



## Longwalls A7 to A10

### Built Features Management Plan



**DOCUMENT CONTROL**

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## 1 INTRODUCTION

Austar Coal Mine Pty Ltd (Austar), a subsidiary of Yancoal Australia Pty Limited (Yancoal), operates Austar Coal Mine, an underground coal mine located approximately 10 kilometres south of Cessnock in the Lower Hunter Valley in NSW. The mine is an aggregate of the former Ellalong, Pelton, Cessnock No.1 and Bellbird South Collieries and is located in the South Maitland Coalfields. These operations, including coal extraction, handling, processing and transport, collectively form the Austar Mining Complex. Austar has successfully undertaken mining using LTCC technology within the Greta seam between 2006 and 2013 in Austar's Stage 1 and Stage 2 mining areas.

Project approval 08\_0111 (PA 08\_0111) was granted by the Minister for Planning in September 2009, enabling longwall mining using Longwall Top Coal Caving (LTCC) technology in the Stage 3 area and construction and operation of a new Surface Infrastructure Site (SIS), access road, and services south of Kitchener. PA08\_0111 was modified under delegated authority of the Minister for Planning and Infrastructure on 13 March 2012 to allow realignment of the Stage 3 longwall panels (PA08\_0111 MOD2).

The Stage 3 Project Environmental Assessment (Umwelt, 2008), and Stage 3 Modification Environmental Assessments (Umwelt, 2011 and 2013) have presented comprehensive environmental impact assessment for proposed longwalls LWA7 to LWA19.

An Extraction Plan for Longwalls A7 to A10 (Austar, April 2013) was approved under delegation of the Director General of the Department of Planning and Infrastructure (DP&I) on 30 May 2013. The Extraction Plan was prepared to be suitable to meet the requirements of a Subsidence Management Plan (SMP) and subsequently received SMP approval under delegation for the Director General of the Department of Trade and Investment – Division of Resources and Energy (DRE) on 3 June 2013.

Austar commenced mining using LTCC technology in the first panel in the Stage 3 area (longwall A7) in June 2013 utilising the management strategies of the approved Extraction Plan for Longwalls A7 to A10.

Austar submitted an application to the DP&I to modify PA08\_0111 under s75W of the Environmental Planning and Assessment Act 1979 on 16 October 2013 to extend the finishing end of LWA7 to LWA10. Approval for the modification to LWA7 to LWA10 was granted under delegation of the Director General of the Department of Planning and Infrastructure (DP&I) on 17 December 2013 (PA08\_0111 MOD3).

The location of Austar's previous mining areas, and the Stage 3 project (as modified) is shown with the Austar Mine Complex in **Figure 1**.

This version of the Longwalls A7 to A10 Built Features Management Plan (BFMP) represents an update to the approved BFMP to reflect the mine plan and subsidence impacts of LWA7 to LWA10 (as modified). This Built Features Management Plan has been prepared in accordance with the requirements of Schedule 3, Condition 4 of PA08\_0111 as a sub-plan to the Extraction Plan.

## 1.1 SCOPE & OBJECTIVE

The objective of this Built Features Management Plan (BFMP) is to identify the management framework for management of subsidence induced impacts on built features from secondary extraction of longwall panels LWA7 to LWA10 (as modified) within the Greta Seam at Austar using LTCC technology (the **Extraction Plan area** see **Figure 2**).

The objective of the Built Features Management Plan will be achieved by:

- Identifying the built features within the Extraction Plan Area and their owner;
- Identifying the predicted subsidence impacts and/or consequences for the Built Features within the Extraction Plan in general terms (specific information for each built feature to be included in individual Built Feature Management Plans);
- Identifying the management activities (including consultation, monitoring, and remediation method) prepared to address the predicted subsidence impacts for Built Features; and
- Identifying the review and reporting activities to allow for assessment of the performance of Built Features management measures by Austar, and identification of areas where either continual improvement may be achieved, or management of unpredicted subsidence impacts can be managed.

The BFMP has been prepared to address conditions of PA08\_0111, and structured in general accordance with draft *Guidelines for the Preparation of Extraction Plans* provided to Austar Coal by the Department of Planning and Infrastructure in 2012.

The document will focus on the predicted consequences of subsidence, and how these consequences may be managed. Impact assessment information will largely not be presented, though is available within the relevant Subsidence Assessment reports prepared by MSEC for the Stage 3 project (MSEC484 and MSEC650).

