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Section 96 (1A) modification of development consent :
Warkworth Coal Mine : statement of environmental effects :
Coal and Allied Operations Pty. Ltd.



Section 96 (1A) Modification of Development Consent - Warkworth Coal Mine

Statement of Environmental Effects

Coal and Allied Operations Pty Ltd

July 2004



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Approved by: Brea McLennan
Position: Project Director
Signed: Brea McLennan
Date: 1 July, 2004

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Environmental Resources Management Australia Pty Ltd Quality System

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EXECUTIVE SUMMARY

Coal and Allied Operations Pty Ltd (CNA) have commissioned Environmental Resources Management Australia Pty Ltd (ERM) to prepare this Statement of Environmental Effects (SEE) to outline the proposed modifications under section 96(1A) of the *Environmental Planning and Assessment Act, 1979 (EP&A Act)* to the Warkworth Mine development consent.

The proposed modifications can be summarised as follows:

- To erect an upgraded reject bin and small extension of the rejects conveyor adjacent to the Warworth Coal Preparation Plant (WCPP) for direct loading of rejects to the existing truck fleet;
- The installation of proposed run of mine (ROM) truck dump dusthoods (ROM sheds) over each of the existing ROM bins located at the northern end of the existing WCPP; and
- To provide a storage shed adjacent to the existing WCPP workshop.

Each of these components of the proposed modifications are outlined in detail in Chapter 1 of this SEE.

The proposed modifications will enable Warkworth Mine to ensure operations at WCPP are undertaken as efficiently as possible. As will be demonstrated in this SEE, the proposed modifications are minor and will not significantly alter the existing external impacts of the approved development. The development as modified will be substantially the same as those approved.

The assessment of the proposed modifications in accordance with Section 79C of the *EP&A Act*, indicates that the modifications will have negligible impacts.

1 INTRODUCTION

1.1 GENERAL

Warkworth Coal Mine (Walkworth Mine) is operated by Warkworth Mining Limited (WML) on behalf of Warkworth Associates, an incorporated joint venture. Coal and Allied (CNA), is the major shareholder and also the mine manager and operator. Rio Tinto Coal Australia (RTCA) provide management services to Coal and Allied. WML and the adjacent Mount Thorley Operations were integrated in January 2004 and are now known as the Mount Thorley Warkworth (MTW) Operations. The mines have different joint venture owners however, the operations are serviced by one integrated fleet of equipment and personnel.

This Statement of Environmental Effects (SEE) has been prepared by Environmental Resources Management Australia Pty Limited (ERM) in association with Holmes Air Sciences. This SEE has been prepared to support an application under Section 96(1A) under the *Environmental Planning and Assessment Act, 1979 (EP&A Act)* to be submitted to the Department of Infrastructure, Planning and Natural Resources (DIPNR), to modify the existing approval for Warkworth Mine.

1.2 BACKGROUND

Warkworth Mine is located in the Upper Hunter Valley of New South Wales. It is an existing open cut mine that has been producing coal, for export and the domestic markets, since operations began in 1981.

In May 2003, approval was granted by the Minister Assisting the Minister for Infrastructure, Planning and Natural Resources to allow the extension of Warkworth Mine. The extension of Warkworth Mine allowed for the continuation of mining generally to the west to Wallaby Scrub Road. It also allowed for the increase in production to 18Mtpa of ROM coal. A copy of this consent can be found in *Annex A*. All Consents issued prior to May 2003 have been surrendered.

1.2.1 *The Site And Regional Setting*

Warkworth Mine is located in the Hunter Valley, approximately 12 kilometres south-west of Singleton. Mining operations commenced at the site in 1981.

The area surrounding the site is dominated by coal mining, industrial development and agriculture. The mine is surrounded by the Hunter Valley Operations and Warkworth village to the north, Mount Thorley Operations (MTO) to the south, the Mount Thorley Coal Loader (MTCL) to the east and Bulga village to the west.

The subject site is shown in its regional setting in *Figure 1.1*.

1.2.2 *Background to the Proposed Modifications*

At Warkworth Mine, coarse rejects from the Warkworth Coal Preparation Plant (WCPP) are transported to a reject bin via a conveyor. Two dedicated haul trucks (CAT 785s) are used to empty the bin when required. These two trucks are the only two trucks physically capable to fit under the current bin. Due to their age and the cost of their maintenance, it is proposed to decommission these trucks and use other larger trucks (CAT 789 and Liebherr 240) that are part of the existing fleet to transport reject material to the dumps. However, to achieve this a larger reject bin and corresponding infrastructure is required.

An upgraded rejects bin and extension to the rejects conveyor is proposed to be constructed approximately 20 m west of the existing rejects bin. The existing bin will be used as a support for the extended conveyor. The overall height of the rejects bin will be approximately 22 m.

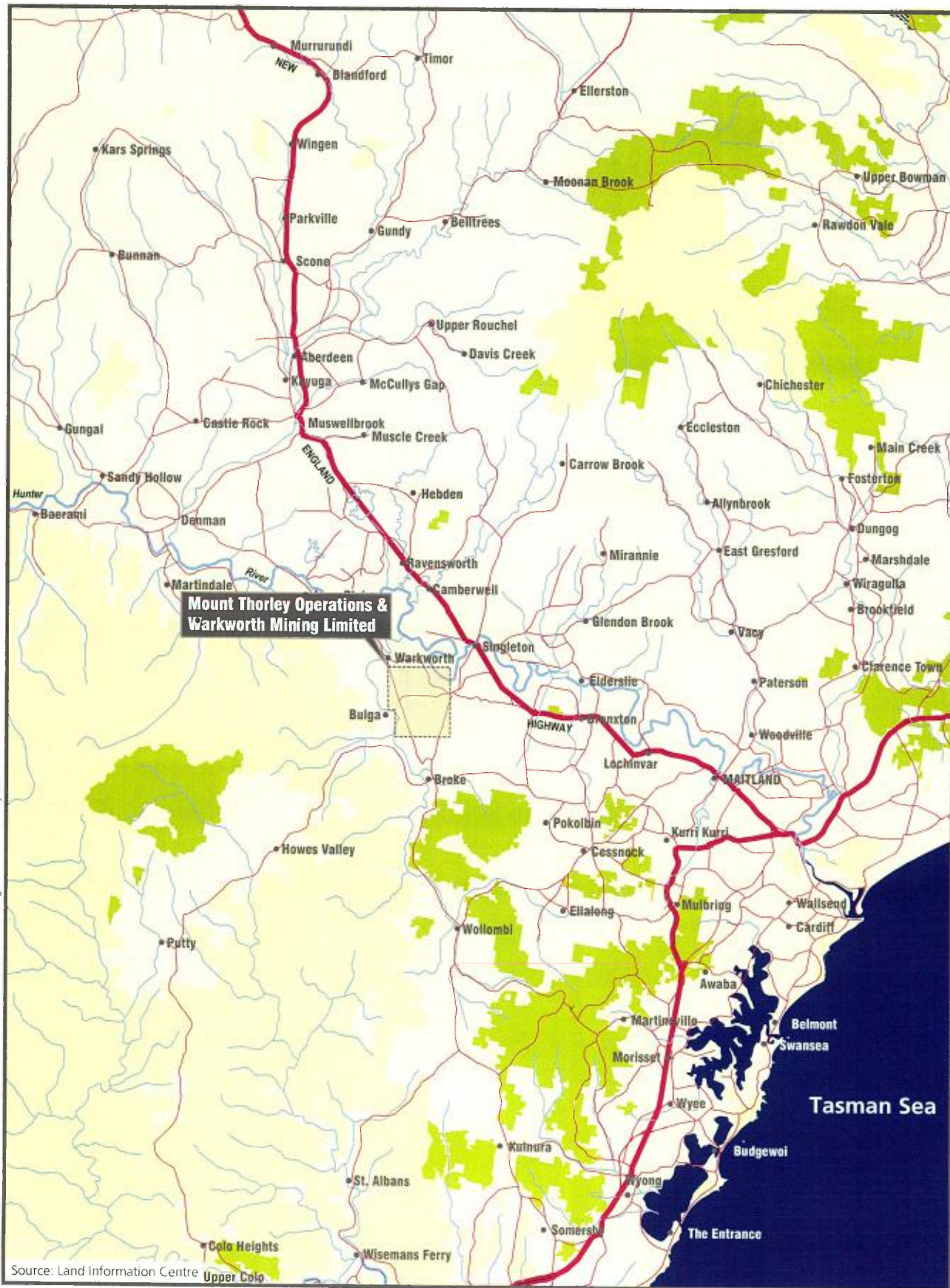
The second component of the application is to modify the existing consent to enable the installation of proposed run of mine (ROM) truck dump dusthood (ROM shed) over each existing ROM bin located at the northern end of the existing WCPP.

