SOUTH32 Illawarra Metallurgical Coal




APPIN MINE VENTILATION SHAFT 6 BIODIVERSITY OFFSET STRATEGY

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DOCUMENT REVISION LOG

Persons authorising this Plan

NAME	TITLE	DATE
Chris Schultz	Lead Environment	November 2020

Document Revisions

REVISION	DESCRIPTION OF CHANGES	DATE
P0	New document	May 2011
P1	Revised for VCA	July 2011
P2	Revised for security mechanism and incorporation in BSO approval	December 2016
P3	Re-submitted to Planning for Approval	Dec 2018
2.0	Reformatted and including consultation with OEH. Assigned controlled document number APNMP0109.	October 2020

Persons involved in the review of this Plan

NAME	TITLE	COMPANY	EXP (YRS)	DATE
David Gregory	Specialist Environment	South32 IMC	12	Oct 2020
Chris Schultz	Lead Environment	South32 IMC	24	Oct 2020

1. OBJECTIVES

The objective of this Biodiversity Offset Strategy (BOS) is to comply with regulatory requirements set out in the Bulli Seam Operations (BSO) Project Approval MP08_0150 (the Project Approval) and the Environmental Protection and Biodiversity Conservation (EPBC) Approval 2010/5722 (the EPBC Approval).

2. LEGISLATIVE AND OTHER REQUIREMENTS

2.1 Legislative Requirements

Legislation applicable to the BOS includes, but is not limited to:

- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- *Biodiversity Conservation Act 2016* (BC Act)[1]; and
- *National Parks and Wildlife Act 1974* (NPW Act).

2.2 Approval Conditions

Project Approval for the Appin Mine Ventilation Shaft No. 6 Project (VS No. 6) was granted by the Deputy Director General of the Department of Planning and Environment (DPE)[2] (as delegate for the Minister for Planning) on 4 May 2011 (DA 10_0079).

The approval for VS No.6 was incorporated into the Project Approval when Modification 2 was approved on 28 October 2016. Condition 35 of Schedule 4 of the Project Approval states:

The Proponent shall prepare and implement a biodiversity offset strategy to compensate for the impact of Ventilation Shaft No. 6 on Cumberland Plain Woodland. The offset strategy must:

a) be prepared in consultation with OEH and to the satisfaction of the Secretary;

b) incorporate at least 8.7 hectares of existing Cumberland Plain Woodland vegetation; and

c) make suitable arrangements to protect and manage this offset area in perpetuity.

Note: The 8.7 hectare size for the Biodiversity Offset Area identified above is based on Cumberland Plain Woodland vegetation on shale (HN529) in good condition. An equivalent minimum offset for Cumberland Plain Woodland on flats vegetation (HN528) in good condition is 9.4 hectares.

[1] Supersedes the Threatened Species Act 1995
[2] Now Department of Planning, Industry and Environment (DPIE)

The EPBC Approval was granted by the Assistant Secretary (Environment Assessment Branch) of the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC[3]) on 1 April 2011.

Condition 2 of the EPBC Approval states:

The person taking the action must submit a Biodiversity Offset Strategy to the Minister for approval. The strategy must address the following requirements:

a) *the conservation of at least 8.7 hectares of land containing medium to high quality CPW;*

b) *in addition to land pertaining to 2(a), that land will be managed and revegetated to a greater quantity to that removed; and*

c) *the land referred to in 2(a) must be protected by a legal instrument under relevant nature conservation legislation, than ensures the land in conserved in perpetuity.*

The approved strategy must be implemented.

The person taking the action must not clear any CPW until the Minister approves the strategy.

The BOS was approved by DSEWPC on 12 July 2011. In December 2016 the BOS was revised to reflect securing the Offset Area in perpetuity and to reference the relevant DPE approval condition incorporated into the Project Approval Modification 2. Version P2 of the Biodiversity Offset Strategy was approved by DoEE on 8 June 2017 (see Appendix 1).

2.3 Consultation

Consultation has been undertaken as part of this review of the BOS with the Office of Environment and Heritage. The comments from the consultation process have been incorporated into the current version of the BOS.

Appendix 2 outlines comments from the relevant government agencies following consultation and the IMC response.

No further consultation will be undertaken following the approval of Revision 2.0 of the BOS.