## 2 PERFORMANCE OBJECTIVES

Performance objectives in relation to subsidence impacts at Austar are presented in **Table 2.1** (Table 6; PA 08\_0111).

**Table 2.1 Performance Objectives from PA08\_0111**

Domain	Rehabilitation Objective
Built features	Repair/restore/replace to pre-mining condition or better, unless a claim under the Mine Subsidence Compensation Act 1961 is made for the repairs, restoration or replacement.

**Table 2.2 Performance Objectives from PA08\_0111 – Statement of Commitments**

Statement of Commitments in relation to Built Features and Private Property
<p><b>1.3 Subsidence</b></p> <p>1.3.3 Where a potential subsidence impact is identified on private property, Austar Coal Mine will prepare a Built Features Management Plan in consultation with the property owner. This plan will clearly outline impacts of mining on the property and the management and remediation measures to be implemented.</p> <p>1.3.4 Subsidence management measures to be implemented as part of the project will include:</p> <ul style="list-style-type: none"> <li>• subsidence monitoring lines to be located as determined as part of the EP process where access is granted;</li> <li>• visual assessment of all natural features and items of surface infrastructure before, during and following mining to detect subsidence impacts such as surface cracking, irregularities in the subsidence profile, erosion, damage to structures, changes in drainage patterns or loss of water from drainage structures where access is granted;</li> <li>• detailed subsidence monitoring in accordance with DRE requirements. This data will be utilised to regularly update the subsidence predictions for Stage 3;</li> <li>• remediation and rehabilitation of subsidence impacts will be carried out, where required, as soon as practicable following subsidence using methods specified in the EP where access is granted;</li> <li>• building structures located within the subsidence affectation area will be inspected by a structural engineer prior to and after undermining and appropriate management measures implemented where access is granted ;</li> <li>• informing all relevant service providers of the potential impacts of mining subsidence on services;</li> <li>• farm dams within the subsidence affectation area will be monitored during and following undermining where access is granted, to ensure they remain in a safe and serviceable condition. Remediation works will be undertaken as required;</li> <li>• in the event of any significant loss of water from a privately-owned farm dam, Austar Coal Mine will provide an alternate source of water, as required, until the dam is repaired where access is granted ; and</li> <li>• any privately-owned bores within the subsidence affectation area will be monitored during and following undermining where access is granted. If the capacity of any utilised private bore is reduced to unacceptable level as a result of subsidence, Austar Coal Mine will provide an alternative supply of</li> </ul>

**Statement of Commitments in relation to Built Features and Private Property**

water until such time as the MSB re-establishes or replaces the bore.

1.3.5 Austar Coal Mine will, prior to undermining of Quorrobolong Road, Nash Lane and Coney Creek Lane prepare and implement a Traffic Management Plan to manage any subsidence impacts on the roads and associated culverts and bridges in consultation with Cessnock City Council and DRE and to the satisfaction of the Director-General.

1.3.6 Austar Coal Mine will prepare management plans in consultation with relevant service providers, for the protection of infrastructure and services within the potential Stage 3 mine subsidence area to ensure these remain in a safe and serviceable condition throughout the mining period. These plans will be submitted to the Director General for approval as part of the EP prior to undermining of the services.

### 3 BUILT FEATURES MANAGEMENT

#### 3.1 LAND OWNERSHIP

The northern portion of the Extraction Plan Area extends underneath the Werakata State Conservation Area (SCA – administered by NSW National Parks and Wildlife Service) and includes small sections of Crown land and Crown Roads (administered by DPI-Crown Lands), Cessnock City Council roads as well as an area of Austar-owned land to the east of the approved Surface Infrastructure Site. The mid and southern portion of the Extraction Plan Area is primarily located beneath privately owned rural land holdings. Land ownership is shown in **Figure 3**.

#### 3.2 IDENTIFICATION OF BUILT FEATURES AND MANAGEMENT

Built features within the Extraction Plan Area and the relevant owners are presented in **Table 3.1** and are shown on **Figure 4**. The proposed manner of specific management for each built feature is also provided. Stakeholder contact details are provided in **Appendix A**.