The final component of the proposal involves the provision of a storage shed. This proposed storage shed is to be located adjacent to the WCPP workshop. A storage shed is proposed to store regular use inventory at the WCPP. The storage shed is to house items requiring undercover storage and garage a two tonne 'Maintou' all terrain forklift. The reason to provide a storage shed is to reduce downtime to repair breakdowns and manhours accessing and retrieving parts from the existing store. This is also a safe storage requirement.

Details of the proposed development can be found in the conceptual design drawings attached at *Annex B*.

The location of the proposed modifications is shown in *Figure 1.2*.

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Source: Land Information Centre



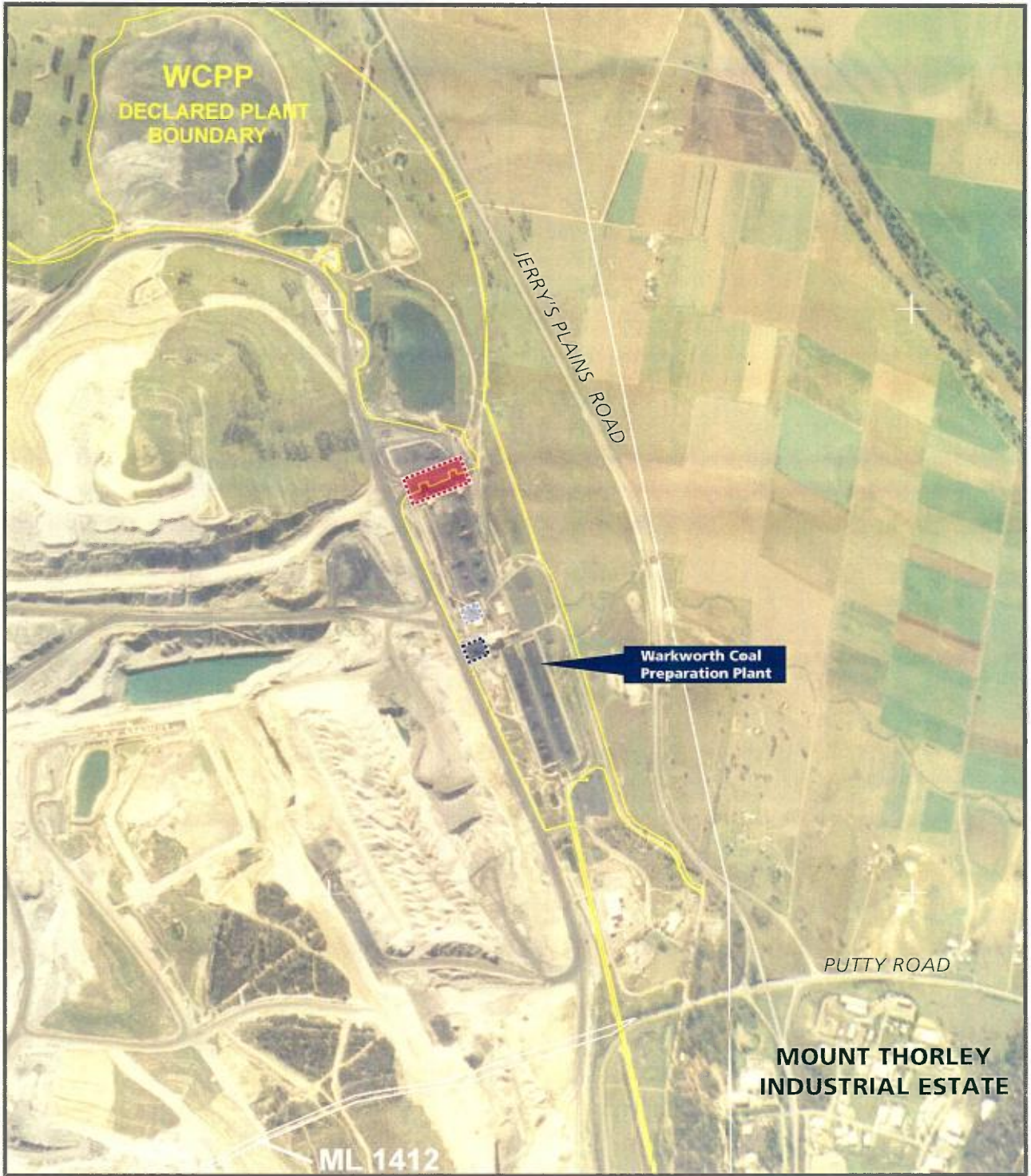
0 20km
Approximate only

-  NPWS estate
-  State forest

Figure 1.1

Regional Setting

WML Section 96(1A) Modification of Development Consent



Not to Scale



Proposed storage shed

Proposed ROM sheds over ROM bins

Proposed upgraded reject bin

Figure 1.2

Approximate Location of Proposed Modifications

WML Section 96(1A) Modification of Development Consent

1.3

CONSULTATION

The proposal was initially discussed with Mr David Kitto from the Department of Infrastructure, Planning and Natural Resources (DIPNR) on 17 March 2004. A letter dated 19 March 2004 from CNA was forwarded to DIPNR to seek the requirements for the preparation of this Statement of Environmental Effects (SEE) report. During the preparation of the SEE, additional modifications to the operations were identified and a letter requesting the incorporation of these into the one Section 96 Application and therefore one SEE report, was sent to DIPNR. A letter in response from DIPNR confirmed that the assessment could be incorporated into the one SEE report. A copy of the letter to DIPNR and the reply correspondence can be found in *Annex C*.