3. BACKGROUND DATA

3.1 Site Location

The VS No.6 site is located near the South Western Freeway (Hume Highway) approximately 800 meters to the north-east of the township Douglas Park on the southern edge of the Cumberland Plain in the Sydney metropolitan area, as shown in Figure 1.

[3] Now the Department of Agriculture, Water and Environment

3.2 Geology and Soils

The study area is located in the Hawkesbury – Nepean Catchment Management Authority (CMA) region, Cumberland CMA sub-region and the Cumberland Plain Mitchell Landscape. The Cumberland Plain Mitchell Landscape is characterised by low rolling hills and valleys in a low rainfall area between the Blue Mountains and the coast on Triassic shales and lithic sandstones on the coastal side of the Lapstone monocline (DECC 2002).

3.3 Vegetation

The vegetation communities in the study area are in Table 3.1 and described in further detail in the ecological assessment for the VS No. 6 Project (Niche 2010). Shale Plains Woodland and Exotic Pasture have been impacted by VS No. 6, whilst both of these units and Shale Hills Woodland will be subject to on-going management as discussed further in the Biodiversity Management Plan (BMP). Neither Alluvial Woodland nor Shale Sandstone Transition Forest will be subject to management as part of the BMP.

Table 3.1 - Vegetation of the study area

Vegetation Types (NPWS 2003)	Study Area (ha)	Impact (ha)	EEC	EEC in Study Area (ha)	% EEC Impacted
1. Shale Plains Woodland	12.15	3.1	Cumberland Plain Woodland (critically endangered on both TSC and EPBC Acts)	41.18	8.6 %
2. Shale Hills Woodland	29.03	0.4			
3. Alluvial Woodland	6.95	0	River Flat Eucalypt Forest on coastal floodplains (TSC only)	6.95	-
4. Shale Sandstone Transition Forest (High Sandstone Influence)	1.22	0	Shale Sandstone Transition Forest (listed on both TSC and EPBC Acts)	1.22	-
5. Exotic Pasture	83.24	2.37	(impact area including the homestead)	-	% Native Vegetation Impacted
TOTAL	**132.59**	**5.91**		**49.35**	7.12 %

3.4 Flora and Fauna

A habitat-based terrestrial ecology survey of the study area, threatened flora random meanders and vegetation mapping and validation was conducted 3 June 2010.

Five Biobanking plots were conducted within the impact area 4 August 2010.

The Biobanking Assessment undertaken for the development (impact) site assessed that 103 credits of Cumberland Plain Woodland were required for the Biodiversity Offset as shown in Table 3.2.

Table 3.2 – Biobanking calculations for the development site

Vegetation type	Area (ha)	Credits required
Grey Box – Forest Red Gum grassy woodland on flats on the Cumberland Plain, Sydney basin [HN528]	3.1	77
Grey Box – Forest red Gum grassy woodland on shale on the southern Cumberland Plain, Sydney basin [HN529]	0.4	26

A total of 89 flora species were recorded from the study area (Niche 2010), comprising 32 introduced species (36%). *Pomaderris brunnea,* which is listed as Vulnerable on both the TSC[4] and EPBC Acts has previously been recorded in the Alluvial Woodland vegetation community within the study area. No Alluvial Woodland is impacted by VS No.6.

Fifteen fauna species were recorded during the field survey, one of which, the Common Myna, is introduced. Scratchings were present on some trees that were possibly made by a koala. The koala feed tree species *Eucalyptus tereticornis* was present in the study area and some were removed by for VS No.6. These trees were mature and some had significant hollows. A total of 25 threatened fauna were considered to have potential habitat within the study area (Niche 2010).

3.5 Key Threatening Processes

The Key Threatening Processes (KTPs) as listed on the TSC and/or EPBC Acts that are applicable to terrestrial environments are listed in Table 3.3. Fourteen of these KTPs are operating or have historically operated on the site. These 14 KTPs constitute threats to biodiversity that may require management at the site. Of these 14 KTPs, nine have equivalent listings on the EPBC Act.

