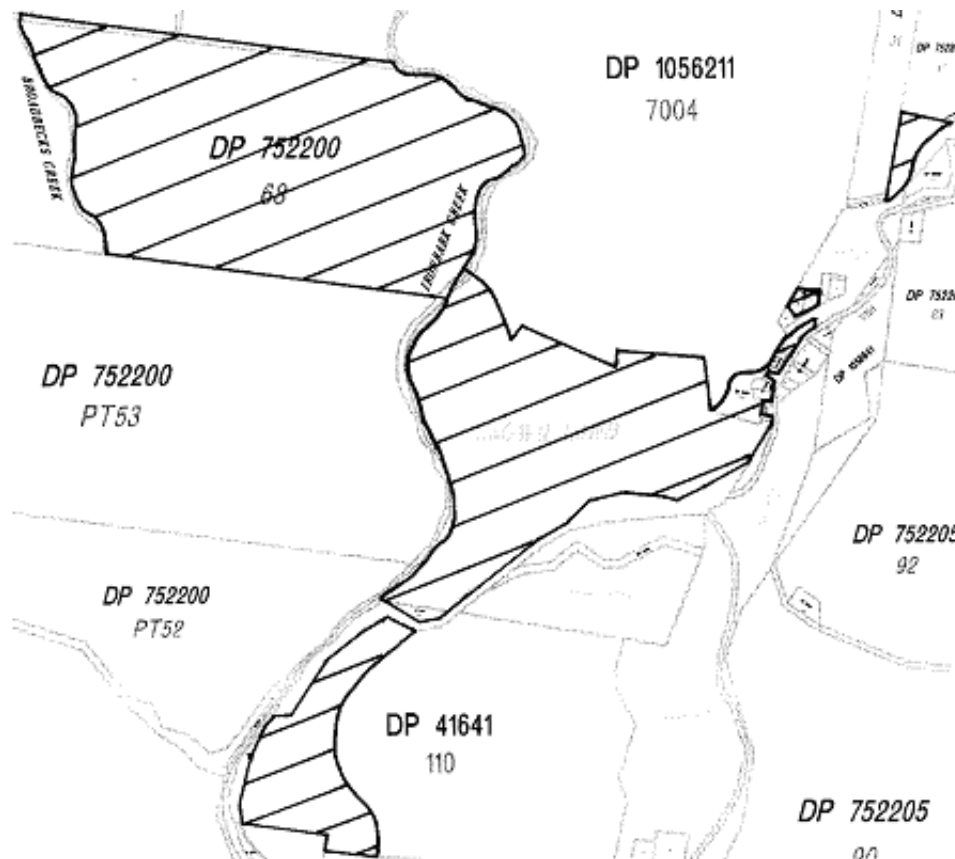
Lot	D.P. No.	Parish	County
99	752205	Woodsreef	Darling
68	752200	Tiabundie	Darling
102	752205	Woodsreef	Darling
41	752205	Woodsreef	Darling
82	752205	Woodsreef	Darling
83	752205	Woodsreef	Darling
84	752205	Woodsreef	Darling
85	752205	Woodsreef	Darling
86	752205	Woodsreef	Darling
87	752205	Woodsreef	Darling
74	752205	Woodsreef	Darling
6	44162	Woodsreef	Darling
PT 110	41641	Woodsreef	Darling
7016	94281	Woodsreef	Darling

Area: Approximately 159.3ha

File Reference: TH01R2/1

COLUMN 2

Reserve No. 200001
 Public Purpose: Environmental Protection
 Notified: 25th July 1986
 Lot D.P. No. Parish County
 7004 1056211 Woodsreef Darling
 New Area: 486.2ha



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Minister for Lands

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Locality: Woodsreef

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84	752205	Woodsreef	Darling
85	752205	Woodsreef	Darling
86	752205	Woodsreef	Darling
87	752205	Woodsreef	Darling
74	752205	Woodsreef	Darling
6	44162	Woodsreef	Darling
PT 110	41641	Woodsreef	Darling
7016	94281	Woodsreef	Darling

Area: Approximately 403.5ha

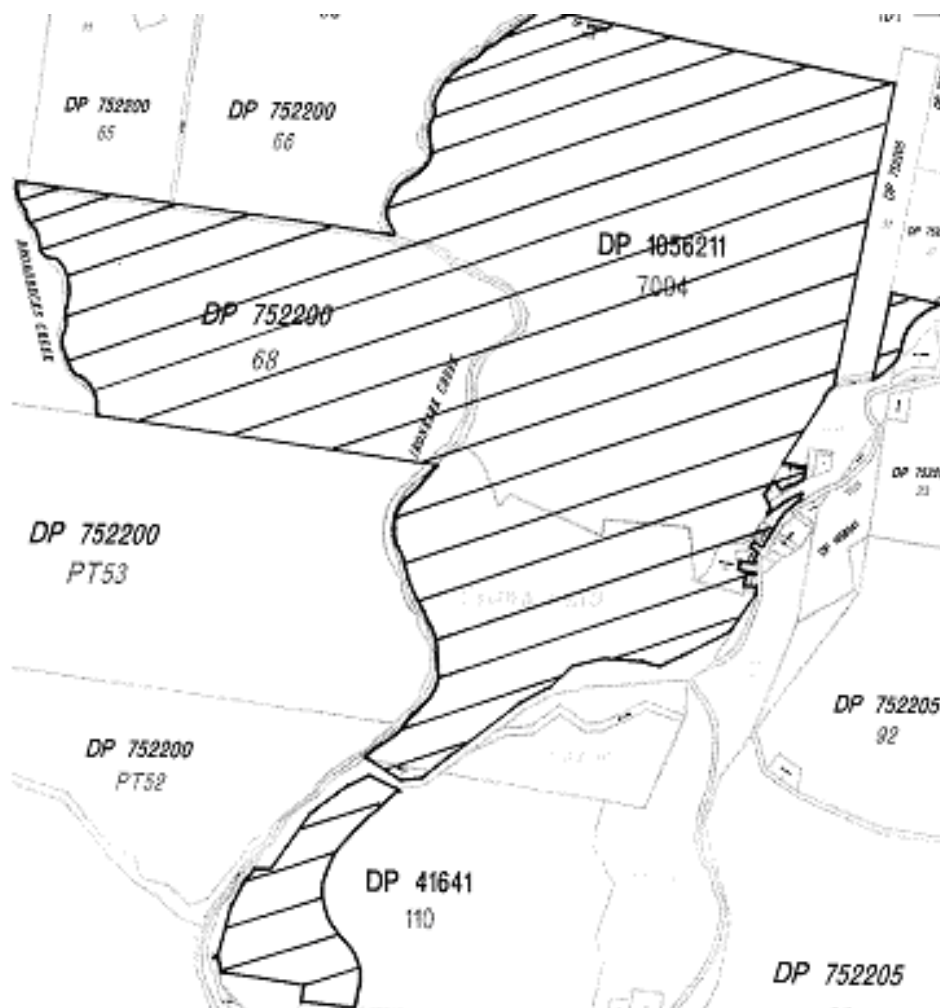
File Reference:TH01R2/1

COLUMN 2

Reserve No. 65783
Public Purpose: Public Recreation
Notified: 24th January 1936

Lot	D.P. No.	Parish	County
99	752205	Woodsreef	Darling

New Area: 486.2ha



Woodsreef Bat Eviction report beginning 16th Sept 2014

16th set up three harp traps in the building and set up Anabat to record all night. Observed a cluster of bats in the old laboratory of approximately 15 Large-eared Pied bats, they were high against the ceiling.

17th checked harp traps at 6-00am recorded; on bag had been attacked by a predator, probably a cat.

9 Large Bentwing bats none banded 3 female 6 male

1 Little Pied bat banded female

1 Lesser Longeared bat female

12 Large-eared Pied bats 11 female 1 male (10 banded)

Searched the building by day found no bats.

Set up lights and blocked entry and exit points with plastic, doors or other material.

Searched King Solomon and Barney Bernato mines found no bats. Noted no work done to provide security fencing for those mines. Dragged a dead Kangaroo out of King Solomon.

At dusk released the bats captured in mill building at King Solomon mine adit.

After dark turned on the lights in the mill building at 7-00pm.

Checked the light placements, inspected all known roosts, found one banded Large-eared Pied bat in washroom, closed more doors (laboratory and washroom) confident bats had gone out for the evening. That bat had returned from King Solomon mine released there an hour earlier.

Plan to refuel the generator and restart at 2-00 am, need a larger fuel tank to run through the night. Otherwise happy with the eviction so far seems the females have just begun to arrive, need to deter others from roosting as they arrive. The light and sound of the generator is likely to work well, shame it can't go all night.

Bat Eviction Report Thursday the 18th Sept

Made a thorough inspection of all areas in the mill building and adjoining tunnels, recorded;

Tunnel 1 Nil bats, requires the habitat improvements to be fixed securely, rear panel fallen down, presently not suitable habitat, needs to be secured asap before breeding.

Tunnel 2 Nil bats, requires the fencing to be fixed securely and buried into the ground, presently not protected from feral predators.

Tunnel 3 1 Large Bentwing bat roosting in artificial habitat.