The proposal was also discussed with officers from Singleton Shire Council (SSC), during the preparation of this report.

Consultation with the local community has and is being conducted as part of CNA's Near Neighbour Community Relations Strategy (NNCRS). The NNCRS includes liaising with the neighbours immediately adjacent to CNA operations. The immediate neighbours are visited regularly by the General Manager of Mount Thorley Warkworth (MTW) Operation or senior personnel and environment services representatives. All current issues are discussed at these meetings and neighbours have the opportunity to provide comments directly back to operational personnel. Details of the meetings are recorded in a database.

1.4

REPORT STRUCTURE

This SEE has been prepared to support an application under Section 96(1A) of the *EP&A Act* to modify the development consent granted by the Minister for Warkworth Mine.

This SEE is structured as follows:

- Chapter 2 describes the proposed development, indicates how the modifications will affect the operations approved under the existing consent issued by the Minister, and justifies the proposal under Section 96(1A) to modify the consent;
- Chapter 3 assesses the environmental impacts of the proposed modifications in accordance with Section 79C of the *EP&A Act*; and
- Chapter 4 summarises the environmental impacts and concludes that the proposed modifications will have negligible adverse impacts.

2 *PROPOSED MODIFICATIONS TO MINING OPERATIONS*

2.1 *OVERVIEW OF PROPOSED MODIFICATIONS*

The WCPP currently operates with a reject bin facility. It is proposed to extend the existing conveyor by approximately 20m to the west, provide a new reject bin facility with a taller clearance under the bin to enable larger trucks that are part of the existing fleet to transport the rejects. The site of the proposed relocated reject bin has already been substantially disturbed by existing mining activities.

The proposal also involves the inclusion of a ROM shed over each of the existing ROM bins at the northern portion of the WCPP. The installation of the 'dusthood' will assist in mitigating dust when trucks dump loads into the ROM bins.

A storage shed is also proposed to be provided at the WCPP to enable equipment used at the plant to be readily available on-site.

2.2 *MODIFYING THE APPROVED DEVELOPMENT*

The main features of the approved operations at Warkworth Mine will not be affected by the proposed modifications outlined above. There will be no change in the areas to be mined, nor the maximum production tonnages of coal specified in the respective development consent.

The only change to the development involves the re-location of the existing rejects handling bin, the installation of a ROM shed over the existing ROM bins and a storage shed. All of these areas have been largely disturbed as a result of previous infrastructure and mining activities.

The proposed amendments will not significantly alter the movement of material external to the site. As such, the proposed amendments will not significantly alter the external impacts of the whole of the development as approved. A detailed assessment of potential impacts is contained in Chapter 3.

2.3 *JUSTIFICATION FOR THE USE OF SECTION 96(1A) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979*

For the Minister to consider a modification to the consent under Section 96(1A) of the *EP&A Act*, it is necessary to demonstrate that the proposed modified development would be substantially the same as the approved development.

As discussed in the meeting with DIPNR staff, it was considered that the most appropriate avenue to obtain consent for the relocation of the rejects bin, proposed ROM sheds and proposed storage shed at Warkworth Mine would be to modify the development consent for Warkworth Mine via Section 96(1A) of the *EP&A Act*. This states:

A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

(a) it is satisfied that the proposed modification is of minimal environmental impact, and

(b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and

(c) it has notified the application in accordance with:

(i) the regulations, if the regulations so require, or

(ii) a development control plan, if the consent authority is a council that has made a development control plan under section 72 that requires the notification or advertising of applications for modification of a development consent, and

(d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.

As discussed above and substantiated in later sections of this SEE, the proposed modifications are minor and will not increase approved production rates or significantly alter the external impacts of the whole of the development as approved.

The development as modified is therefore substantially the same as that approved.

3 ENVIRONMENTAL ASSESSMENT

3.1 EXISTING ENVIRONMENT

The previous Environmental Impact Statements (EISs) and SEEs for Warkworth (ERM 1995; HLA-Envirosciences 1995; WML 2000; ERM 2001 and ERM 2002) describe in detail the existing environment of the mine and the surrounding areas. The modifications do not change the area to be mined, nor do they involve a substantial change in the layout of the approved mine. The existing environment has therefore not changed since the preparation of these documents.

Where relevant, the description of the existing environment in the previous studies has been supplemented with detailed descriptions of the environment of the area affected by the proposed relocated reject bin, proposed ROM shed and proposed storage shed.

3.2 STATUTORY AND POLICY COMPLIANCE

The subject site is affected by a number of Environmental Planning Instruments (EPI) and policies. These EPI's include State Environmental Planning Policies (SEPPs), Regional Environmental Plans (REPs) and Local Environmental Plans (LEPs), as follows.

3.3 SINGLETON LOCAL ENVIRONMENTAL PLAN 1996

Under the Singleton Local Environmental Plan 1996 (SLEP), the site is zoned Rural 1(a). Within this zone, coal mining is permissible with development consent. One of the objectives of the Rural 1(a) zone is:

"To allow mining where environmental impacts do not exceed acceptable limits and the land is satisfactorily rehabilitated after mining."

The proposal is to modify an existing operation in an area of intense mining activity. Technical studies undertaken as part of this SEE conclude that modification of the reject bin facility, proposed ROM shed and proposed storage shed can be undertaken in a manner where environmental impacts do not exceed acceptable environmental limits.

Following completion of mining, with the exception of the final void, all mined areas will be properly rehabilitated. Rehabilitation will be undertaken progressively in accordance with a rehabilitation plan approved by the Minister for Mineral Resources.

The SLEP requires development within the 1(a) zone to be consistent with the zone objectives, which state:

Part 3 Zoning Table

Zone 1(a) (Rural Zone)

The objectives of this zone are:

1 Objectives of zone

(a) to protect and conserve agricultural land and to encourage continuing viable and sustainable agricultural land use,

(b) to promote the protection and preservation of natural ecological systems and processes,

(c) to allow mining where environmental impacts do not exceed acceptable limits and the land is satisfactorily rehabilitated after mining,

(d) to maintain the scenic amenity and landscape quality of the area,

(e) to provide for the proper and co-ordinated use of rivers and water catchment areas,

(f) to promote provision of roads that are compatible with the nature and intensity of development and the character of the area.

The proposed development is consistent with these objectives. The assessment carried out as part of this application demonstrates that the environmental impacts of the proposal will not exceed acceptable limits. The proposed changes are considered to be compatible with the nature and intensity of mining development in the area.