[4] Now Biodiversity Conservation Act

Table 3.3 - Key Threatening Processes at the Site

Key Threatening Process	TSC Act	EPBC Act Equivalent	Operating Presently or Historically
Alteration of habitat following subsidence due to longwall mining	✓	x	NO
Alteration to the natural flow regimes of rivers, streams, floodplains & wetlands.	✓	x	YES
Bushrock Removal	✓	x	NO
Clearing of native vegetation	✓	✓	YES
Competition and grazing by the feral European rabbit	✓	✓	YES
Competition and habitat degradation by feral goats	✓	✓	YES
Competition from feral honeybees	✓	x	YES
Ecological consequences of high frequency fires	✓	x	NO
Herbivory and environmental degradation caused by feral deer	✓	x	YES
Human-caused Climate Change	✓	✓	YES
Importation of red imported fire ants into NSW	✓	✓	NO
Infection by Psittacine circoviral (beak & feather) disease affecting endangered psittacine species	✓	✓	NO
Infection of frogs by amphibian chytrid fungus causing the disease chytridiomycosis	✓	✓	NO
Infection of native plants by *Phytophthora cinnamomi*	✓	✓	NO
Introduction of the large earth bumblebee (*Bombus terrestris*)	✓	x	NO
Invasion and establishment of exotic vines and scramblers	✓	x	NO
Invasion and establishment of the Cane Toad	✓	✓	NO
Invasion of native plant communities by bitou bush & boneseed	✓	x	NO
Invasion of native plant communities by exotic perennial grasses	✓	✓ (only N. Aust)	YES (TSC only)
Invasion of the yellow crazy ant (*Anoplolepis gracilipes*)	✓	✓ (only Christmas Island)	NO
Invasion, establishment and spread of *Lantana camara*	✓	x	YES
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants	x	✓	NO
Loss and/or degradation of sites used for hill-topping by butterflies	✓	x	NO
Loss of Hollow-bearing Trees	✓	x	YES
Predation by feral cats	✓	✓	YES
Predation by the European Red Fox	✓	✓	YES
Predation by the Plague Minnow (*Gambusia holbrooki*)	✓	x	NO
Predation by the ship rat (*Rattus rattus*) on Lord Howe Island	✓	✓	NO
Predation, habitat degradation, competition and disease transmission by Feral Pigs (*Sus scrofa*)	✓	✓	YES
Removal of dead wood and dead trees	✓	x	YES

4. BIODIVERSITY OFFSET STRATEGY

4.1 Offset Area

A Biodiversity Offset comprising 8.7 ha of Cumberland Plains Woodland on shale (HN529) in moderate to good condition has been secured. The extent of the Biodiversity Offset is shown in Figure 2. The proposed offset site was described in the Environmental Assessment and the EPBC Referral Preliminary Information.

The Biodiversity Offset is located on land owned by Illawarra Coal[5] formally described as Lot 1 DP 121322 and Lot 2 DP 576136 as shown in Figure 1.

A summary of the BioBanking calculations are provided below.

Impact Site (Biobanking Credit Report – 23 September 2010)

Veg Type	Impact Area	Credits Required	Credits *Required* per hectare	Biobanking Plots conducted (Y/N)
HN529: Grey box – forest red gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin	0.4	26	65	Y
HN528: Grey box – forest red gum grassy woodland on flats of the Cumberland Plain, Sydney Basin	3.1	77	25	Y

Offset Site (Biobanking Credit Report – 6 December 2010)

Veg Type	Offset Area	Credits Required	Credits *Generated* per hectare	Biobanking Plots conducted (Y/N)
HN529: Grey box – forest red gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin	8.67	103	12.01	Y

Calculation of Offset Required

Veg Type	Impact Area	Credits *Required* per hectare at Development Site	Credits *Generated* per hectare at Offset Site	Offset Ratio	Area Required as Offset (ha)
HN529: Grey box – forest red gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin	0.4	65	12.01	5.4	2.16
HN528: Grey box – forest red gum grassy woodland on flats of the Cumberland Plain, Sydney Basin	3.1	25	12.01	2.1	6.51
				Total Offset Required	**8.67**

A site inspection of the proposed Offset Area during December 2010 revealed that a population of *Pimelea spicata* (approximately 100 individuals) is present within the Offset Area.

The Offset Area will be managed in accordance with the Biodiversity Management Plan required by Condition 36 of Schedule 4 of the Project Approval and the Vegetation Management Plan required by Condition 3 of the EPBC Approval.