Building

Offices adjoining the washroom

1 female Little pied bat not banded – released at Crown Land reserve at dusk.

The laboratory and washroom are now sealed off areas for bat entry.

Had discussions with Brian about work program, decided to quit until next Wednesday the 24th of September to restart the eviction. He advised that he would look into a generator that would run all night.

Left the light setup as it is until then.

Packed up traps, released bats at Crown Land reserve at dusk.

Travelled to Tamworth early Friday morning 19th.

Bat Eviction Wednesday & Thursday 24th & 25th Sept 2014

Wednesday 24th

Travelled to Woodsreef

Inspected mill building and Tunnel 1 - found no bats

Re-erected some of the plastic sheet blown down since last week.

Confirmed washroom and laboratory still sealed off to bat entry

Connected new generator and turned on lights at Dusk

Thursday 25th

Arrived at 7-00am turned off generator, still plenty of fuel in tank.

Inspected the mill building, tunnels 1, 2, & 3 and administration building, no bats found in mill building or tunnel 1.

Located two bats in Administration building in washroom

Located 14 bats in Tunnel 2 – did not disturb those bats

Future plan

Plan to keep the building lit up each night until the demolition begins, I will keep monitoring what the bats are doing until Saturday then head back to Tamworth and come back two days before the serious demolition commences.

Revelations from monitoring so far

It appears the mill building is no longer being used as a roost, but the Admin building and Tunnel 2 are.

We probably have 2 – 3 weeks before the bats give birth, I am thinking that it would be good if we could have the disturbance in the vicinity of Tunnel 2 as the first priority to enable that area to be undisturbed asap to encourage the bats to stay there and raise their young in that tunnel. I don't think Tunnel 1 will be suitable this year due to its close proximity to the disturbance.

Making the demolition of the old silos and the admin building a first priority is an each way bet for the bats, they may still not stay and breed, but if they do it would be a big plus, because the old gold mines have not been enhanced to provide optimal habitat and security.

I am not aware of what is involved in the demolition of the old silos and the admin building, if making them a first priority does not fit into the grand plan then so be it, but if it is okay and the bats can be encouraged to stay and breed in Tunnel 2 that would be a plus.

Thursday 25th

Set up Anabat for an all-night recording.
Fuelled and started the generator for the night.

Friday 26th

7-00 am turned off generator
Picked up Anabat and uploaded files.
Inspected the Mill building – found one bat in hallway next to washroom and another in the electrical room above the washroom, surprising that both locations required the bats to enter via floodlit passages. One was an adult banded male that had not been caught in the last two weeks, and the other was an adult banded female that was previously caught and relocated to King Solomon on the 17th Sept 2014. She was not obviously pregnant (not heavy or had milk at this stage).

Inspected Tunnel 1, 2, and 3 found nothing, patched up the gap in the rear wall of Tunnel 1.

Inspected Admin building found one male unbanded bat in the electrical control room.

Today's captures show that the lights and generator noise is losing its effect as a deterrent, one bat was roosting on a flood lit wall the other bat was in a dark hallway but must have flown through a flood lit passage to get there.

The 14 bats that were in Tunnel 2 yesterday had moved to somewhere unknown. Will do another search Saturday morning, and release bats into old gold mines before returning to Tamworth.

Will pick up an amplifier to bring back next week to try using sound as a deterrent.

Saturday 27th 2014

Turned off generator 7-00 am

Searched Mill building

found 1 Lesser long-eared bat *Nyctophilus geoffroyi* in the electrical room above the washroom on a brick wall lit by floodlight.

Found 1 Little Pied bat *Chalinolobus picatus* female underneath stairs in the laboratory are, banded 1016087, caught last on the 17th Sept and released at King Solomon mine.

Searched Tunnels and found nothing.

The lights will likely be effective to stop breeding females from establishing maternity roosts, but it seems that the lone bats, particularly males will continue to use the building despite the lighting.

Will look into trialling sound next week.

Friday the 3rd October 2014

Last week some bats were observed roosting in the areas lit by floodlights, it seemed they were becoming habituated to the lighting, so it was decided to play sound deterrents as well as the lighting each night.

A 10 minute sound file was created that contained a diversity of very high and low frequency noises, plus sections of bat distress calls that could be played in the mill building as a deterrent to stop bats roosting. An amplifier system was hired to play the calls continuously each night.

Travelled to Woodsreef on the afternoon of the 3rd October to install the new sound system and do an overnight recording of the bats in the building to test how effective the continuous lighting had been to evict the bats. That night was the first time for over a week that the building had no lighting or generator noise at night.

In the afternoon the potential roost locations in the mill building, administration building and tunnels 1, 2, & 3 were inspected to see if bats were still present, only one Eastern Horseshoe bat was found in Tunnel 2.

That result was heartening as an indication that the bats had moved out of the area, although it is not known where they will find suitable maternity habitat to breed this season.

On the morning of the 4th of October the Anabat recorded was retrieved and the files downloaded. Analysis of the bat calls recorded on the night of the 25th -26th found no evidence to suggest that there were Large-eared Pied bats active in the building that night.

Each night this next week both the sound and lighting will be used until another night of Anabat recording is done on the weekend of the 11th & 12th before the demolition commences.

Travelled back to Tamworth Saturday the 4th Oct.

Friday 10th Oct

Travelled to Woodsreef, set up the Anabat for all night recording in the mill building without sound or lighting deterrents operating.

Saturday 11th Oct

Downloaded Anabat files, and searched all the usual roost sites in the Mill and Administration buildings and Tunnels 1, 2 and 3, found no Large-eared Pied bats, found one Eastern Horseshoe bat in Tunnel 2.

Two searches have now recorded no Large-eared Pied bats in the buildings or tunnels, however it seems from the recent Anabat recordings that some Large-eared Pied bats are still frequenting the building at night, see table below.

The timing of the recordings indicate that they may not be roosting in the building, as they are not recorded in the first hour after dusk. They are most likely individual males that are not roosting with the females where ever they are, such lone males were found in old gold mine shafts in 2012 in what was considered marginal roost habitat.

The other possibility is that there is another roost in the locality that has not yet been identified, from which the bats are flying from and into the mill building when it is quiet, it is likely that historically the mill building was visited nightly by many bats.

Seems from the Anabat table below the lighting and noise from the generator was deterring the bats on the 25th Sept as none were recorded, but if the equipment is turned off as on the 3rd and 10th October they drop in for a look around.

Despite bats still being Anabat recorded flying through the building when it is quiet, I am still 90% confident that the females have chosen to go elsewhere for their maternity roost, but I can't be 100% confident because there are too many marginal roosts in steel structures that could be used, although the possibility of them using steel structure roosts is highly unlikely.

Over the last few years the breeding females were only found to use the brick and concrete rooms that were cool with dim light. Most of those sites have been sealed off. Both of the laboratory rooms are sealed, the washroom is sealed, and the ground floor offices next to the washroom are sealed off which eliminates 90% of the known habitat for breeding females. The only other known roost is the electrical room above the washroom which has numerous entry exit points and is well lit.

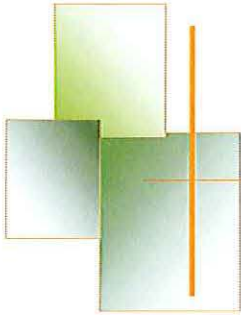
Given the present scenario that the effectiveness of the light and sound appears to have plateaued, it would be good to begin knocking down some of the silos and administration building this week after an inspection of that building, the next priority if possible would be the brick rooms in the mill building. After such disturbance another Anabat recording could be done to see if deterrence is completed.

It may take a major disruption to the buildings to finally deter the bats from continuing to do their regular fly throughs when it is quiet. The light and noise deterrence is to be continued until the eviction is assured.

Inspection of those areas immediately prior would provide the assurance that bats would not be impacted, also as the weather warms up they are increasingly able to react to take flight in response to disturbance.

Summary of Anabat recording as analysed by Dr Harry Parnaby – the first monitoring on the 16th Sept is yet to be analysed.

Woodsreef Anabat Call analysis for <i>Chalinolobus dwyeri</i> . H. Parnaby 13 October, 2014.									
Evening of:	Start time	End time	Total files	Call category	1st Hr	2nd Hr	3rd Hr	4th Hr to dawn	Comments
10/10/2014	2036 hrs	0638 hrs	225						
No Noise				Definite	0	5	0	15	First definite call detected at 2146 hrs
				Possible	0	0	0	31	After 3rd hr, definite and possible calls concentrated on last few hours before dawn
				Unidentifiable	1	3	0	30	Dwyeri was not detected in the first hour
				Maximum passes/hr	0	5	0	6.57	
				Minimum passes/hr	0	5	0	2.14	
3/10/2014	1844 hrs	0718 hrs	286	Definite	0	0	1	2	
No Noise				Possible	5	2	3	13	
				Unidentifiable	3	0	0	9	
				Maximum passes/hr	5	2	4	2.14	
				Minimum passes/hr	5	2	1	1.28	
25/09/2014	1750 hrs	0742 hrs	7	Definite	0	0	0	0	No bat calls detected of any species
Generator				Possible	0	0	0	0	
Running				Unidentifiable	0	0	0	0	
				Maximum passes/hr	0	0	0	0	
				Minimum passes/hr	0	0	0	0	



NORTH WEST ECOLOGICAL SERVICES

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6th January 2015

Bat Eviction Report for the 6th January 2015

Dear Brian

My inspection this morning (at 6-00am 6th Jan 2015) of the South-eastern end of the Woodsreef Asbestos Mill building, including the brick sections referred to as the crib room, washrooms, offices, and electrical control room failed to find any bats in those sections. Further inspection of the entire building found four Large-eared Pied bats in the hallway access into the Laboratory section opposite the stairwell, an area not proposed to be disturbed by today's demolition.