Clauses 22 to 30 of the SLEP refer to heritage items of local, regional and State significance, which are separately listed in Schedule 3 of the SLEP. A review of this schedule indicates that there will be no heritage items affected by the proposed modification.

3.4 STATE ENVIRONMENTAL PLANNING POLICIES

3.4.1 State Environmental Planning Policy No. 11 - Traffic Generating Developments

State Environmental Planning Policy No. 11 - Traffic Generating Development (SEPP 11) aims to ensure that the Roads and Traffic Authority (RTA) is made aware of, and given the opportunity to comment on Development Applications (DAs) and Section 96 applications for developments that are likely to generate large volumes of traffic.

Applications for development specified in Schedules 1 and 2 of *SEPP 11* are required to be referred to the RTA. This includes any proposal for extractive industry or mining. The original DA's and accompanying EIS's and SEE's were referred to the RTA for their comment. On this basis it is not considered that the proposed modification is required to be referred to the RTA for comment, particularly given that the proposed modifications will not have any effect on traffic on the local road network.

3.4.2 *State Environmental Planning Policy No. 26 – Littoral Rainforests*

State Environmental Planning Policy No. 26 – Littoral Rainforests (SEPP 26) provides a mechanism for the consideration of applications that are likely to damage or destroy littoral rainforest areas with a view to the preservation of those areas in their natural state.

SEPP 26 states that a person shall not carry out work, disturb, change or alter any landform or disturb, remove, damage or destroy any native flora on land to which SEPP 26 applies, except with the consent of the relevant council and concurrence of the Director-General. Such development is declared to be designated development and an EIS is required to be prepared.

A review of maps which identify the locations of SEPP 26 littoral rainforests indicates that the proposed modification will not affect any of these rainforests. In addition, it is unlikely that there will be any works, including changing or altering landforms or removing native vegetation, within, or near, any SEPP 26 littoral rainforests.

3.4.3 *State Environmental Planning Policy No. 33 – Offensive and Hazardous Industries*

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) applies to any proposal which falls under the policy's definition of 'potentially hazardous industry' or 'potentially offensive industry' (or both). The objective of this section is to establish whether the proposed modifications to the existing mining operations fit the definition of 'potentially hazardous industry' and hence, come under the provision of the policy. A proposal cannot be considered to be hazardous industry unless it is first identified as potentially hazardous industry.

The overall hazard assessment process consists of a number of stages. The first stage is risk screening, which establishes whether the proposal is 'potentially hazardous' or not. If the proposal is not 'potentially hazardous', then SEPP 33 does not apply and no further risk assessment is necessary. If a proposal is determined to be a 'potentially hazardous' development, then SEPP 33 applies, and the assessment process continues through subsequent stages.

A proposal is determined to be potentially hazardous if the quantities of hazardous materials used in the proposed development, and in some cases, the distance of these materials to the site boundary, exceed certain screening limits. Similarly, a development is determined to be 'potentially hazardous' if the peak weekly or cumulative annual vehicle movements (for significant quantities of hazardous materials entering or leaving the site) exceed certain screening limits.

This section uses the risk screening approach outlined in the Guidelines to determine whether the proposed alterations to the mine is a potentially hazardous development.

SEPP 33 defines 'hazardous materials' as substances falling within the classification of the Australian Code for the Transport of Dangerous Goods by road or rail.

The facility does not contain any substances which fall within any of the classifications of the Australian Dangerous Goods Code. The materials handled therefore are not considered to be hazardous materials within the definition of SEPP 33.

Since the proposed modifications will not increase the quantity of hazardous materials stored on the site, the proposal is determined not to be a 'potentially hazardous industry'.

The proposed development does not trigger the provisions of SEPP 33.

3.4.4 *State Environmental Planning Policy No. 34 - Major Employment-Generating Industrial Development*

State Environmental Planning Policy No. 34 (SEPP 34) aims, among other things, to promote and coordinate the orderly and economic use and development of land and the economic welfare of the State and to facilitate certain types of major employment-generating industrial development of State significance.

SEPP 34 applies to a number of major industrial developments, including development for the purposes of mining, which would (after the construction stage) employ 100 persons or more on a full-time basis or have a capital investment value of \$20 million or more.

Such development is declared to be State significant development and the consent authority for the purposes of the development becomes the Minister for Infrastructure, Planning and Natural Resources.

The original DA triggered the provisions of SEPP 34 as more than 100 persons were to be employed on a full-time basis. Accordingly, the proposal could be classified as State significant development and under both *SEPP 34* and the provisions of the *EP&A Act* the Minister Assisting the Minister for Infrastructure, Planning and Natural Resources was the consent authority.

SEPP 34 also requires the Minister to give notice to a council of any DA to carry out development to which SEPP 34 applies which is proposed to be carried out in the council's area. SEPP 34 also requires the Minister to take into consideration any submissions made by that council in determining the DA. As such, the Minister will be required to notify Singleton Shire Council (SSC) of the application once it has been lodged and to take into consideration any submission made by SSC in respect of the proposal.

In this regard, the proposal is not considered to re-trigger the provisions of SEPP 34, but as the proposal was originally assessed under SEPP 34, the Minister is the consent authority for all subsequent Section 96 modification applications.

3.4.5 *State Environmental Planning Policy No. 44 - Koala Habitat Protection*

State Environmental Planning Policy No. 44 - Koala Habitat Protection (SEPP 44) aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline.

Clause 7 of SEPP 44 states that, before a consent authority can grant development consent to an application for consent to carry out development on land to which the SEPP applies, the consent authority must satisfy itself (based on information obtained by a person who is qualified and experienced in tree identification) that the land is or is not potential koala habitat. If the land is not potential koala habitat, the consent authority is not prevented (because of SEPP 44) from granting development consent.

The site of the proposed modifications does not contain potential koala habitat.

3.4.6 *State Environmental Planning Policy No. 55 - Remediation of Land*

State Environmental Planning Policy No. 55 - Remediation of Contaminated Land (SEPP 55) is a state-wide planning control for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated.

It is considered that the proposed modification will not trigger any requirements to undertake site remediation, as the intended use is for the purposes of continuing the mining operation and management of the existing site activities. Further, given the land has been used for mining purposes in the past, the site is not considered to present any new contaminated land issues and will continue to be used for the purposes of mining.

General

The Hunter Regional Environmental Plan (Hunter REP) sets a policy framework for development in the Hunter Region between 1989 and 2009. The plan guides the preparation of local EPIs and the processing of DAs in accordance with regional objectives.

The parts of the *Hunter REP* with direct relevance to coal mining include:

- Division 1 of Part 4 – Land Use and Settlement;
- Division 1 of Part 5 – Transport;
- Division 1 of Part 6 – Natural Resources; and
- Division 1 of Part 7 – Environmental Protection.

The requirements of each of these parts are discussed below.