[5] Now Illawarra Metallurgical Coal (IMC)

4.2 Legal Instrument – In perpetuity Conservation for the Biodiversity Offset

The Project Approval and EPBC Approval require that the Biodiversity Offset be protected by a legal instrument to ensure the Biodiversity Offset is conserved in perpetuity.

Illawarra Coal investigated a number of mechanisms for conservation purposes, with the original BOS nominating a Voluntary Conservation Agreement (VCA) as the mechanism. During the process of seeking a VCA for the Offset Area the Company received feedback from the Office of Environment and Heritage (OEH)[6] that they would not enter into such an agreement. As such Illawarra Coal considered alternate mechanisms, including obtaining a Planning Agreement, obtaining a Trust Agreement under s30 of the Nature Conservation Trust Act 2001 or obtaining a s88 restriction on the title of land under the Conveyancing Act 1919.

Illawarra Coal, in consultation with DPE and Department of Environment and Energy (DEE), subsequently pursued a s88 instrument to secure the Offset Area. Key communications in relation to this process included:

- Letter from Illawarra Coal to DPE and DEE (28 February 2014) which provided an update on the mechanisms that had been pursued to secure the Offset Area in perpetuity and feedback from stakeholders. This letter sought concurrence of DPE and DEE to develop a restriction under the Conveyancing Act 1919.
- After further consultation this mechanism was confirmed as an acceptable mechanism by DEE via email on 21 May 2014. Illawarra Coal provided further correspondence on 24 July 2015 and, subsequent to this additional information, DEE stated on 24 July 2015 that they had 'no further comments in relation to the restriction of use prescribed in the instrument'.
- DPE provided an email on 24 July 2015 stating the Department 'agrees to the terms of the s88 Instrument for the Appin Vent Shaft No. 6 Project as negotiated'.
- Illawarra Coal provided the applicable documentation, including the 'positive covenant' and 'restriction of the use of land' to DPE and DEE on 1 December 2015.
- DPE provided a letter dated 3 December 2015 stating 'the Department is satisfied that these document meet the criteria of 'suitable arrangements to protect and manage this Offset Area in perpetuity' as required under condition 1(c) of Schedule 3 of the Project Approval' (see Appendix 3).

The s88 instrument is recorded in Schedule 2 of the Certificate of Title for Lot 1 DP121322 and Lot 2 DP576136 and can be obtained through the search mechanisms provided by NSW Land and Property Information.

[6] Now Biodiversity and Conservation Division

4.3 Review of BOS

No further reviews of the BOS are planned following approval of Revision 2.0. A nominal review date of 2041, consistent with approved operations in the Project Approval until 31 December 2041, has been proposed for document control purposes.

The BOS will be revised if there are any changes to the offset mechanism.