The successful bat eviction of the south-eastern end of the building was confirmed by all night Anabat recording 5th – 6th Jan in the washroom section. That night's recording analysed by Dr Harry Parnaby recorded no bat echo location calls.

The washroom section has been a major roost over the last three years of monitoring. The use of deterrents of light and noise and blocking bat access to their preferred roosting spots appears to have been successful. Monitoring of the population over the last month has confirmed that all the juvenile bats are now free flying and foraging independently.

I can confidently predict that the proposed demolition of that south-eastern section today will have no direct impact on roosting bats.

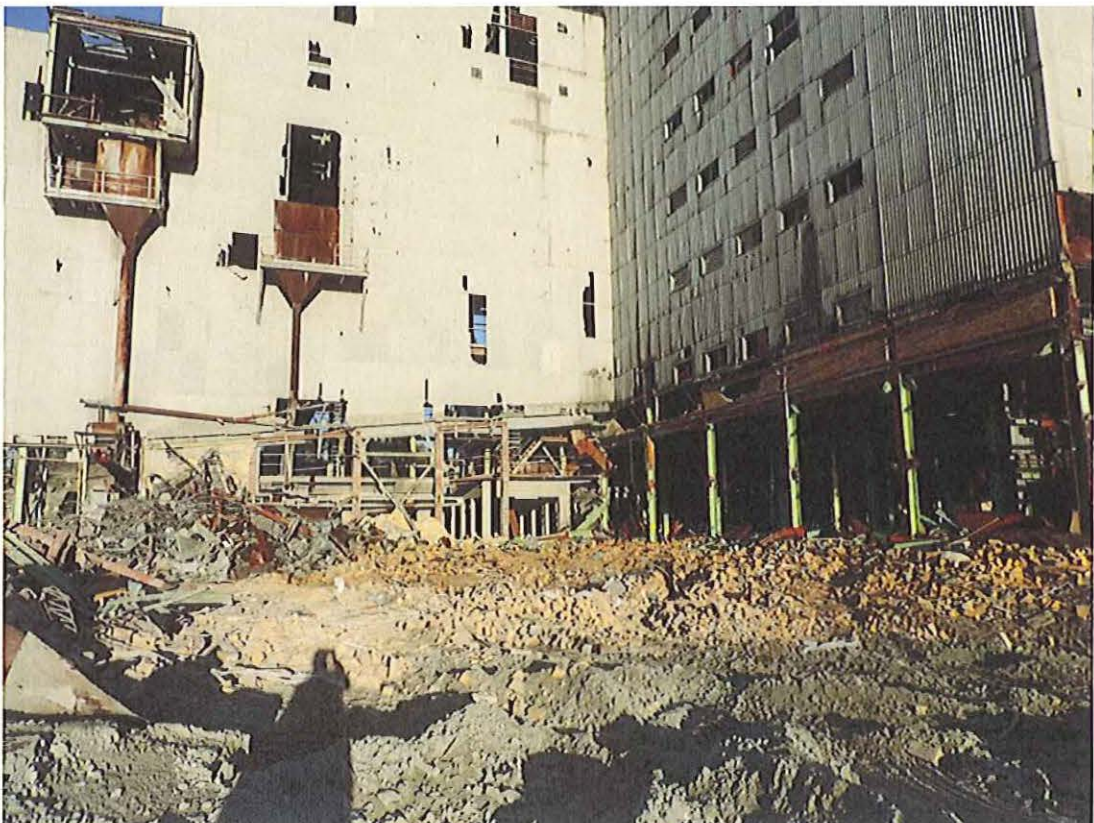
Yours sincerely

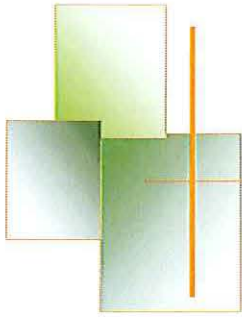
Phil Spark

South-eastern section of the Mill building pre-demolition 6th January 2015



Below South-eastern section of the Mill building post-demolition 7th January 2015





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7th January 2015

Bat Eviction Report for the 7th January 2015

Dear Brian

My inspection this morning (at 6-00am 7th Jan 2015) of the Northern end of the Woodsreef Asbestos Mill building, including the brick sections referred to as the laboratory, staircase, and office rooms failed to find any bats in those sections. Further inspection of the entire building also failed to find any bats.

The successful bat eviction of that area was confirmed by all night Anabat recording 6th – 7th Jan in the laboratory section. That nights recording analysed by Dr Harry Parnaby recorded no bat echo location calls.

The laboratory section has been a major breeding roost over the last three years of monitoring. The use of deterrents of light and noise and blocking bat access to their preferred roosting spots appears to have been successful. Monitoring of the population over the last month has confirmed that all the juvenile bats are now free flying and foraging independently.

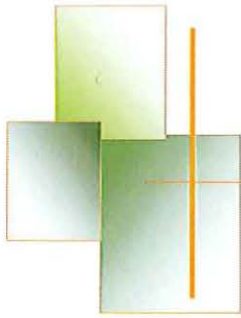
I can confidently predict that the proposed demolition of that section today will have no direct impact on roosting bats.

Yours sincerely

Phil Spark

Brick section of the northern end of the mill building proposed for demolition 7th Jan 2015





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8th January 2015

Bat Eviction Report for the 8th January 2015

Dear Brian

This morning I inspected the first and second floor brick rooms of the Mill building that were inspected and approved to be demolished yesterday (7th Jan), again I found no bats. Again I approve for it to be demolished today 8th January 2015.

I also inspected the bagging building on the western side of the main mill building and found no bats. In the three years of monitoring it has not been found to be used for roosting. It also is approved for demolition today 8th January 2015.

In addition to those areas I inspected the Administration building and found no bats, and I inspected Tunnel 2 and found no bats.

It is likely that the noise of the demolition activity and extensive area of building and roosts already demolished on the southern and northern ends is becoming a deterrent to bats returning to the general area.

The successful bat eviction of the brick sections referred to as the laboratory, staircase, and office rooms was confirmed by all night Anabat recording 6th – 7th Jan in the laboratory section. That nights recording analysed by Dr Harry Parnaby recorded no bat echo location calls.

I can confidently predict that the proposed demolition of those buildings today will have no direct impact on roosting bats.

Yours sincerely

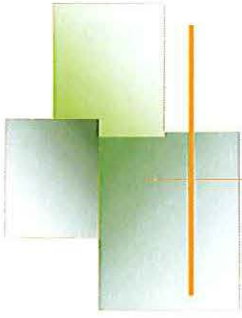
Phil Spark

Brick rooms on the northern eastern corner of the mill building approved for demolition 8th Jan 2015



The bagging building approved for demolition 8th Jan 2015





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Ben Shum
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Email. Ben.shum@deltagroup.com.au
20th January 2015

Bat Eviction/ Demolition Clearance Report for the 20th January 2015

Dear Ben

This morning I inspected the Woodsreef Mine Administration building proposed for demolition today the 20th January 2015.

That inspection found a single Large-eared Pied bat in the toilet brick section, and a large cluster of Large-eared Pied bats (19) in the brick washroom.

Six of those bats were old banded females, ten were juvenile bats (6 female & 4 male) that received new bands, and three were adults females that received new bands. The single bat was an adult male that received a new band.

The Administration building was demolished after the inspection was completed and all the bats had been removed.

In addition to that building, I also inspected Tunnel 1 and found two Large-eared Pied bats, and I inspected the Mill Building and Tunnel 2 and found no bats.

I can confidently predict that the demolition of the Administration building today will have no direct impact on roosting bats. Clearance for demolition is granted.

Yours sincerely

Phil Spark

The Administration Building inspected prior to demolition on the morning of the 20th January 2015, 20 Large-eared Pied bats were removed.



Demolition commencing on the 20th January 2015



Tunnel 1 entrance restored to exclude feral animals and provide bat roosting habitat, two Large-eared Pied bats had already moved in.

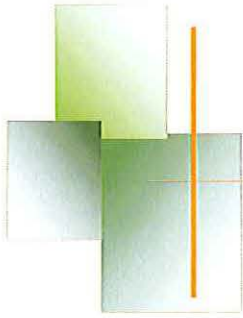


The two pipes inserted into the end of Tunnel 1 to provide ventilation



The Mill building on the morning of the 20th January 2015





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Email. Ben.shum@deltagroup.com.au
6th February 2015

Bat Eviction/ Demolition Clearance Report for the 6th February 2015

Dear Ben

This morning I inspected the Woodsreef Mine Mill building proposed for demolition today the 6th February 2015.