Division 1 Of Part 4 – Land Use And Settlement

Division 1 of Part 4 relates to rural land. The objective of the *Hunter REP* in relation to rural land is to protect prime crop and pasture land from alienation, fragmentation, degradation and sterilisation. Prime crop and pasture land is defined as land which is classified by the Department of Agriculture as being Class 1, 2 or 3, or special purpose land.

The site does not contain any prime crop or pasture land. All land contained within the footprint of the proposed modifications has been classified as either Class 5 or 6.

Division 1 Of Part 5 – Transport

Division 1 of Part 5 of the *Hunter REP* seeks to maximise accessibility and facilitate the movement of people and goods throughout the region in a manner, which recognises social, economic, environmental and safety considerations.

The REP encourages the transport of goods, especially coal and other bulk materials, by rail and other non-road modes where practicable. To achieve this, clause 34 of the *Hunter REP* states that:

“... consent must not be granted for a development which involves the storage or handling of goods or material which are likely to be delivered by heavy transport vehicles, unless it has been considered whether use could be made of a transport mode other than road which is economically practicable.”

No changes to existing operations are proposed. Coal will continue to be transported by rail to the Port of Newcastle. There will be no coal, either ROM or washed coal, transported on any public road except in the case of an emergency. In the case of an emergency, approval from DIPNR will be required.

Division 1 of Part 6 – Natural Resources

Division 1 of Part 6 of the *Hunter REP* relates to planning strategies for mineral resources and extractive materials. Clause 41 of the REP lists a range of matters that a consent authority must consider when considering applications for mining. Each of these matters is listed below followed by a comment on the proposal's compliance with each matter.

Matter

"should consider the conservation value of the land concerned and apply conditions which are relevant to the appropriate post-mining or extraction land use;"

Comment

No change to the conservation value of land the subject of the proposed modifications will result. The archaeological significance of the land is discussed in Section 3.5.4. The scenic significance of the land is addressed in Section 3.5.5 of this SEE.

Matter

"should consult with officers of the Department of Water Resources in respect of extraction from river banks or channels to ensure that instability and erosion are avoided;"

Comment

The proposal will not result in the extraction of mineral resources from river banks or channels as a result of the proposed modifications, beyond that already approved.

Matter

"should consult with officers of the Department, the Departments of Minerals and Energy, Lands (as appropriate) and Agriculture and Fisheries, the Soil Conservation Service and the Forestry Commission to determine appropriate post-mining or extraction land uses;"

Comment

It is considered given the minor nature of the modifications sought and that the areas where the changes are proposed are already disturbed, it will not be necessary for the Minister for Infrastructure, Planning and Natural Resources to consult with the above government authorities prior to determination of the proposal.

Matter

"should ensure the progressive rehabilitation of mined or extracted areas;"

Comment

With the exception of the final void, all mined areas will be progressively rehabilitated in accordance with an approved rehabilitation plan.

Matter

"should minimise the likelihood and extent of a final void and the impact of any final void, or facilitate other appropriate options for use of any final void;"

Comment

The proposed modifications will not affect the void as previously approved.

Matter

"should minimise any adverse effect of the proposed development on groundwater and surface water quality and flow characteristics;"

Comment

The proposed modification will not impact on groundwater and surface water quality and flow characteristics.

Matter

"should consider any likely impacts on air quality and the acoustical environment;"

Comment

The proposed modifications will not adversely affect air quality and will assist in minimising mine impact on air quality as addressed in Section 3.5.3 of this SEE. The proposed modifications will not adversely affect the approved noise levels from the site. The impact on the acoustical environment is addressed in Section 3.5.2 of this SEE.

Matter

"should be satisfied that an environmentally acceptable mode of transport is available;"

Comment

No change is proposed as a result of this modification.

Matter

"should have regard to any relevant Total Catchment Management Strategies."

Comment

There are no Total Catchment Management Strategies relevant to the proposed modifications.

Division 1 Of Part 7 – Environmental Protection

Division 1 of Part 7 of the *Hunter REP* relates to pollution control, including the control of air, noise and water pollution. Clause 47 of the REP lists a range of matters that a consent authority must consider when considering applications for designated development (such as coal mines) or the expansion of designated development. Each of these matters is listed below followed by a comment on the proposal's compliance with each matter.

Matter

"topographic and meteorological conditions are such that air pollutants would have no significant adverse effect;"

Comment

The air quality analysis in Section 3.5.3 and *Annex F* concludes that the proposed modifications will not have a significant impact upon the local environment. Accordingly, topographical and meteorological conditions are such that air pollutants will not have any additional significant adverse effect on surrounding properties.

Matter

"an appropriate buffer zone can be provided to ensure that noise, dust and vibration are maintained at acceptable levels;"

Comment

The noise and vibration analyses, concludes that no additional significant adverse effect on surrounding properties will result.

Matter

"the best practicable technology for air, water and noise pollution control will be incorporated in the design and operation of the equipment and facilities to be used for the purposes of the industry;"

Comment

Warkworth Mine utilises best practice procedures, technology and monitoring for the control of air, noise and water pollution.

Matter

"there will be no significant deterioration of air or water quality as a result of emissions from that equipment or those facilities; and"

Comment

See above.

Matter

"the site will not become contaminated within the meaning of Part 5 of the Environmentally Hazardous Chemicals Act 1985."

Comment

Part 5 of the Environmentally Hazardous Chemicals Act, 1985 has been repealed.

3.4.8 *Hunter Regional Environmental Plan 1989 (Heritage)*

Clause 5 of the SLEP excludes the Singleton local government area from the Hunter Regional Environmental Plan 1989 (Heritage). All items of regional and local significance are listed in Schedule 3 of the SLEP. The proposed modifications will not affect any of these items.

3.5 *LIKELY IMPACTS OF THE DEVELOPMENT*

3.5.1 *Land Use*

The proposed modifications will not change land uses on or surrounding the site. As the area to be mined will not increase, no additional land will need to be acquired.

3.5.2 *Noise*

The proposed modifications have been reviewed and assessed by ERM's Senior Acoustic Engineer, with the conclusion that the proposed modifications to operations at Warkworth Mine do not result in a change to the received noise from the plant or the mine at residential locations. Refer to this assessment at *Annex E*.

3.5.3 *Air Quality*

The proposed modifications have been reviewed and assessed by Holmes Air Sciences, who have concluded that the proposed works are not likely to have any significant effects on air quality beyond the mine boundary or within the mine. Refer to this assessment at *Annex F*.

3.5.4 *Indigenous Archaeology*

ERM's Senior Archaeologist has viewed the location for each of the proposed modification works and concluded as follows:

The proposed site for new reject bin, ROM shed and storage shed at Warkworth Mine has previously been disturbed. Disturbance of the ground surface at this site will not impact on any archaeological material because the original ground surface has already been removed, taking with it any material that may have occurred in the topsoil.

