

BLOND METHOD

Ve	Date	Description	By	Chk	App
1	02/03/10	Final Draft	JH	KH	SD
2	09/08/11	Revised Final Draft - incorporating Project Area as approved by Section 75W Modification	KH	SG	SG
3	01/08/17	Revised Final – Revised and Updated	GL		BC
4	07/11/17	Revised Final – incorporating DPE consultation	GL		BC

BLOOMFIELD MINING OPERATIONS

Landscape Management Plan

CONTENTS	CONTENTS	2
	INTRODUCTION	2
	PURPOSE	3
	SCOPE	3
	REGULATORY ASPECTS	3
	LANDSCAPE MANAGEMENT PLAN	3
	Rehabilitation Management Plan	5
	Final Void Management Plan	5
	Mine Closure Plan	5
	Consultation	5
	VISUAL & LIGHTING IMPACT	6
	Visual Impacts	6
	Lighting Impacts	6
	AUDIT AND REVIEW	6
	General Conditions of Review	7

APPENDIX 1 – CONSULTATION

INTRODUCTION

This landscape management plan (LMP) has been prepared in response to Project Approval, 07_0087, (Approval) granted under section 75J of the Environmental Planning and Assessment Act (EP&A) and the modifications to the Approval granted in accordance with section 75W of the Environmental Planning and Assessment Act 1979.

The LMP takes into consideration the commitments stated in the Part 3A Environmental Assessment, conditions outlined in schedules 2 to 5 of the Approval granted under Section 75 J of the Environmental Planning and Assessment Act 1979 and the Modifications issued under section 75w of the Environmental Planning and Assessment Act 1979.

Bloomfield Colliery and Rix's Creek Mine are separate operations which collectively operate under the Bloomfield Group Mining Operations Management System (BGMOMS). Under the BGMOMS, systems are put in place to cover all operations. The LMP will comply with site specific requirements in addition to the management plans as required by the Project Approval.

There are three (3) key components to the LMP. These components include the following management plans:

- ☐ Rehabilitation Management Plan;
- ☐ Final Void Management Plan; and
- ☐ Mine Closure Plan.

The LMP has been prepared in consultation with key government departments and agencies and addresses issues raised during the environmental assessment process. A copy of the consultation is provided in Appendix 1.

The LPM has been prepared by qualified experts whose appointment was approved by the Department of Planning & Environment (DPE). A copy of the approval letter is attached in Appendix 1.

BLOOMFIELD MINING OPERATIONS

Landscape Management Plan

PURPOSE

The purpose of the Landscape Management Plan (LMP) is in part to:

- ☐ address the relevant conditions of the development consent;
- ☐ address the relevant commitment made within the Environmental Assessment;
- ☐ address legislative requirements and guidelines relevant to the LMP and related management plans; and
- ☐ provide Bloomfield Group with a clear and concise description of their responsibilities in relation to Landscape Management (including Rehabilitation, Final Void Management & Mine Closure) during the operation and subsequent closure of the Bloomfield group mining operations.

SCOPE

The Landscape Management Plan outlined in this document applies to the approved Project Area as outlined on Figure 1.

REGULATORY ASPECTS

Project Approval was granted by the Minister for Planning on 3 September 2009 under Section 75J of the Environmental Planning and Assessment Act, 1979 for the Completion of Mining and Rehabilitation at Bloomfield Colliery. The relevant conditions from Schedule 3 relating to landscape management are reproduced below:

Landscape Management Plan – Schedule 3 Condition 26

Requirement	LMP Reference
The Proponent shall prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Director-General and DRE. This plan must:	
(a) be prepared in consultation with OEH by suitably qualified expert/s whose appointment/s have been approved by the Director-General; and	Appendix 1
(b) include a: <ul style="list-style-type: none">• Rehabilitation Management Plan to be submitted to the Director-General for approval within 6 months of the date of this approval;• Final Void Management Plan to be submitted to the Director-General for approval by 30 June 2012; and• Mine Closure Plan to be submitted to the Director-General for approval by 30 June 2012.	Figure 2

LANDSCAPE MANAGEMENT PLAN

The LMP establishes a framework for all rehabilitation and mine closure related issues. It includes the development and implementation of management plans, procedures and reporting requirements.