That inspection found a single male Large-eared Pied bat in the brick section of floor 3.

In addition to the Mill building I also inspected Tunnel 1 and found 14 Large-eared Pied bats, and I inspected Tunnel 2 and found 21 bats. Those two underground locations won't be affected by the demolition.

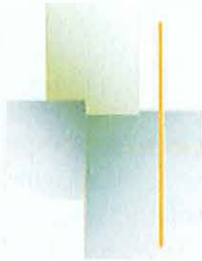
The bat eviction has gone according to plan, I can be confident that the bats have moved out of the building and the bat eviction has been very successful. My confidence is supported by the all night Anabat recording on the Wednesday night which recorded no definite calls of the Large-eared Pied bats at the brick room on the 7th floor brick room. That room and a steel and brick room on floor 3 are the only suitable roost habitat that is still intact.

The 35 bats recorded in the two tunnels, shows the bats have moved into those locations in response to the loss of habitat in the building. The fact that Tunnel 1 (which was originally modified to provide habitat) was occupied so soon after being reopened was particularly rewarding.

I can confidently predict that the demolition of the Mill building today will have minimal direct impact on roosting bats. Clearance for the demolition is granted.

Yours sincerely

Phil Spark



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6th February 2015

Bat Eviction/ Demolition Clearance Report for the 6th February 2015

Dear Ben

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That inspection found a single male Large-eared Pied bat in the brick section of floor 3.

In addition to the Mill building I also inspected Tunnel 1 and found 14 Large-eared Pied bats, and I inspected Tunnel 2 and found 21 bats. Those two underground locations won't be affected by the demolition.

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I can confidently predict that the demolition of the Mill building today will have minimal direct impact on roosting bats. Clearance for the demolition is granted.

Yours sincerely

Phil Spark

The cluster of bats recorded in the safe refuge of Tunnel 1



The lone bat recorded on the 7th floor of the Mill Building



The cluster of 21 bats roosting in the safe refuge of Tunnel 2



The Administration building demolished after the last inspection

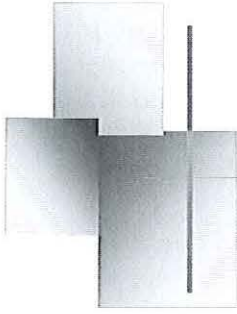


The Mill building ready for demolition



The Mill building ready for demolition





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Angela Sheng
Project Engineer Delta Group
83 Bourke Road
Alexandria NSW 2015

13th June 2014

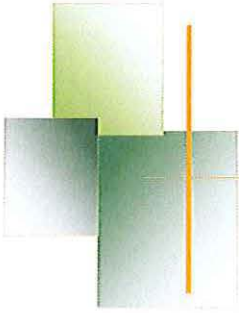
Dear Angela

The following is my quote for ecologist services to ensure that the Woodsreef Asbestos Plant building is cleared of the vulnerable Large-eared Pied Bats prior to the demolition, as detailed in the proposed EPBC approval conditions.

1.7.12 Ecologist Clearance of Structures - Ecologist confirmation that the structures to be demolished are clear of Large Eared Pied Bat (LEPB), in accordance with Section 7.1.2 of the PER, also forms part of Milestone 2. Note that demolition works must commence within one week of ecologist clearing in accordance with the Commonwealth Government conditions of approval. The contractor shall implement appropriate measures (including temporary lighting, noise or hoarding and localised demolition) to prevent bats from roosting within structures following ecologist clearing.

Itemised quote to conduct the bat clearance

Time Travel Accomodation	Time required	Cost (ex GST)
Fieldwork @ \$ 800 per day	7 days	\$ 5,600
Travel 220 km @ \$ 0.80 per km	1 return trip	\$ 176
Accommodation 7 nights \$88 per night	7 nights	\$ 616
Anabat analysis 7 nights		\$ 2,500
	Total	\$ 8,892
	10% GST	\$ 889.20
	Lump sum	\$ 9,781.20
Equipment		
10 x twin 2000 watt floodlights @ \$ 160 each		\$ 1,600
20 heavy duty power cables x 25m long @ \$17-00 each		\$ 340
2 rolls Builders Plastic 2m x 100m @ \$ 90 each		\$ 180
		\$ 2,120
Extras if required		
Additional time @ \$800 per day		
3 loud speakers / MP3 players @ \$469 each		



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 ABN No. 13 919 561 413

Angela Sheng
 Project Engineer Delta Group
 83 Bourke Road
 Alexandria NSW 2015

13th June 2014

Dear Angela

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		\$ 2,120
Extras if required		
Additional time @ \$800 per day		
3 loud speakers / MP3 players @ \$469 each		

Equipment Required

Generator - preferably one with a timer, to run overnight for 7 days + plus fuel
10 flood lights on stands, 200m of extension cord of 25 m lengths, 10 double adapters (costed)
2 x (100m x 2m) roll of builders plastic to block openings (costed)
3 Loud speaker units and MP3 players

Assistance Required

Assistant for ½ day to attach plastic sheet over openings

Thank you for the opportunity to quote for this project

Yours sincerely

Phil Spark North West Ecological Services

Conditions to be implemented

Avoidance and mitigation of impacts

1. To minimise disturbance to the Large-eared Pied Bat (*Chalinolobus dwyeri*) (LEPB), the **approval holder** must commence the demolition of the mill building, office building and ore silos, establishment of asbestos encapsulation cells and any other works likely to disturb LEPB roosts, between the months of February and May (inclusive) or during September. Once commenced, these works must continue in a way which deters LEPB from roosting in the disturbed roost site/s until the relevant works are completed and for a period of not longer than 30 weeks.
2. The **approval holder** must undertake pre-demolition surveys for the LEPB in all structures to be demolished that have the potential to provide roosting habitat for LEPB. These surveys must be undertaken within one week prior to demolition taking place and, if LEPB are detected, appropriate measures undertaken to evict and deter the LEPB prior to demolition commencing. The survey, eviction and deterrence of LEPB must be carried out in accordance with the methodology and protocols described in Section 7.1.2 of the **Public Environment Report**.
3. The **approval holder** must ensure that the entrance to **Tunnel 1** is adequately covered to protect the integrity of LEPB habitat during demolition works and re-instated in a form which enables access to the tunnel by LEPB after the completion of the demolition works.
4. The **approval holder** must ensure that any asbestos containment cells that are constructed are located at least 30 metres away from any part of **Tunnels 1, 2 or 3**.
5. The **approval holder** must ensure that impacts to native vegetation on site that may result from the action are minimised and that measures to ensure this are included in the Construction and Operational Environmental Management Plans described in Section 9 and 10 of the **Public Environment Report** respectively. These measures must be implemented.

Plan for bat eviction

The use of light and noise has not been tried before, so its effectiveness will need to be monitored to determine how successful it is. The light idea would be to erect floodlights to illuminate the known roost areas, set on timer switches to run overnight using a generator.

From: "Andrew Cruckshank" <andrew.cruckshank@finance.nsw.gov.au>
Sent: Wed, 22 Jun 2016 10:32:26 +1000
To: "Kate Maddison" <kate.maddison@industry.nsw.gov.au>
Subject: Woodsreef - Finalisation of Demolition Contract
Attachments: image003.jpg
Hi Kate,

Further to our site inspection of 31 May 2016, the post completion period of the demolition contract is now complete, and the contract is now able to be finalised.

As discussed on site, I am releasing the contractors' post completion bank guarantee as the contractor has no further obligations.

For your information and records.

Regards,
Andrew Cruckshank
Senior Project Manager, Hunter New England Region

NSW Public Works | Department of Finance, Services and Innovation
p 02 4908 4849 | m 0422 385 956
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Level 2, 117 Bull St, Newcastle West NSW 2302



Public Works

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7 December 2015

Attention: Ben Shum
Delta Pty Ltd
ABN: 67 007 069 794
83 Bourke Rd

Alexandria NSW 2015

**Woodsreef Mine Major Rehabilitation Project – Demolition and Rehabilitation Works
Contract No. 1101033 - Milestone 3 and Completion**

The purpose of this letter is to confirm completion of Milestone 3 works under the contract on 3 June 2015 (Milestone 3 consists of all works under the contract necessary to achieve completion of the whole works, with the exception of the works in Milestone 4).

Milestone 4 (final disestablishment works and submission of final work as executed documentation) reached completion on 15 September 2015 following submission of final clearance certificates.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Andrew Cruckshank'.

Andrew Cruckshank
Principal's Authorised Person

Contract No. 1101033

RESULTS FROM LARGE-EARED PIED BAT MONITORING AT WOODSREEF 26TH TO 29TH JAN 2017

Summary

The January 2017 monitoring found the Large-eared Pied Bat population at Woodsreef to be 119 bats, which is its highest since recording began in 2011. The predictions that were used for the offset calculator have been achieved and exceeded, despite the failure of the King Solomon mine population to live up to its expectation. It seems that the total number of bats at all roost sites is stable at roughly 100 individuals. It seems that the population is limited by factors other than roost availability, as the total number remains similar, but the distribution of bats between the four maternity roosts has varied a lot since monitoring began in August 2011.