##### 3.2.1 INDIVIDUAL BUILT FEATURES MANAGEMENT PLANS

As described in **Table 3.1**, Austar proposes to manage individual owners of built features using an owner specific BFMP. The individual BFMPs will be developed progressively during extraction within the Extraction Plan Area in consultation with the relevant infrastructure owner prior to subsidence effects occurring on the particular Built Feature and will be submitted to the Director-General DP&I. **Table 3.1** also provides the proposed timing for development of the individual BFMPs in relation to longwall extraction.

The individual BFMPs will incorporate subsidence management measures from Austar's Statement of Commitments that form part of PA08\_0111 (refer **Table 2.2**).

##### 3.2.2 MANAGEMENT OF PUBLIC SAFETY RELATING TO BUILT FEATURES

Public safety matters relating to Built Features will be identified in individual Built Features Management Plans. Any specific public safety management controls recommended during the development of individual Built Features Management Plans (including from structural engineer inspections) shall be incorporated into the Extraction Plan – Public Safety Management Plan LWA7 to LWA10.



**Table 3.1 Built Features Associated within the Extraction Plan Area and Timing for Preparation of Individual BFMPs**

Asset	Description	Ownership	Specific Management Plan	Timing for Preparation of BFMP
Public Roads	Quorrobolong Road (sealed)	Cessnock City Council	Public Safety Management Plan BFMP – Council including Traffic Management Plan	Prior to extraction of LWA7 reaching maingate cut-through No. 5.
	Coney Creek Lane (unsealed) Nash Lane (unsealed)	Cessnock City Council	Public Safety Management Plan BFMP – Council including Traffic Management Plan	Prior to extraction of LWA10
	Crown Roads Pelton Road (unsealed) Big Hill Road	DTI-Crown Lands	See BFMP – NPWS	Tracks in this area managed by NPWS. Refer to BFMP – NPWS.
	NPWS unsealed tracks and fire trails Big Hill Road No. 1 Fire Trail Bee Box Road Kitchener Fire Trail	NPWS	Public Safety Management Plan BFMP - NPWS	Prior to extraction of LWA7
Electricity Transmission Lines	33kV Feeder 11 kV Transmission Line Local Distribution lines	Ausgrid	BFMP – Ausgrid	Prior to extraction of LWA7
Telecommunications infrastructure	Optic Fibre Local Copper Cables	Telstra	BFMP – Telstra Telstra Management Plan	Prior to extraction of LWA7
Private properties with dwelling in EP Area	Features may include: House Water tanks Poultry sheds Rural sheds Dams Private access roads Fences	P. Kauter (MSEC Property ID: A12a); R & A Gough (A13a); L Watts (A14a); G Penney & S Linton (A31a); J Mears and J Rayner (A34a); AG & J Smith (A32a) M Wilson (A101a) K Seradilla (A52a) D Lennon (A16a)	Individual landholder specific BFMPs	Prior to extraction of LWA9  Prior to extraction of LWA9 Prior to extraction of LWA9 Prior to extraction of LWA8 Prior to extraction of LWA9 Prior to extraction of LWA9 Prior to 50% extraction LWA8 Prior to extraction of LWA10

Asset	Description	Ownership	Specific Management Plan	Timing for Preparation of BFMP
Private properties without dwelling in EP Area	Features may include: Rural sheds Water tanks Dams Private access roads Fences	B.J Kauter G & A Leigh J Kinloch M Newton & C Bradstreet J Robinson (formerly Sibdex Pty Ltd)	Individual landholder specific BFMPs	Prior to extraction of LWA9 Prior to extraction of LWA7 Prior to extraction of LWA9 Prior to extraction of LWA10 Prior to extraction of LWA10
Austar Coal Mine SIS infrastructure and access road.	Access road Shafts and boreholes Electrical services and infrastructure Pipelines and communications Fences Erosion and Sediment Control Structures	Austar Coal Mine	Public Safety Management Plan	NA – Austar owned and managed
Survey Marks	Survey marks: PM 147807 PM 66194 SS 89025	NSW Land and Property Information	BFMP – Survey Control Marks	Prior to extraction of LWA9

## 4 DEVELOPMENT OF BFMP

### 4.1 AGENCY CONSULTATION

This BFMP forms part of Austar's Extraction Plan to also address the Subsidence Management Plan approval process. The following agencies of relevance to this plan are included in the Interagency Committee involved in assessing subsidence management plans:

- Division of Resources and Energy;
- Department of Planning and Infrastructure; and
- Mine Subsidence Board.