The LPM is made up of three (3) separate managements plans including:

- ☐ Rehabilitation Management Plan
- ☐ Final Void Management Plan
- ☐ Mine Closure Plan

The Environmental Management Strategy provides a framework for environmental management of the mining operations. Figure 2 shows the relationship between the various components of the LMP.

BLOOMFIELD MINING OPERATIONS

Landscape Management Plan

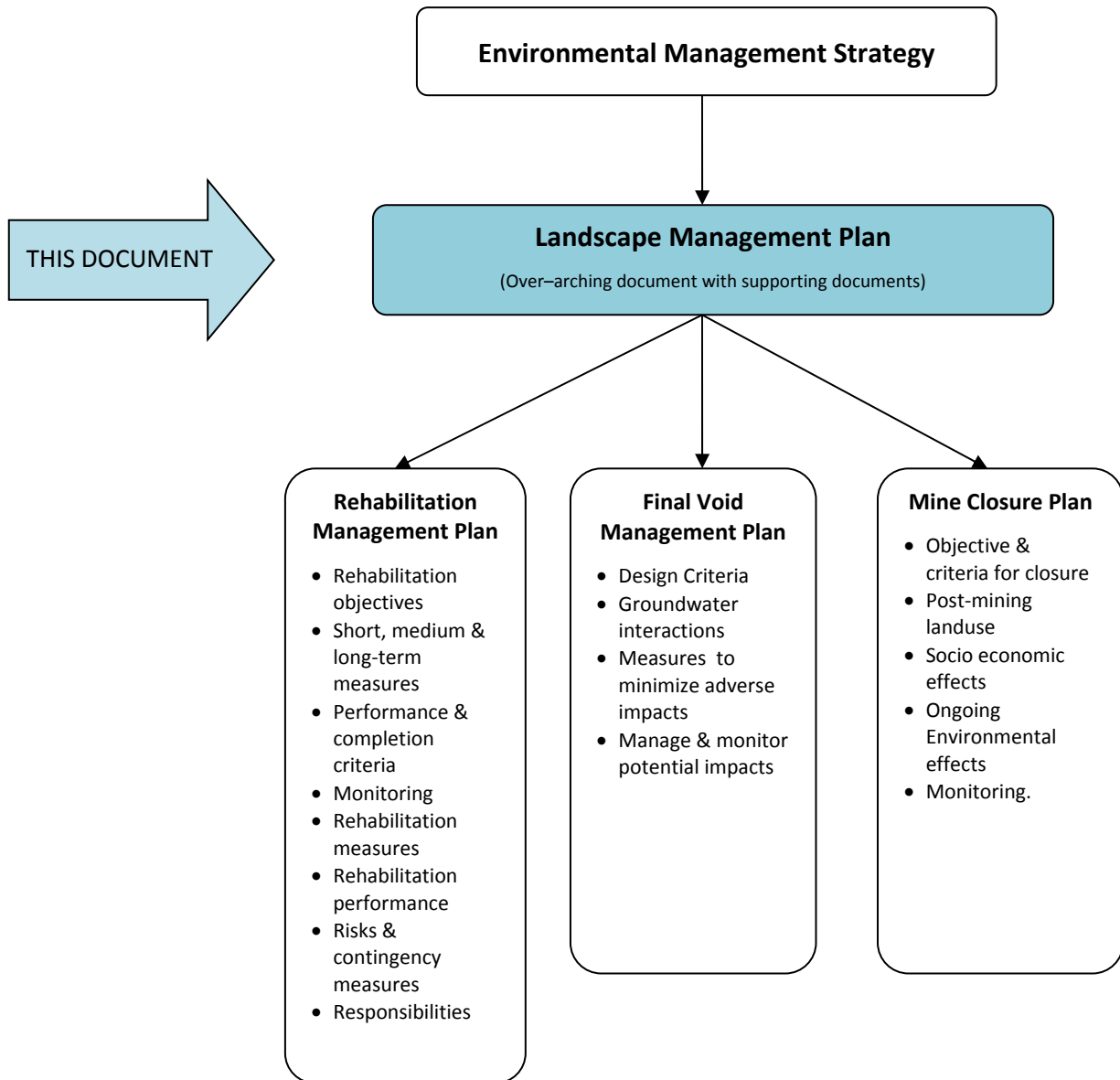


Figure 2 RELATIONSHIP WITH OTHER MANAGEMENT PLANS

BLOOMFIELD MINING OPERATIONS

Landscape Management Plan

The following provides a summary of the key aspects to be addressed in each of the subordinate management plans in relation to the landscape management plan.