The increased bat abundance recorded in enhanced habitat of Tunnel 1 (40) and Tunnel 2 (55) appears to have taken all the bats from the Mill building and also many of the bats from the old gold mine shafts of King Solomon and Barney Bernato mines.

January 2017 Monitoring Objectives

- Record numbers of bats at each of the known roost sites, record sex, age, and band number for each bat.
- Radio track bats to determine preferred foraging area
- Anabat record bats to determine preferred foraging area and foraging range.
- Inspect roost locations for maintenance needs.

Weather conditions

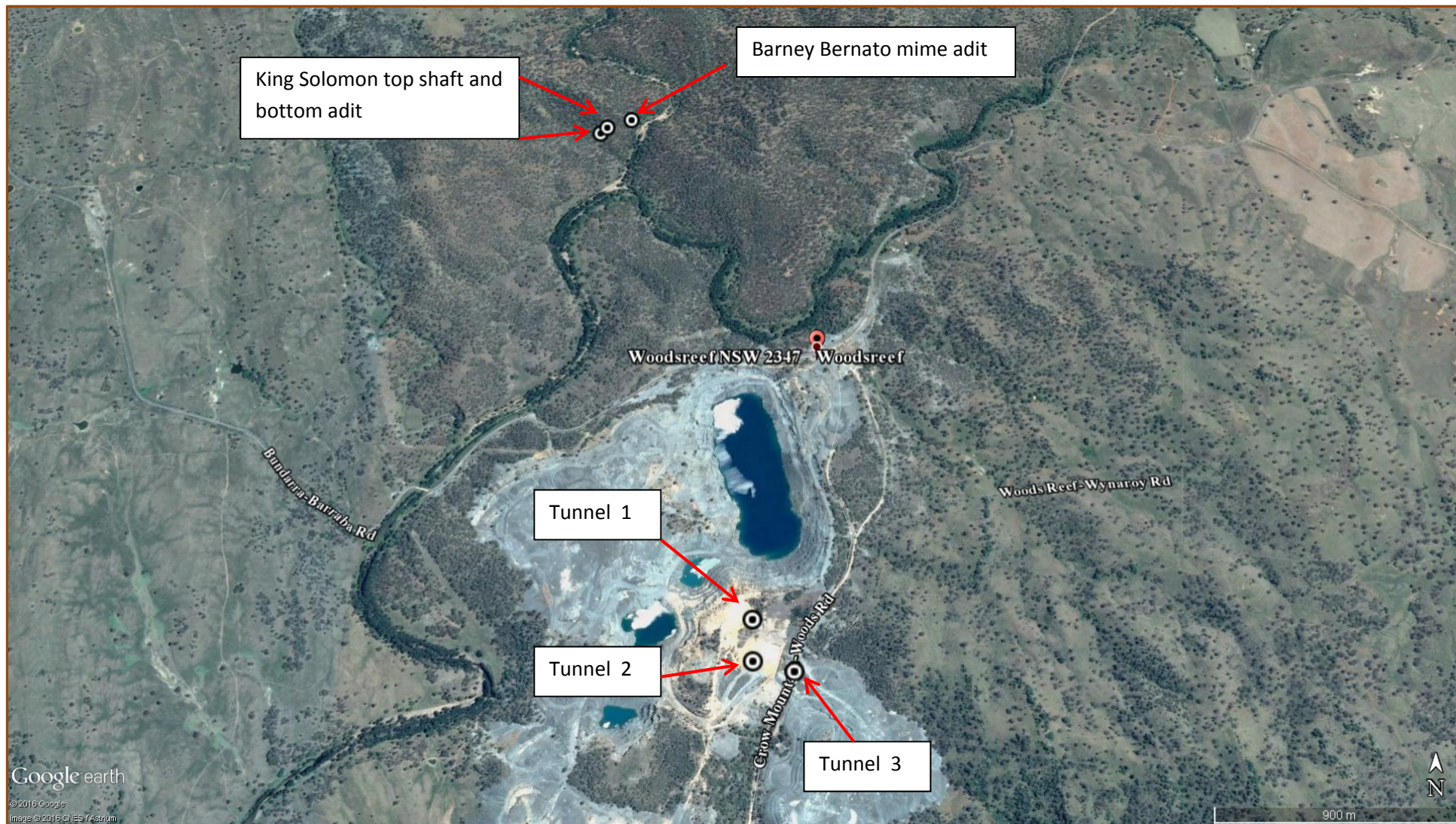
- By day very hot maximum 39C, nil breeze, clear skies in morning cloud build up in afternoon, no rain.
- By night warm minimum 20C, clear skies, nil breeze, nil moon.

January 2017						
date	min to 9am	anomaly	max from 9am	anomaly	rain to 9am	
	°C	°C	°C	°C	mm	
Thu 26/01/2017	-	-	30.6	-1.2	-	
Fri 27/01/2017	20.1	+3.7	-	-	9.0	
Sat 28/01/2017	-	-	33.2	+1.4	-	
Sun 29/01/2017	19.3	+2.9	36	+4	2.6	

Results

Table 1. Trapping results at Woodsreef Bat monitoring locations 26th Jan to 29th Jan 2017

Location	Total C. dwyeri	Recaptures banded bats		New adults not banded		Juveniles	
		Male	Female	Male	Female	Male	Female
Tunnel 1	40 bats	0	15	1	0	12	12
Tunnel 2	55 bats	1	13	3	5	13	20
Barney Bernato	19 bats	0	7	1	2	4	5
King Solomon bottom	1 bat	1	0	0	0	0	0
King Solomon top	3 bats	1	0	0	0	2	0



Bat Monitoring Locations at Woodsreef

Table 2. Post demolition breakdown of the Large-eared Pied bats recorded at each location January 2017

	Barney Bernato	Top King Solomon	Bottom King Solomon	Tunnel 1	Tunnel 2	Tunnel 3	Total
Male adults	1	1	1	1	4	0	8
Female adults	9	0	0	15	19	0	43
Juveniles	9	2	0	24	33	0	68
Total captured	19	3	1	40	55	0	119
Lactating females	0	0	0	1	1	0	
Marked	12	0	0	0	11	0	
Recaptured	7	1	0	15	14	0	

Table 3. Post demolition breakdown of the Large-eared Pied bats recorded at each location February 2016

	Barney Bernato	Top King Solomon	Bottom King Solomon	Tunnel 1	Tunnel 2	Tunnel 3	Total
Male adults	0	1	0	2	0	0	3
Female adults	9	1	1	13	13	0	37
Juveniles	17	4	0	8	30	0	59
Total captured	26	6	1	23	43	0	99
Lactating females	6 post lact	1 post lact	1 post lact	12 post lact	12 post lact	0	32
Marked	2 ad 16 juv	1ad 4 juv	1	1 ad 8 juv	8 ad 30 juv	0	71
Recaptured	7	2	0	14	5	0	28

Table 4. History of Large-eared Pied Bats recorded in Tunnel 2, shows the population has rebounded after the demolition of the mill building

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> banded	<i>C. dwyeri</i> recaptured	Total per date
23/08/11	0	8					8
30/09/11	2	19			21		21
29/11/11	5	10	13	8		1	28
1 st May 2012	5	5					10
1 st June 2012	0	1			1 banded		1
2 nd June 2012	1	1			2 banded		2
10 th July 2012	0	0					0
29 th Aug 2012	0	2			2 banded		2
27 th Nov 2012		1			1 banded		1
6 th Feb 2013	3	14			16 banded	1	17
7 th Feb 2013	1	7			2 banded	6	8
29 th April 2013	-	-	-	-	-	-	0
6 th Feb 2015	Bats not disturbed, no individual records						22
1 st Feb 2016	0	13	30	12	38 (8 ad 30 juv)	5	43
27 th Jan 2017	4	19	33	1	11	14	55

Tunnel 2 - 27th Jan 2017

Recorded the highest number of bats since monitoring began (55) of which 33 were juveniles. In recent months the water level reached record heights that filled the tunnel to the ceiling. Water is running off the embankment beside the tunnel and entering via the holes in the ceiling and the stairwell at the northern end of the tunnel. Sand bags have been placed along the top of the embankment but those have not stopped the inflow. Such flooding could be a major impact to bats congregating to give birth or after birth when the young are unable to flee. A proper diversion drain is required to prevent water getting into the Tunnel 2.

Table 5. History of Large-eared Pied Bats recorded in Tunnel 1 which was enhanced to provide habitat, shows the population has continued to increase after the demolition of the mill building in 2015

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
7 th Feb 2013	-	1				1	1
11 th Jan 2014	0	12	16	9	0	9	28
20 th Oct 2014	1	6	2	1	0	3	7
22 nd Oct 2014	0	6	6	6	0	0	6
20 th Jan 2015	0	1	1	1	1	1	2
6 th Feb 2015	Bats not disturbed, not recorded						14
1 st Feb 2016	2	13	8	14	9 (1 ad 8 juv)	14	23
27 th Jan 2017	1	15	24	1	0	15	40

Tunnel 1 - 27th Jan 2017

Recorded 40 bats in four clusters of which 24 were juveniles which are presumed to have been born and raised in that tunnel.

The bats are no longer roosting in the artificial brick habitat, but hanging on the concrete corners of the ceiling and on the ceiling light fittings.