5. FIGURES

Figure 1: Ventilation Shaft No. 6 Location in Regional Context

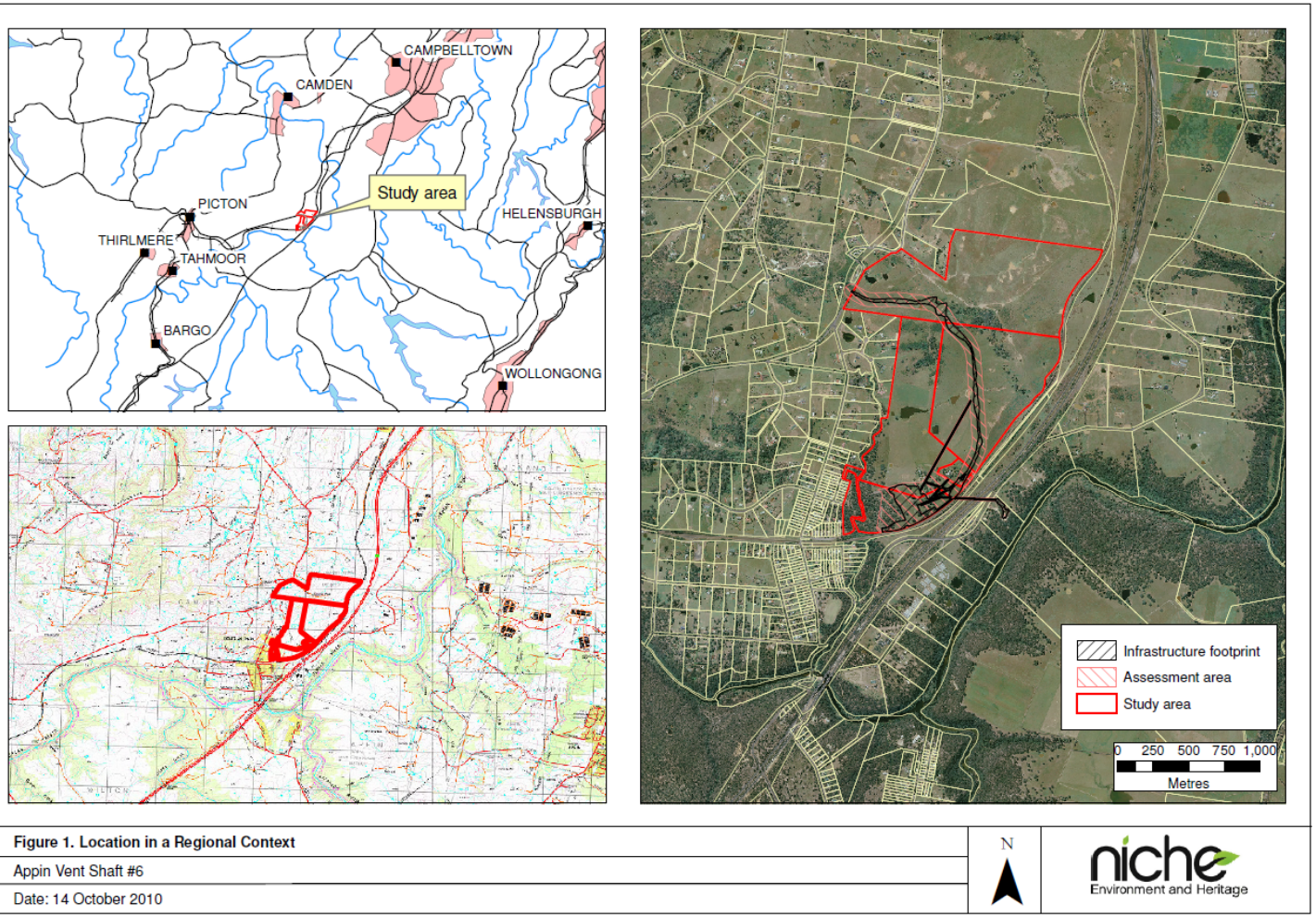


Figure 1. Location in a Regional Context
Appin Vent Shaft #6
Date: 14 October 2010