3.5.5 *Visual Environment*

The visual impacts of the proposal will be consistent with the current views of the mines and surrounding mining activities. As the relocated reject bin will have a similar visual presentation as that of the existing facility it is considered no new impact will result from this component of the modification.

The proposed ROM shed at an oblique angle may be visible when viewed from Jerry's Plains Road (refer to *Photograph D.5* in *Annex D*). However, these new structures will have minimal impact at best due to the speed of travel along Jerry's Plain Road and the angle of visibility.

The location of the existing ROM bins is shielded from Jerry's Plains Road by earth mounding when reviewed immediately adjacent to the ROM pad, and therefore the proposed ROM shed will not be visible at this point (refer to *Photograph D.4* in *Annex D*.)

3.6 *SUITABILITY OF THE SITE FOR THE DEVELOPMENT*

The proposed modifications are located within the existing mining leases. As a result, the character of the area and the existing infrastructure are compatible with the proposed modifications. The site is surrounded by intensive coal mining so it is suitable for the proposed development. There will be no impacts in relation to noise, air quality, archaeology or visually. The proposal is not considered likely to give rise to impacts on surrounding properties.

PUBLIC INTEREST

The proposed modification will enable Warkworth Mine to ensure efficiencies within the production process can be achieved, and maximise the use of the existing WCPP.

An environmental assessment, as detailed throughout this chapter, indicates that the proposed modifications will not result in any adverse effects on surrounding residences. Accordingly, the proposal is not contrary to the public interest.

CONCLUSIONS

The proposed modifications will enable Warkworth Mine to ensure operations at WCPF are undertaken as efficiently as possible. As discussed in the previous chapters, the proposed modifications are minor and will not significantly alter the existing external impacts of the approved development. The development as modified will be substantially the same as those approved.

The assessment of the proposed modifications in accordance with Section 79C of the *EP&A Act*, indicate that they will have negligible impacts.

Appropriate mitigation measures are currently in place, and will be strengthened as a result of the inclusion of a ROM shed over the existing ROM bins, therefore minimising the potential adverse environmental effects.

Accordingly, the proposed modifications are not contrary to the public interest.

Annex A

Copy of Development
Consent


Development Consent

Section 80 of the *Environmental Planning & Assessment Act 1979*

I, the Minister Assisting the Minister for Infrastructure and Planning (Planning Administration), approve the Development Application referred to in Schedule 1, subject to the conditions in Schedules 2 to 6.

These conditions are required to:

- (i) Prevent, minimise, and/or offset adverse environmental impacts;
- (ii) Set standards and performance measures for acceptable environmental performance;
- (iii) Require regular monitoring and reporting; and
- (iv) Provide for the on-going environmental management of the development.



Diane Beamer, MP
**Minister Assisting the Minister for
Infrastructure and Planning (Planning
Administration)**

Sydney,

2003

File No. S02/02198

SCHEDULE 1

Development Application:	DA-300-9-2002-i.
Applicant:	Warkworth Mining Limited.
Consent Authority:	Minister for Planning.
Land:	See Appendix 1.
Proposed Development:	<p>The expansion of the Warkworth open cut coal mine, which includes:</p> <ul style="list-style-type: none">• Extending the existing North & West pits west towards Wallaby Scrub Road;• Extending the existing Woodlands pit south towards Putty Road;• Constructing a new conveyor between the Warkworth mine and the Mount Thorley mine and coal loader;• Constructing 2 new bridges over Putty Road between the Warkworth and Mount Thorley mines;• Constructing a bypass road adjacent to Putty Road;

- Continuing use of existing facilities and infrastructure;
- Extracting up to 18 million tonnes of ROM coal a year; and
- Operating the mine 24 hours a day, 7 days a week.

State Significant Development:

The proposal is classified as State significant development, under Section 76A(7) of the *Environmental Planning and Assessment Act 1979*, because it involves coal-mining related development associated with a development approval previously given by the Minister after 4 June 1987, and consequently satisfies the criteria in the Minister's direction, dated 29 June 2001.

Integrated Development:

The proposal is classified as integrated development, under Section 91 of the *Environmental Planning and Assessment Act 1979*, because it requires additional approvals from the:

- Environment Protection Authority under the *Protection of the Environment Operations Act 1997*;
- Department of Land & Water Conservation under the *Water Act 1912*;
- National Parks & Wildlife Service under the *National Parks & Wildlife Act 1974*;
- Roads & Traffic Authority under the *Roads Act 1993*; and
- Mine Subsidence Board under the *Mine Subsidence Act 1961*.

Designated Development:

The proposal is classified as designated development, under Section 77A of the *Environmental Planning & Assessment Act 1979*, because it is for an open cut coal mine that would produce or process more than 500 tonnes of coal a day and disturb more than 4 hectares of land..."; and consequently meets the criteria for designated development in Schedule 3 of the *Environmental Planning & Assessment Regulation 2000*.

BCA Classification:

- | | |
|------------|----------------------------|
| Class 5: | Office Upgrade |
| Class 8: | Heavy Vehicle Workshop |
| Class 9b: | Bathhouse |
| Class 10a: | Car Park |
| | Heavy Vehicle Wash Station |
| Class 10b: | Coal Conveyor |

Note:

- 1) To find out when this consent becomes effective, see Section 83 of the Act;
- 2) To find out when this consent is liable to lapse, see Section 95 of the Act; and
- 3) To find out about appeal rights, see Section 97 of the Act.

SCHEDULE 2 DEFINITIONS

AEMR	Annual Environmental Management Report
Applicant	Warkworth Mining Limited
BCA	Building Code of Australia
CCC	Community Consultative Committee
Council	Singleton Shire Council
DA	Development Application
Day	Day is defined as the period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning
Director-General	Director-General of the Department of Planning, or delegate
DSNR	Department of Sustainable Natural Resources
DMR	Department of Mineral Resources
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
Evening	Evening is defined as the period from 6pm to 10pm
Extension area	Land within the red boundary in Figure EIS-2 of Volume 4 of the EIS.
GTA	General Term of Approval
HMA	Habitat Management Area
Land	Land means the whole of a lot in a current plan registered at the Land Titles Office at the date of this consent
Minister	Minister for Planning
MOP	Mining Operations Plan
MSB	Mine Subsidence Board
NDA	Non-Disturbance Area
Night	Night is defined as the period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
PCA	Principal Certifying Authority appointed under Section 109E of the Act
Privately-owned land	Land where: <ul style="list-style-type: none"> • A private agreement does not exist between the Applicant and the land owner; and • There are no land acquisition provisions requiring the Applicant to purchase the land upon request from the land owner
NPWS	National Parks and Wildlife Service
RTA	Roads and Traffic Authority
Site	Land to which the DA applies
Vacant land	Vacant land is defined as the whole of the lot in a current plan registered at the Land Titles Office that does not have a dwelling situated on the lot and is permitted to have a dwelling on that lot at the date of this consent.