Water is still a problem coming through the snorkel at the bottom of the tunnel. A few sand bags have been placed around the snorkel but further diversion is required to prevent water from entering into the bottom of the tunnel. It appears that the water has had little impact on bat breeding this year, but if water fills to cover the snorkel airflow the climate of the tunnel could change dramatically to the detriment of the bats.

Table 6. History of Large-eared Pied Bats recorded in bottom King Solomon Gold Mine adit which was enhanced with fencing and rat bait in 2015

Shows the population is still well below its 2011 peak, this shaft is linked to King Solomon top shaft which is also low, only two juveniles and no females recorded indicates they may not be breeding in there, it has a long way to go to match the number of bats that once occurred in 2011

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
23/08/11	1	1					2
24/08/11	1	4					5
30/09/2011	3	2			5		5
29/11/2011	3	15	1	15		1	19
1 st June 2012	0	3			3 banded		3
10 th July 2012	0	0					0
29 th Aug 2012	0	0					0
27 th Nov 2012	2	4		2	6 banded		6
7 th Feb 2013	3	-			3 banded	-	3
29 th April 2013	-	2			-	2	2
8 th March 2014	1	1	2	0	2	2	4
6 th Feb 2015	0	0	0	0	0	0	0
1 st Feb 2016	0	1	0	1	1	0	1
28 th Jan 2017	1					1	1

Table 7. History of Large-eared Pied Bats recorded in top King Solomon Gold Mine shaft which was enhanced with fencing and rat bait in 2015

Shows the population is fluctuating at low numbers, has a long way to go to match the number of bats that once occurred 2011

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
17/12/2011	5	16	1	15		1	22
29 th April 2013	3	1			1 banded	3	4
8 th March 2014	0	0	2	0	2	0	2
5 th Feb 2015	1	1	0	0	0	2	2
1 st Feb 2016	1	1	4	1	4	2	6
28 th Jan 2017	1	0	2			1	3

King Solomon mine adit and shaft

The population has stayed in decline for all bat species, despite the excellent fence around both entrances and continued rat baiting.

Only 3 Large-eared Pied Bats and 2 Eastern Bentwing and 3 Eastern Horseshoe Bats were recorded.

Public fossicking continues but the gate is being kept shut.

The poor result could be due to a tree that had fallen over the top shaft which also went over the fence, those limbs were cut and removed, it was an example of the need for ongoing maintenance to keep the shaft open for bats to enter and to stop feral predators getting over the fence.

White ants are eating the timber props in the mine, so it is expected that its life as a bat roost may be limited.

Table 8. History of Large-eared Pied Bats recorded in Barney Bernato gold mine (southern adit with small entrance) which was enhanced with fencing and rat bait in 2015, shows the population has increased then decreased to an average number

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
05/01/12	0	9 + 1 escaped	5	5	0	0	15
1 st June 2012	1	-			1 banded		1
10 th July 2012	0	1				1	1
29 th Aug 2012	0	1			1 banded		1
27 th Nov 2012	4	9	7	7	10 banded	2	20
6 th Feb 2013	7	9			10 banded	6	16
7 th Feb 2013	5	10			1 banded	14	15
29 th April 2013	-	-	-	-	-	-	Nil
12 th Jan 2014	0	0	0	0	0	0	0
8 th March 2014	0	0	0	0	0	0	0
5 th Feb 2015	1	10	7	0	13	5	18
1 st Feb 2016	0	9	17	6	18 (2 ad 16 juv)	7	26
26 th Jan 2017	1	9	9	0	12	7	19

Barney Bernato – 26th Jan 2017

The population has fluctuated in recent years despite the excellent fence to exclude goats, wallabies, cats, and foxes, and rat baiting to kill rats. Dead rats were found in the mine. It appears that Eastern Horseshoe bats have increased in abundance with eight recorded.

The public are still using the mine for fossicking but the gate is being kept shut. The exclusion of grazing is resulting in prolific regeneration of shrubs, trees, herbs and grasses.

The maintenance of the fence area will require removal of plants growing over the mine entrances, as well as removal of limbs over the fence.

The Barney Bernato population is considered stable overall

Table 9. History of Large-eared Pied Bats trapped at the Mill Building now demolished
A major maternity site demolished and compensated for by creation of artificial habitat in Tunnels 1 and 3, and the protection of Barney Bernato and King Solomon mines with feral fencing and rat baiting

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
Main door							
23/08/11	3	3					6
30/09/11	7	18			25 marked		25
29/11/11	3	10		9		2	13
1 st May 2012	1						1
1 st June 2012	0	2			2 banded		2
2 nd June 2012	1	1			2 banded		2
10 th July 2012	-	1			1 banded		1
29 th Aug 2012	0	0					0
27 th Nov 2012	0	2	2	2	-	-	4
6 th Feb 2013	7	3			7 banded	3	10
29 th April 2013	1	1			1 banded	1	2
Inside building	Laboratory						
Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
24/08/11	0	8					8
29/11/11	0	7	5	7		3	12
27/11/2012	2	15	15	15	16 banded	1	32
6 th Feb 2013	1	6			1 banded	6	7
29 th April 2013	2	1	-	-	-	3	3
Washroom							
6 th Feb 2013	1	8			5 banded	4	9

Table 10. Review of the Offset Calculator input for Birth Rate predictions

Shows predicted/ hypothetical recruitment of Large-eared Pied bats in 2013 - 2015 with the actual recruitment for 2011 – 2012 & 2016 - 2017 inserted after the Mill building is gone and offset artificial habitat completed

Location	2011 females Recorded lactating	2012 females Recorded lactating	2013 Sept - Dec	2014 Sept - Dec	2015 Sept - Dec	Feb 2016	Jan 2017
Tunnel 1	-	-	5	10	10	8	24
Tunnel 2	13	-	13	15	15	30	33
Tunnel 3	-	-	5	10	10	-	-
Mill building	16	17	nil	nil	Destroyed	Gone	Gone
King Solomon	15	4	15	15	15	4	2
Barney Bernato	5	7	10	10	10	17	9
Known and hypothetical recruitment	49	28	48	60	60	59	68

Table 11. Review of the Offsets Calculator input for Number of Individuals predictions

Shows actual number of individuals recorded 2011 - 2012 & 2016 – 2017 and predicted/hypothetical population estimates 2013 – 2015. The offset enhancements completed 2013 – 2015 and the Mill building demolished 2015

Location	2011 Nov	2012 Nov	2013	2014	2015	2016	2017
Tunnel 1	-	-	5	10	15	23	40
Tunnel 2	28	1	28	28	28	43	55
Tunnel 3	-	-	5	10	15	0	0
Mill building	25	36	nil	nil	Destroyed	Gone	Gone
King Solomon	22	6	22	25	25	7	4
Barney Bernato	15	20	20	20	20	26	19
Known and hypothetical numbers	90	63	80	93	103	99	119

Conclusion

The January 2017 monitoring found the Large-eared Pied Bat population at Woodsreef to be 119 bats, which is its highest since recording began in 2011. The predictions that were used for the offset calculator have been achieved and exceeded, despite the failure of the King Solomon mine population to live up to its expectation. It seems that the total number of bats at all roost sites is stable at roughly 100 individuals. It seems that the population is limited by factors other than roost availability, as the total number remains similar, but the distribution of bats between the four maternity roosts has varied a lot since monitoring began in August 2011.

The increased bat abundance recorded in enhanced habitat of Tunnel 1 (40) and Tunnel 2 (55) appears to have taken all the bats from the Mill building and also many of the bats from the old gold mine shafts of King Solomon and Barney Bernato mines.

Radio tracking

Fitted transmitters to three bats below with Vet Bond glue, adhered very well

Species	Sex/Age	Band number	Transmitter channel	Transmitter retrieval
Chalinolobus dwyeri	Female Adult	1016474	150.7522	Lost
Chalinolobus dwyeri	Female Adult	1016467	150.9313	Lost
Chalinolobus dwyeri	Female Adult	1016485	151.8119	Retrieved

Results from Bats fitted with transmitters on the 26th January 2017

Band Number	26 th Jan 2017	27 th Jan 2017	28 th Jan 2017
1016474	Short duration over creek, then lost to receiver	Initially in mine roost, left at dusk returned to hang up in entrance at night at 10-00 pm left mine after 11-00 pm	Not detected in mine or at night
1016467	Short duration over creek, then lost to receiver	Roosted in mine through day left at dusk	Not detected in mine or at night
1016485	Short duration over creek, then lost to receiver	Not present in mine	Not detected outside of mine, captured in mine at night, retrieved transmitter

The radio tracking and light tagging was not successful enough to be able to clearly identify the preferred foraging area for the bats. From the observations and Anabat recordings it seems that the Large-eared Pied bat forages widely across woodlands and riparian corridors and travels at least 6km away from roost sites to forage.

Radio tracking proved to be very difficult to maintain contact with foraging bats at night. When they left the mine roost at dusk they were recorded for a short duration only. Two receivers were located on ridges overlooking the valley with the aim of having a 1km section of creek and adjoining hillside to monitor and keep track of the bats. The problem was that they left that area very quickly, on one occasion they returned at about 11-00 pm but were lost again.