REHABILITATION MANAGEMENT PLAN

The Rehabilitation Management Plan (RMP) to comply with Planning approval requirements for the operations to prepare a Rehabilitation Management Plan containing the following:

- ☐ Objectives for rehabilitation;
- ☐ Short, medium & long-term measures to rehabilitation the development;
- ☐ Performance and completion criteria for rehabilitation;
- ☐ Monitoring of rehabilitation performance ;
- ☐ Design measures to be implemented over the next three (3) years to rehabilitate the site;
- ☐ Contingencies for risks to successful rehabilitation; and
- ☐ Outline responsibilities with regard to monitoring, reviewing and implementation of the RMP.

FINAL VOID MANAGEMENT PLAN

Final void management will be managed through the implementation of a Final Void Management Plan (FVMP). The FVMP will include the following:

- ☐ Design criteria based on groundwater modelling
- ☐ Interactions between creeks and final voids
- ☐ Propose measures monitor and mitigate potential impacts associated with final voids

MINE CLOSURE PLAN

The Mine Closure Plan will:

- ☐ Provide objective and criteria for closure
- ☐ Provide options for future use of the site after closure, including final voids
- ☐ Investigate socio-economic effects associated with mine closure
- ☐ Propose measures to manage the environmental impacts of mine closure
- ☐ Outline performance criteria for long-term management of the site.

CONSULTATION

Rehabilitation planning processes and procedures adopted by the Bloomfield Group have been developed over time in consultation with DRG (and the predecessors). The intent is to ensure that approaches rehabilitation remains relevant and reflect appropriate standards.

This LMP was developed / reviewed in consultation with key members of the workforce. Table 1 below shows those involved in the development and implementation of the LMP.

BLOOMFIELD MINING OPERATIONS

Landscape Management Plan

Table 2 MANAGEMENT TEAM

Position	Name
Managing Director	John Richards
Manager of Mining Development	Garry Bailey
Mine Manager	Brendon Clements
General Manager Technical Services	Simon Grassby
Environmental Officer	Greg Lamb

VISUAL & LIGHTING IMPACT

An assessment of the visual and lighting impacts of the operations were conducted Environmental Assessment (07_0087). The visual and lighting impact is considered to be low due to the limited visibility and low sensitivity of all but a few viewing locations.

VISUAL IMPACTS

Ongoing rehabilitation will improve the visual quality for residences with a view of the current mining operations, especially to the south of the Project Area. Residences who currently view current mining areas within the Project Area will see an improvement in visual quality as rehabilitation progress.

Priority has been given, and will continue to be given, to the completion of rehabilitation along the southern boundary of the Project Area. This would reduce any potential visual impact, especially for residents in the Buttai Valley and users of John Renshaw Drive.

LIGHTING IMPACTS

The operations are approved to operate 24 hours a day, 7 days a week. Therefore, night time lighting has the potential to affect the local night time visual amenity. Mobile lighting equipment are utilised in active mining areas during night time operations. Mobile lighting plant will generally be located in pit and screened from nearby viewpoints, or directed away from residential areas where screening is not possible. Lighting impacts are kept to the minimum necessary for operational and safety needs. Where possible, lights will be utilised at the lowest effective level and directed away from incoming views, in particular, Buttai Valley, John Renshaw Drive and Ashtonfield. All lighting will be directed to the ground and to within the work area and avoid being cast skyward or over long distances.

Procedures are in place to ensure lighting does not shine directly toward residences in any direction, particularly to the south. Staff and management will continue to be trained in the management of night lighting, as is currently practised.