**SCHEDULE 3
ADMINISTRATIVE CONDITIONS**

Obligation to Minimise Harm to the Environment

1. The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or decommissioning of the development.

Terms of Approval

2. The Applicant shall carry out the development generally in accordance with the:
 - (a) DA 300-09-2002-i;
 - (b) EIS titled *Extension of Warkworth Coal Mine*, volumes 1-4, dated August 2002, and prepared by Environmental Resources Management Australia Pty. Ltd.;
 - (c) Letter from Coal & Allied to the Department, dated 23 October 2002, and titled *Proposed Extension of Warkworth Coal Mine – Additional Flora Survey*;
 - (d) Letter from Coal & Allied to the Department, dated 24 October 2002, and titled *Additional Information Request – Aboriginal Heritage*;
 - (e) Letter from Coal & Allied to the Department, dated 19 November 2002, and titled *Proposed Extension of Warkworth Mine Archaeological Assessment Response*;
 - (f) Letter from Holmes Air Sciences to the Department, dated 19 November, and titled *Additional Information Relating to Air Quality Issues for the Proposed Extension to Warkworth Mines*;
 - (g) Letter from Coal & Allied to the Department, dated 29 November 2002, titled *Extension of Warkworth Coal Mine*;
 - (h) Letter from Coal & Allied to the Department, dated 13 December 2002, and titled *Extension of Warkworth Coal Mine*;
 - (i) Report titled *Extension of Warkworth Coal Mine – Green Offsets Strategy*, dated December 2002, and prepared by Environmental Resources Management Australia Pty Ltd; and
 - (j) Conditions of this consent.
3. If there is any inconsistency between the above, either the conditions of this consent or the most recent document shall prevail to the extent of the inconsistency.
4. The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - (a) Any reports, plans or correspondence that are submitted in accordance with this consent; and
 - (b) The implementation of any actions or measures contained in these reports, plans or correspondence.

Note: Before any mining is carried out in accordance with this consent, the Applicant is required to get a Mining Operations Plan approved by the DMR.

Limits of Approval

5. With regards to mining-related development, this consent lapses 18 years after DMR approves the initial MOP for development in the extension area.

Note: Once the mining-related development is completed, the Applicant is required, under this consent, to continue implementing the flora and fauna offset strategy for the life of the impact, which could take between 25-50 years. This consent will continue to operate during this period.

6. The Applicant shall not extract more than 18 million tonnes of ROM coal a year from the development.

Surrender of Consents

7. Within 3 months of the DMR approving the initial MOP for development in the extension area, the Applicant shall surrender all existing development consents associated with the Warkworth Mine in accordance with Clause 97 of EP&A Regulation.

Structural Adequacy

8. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the detailed requirements for the certification of development.*
- *The development is located in the Patrick Plains Mine Subsidence District. Under Section 15 of the Mine Subsidence Act 1961, the Applicant is required to get the Mine Subsidence Board's approval before constructing or relocating any improvements on the site.*

Demolition

9. The Applicant shall ensure that all demolition work is carried out in accordance with AS 2601-2001: *The Demolition of Structures*.

Protection of Public Infrastructure

10. The Applicant shall:
 - (a) Repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development;
 - (b) Relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Operation of Plant and Equipment

11. The Applicant shall ensure that all plant and equipment at the site, or used in connection with the development, are:
 - (a) Maintained in a proper and efficient condition; and
 - (b) Operated in a proper and efficient manner.

Section 94 Contribution

12. Before carrying out the development, or as agreed otherwise by Council, the Applicant shall pay Council \$60,000 in accordance with Council's Section 94 Contribution Plan.

Note: This contribution is subject to indexation by the Implicit Price Deflator, as published by the Australian Bureau of Statistics.

Community Enhancement Contribution

13. Within 6 months of the DMR approving the initial MOP for development in the extension area, the Applicant shall pay Council up to \$15,000 for water quality enhancement works in either the Hunter River or Wollombi Brook.

**SCHEDULE 4
SPECIFIC ENVIRONMENTAL CONDITIONS**

FAUNA & FLORA

Offset Strategy

1. Within the limits of current technology and best practice flora & fauna management, as determined by the Director-General in consultation with the Warkworth Flora & Fauna Advisory Committee, the Applicant shall implement:
 - (a) The offset strategy described in the report titled *Extension of Warkworth Coal Mine – Green Offset Strategy*, dated December 2002, and summarised in Table 1; and
 - (b) Any subsequent revisions to the strategy, prepared in consultation with the Warkworth Flora & Fauna Advisory Committee, and approved in writing by the Director-General;
 to the satisfaction of the Director-General.

Note:

The Director-General will form the Warkworth Flora & Fauna Advisory Committee to:

- *Provide on-going advice on the Flora & Fauna Management Plan and Flora & Fauna Monitoring Program; and*
- *Monitor and review the performance of the implementation of the offset strategy.*

Parameter	NDA	HMA	On-site
Woodland (including Warkworth Sands Woodland)	316ha	453ha	645ha
Open Woodland	317ha	412.3ha	510.5ha
Native Pasture	37.6ha	-	1143.5ha
Cleared Land	86.3ha	23.4ha	-

Table 1: Broad Targets for Offset Strategy

Warkworth Sands Woodland Endangered Ecological Community

2. Prior to clearing any Warkworth Sands Woodland on the site, the Applicant shall
 - (a) Accurately determine the quantity and quality of Warkworth Sands Woodland to be cleared on the site;
 - (b) Re-establish, to the greatest extent practicable, Warkworth Sands Woodland at a ratio of at least 2:1 compared to what would be cleared on the site, in the NDAs, HMAs, or on land adjacent to these areas;
 - (c) Examine options for the permanent protection of an area, or areas, of Warkworth Sands Woodland in consultation with the owners of the Wambo mine; and
 - (d) Permanently protect, to the greatest extent practicable, an area, or areas of Warkworth Sands Woodland, at a ratio of at least 2:1 and with equivalent habitat value compared to what would be cleared on the site, in the NDAs, HMAs, or on land adjacent to these areas;
 to the satisfaction of the Director-General.

*Note: To avoid any doubt, Condition 2(b) is necessary to ensure there is no net loss of the community, and 2(d) is necessary to ensure that an area, or areas, of the **existing** community are permanently protected.*

Research – Warkworth Sands Woodland

3. Prior to clearing any Warkworth Sands Woodland on the site, the Applicant shall conduct research, or support research, to:
 - (a) Improve existing knowledge on the Warkworth Sands Woodland Community;
 - (b) Identify the extent of Warkworth Sands Woodland Community in the NDAs, HMAs, and on-site;
 - (c) Identify areas within the NDAs, HMAs, and either on or off-site where the Warkworth Sands Community could be re-vegetated; and
 - (d) Determine best practice for re-vegetating the Warkworth Sands Woodland Community;to the satisfaction of the Director-General.

Note: The Applicant may require a licence for science, education or conservation under Section 132C of the National Parks & Wildlife Act 1974.