Additionally, Austar has consulted informally with Mine Subsidence Board (MSB) personnel in relation to the role of the MSB in relation to subsidence impact management to Built Features. These informal discussions have been used to frame the management plan and individual infrastructure owner BFMPs.

### 4.2 PRIVATE PROPERTY OWNER CONSULTATION

The Stage 3 Modification project was approved in May 2012. During this process landholders within the Stage 3 Project area were consulted with via mail, public meetings, and through the Austar Community Consultative Committee in relation to predicted impacts and proposed mitigation strategies that are being now formalised in the Extraction Plan and sub-plans.

Within the Extraction Plan Area, Austar has reached agreement with five of the private landholders in relation to formalising an access agreement to allow Austar to access the land to undertake monitoring and pre subsidence impacts structural engineering inspections of Built Features proposed under this BFMP, to assist with any claim made under the *Mine Subsidence Compensation Act 1961* (if these are required). Austar is progressing further with one other major landholder within the Extraction Plan area and will continue this process with other landholders.

On 9 April 2013, all landholders within the Stage 2 and Stage 3 areas (including the Extraction Plan area) have been provided with an update on Austar's completion of mining within the Stage 2 area and preparation of an Extraction Plan, which will include a Built Features Management Plan.

Since longwall mining commenced in longwall A7 in June 2013, landholders within the Extraction Plan area as approved by the May 2013 Extraction Plan for Longwalls A7 to A10 have been provided with regular updates on mining progress and subsidence and other environmental monitoring results.

On 14 October 2013, all landholders within the Extraction Plan Area which is subject to this BFMP were provided with a notification of Austar's modification application and intention to update the associated Extraction Plan.

#### 4.3 INFRASTRUCTURE OWNER CONSULTATION

Austar has consulted with infrastructure owners to develop individual Built Features Management Plans to manage potential subsidence effects. Owners include:

- Roads (Cessnock City Council, National Parks and Wildlife Service);
- Telstra; and
- Ausgrid.

Austar has agreed on appropriate management strategies with NPWS, Telstra, Ausgrid, and Cessnock City Council. Once the individual BFMP's are approved by the infrastructure owner, they are provided to DP&I.

Each of the infrastructure owners have been advised of the proposed update to the Extraction Plan that is required in the case where Stage 3 PA08\_0111 MOD3 is approved.

In addition to consultation regarding general process of remediation of subsidence impacts with DTI-Crown Lands officer Melanie Osborne, National Parks and Wildlife Service have indicated they manage tracks within Crown Road reserves within the Extraction Plan area. Management of NPWS tracks will therefore be managed in accordance with the BFMP – NPWS.

In addition to consultation regarding access via NPWS Newcastle office Ranger Brooke Jackson, a BFMP – NPWS has been prepared in consultation with NPWS and has been finalised in relation to potential public safety and remedial works to unsealed NPWS roads and tracks in the Extraction Plan Area.

In addition to consultation regarding potential impacts to survey marks with Land and Property Information Senior Surveyor, Hunter Peter O'Kane, a draft BFMP – LPI Survey Marks has been prepared for consultation with LPI to be finalised prior to subsidence impacts to survey marks.

## 5 SUBSIDENCE MONITORING AND MANAGEMENT

The overall framework of subsidence monitoring and management for Built Features and other environmental consequences is described simply by a flowchart which follows (as taken from the **Extraction Plan**).

**EXTRACTION PLAN SUBSIDENCE MONITORING & MANAGEMENT FLOWCHART - LWA7 TO LWA10**


## **6 PLAN IMPLEMENTATION**

### **6.1 REPORTING FRAMEWORK**

#### **6.1.1 Annual Review / Annual Environmental Management Report (AEMR)**

The Annual Review / AEMR is prepared to summarise Austar's environmental performance for the reporting year and is prepared in accordance with Schedule 7 Condition 5 of PA08\_0111 and to satisfy Mining Lease conditions.

Performance in accordance with this BFMP, as a sub-plan to the Extraction Plan, will be reported using timings and protocols as the main Extraction Plan.

#### **6.1.2 Regular**

The results of monitoring undertaken in accordance with individual BMFPs will be provided to the relevant built feature owner at a frequency agreed in the individual BFMP.