The only fixed lighting is installed around the open cut workshop which is not visible off-site. Any new fixed lighting will be installed and maintained in accordance with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting.

AUDIT AND REVIEW

The ongoing effectiveness and efficiency of the landscape management system is monitored as part of the day-to-day operations management. This document will be reviewed in response to changes in operational planning, or in response to changes in regulatory requirements. Feedback from this and other reviews and audits, form the basis for system improvement and re-design.

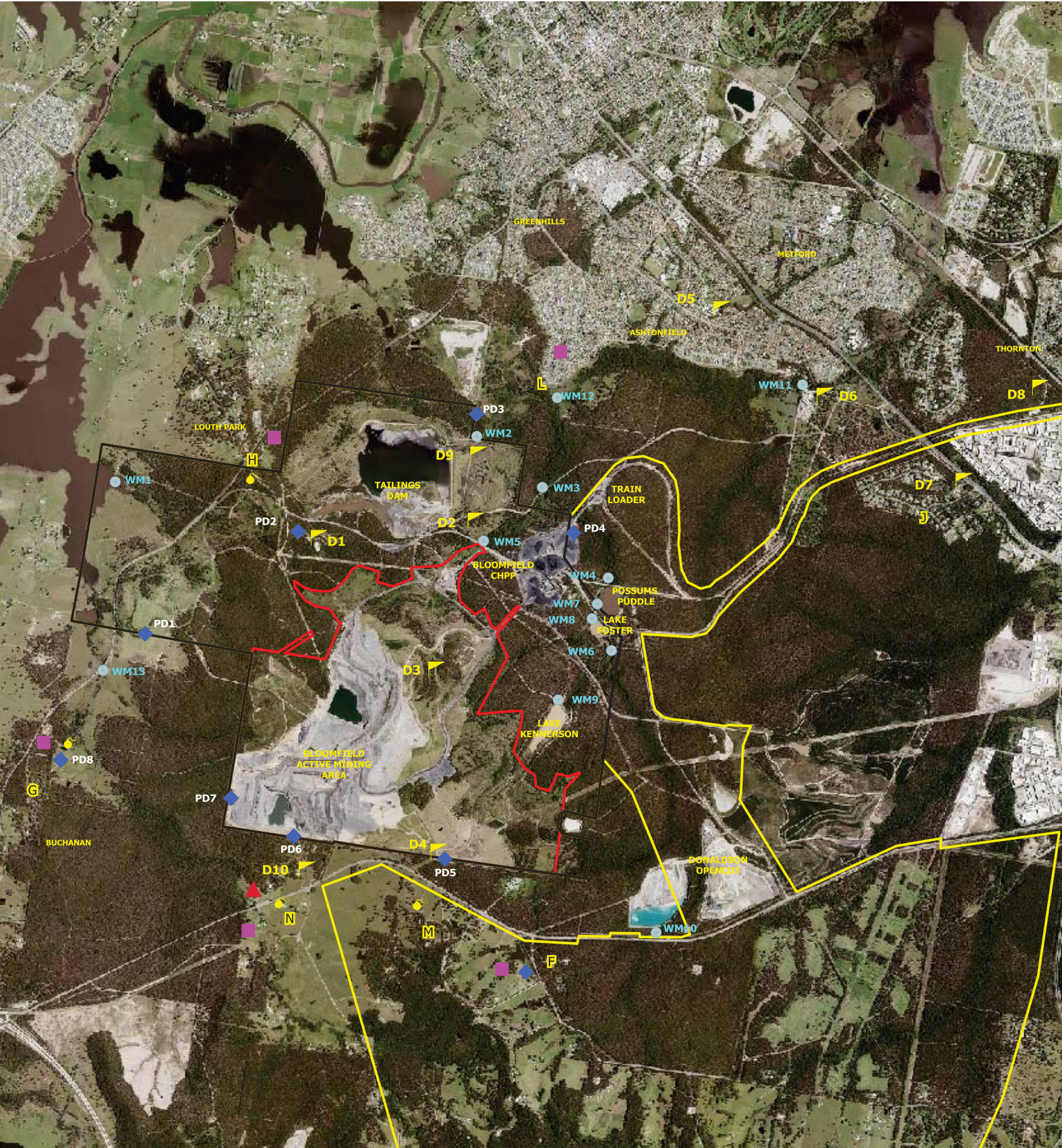
BLOOMFIELD MINING OPERATIONS

Landscape Management Plan

GENERAL CONDITIONS OF REVIEW

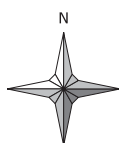
In general Management Systems are reviewed and up-dated conditional as follows:

- ☐ Every three years; or
 - ☐ Whenever there is a significant change to relevant legislative or regulatory requirements; or
 - ☐ Whenever there is a significant change to the operations;
 - ☐ If required (in writing) to do so by relevant government departments or through consultation with relevant stakeholders; or
 - ☐ Whenever control measures are found to be ineffective either through:
 - ◆ changes to the working environment or
 - ◆ changes to operating systems; or
 - ◆ subsequent risk assessments; or
 - ◆ the findings of an audit; or
 - ◆ following a significant accident/ incident; or
 - ◆ following an assessment of a related safety alert.
-



LEGEND

0 1 km



- | | |
|--|--|
| — Bloomfield Project Area | ▲ High Volume Air Sampler |
| — Abel Mine Project Area | ■ Noise Monitor |
| — Bloomfield Mining Lease | ◆ Peizometers |
| ▲ Blast Monitor | ● Water Monitoring |
| ▲ Dust Monitor | |



Bloomfield Colliery

Landscape Management Plan

Figure 1 Bloomfield Colliery Project Area

Scale: 1:33,333

Date: January 2016
Photo: January 2016

Drawing: A3

Appendix 1

CONSULTATION

28 April 2010
Our Ref: Surv/765

Mr Mitchell Bennett
Head Regional Operations Unit - Hunter Region
Dept Environment Climate Change & Water
NEWCASTLE NSW 2300

PO Box 4
East Maitland NSW 2323
Four Mile Creek Road
Ashtonfield NSW 2323
AUSTRALIA
TEL +61 2 4930 2600
FAX +61 2 4933 8940
ABN 76 000 106 972

Dear Mr Bennett

RE: BLOOMFIELD COLLIERY (PROJECT APPROVAL 07_0087)

Please find enclosed copies of the Landscape Management Plan and Rehabilitation Management Plan for Bloomfield Colliery. The plans have taken the issues into account raised by the Department during the preparation of the Environmental Assessment and the specific requirements of the Project Approval.

Could you please advise if the Department has any comments or requires clarification of any matters. Once all relevant comments have been incorporated, each document will be issued as a final and included on the Company's website.

Thank you for your assistance with this matter.

Yours faithfully
BLOOMFIELD COLLIERIES PTY LIMITED

K Halliday

Keren Halliday
Environmental Officer

☎ (02) 49302689
📠 (02) 49338940
✉ khalliday@bloomcoll.com.au

enc

Greg Lamb

53 C26
DLE Consultation.

From: julie.moloney@industry.nsw.gov.au
Sent: Monday, 3 May 2010 11:15 AM
To: Keren Halliday
Subject: Re: Bloomfield Colliery - Submission of (Project Approval 07_0087)

Thanks Keren

Julie Moloney | Principal Adviser | Mineral Resources, Development Coordination
Industry & Investment NSW | 516 High St | Maitland NSW 2320 | PO Box 344 | Hunter Region Mail Centre NSW 2310
T: 02 4931 6549 | F: 02 4931 6776 | M: 0407 921 462 | E: julie.moloney@industry.nsw.gov.au
W: www.industry.nsw.gov.au

From: "Keren Halliday" <khalliday@bloomcoll.com.au>
To: <julie.moloney@industry.nsw.gov.au>, <william.hughes@industry.nsw.gov.au>
Cc: "John Hindmarsh" <jHindmarsh@bloomcoll.com.au>
Date: 03/05/2010 10:25 AM
Subject: Bloomfield Colliery - Submission of (Project Approval 07_0087)

Dear Julie and William

Please find attached an electronic copy of the Landscape Management Plan and Rehabilitation Management Plan for Bloomfield Colliery. These plans were prepared in response to condition 26 of the (Project Approval 07_0087) which requires the Proponent to *"prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Director-General and DII"*

The plans have taken the issues into account issues raised by the Department during the preparation of the Environmental Assessment and the specific requirements of the Project Approval. Could you please advise if the Department has any comments or requires clarification of any matters. Once all relevant comments have been incorporated, each document will be issued as a final and included on the Company's website.