Light tagging

When the radio tracking failed to keep in touch with the bats small light tags that are marketed for use on fishing floats were adhered to 3 bats with sticky tape to see if they could be monitored visually for a longer duration.

The tags worked well in the dark night with no moon. The bats were seen to forage both above and within the canopy of the hill slopes woodland and above the riparian River Oak canopy. Bats were seen to conduct erratic aerial manoeuvres presumed to be catching insects, and one was seen to drop to a large water hole in the creek, presumably to get a drink. Those bats were observed for approximately 30 minutes, one tag was observed to fall off in the foliage of a tree which glowed for at least two hours.

The other bats observed appeared to fly to the top of the ridge and go out of sight.

How the light tags affected the behaviour of the bats is unknown, it is possible that the sticky tape and light was a distraction to them that resulted in unusual behaviour. However it did seem that they were foraging and catching insects above the canopy in the woodland slopes adjacent to the roost site.

Anabat recording

Eight Anabat detectors were set to record all night at eight locations shown on map;

- One on Nangarah Creek in the riparian corridor at ground level
- One in Ironbark TSR on a rocky outcrop mid-slope in box woodland
- One in the riparian zone of Ironbark Creek at Glen Riddle Reserve
- One on a low ridge in Glen Riddle Reserve
- One in the riparian zone of Ironbark Creek in the State Conservation Area
- One on a ridge in the State Conservation Area
- One at King Solomon mine adit entrance
- One at Barney Bernato mine adit entrance



The eight locations chosen to setup Anabat detectors to record for one night on the 28th of January were selected to provide a measure of Large-eared Pied bat activity that could be used to compare activity at ridge and midslope woodlands and riparian corridors. The sites were paired with two within 1km of the Barney Bernato roost, two in the Ironbark TSR at 2km away, and two in Glenriddle Reserve at 6km away.

The table below shows the number of *C. dwyeri* bat calls recorded at each location. The roost location of those bats is unknown, although it is highly likely that they come from the monitoring sites as the region has been searched for other potential roost sites. It shows low activity over a wide foraging area shown in the map above.

Anabat results

SITE	Date	C. dwyeri confident	C. dwyeri probable	C. dwyeri possible	C. dwyeri Total
Ironbark Ck TSR creek site	28/01/2017	1	0	1	2
Ironbark Ck TSR ridge site	28/01/2017	2	1	5	8
Woodsreef creek site	28/01/2017	0	1	1	2
Woodsreef ridge site	28/01/2017	1	0	1	2
Glenriddle Reserve ridge site	28/01/2017	1	0	2	3
Glenriddle Reserve creek site	28/01/2017	0	0	0	0
Barney Bernato nth adit	28/01/2017	19	3	2	24
King Solomon adit	28/01/2017	4	1	1	6

Rat baiting

Dead and decomposing rats were found in both the Barney Bernato and King Solomon mine adits. Bait is poured into 20 litre plastic containers that prevent Possums from getting access to it. It appears that the rat baiting is not improving the abundance of bats in those mine adits.





Condition of Tunnels 1, 2, and 3.

Water flow into Tunnel 2 appears to have been very significant, the water level on the concrete indicates that the tunnel has been full to the ceiling.

Water has been pouring into the stairwell entry at the northern end of the tunnel and also through the holes in the ceiling covered by the big rocks.

Water from the bare embankment is running into the stairwell at the end of Tunnel 2



Big rocks are not preventing the flow of water into Tunnel 2



Water has also poured into Tunnel 1 as shown by the water level on the concrete wall. High water levels in the tunnel blocks the snorkel fitted to provide ventilation through the tunnel.



Gold Mine Adit issues

Without goat and wallaby browsing the vegetation in the enclosed area is regenerating to the point that the entrance to the mine adits will need to be maintained to enable bats access. Shrubs were cleared from the entrance to Barney Bernato below and limbs removed from the fence.



Fallen limbs and trees blocked the entrance to top King Solomon shaft and fell across the fence.



Public access into the mines is working well the gate is kept shut



Feral Goats

There was no evidence that feral goats have got into the fenced enclosures of the mines. Fewer feral goats were observed than what is usual, only ten were observed.



RESULTS FROM LARGE-EARED PIED BAT MONITORING AT WOODSREEF 21st & 22nd July 2017

Objectives

- Record numbers of bats at each of the known roost sites, record sex, age, and band number for each bat.
- Determine if the use of roosts is consistent with previous winter survey results

Results

Table 1. Only four *C. dwyeri* were recorded during Woodsreef Bat monitoring 21st June to 22nd June 2017

Location	Total <i>C. dwyeri</i>	Recaptures banded bats		New adults not banded		Juveniles	
		Male	Female	Male	Female	Male	Female
Tunnel 1	1		1				
Tunnel 2	nil						
Tunnel 3	nil						
Barney Bernato adit	2	1	1				
King Solomon bot adit	1		1				
King Solomon top	nil						

Table 2. Other bat species results from Woodsreef Bat monitoring 21st June to 22nd June 2017 – Forty one Eastern Bentwing bats - *M. oceanensis* and three Eastern Horseshoe bats - *R. megaphyllus*

Location	Eastern Bentwing Bat <i>Miniopterus oceanensis</i>	Eastern Horse-shoe Bat <i>Rhinolophus megaphyllus</i>	
		Male	Female
	Not disturbed		
Tunnel 1	27		
Tunnel 2	nil	nil	nil
Tunnel 3	14	nil	nil
Barney Bernato adit	nil	1	nil
King Solomon bot adit	nil	nil	nil
King Solomon top	nil	1	1

Table 3. History of Large-eared Pied Bats recorded in Tunnel 2, shows the population has rebounded after the demolition of the mill building.

Each year coming into winter the bats vacate the Tunnel presumably to roost somewhere else over winter, but return in spring to breed. Tunnel 2 still has serious water flooding issues, the sand bags have done little to divert the water away from entering the tunnel

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> banded	<i>C. dwyeri</i> recaptured	Total per date
23/08/11	0	8					8
30/09/11	2	19			21		21
29/11/11	5	10	13	8		1	28
1 st May 2012	5	5					10
1 st June 2012	0	1			1 banded		1
2 nd June 2012	1	1			2 banded		2
10 th July 2012	0	0					0
29 th Aug 2012	0	2			2 banded		2
27 th Nov 2012		1			1 banded		1
6 th Feb 2013	3	14			16 banded	1	17
7 th Feb 2013	1	7			2 banded	6	8
29 th April 2013	-	-	-	-	-	-	0
6 th Feb 2015	Bats not disturbed, no individual records						22
1 st Feb 2016	0	13	30	12	38 (8 ad 30 juv)	5	43
27 th Jan 2017	4	19	33	1	11	14	55
22 nd July 2017							nil

Man hole entrance into Tunnel 2 has been sandbagged but it is totally ineffective to stop water pouring into the tunnel. It is a large cathment with a large volume of runoff, sand bags cannot divert such a large volume of water.



Note the eroded channel in the foreground that floods into the man hole



The catchment should be drained away to the north and seeded with native grasses to decrease runoff.



Note two eroded channels were water pours over the edge and into Tunnel 2, water runs into the tunnel under each of the rocks shown on top of the tunnel



Table 4. History of Large-eared Pied Bats recorded in Tunnel 1 which was enhanced to provide habitat, shows the population has continued to increase after the demolition of the mill building in 2015.

Each year coming into winter the bats vacate the Tunnel presumably to roost somewhere else over winter, but return in spring to breed. Tunnel 1 still has serious water flooding issues; the sand bags have done little to divert the water away from entering the tunnel.

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
7 th Feb 2013	-	1				1	1
11 th Jan 2014	0	12	16	9	0	9	28
20 th Oct 2014	1	6	2	1	0	3	7
22 nd Oct 2014	0	6	6	6	0	0	6
20 th Jan 2015	0	1	1	1	1	1	2
6 th Feb 2015	Bats not disturbed, not recorded						14
1 st Feb 2016	2	13	8	14	9 (1 ad 8 juv)	14	23
27 th Jan 2017	1	15	24	1	0	15	40
22 nd July 2017		1				1	1

Tunnel 1 – 22nd July 2017 – one female banded bat found roosting on the concrete wall



27 Eastern Bentwing bats were found roosting in two of the artificial habitat concrete blocks with carpet lining, some bats were banded but they were not disturbed



Both Tunnel 1 and 3 are increasingly being used by Eastern Bentwing bats for overwintering, that use is likely to continue to increase, artificial habitat has proven to be a valuable offset for this vulnerable species



This is the opening for the snorkel to maintain airflow through Tunnel 1. Flooding into the snorkel is still a major issue for Tunnel 1, the volume of runoff cannot be controlled by sand bags



The water from the tailings piles runs straight of the bare slopes into the snorkel of Tunnel 1, which is rapidly getting filled with sediment. To seriously address the problem requires diverting the water at the source using earthworks and rehabilitation with native grasses. The life span of the offset artificial habitat in Tunnel 1 will be dramatically reduced if this is not fixed permanently.