### **6.2 REVIEW OF THE BFMP**

Regular review of the BFMP (as part of the Extraction Plan) is required by PA08\_0111. In particular, Austar is required to review, and if necessary revise, the strategies, plans, and programs of this Extraction Plan within 3 months of the submission of an:

- Audit under condition 7 of schedule 7;
- Incident report under condition 6 of schedule 7; and
- Annual Review under condition 3 of schedule 7.

Any revision to the BFMP must be completed to the satisfaction of the Director-General.

### 6.3 EXTRACTION PLAN ROLES AND ACCOUNTABILITIES

Detailed below are key personnel involved with implementing this Extraction Plan to manage subsidence, their roles and responsibilities.

Role	Responsibilities
<b>General Manager (GM)</b>	<ul style="list-style-type: none"> <li>Make appropriate resources available for the implementation of this Built Features Management Plan</li> </ul>
<b>Mine Manager</b>	<ul style="list-style-type: none"> <li>Conduct underground mining activities in accordance with the Extraction Plan Coal Resource Recovery Plan.</li> <li>Notify and liaise with DRE Inspectors (if required)</li> </ul>
<b>Environment and Community Manager (ECM)</b>	<ul style="list-style-type: none"> <li>Owner of BFMP</li> <li>Ensure that all environmental monitoring and reporting is undertaken in accordance with individual BFMPs</li> <li>Ensuring building structures located within the subsidence affectation area are inspected by a structural engineer prior to and after undermining and appropriate management measures implemented where access is granted</li> <li>Liaise with Mine Subsidence Board in relation to Built Features impacts</li> <li>Liaise with Landholders in relation to environmental consequences of subsidence and in relation to access for the BFMP monitoring program</li> <li>Notify and liaise with neighbours and community in relation to mining timing and monitoring performance;</li> <li>Incorporate public safety management controls identified during development of individual BFMPs into the Extraction Plan - Public Safety Management Plan.</li> <li>Review and update the BFMP as required.</li> </ul>
<b>Technical Services Manager (TSM)</b>	<ul style="list-style-type: none"> <li>Liaise with Government Agencies and Community members in relation to subsidence matters and the Extraction Plan subsidence predictions and monitoring program</li> <li>Liaise with infrastructure owners in preparation of individual Built Features Management Plans</li> <li>Coordinate Mine Surveyor to ensure subsidence monitoring is undertaken in accordance with the SM Program</li> <li>Review subsidence monitoring data against predictions and TARPs in order to trigger any actions required on the basis of subsidence results</li> <li>Manage / implement subsidence management actions required by the Extraction Plan in relation to Built Features and Infrastructure (Ausgrid, Telstra).</li> <li>Liaise with Mine Subsidence Board in relation to Built Features impacts</li> <li>Provide support and guidance in relation to subsidence effects to Environment &amp; Community Manager</li> </ul>



Role	Responsibilities
Mine Surveyor	<ul style="list-style-type: none"><li>• Ensure that all subsidence monitoring is completed to the requirements of the Subsidence Monitoring Program and provided to the TSM for review.</li></ul>