If you require hard copies of any of these documents please advise me so that we can forward to you. Thank you for your assistance with this matter.

Yours faithfully

Keren Halliday

Environmental Officer
Bloomfield Colliery
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Mob: 0457 819 211
Fax: 02 4933 8940
khalliday@bloomcoll.com.au

[attachment "RMP Final Draft 280210.pdf" deleted by Julie Moloney/DII/NSW] [attachment "LMP Final Draft 020310.pdf" deleted by Julie Moloney/DII/NSW]

BLOOMFIELD MINING OPERATIONS

Landscape Management Plan



Planning

Major Projects Assessment
Mining & Industry
Phone: (02) 9228 6587
Fax: (02) 9228 6466
Email: paul.freeman@planning.nsw.gov.au
23-33 Bridge Street
GPO Box 39
SYDNEY NSW 2001

Our ref: S07/01215

Mr John Richards
Director
Bloomfield Collieries Pty Limited
PO Box 4
EAST MAITLAND NSW 2323

Dear Mr Richards

**Bloomfield Coal Project (07_0087)
Rehabilitation Management Plan**

I refer to the letter from Bloomfield Collieries dated 16 December 2009, seeking approval for John Hindmarsh and Keren Halliday to prepare a Rehabilitation Management Plan in accordance with condition 25 of Schedule 3 of the Minister's approval for the Bloomfield Coal Project.

The Department has reviewed the information you provided and the Director-General has approved the appointment of Mr Hindmarsh and Ms Halliday to prepare the plan.

If you wish to discuss this matter further please contact Paul Freeman.

Yours sincerely

David Kitto 16/12/09

David Kitto
Director
Mining & Industry
as Delegate for the Director-General



Greg Lamb
Environmental Officer
Bloomfield Colliery
PO Box 4
EAST MAITLAND NSW 2323

Dear Mr Lamb

**Bloomfield Coal Project (MP 07_0087)
Review of Management Plans**

I refer to your email dated 14 December 2017 providing the Department with several updated management plans addressing the Department's comments of 5 October 2017.

The Department has reviewed the below management plans and strategy for the Bloomfield Coal Project, which have been prepared in accordance with the mine's project approval:

- Noise Monitoring Program dated August 2017 (condition 4 of Schedule 3);
- Blast Monitoring Program dated July 2017 (condition 14 of Schedule 3);
- Landscape Management Plan dated August 2017 (condition 26 of Schedule 3);
- Rehabilitation Management Plan dated August 2017 (condition 27 of Schedule 3);
- Final Void Management Plan dated August 2017 (condition 28 of Schedule 3);
- Mine Closure Plan dated August 2017 (condition 29 of Schedule 3);
- Biodiversity Offset Management Plan dated July 2017 (condition 29B of Schedule 3); and
- Environmental Management Strategy dated July 2017 (condition 1 of Schedule 5).

I advise that the Secretary approves the above management plans and strategy. Please provide final copies of these plans to the Department at your earliest convenience and place copies on your website.

The Department considers that the revised Air Quality Monitoring Program (condition 16 of Schedule 3) has not adequately addressed the Department's previous comments. The Department's comments on this document are enclosed in **Attachment A**. The Department requests that this document be re-submitted by **8 January 2017**.

The Department notes that a revised Water Management Plan (condition 19 of Schedule 3) was not submitted and that an extension to submit by 31 December has been granted. It is also noted that the draft Aboriginal Cultural Heritage Management Plan has not been reviewed as it is understood that it is currently with the Mindaribba Land Council for consultation. The Department will review this plan once a final version is submitted.

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

Yours sincerely,

Howard Reed

Director

Resource Assessments

as nominee of the Secretary

19-12-17