Figure 2: Vegetation Mapping of the Study Area

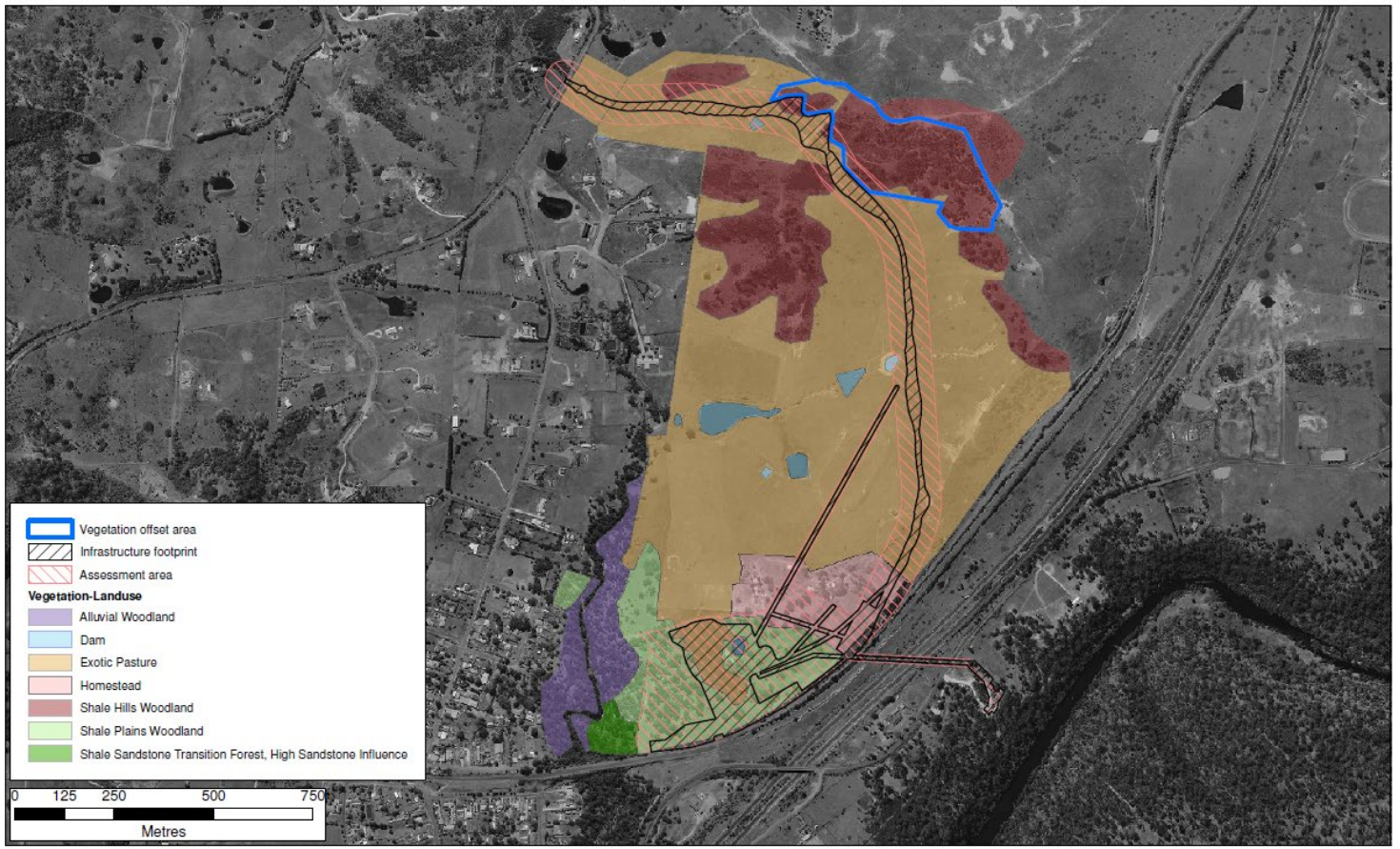


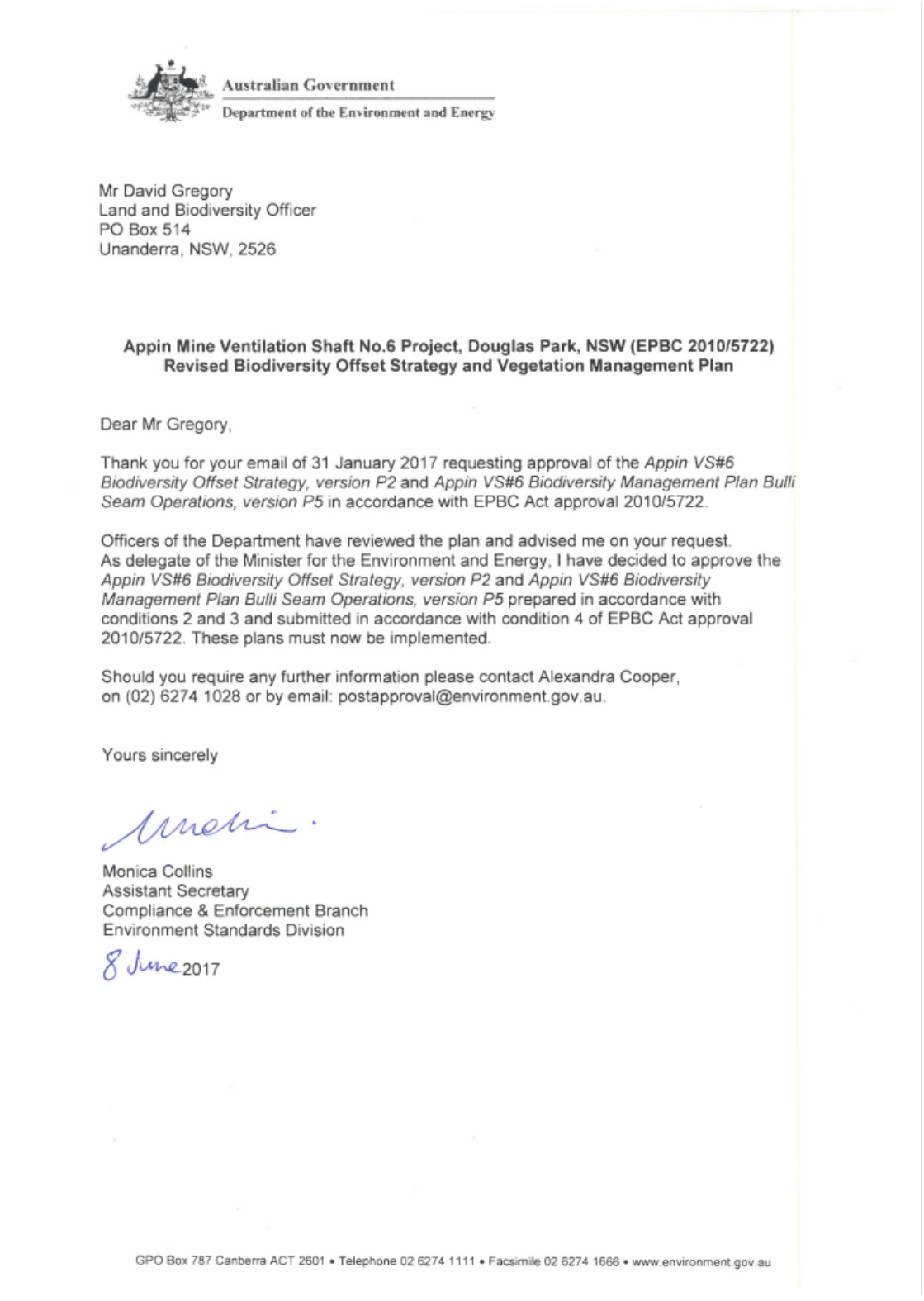
Figure 2. Vegetation mapping of the study area