## 7 REFERENCES

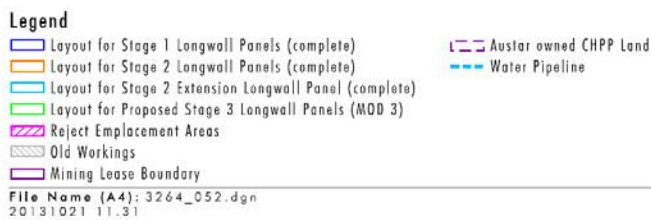
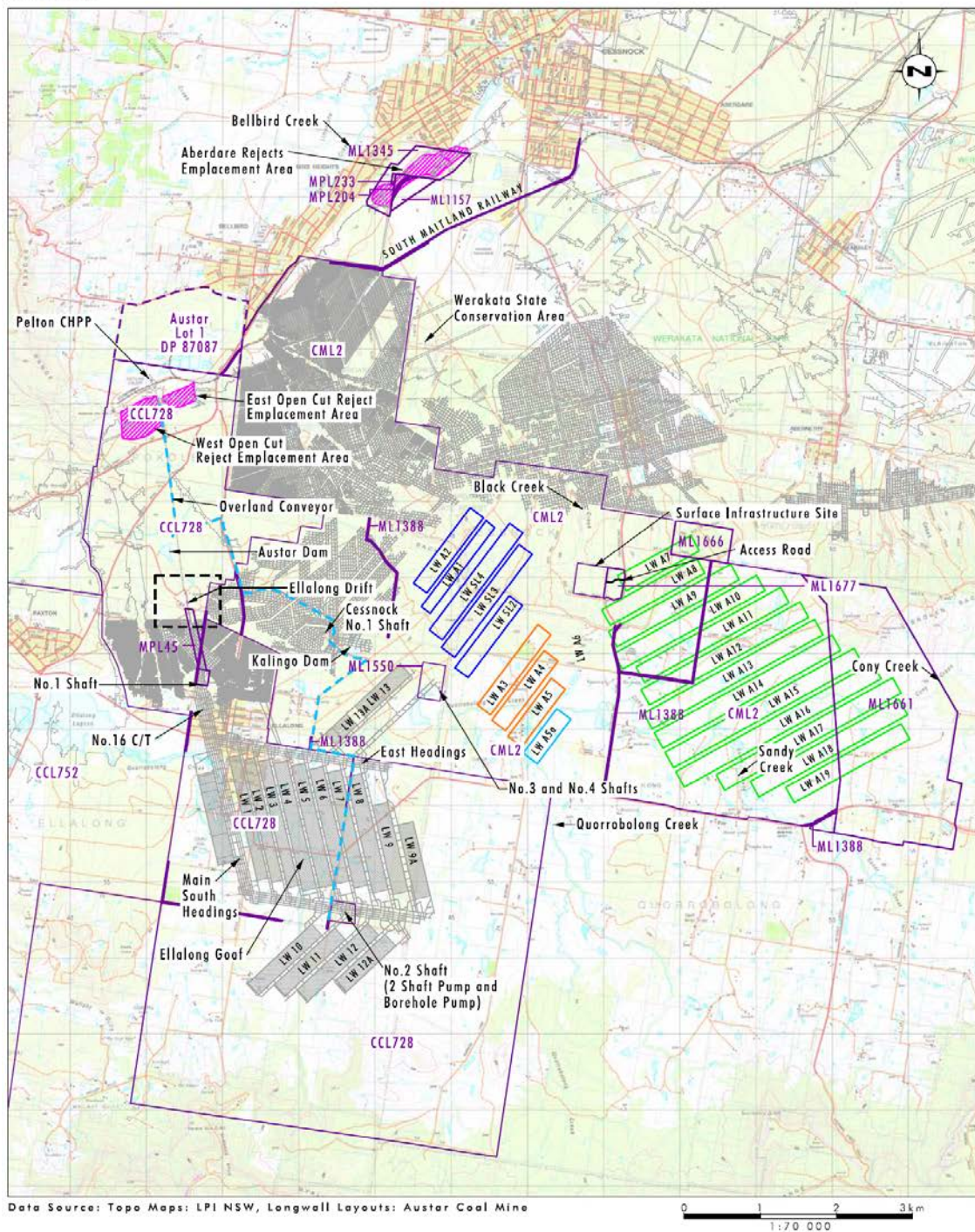
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MSEC (2011), *Stage 3 – Longwalls A7 to A19 Subsidence Predictions and Impact Assessments for Natural Features and Surface Infrastructure in Support of a Modification to the Development Consent, Mine Subsidence Engineering Consultants*, Report No. MSEC484, May 2011