The erosion is also exposing the buried asbestos material from the building



Results from Tunnel 3 – 22nd July 2017 – fourteen Eastern Bentwing bats found roosting in the concrete artificial habitat blocks with carpet, some were also on the steel wall, did not disturb. They also appear to be increasingly using the artificial habitat created in Tunnel 3 for overwintering



Table 5. History of Large-eared Pied Bats recorded in bottom King Solomon Gold Mine adit which was enhanced with fencing and rat bait in 2015

The table shows the population is still well below its 2011 peak. This adit mine shaft is linked to King Solomon top shaft which also has had low captures of *C. dwyeri*, only two juveniles and no females recorded indicates they may no longer be breeding in there, it has a long way to go to match the number of bats that once occurred in 2011. The external fencing and internal rat baiting has been effective. Winter use appears to be limited to a single *C. dwyeri* and a couple of Eastern Horseshoe Bats.

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
23/08/11	1	1					2
24/08/11	1	4					5
30/09/2011	3	2			5		5
29/11/2011	3	15	1	15		1	19
1 st June 2012	0	3			3 banded		3
10 th July 2012	0	0					0
29 th Aug 2012	0	0					0
27 th Nov 2012	2	4		2	6 banded		6
7 th Feb 2013	3	-			3 banded	-	3
29 th April 2013	-	2			-	2	2
8 th March 2014	1	1	2	0	2	2	4
6 th Feb 2015	0	0	0	0	0	0	0
1 st Feb 2016	0	1	0	1	1	0	1
28 th Jan 2017	1					1	1
22 nd July 2017		1				1	1

Winter use appears to be limited to a single *C. dwyeri*



and a couple of Eastern Horseshoe Bats.



Table 6. History of Large-eared Pied Bats recorded in top King Solomon Gold Mine shaft which was enhanced with fencing and rat bait in 2015

Shows the population is fluctuating at low numbers, has a long way to go to match the number of bats that once occurred 2011, obviously not used as a winter roost.

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
17/12/2011	5	16	1	15		1	22
29 th April 2013	3	1			1 banded	3	4
8 th March 2014	0	0	2	0	2	0	2
5 th Feb 2015	1	1	0	0	0	2	2
1 st Feb 2016	1	1	4	1	4	2	6
28 th Jan 2017	1	0	2			1	3
22 nd July 2017							nil

Table 7. History of Large-eared Pied Bats recorded in Barney Bernato gold mine (southern adit with three entrances) which was enhanced with fencing and rat bait in 2015.

Table shows the population has fluctuated with a peak in Feb 2016, and drops dramatically in winter, appears the bats move to other roosts in winter but return in spring to breed The external fencing and internal rat baiting has been effective, four dead rats were observed July 2017. Winter use appears to be limited to a couple of *C. dwyeri* and an Eastern Horseshoe Bat.

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
05/01/12	0	9 + 1 escaped	5	5	0	0	15
1 st June 2012	1	-			1 banded		1
10 th July 2012	0	1				1	1
29 th Aug 2012	0	1			1 banded		1
27 th Nov 2012	4	9	7	7	10 banded	2	20
6 th Feb 2013	7	9			10 banded	6	16
7 th Feb 2013	5	10			1 banded	14	15
29 th April 2013	-	-	-	-	-	-	Nil
12 th Jan 2014	0	0	0	0	0	0	0
8 th March 2014	0	0	0	0	0	0	0
5 th Feb 2015	1	10	7	0	13	5	18
1 st Feb 2016	0	9	17	6	18 (2 ad 16 juv)	7	26
26 th Jan 2017	1	9	9	0	12	7	19
22 nd July 2017	1	1				2	2

Table 8. History of Large-eared Pied Bats trapped at the Mill Building now demolished

A major maternity site demolished and compensated for by creation of artificial habitat in Tunnels 1 and 3, and the protection of Barney Bernato and King Solomon mines with feral fencing and rat baiting

Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
Main door							
23/08/11	3	3					6
30/09/11	7	18			25 marked		25
29/11/11	3	10		9		2	13
1 st May 2012	1						1
1 st June 2012	0	2			2 banded		2
2 nd June 2012	1	1			2 banded		2
10 th July 2012	-	1			1 banded		1
29 th Aug 2012	0	0					0
27 th Nov 2012	0	2	2	2	-	-	4
6 th Feb 2013	7	3			7 banded	3	10
29 th April 2013	1	1			1 banded	1	2
Inside building	Laboratory						
Date	<i>C. dwyeri</i> male adults	<i>C. dwyeri</i> female adults	<i>C. dwyeri</i> juveniles	<i>C. dwyeri</i> lactating	<i>C. dwyeri</i> marked or banded	<i>C. dwyeri</i> recaptured	Total per date
24/08/11	0	8					8
29/11/11	0	7	5	7		3	12
27/11/2012	2	15	15	15	16 banded	1	32
6 th Feb 2013	1	6			1 banded	6	7
29 th April 2013	2	1	-	-	-	3	3
Washroom							
6 th Feb 2013	1	8			5 banded	4	9

Table 9. Review of the Offset Calculator input for Birth Rate predictions

Shows predicted/ hypothetical recruitment of Large-eared Pied bats in 2013 - 2015 with the actual recruitment for 2011 – 2012 & 2016 - 2017 inserted after the Mill building is gone and offsets completed

Location	2011 females Recorded lactating	2012 females Recorded lactating	2013 Sept - Dec	2014 Sept - Dec	2015 Sept - Dec	Feb 2016	Jan 2017
Tunnel 1	-	-	5	10	10	8	24
Tunnel 2	13	-	13	15	15	30	33
Tunnel 3	-	-	5	10	10	-	-
Mill building	16	17	nil	nil	Destroyed	Gone	Gone
King Solomon	15	4	15	15	15	4	2
Barney Bernato	5	7	10	10	10	17	9
Known and hypothetical recruitment	49	28	48	60	60	59	68

Table 10. Review of the Offsets Calculator input for Number of Individuals predictions

Shows actual number of individuals recorded 2011 - 2012 & 2016 – 2017 and predicted/hypothetical population estimates 2013 – 2015. The offset enhancements completed 2013 – 2015 and the Mill building demolished 2015

Location	2011 Nov	2012 Nov	2013	2014	2015	2016	2017
Tunnel 1	-	-	5	10	15	23	40
Tunnel 2	28	1	28	28	28	43	55
Tunnel 3	-	-	5	10	15	0	0
Mill building	25	36	nil	nil	Destroyed	Gone	Gone
King Solomon	22	6	22	25	25	7	4
Barney Bernato	15	20	20	20	20	26	19
Known and hypothetical numbers	90	63	80	93	103	99	119

Conclusion

In January 2017 the Large-eared Pied Bat population at the sites monitored was at its highest since recording began in August 2011.

The predictions that were used for the offset calculator have been achieved and exceeded despite the failure of King Solomon to live up to its expectation. It seems that the total number of bats at all sites is stable at roughly 100 individuals.

It seems that the population is limited by factors other than roost availability, as the total number of bats remains similar, but the distribution of bats between the four maternity roosts has varied a lot since monitoring began in August 2011.

The increased abundance of 40 bats recorded from Tunnel 1 and 55 bats recorded from Tunnel 2 appears to have taken all the bats from the Mill building and many of the bats from the old gold mine shafts of King Solomon and Barney Bernato.

Winter use of the roosts monitored has been consistently low, it appears that around April the bats leave the maternity roosts and go somewhere else for winter and return to the maternity roosts in September.

Yearly monitoring of the roosts will be required to identify if there is a need to fix any of the factors that enabled the success of this project. A September inspection prior to breeding is the most essential timing. Those issues to inspect are;

- Water flooding into Tunnels 1 and 2
- The baffles erected in Tunnels 1 and 3 that modify light and temperature in the tunnels.
- Airflow in Tunnel 1, there is a risk sediments will block the snorkel at the end of tunnel.
- Artificial habitat roosts in Tunnels 1 and 3
- Rat control in the old gold mines
- Fencing around the old gold mines of Barney Bernato and King Solomon that has been successful excluding feral goats and predators.
- Remove limbs that fall over the entrance to the mines

It is likely that this study has collected more data about Large-eared Pied Bats than exists for any other known population.

It would be very useful to keep collecting that data from the bats already banded for their rest of their lifetime, as we can track their breeding and movements in the Woodsreef locality over time.

The big unknown is that we still have no idea of what they do for winter; it may be that they seek a deeper colder roosts in either the same old gold mines or go to other caves in the region.

As smaller scale GPS tracking devices become available it may be possible find out. The other action would be to conduct surveys of other old mines and caves in the region during winter.

The use of the artificial habitat by the vulnerable Eastern Bentwing Bat which was provided for the Large-eared Pied bat has been very interesting, as it seems to be steadily increasing in winters. They were also impacted by the demolition of the mill building where they roosted in the ceiling.

Fence security must be maintained as shown below by a limb over the fence at Barney Bernato repaired in July 2017



Flyway access into mine shaft entrances must also be maintained by removing limbs



Water flooding into Tunnels must be prevented, you can see by the water mark on the walls of Tunnel 2 that water completely filled the tunnel, it could wipe out a breeding event



The baffles in Tunnels 1 and 3 must be maintained to limit light and control temperature



Rat baiting should be maintained by topping up containers that only rats can enter