Appin Vent Shaft #6

Date: 14 October 2010

6. APPENDICES

Appendix 1: Biodiversity Offset Strategy Approval - DoEE



Australian Government
Department of the Environment and Energy

Mr David Gregory
Land and Biodiversity Officer
PO Box 514
Unanderra, NSW, 2526

Appin Mine Ventilation Shaft No.6 Project, Douglas Park, NSW (EPBC 2010/5722)
Revised Biodiversity Offset Strategy and Vegetation Management Plan

Dear Mr Gregory,

Thank you for your email of 31 January 2017 requesting approval of the *Appin VS#6 Biodiversity Offset Strategy, version P2* and *Appin VS#6 Biodiversity Management Plan Bulli Seam Operations, version P5* in accordance with EPBC Act approval 2010/5722.

Officers of the Department have reviewed the plan and advised me on your request. As delegate of the Minister for the Environment and Energy, I have decided to approve the *Appin VS#6 Biodiversity Offset Strategy, version P2* and *Appin VS#6 Biodiversity Management Plan Bulli Seam Operations, version P5* prepared in accordance with conditions 2 and 3 and submitted in accordance with condition 4 of EPBC Act approval 2010/5722. These plans must now be implemented.

Should you require any further information please contact Alexandra Cooper, on (02) 6274 1028 or by email: postapproval@environment.gov.au.

Yours sincerely

Monica Collins
Assistant Secretary
Compliance & Enforcement Branch
Environment Standards Division

8 June 2017

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Appendix 2: Agency Consultation