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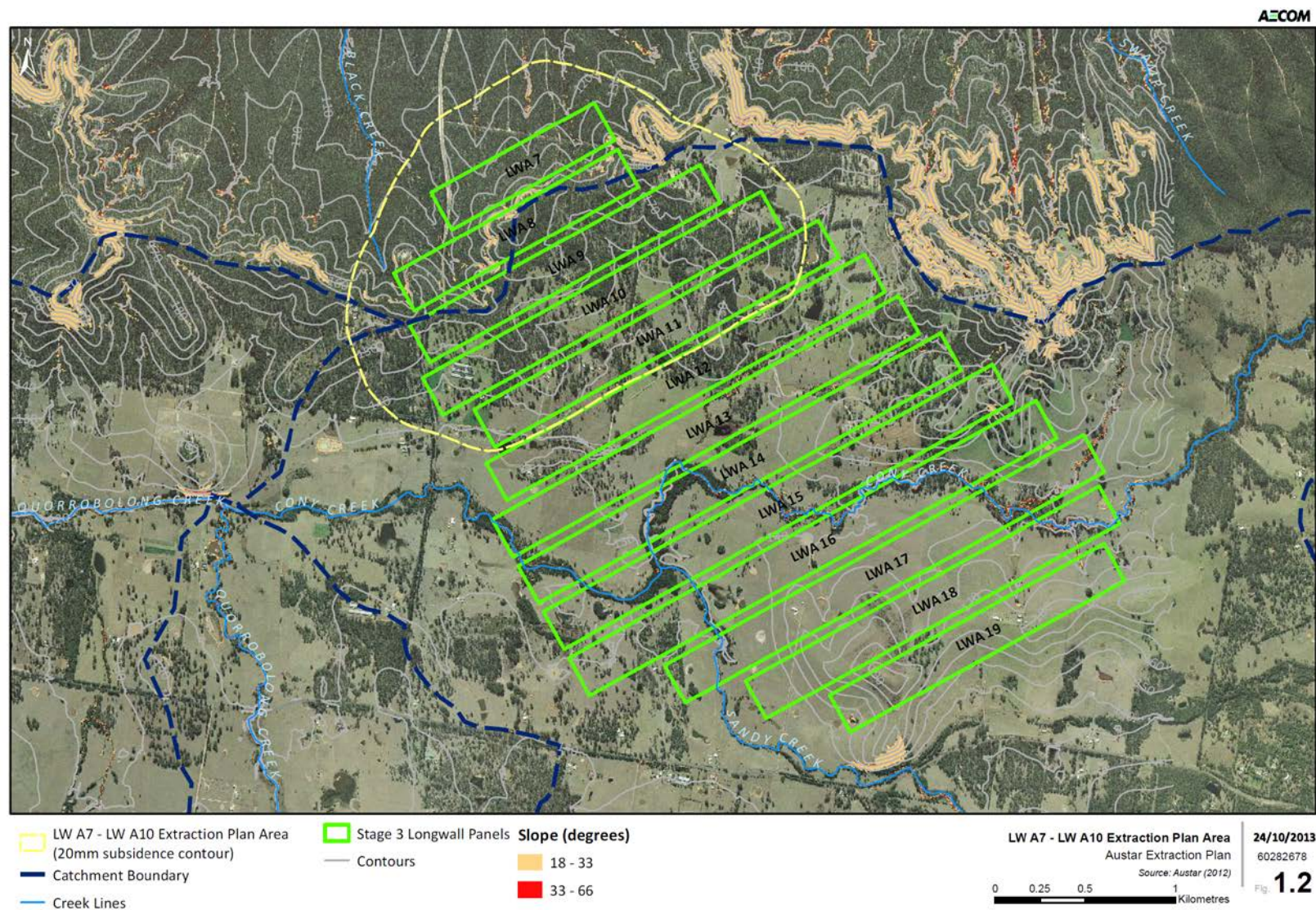
# Figures