Agency Comments	IMC Response
Office of Environment and Heritage	
Email received 15 April 2019 I refer to your request for OEH endorsement of a Biodiversity Offset Strategy (BOS) required in accordance with Condition 35(a) of the approval for the Bulli Seam Operations Project (Ventilation Shaft No.6) (Application number 08_0150, October 2016 modification (MOD 2). Condition 35(a) related to MOD 2 (approved 2016) and required that a BOS be prepared to compensate for the impact of the Ventilation Shaft on Cumberland Plain Woodland. The BOS was to be prepared in consultation with OEH. We can only advise that we received the completed BOS in January this year. To our knowledge, there was no previous consultation regarding this particular document. We note that consultation with OEH for the Biodiversity Management Plan, as required by Condition 36(a), was undertaken and our response (DOC17/90302) is attached. We understand that this Plan related to the Appin East Mine Gas Safety Management Project, not the Ventilation Shaft. We have not been consulted regarding the Biodiversity Management Plan for the Ventilation Shaft which is also a requirement of Condition 36(a). We understand that OEH was approached regarding a Voluntary Conservation Agreement (VCA) for the offset area for the Ventilation Shaft Modification to meet the requirements of Condition 35(c), however this option was not available and a Section 88 covenant has since been placed over the area and the BOS has been operational for some time. In similar situations, where OEH consultation or endorsement is sought for a BOS, a process involving OEH site inspection and assessment/negotiation occurs where necessary to ensure that conditions are met and appropriate conservation outcomes achieved. As the BOS is already operational and a conservation mechanism has been secured we are unclear if the condition of consent has been addressed. We suggest you approach DPE on this aspect. Where consultation with OEH is required, we recommend that it occurs early and in a reasonable way to enable compliance with conditions of consent.	IMC acknowledges that OEH was not involved in a site inspection and assessment/negotiation where necessary to ensure that conditions are met and appropriate conservation outcomes achieved. It is noted that the BOS is already operational and a conservation mechanism has been secured, with approval of the offset mechanism by DPIE and approval of the BOS by DoEE. The recommendation for early consultation with OEH is noted and will be undertaken for any future offsets. IMC acknowledges the suggestion by OEH to approach DPIE regarding the approval of the BOS to finalise the document.

Department of Planning, Industry and Environment	
Email received 27 November 2018 Request for the provision of evidence of consultation with OEH for the Appin Ventilation Shaft 6 Biodiversity Offset Strategy (as an appendix) demonstrating compliance with condition 35 (a) of Schedule 4.	Requirement sought to be addressed though submission of Revision 2.0 of the BOS incorporating feedback from OEH dated 15 April 2019.
Letter received 20 November 2020 Section 4.1 makes reference to the Biodiversity Management Plan “required by Condition 35 of Schedule 4 of the Project Approval”. This is an error. The Biodiversity Management Plan is required by Condition 36 not Condition 35.	Error corrected in this version.

Appendix 3: DPE letter regarding Security of Offset in Perpetuity

Planning Services
Resource Assessments
Phone: (02) 9228 6419
Fax: (02) 9228 6466
Email: jessie.evans@planning.nsw.gov.au
23-33 Bridge Street
GPO Box 39
SYDNEY NSW 2001

Dr Bruce Blunden
Planning Manager - Energy and Engineering
Illawarra Coal, South32
PO Box 514
UNANDERRA NSW 2526

Dear Dr Blunden

Appin Mine No. 6 Vent Shaft (MP 10_0079)
Security of Offsets

I refer to your email dated 1 December 2015 and the attached 'positive covenant' and 'restriction on the use of land' documents. The Department acknowledges receipt of these final documents and notes that they have been registered on the title of the land.

The Department is satisfied that these documents meet the criteria of 'suitable arrangements to protect and manage this offset area in perpetuity' as required under condition 1(c) of Schedule 3 of the project approval.

Should you have any enquiries in relation to this matter, please contact Jessie Evans on the details above.

Yours sincerely,

Mike Young
Director
Resource Assessments

3.12.15.

Appendix 4: Biodiversity Offset Strategy Approval - DPIE

NSW GOVERNMENT | Planning, Industry & Environment

Mr Chris Schultz
Lead Environment
Illawarra Metallurgical Coal
PO Box 514
UNANDERRA NSW 2526

20/11/2020

Dear Mr Schultz

Bulli Seam Operations (MP08_0150)
Biodiversity Offset Strategy

I refer to the Biodiversity Offset Strategy (Document ID APNMP0109 Version 2.0) which was submitted in accordance with Condition 35 of Schedule 4 of the above project approval.

The Department notes that the offset strategy has already been implemented and that arrangements (by means of a positive covenant and a restrictive covenant created under section 88E of the *Conveyancing Act 1919*) have been made to protect and manage the offset area.

The final paragraph in Section 4.1 of the Biodiversity Offset Strategy makes reference to the Biodiversity Management Plan "required by Condition 35 of Schedule 4 of the Project Approval". This is an error. The Biodiversity Management Plan is required by Condition 36 not Condition 35.

The Planning Secretary approves the document subject to correction of the error noted above. Please ensure that the approved (corrected) plan is placed on the project website at your earliest convenience.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments
As nominee of the Planning Secretary

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