**FIGURE 1.1**  
**Austar Mine Complex**

**Figure 1**      **Austar Mine Complex**





**Figure 2 Extraction Plan Area**





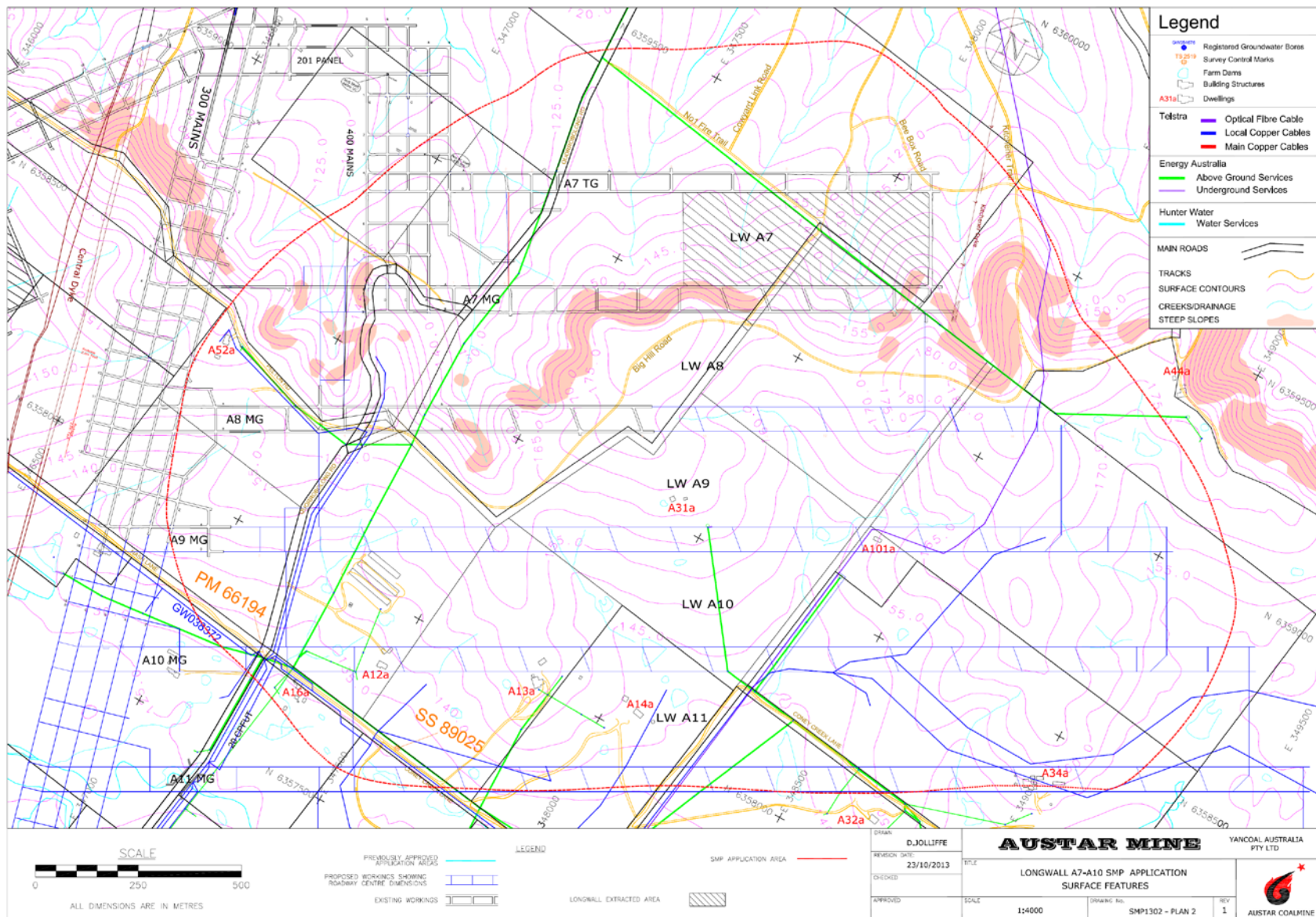


Figure 4 Surface Features

# Appendices



# **Appendix A**

## **Stakeholder Contact Details**

**Austar Coal Mine LWA7 to LWA10 Extraction Plan Stakeholder List**

Position	Name	Phone
<b>AUSTAR</b>		
Austar General Manager	David McLean	4993 7356
Austar Mine Manager	Kelvin Schiefelbein	4993 7303
Austar Technical Services Manager	Adrian Moodie	4993 7293
Austar Environment and Community Manager	Gary Mulhearn	4993 7334
Austar Mine Surveyor	Daryl Jolliffe	4993 7206
Austar After Hours	Control Room	4993 7220
<b>GOVERNMENT</b>		
MSB District Manager	Richard Pickles	6572 4344
Cessnock City Council After Hours Contact Number (Emergency)	-	4940 7816
Cessnock City Council Operations – Works Delivery Manager	Geoff Bent	4993 4284
Cessnock City Council Strategic Asset Planning Manager	Phil Miles	4993-4251
DPI-Crown Land	Melanie Osborne	4937 9332
NPWS Werakata SCA Ranger	Brooke Jackson	4946 4106
Ausgrid – Manager of Customer Supply, Planning and Reliability, Lower Hunter	Pat Boyle	4910 1701
Telstra – Senior Technical Specialist	Mark Schneider	8851 2297
Land and Property Information - Senior Surveyor, Hunter Survey Infrastructure & Geodesy,	Peter O'Kane	4925 9984
<b>LANDHOLDERS</b>	Refer to Austar internal contact register	