Deed of Agreement

4. Prior to carrying out any development in the extension area, the Applicant shall enter into a Deed of Agreement with the Minister. In this agreement, the Applicant shall agree to:
 - (a) Conserve and manage the land in the NDAs and HMAs in accordance with the offset strategy (see Condition 1), as set out in the Flora and Fauna Management Plan (see Condition 12), and best practice;
 - (b) Permanently protect the land in the NDAs for conservation and exclude open cut mining; and
 - (c) Exclude open cut mining in the HMAs, unless, in the opinion of the Minister, the Applicant has demonstrated that there is a clear justification for this on social, economic, and environmental grounds. To assist the Minister in his decision-making, the Applicant shall:
 - Establish the coal reserve in the HMAs;
 - Investigate the options for mining this reserve;
 - Assess the implications of any open cut coal mining proposal on the offset strategy (see Condition 1), as set out in the Flora and Fauna Management Plan (see Condition 12), and broad conservation outcomes; and
 - Assess the environmental, economic and social aspects of any open cut mining proposal in the area.

Warkworth Flora & Fauna Advisory Committee Contribution

5. The Applicant shall pay all the reasonable costs associated with operating the Warkworth Flora & Fauna Advisory Committee.

Strategic Study Contribution

6. If, during the development, the Department, DSNR, or the NPWS commissions a strategic study into the regional vegetation corridor across stretching from the Wollemi National Park to the Barrington Tops National Park, then the Applicant shall contribute a reasonable amount, up to \$20,000, towards the completion of this study.

Operating Conditions

7. The Applicant shall implement best practice fauna and flora management.
8. The Applicant shall salvage and reuse as much material as possible from the land that will be mined, such as soil, seeds, tree hollows, rocks, logs, etc..
9. The Applicant shall develop a detailed vegetation clearing protocol to reduce the potential impact of the development on threatened fauna.
10. To the greatest extent possible, the Applicant shall collect and use seed from the local area for any planting associated with the offset strategy.
11. The Applicant shall take all practicable measures to minimise the potential flora and fauna impacts of the development.

Flora and Fauna Management Plan

12. The Applicant shall prepare and implement a detailed Flora & Fauna Management Plan for the development, in consultation with the Warkworth Flora & Fauna Advisory Committee. This plan must:
 - (a) Describe the offset strategy in broad terms;
 - (b) Define the completion criteria for each vegetation community;
 - (c) Identify best practice flora & fauna management, having regard to Australian and international literature;
 - (d) Describe in detail what actions and measures would be implemented over the next 5 years to;
 - Protect, conserve, and improve the quality of existing vegetation in the NDAs, HMAs, and on-site;
 - Re-vegetate land in the NDAs, HMAs, and on-site;
 - Recreate, to the greatest extent practicable, the vegetation communities that will be cleared during the development; and
 - Minimise the potential impacts of the development on threatened fauna;
 - (e) Include a detailed research program for the Warkworth Sands Woodland Community (see Condition 3);
 - (f) Describe the detailed procedures to:
 - Salvage and reuse material from the site;
 - Clear vegetation on-site;
 - Control erosion and sediment flows in the NDAs, HMAs, and on-site;
 - Manage soil and water in the NDAs, HMAs, and on-site;
 - Manage bushfires in the NDAs, HMAs, and on-site;
 - Collect and propagate seeds from the local area;
 - Control weeds in the NDAs, HMAs, and on-site;
 - Control access to the NDAs and HMAs; and
 - Manage any potential conflicts between the offset strategy and Aboriginal cultural heritage in the NDAs and HMAs;
 - (g) Identify who would be responsible for monitoring, reviewing, and implementing the plan.

The Applicant shall submit a copy of this plan to the Director-General for approval within 12 months of the date of this consent.

Monitoring

13. The Applicant shall:
- (a) Establish detailed baseline data on the flora & fauna in the NDAs, HMAs, and on-site within 2 years of the date of this consent; and
 - (b) Monitor the performance of the offset strategy over time.
14. The Applicant shall prepare and implement a detailed Fauna & Flora Monitoring Program for the development, in consultation with the Warkworth Flora & Fauna Advisory Committee. This program must:
- (a) Be based on sound statistical principles;
 - (b) Describe in detail what actions and measures would be implemented to:
 - Establish detailed baseline data on the Flora & Fauna in the NDAs, HMAs, and on-site;
 - Monitor the performance of the offset strategy over time;
 - (c) Monitor (as a minimum) the parameters in Table 2:

<i>Parameter</i>	<i>Units of measure</i>
Density of vegetation	<i>Plants/m²</i>
	<i>Understorey</i>
	<i>Ground cover</i>
Diversity of flora	<i>Species/m²</i>
Age/maturity of flora	<i>Vegetation height/diameter/form</i>
Vegetation health	-
Disturbance	<i>Weeds/m²</i>
	<i>Erosion</i>
	<i>Feral animals</i>
	<i>Stock</i>
Density of fauna	<i>Fauna (Avian/Mammals/Reptiles-Amphibians)/m²</i>
Diversity of fauna	<i>Species/m²</i>
Density of fauna habitat	<i>Hollow-bearing trees/nesting sites/logs/dams, etc.</i>

Table 2: Parameters and Units of Measure for Fauna and Flora Monitoring

The Applicant shall submit a copy of this program to the Director-General for approval with the Flora & Fauna Management Plan within 12 months of the date of this consent.

Annual Review

15. The Applicant shall
- (a) Review the performance of the Flora & Fauna Management Plan and Fauna and Flora Monitoring Program annually, in consultation with the Warkworth Flora & Fauna Advisory Committee; and, if necessary,
 - (a) Revise these documents to take into account any recommendations from the annual review.

Independent Audit

16. At the end of year 5 of the development, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission, and pay the full cost of, an independent Audit of the offset strategy. This audit must:
 - (a) Be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;
 - (b) Assess the performance of the offset strategy;
 - (c) Review the adequacy of the Flora & Fauna Management Plan and Flora & Fauna Monitoring Program; and, if necessary
 - (d) Recommend actions or measures to improve the performance of the offset strategy, and the adequacy of the Flora & Fauna Management Plan and/or the Flora & Flora & Fauna Monitoring Program.
17. Within 3 months of commissioning this audit, the Applicant shall submit a copy of the audit report to the Director-General with a detailed response to any of the recommendations in the audit report.

Conservation Bond

18. Following the independent audit of the offset strategy at the end of year 15 of the development, the Applicant shall lodge a conservation bond with the Department to ensure that there are sufficient resources available to fully implement the offset strategy. The size of the bond will be set by the Director-General, in consultation with the Applicant and the Warkworth Flora & Fauna Advisory Committee, and will reflect the costs, at that time, of fully implementing the offset strategy. The bond will be adjusted after each subsequent independent audit of the offset strategy.

AIR QUALITY

Impact Assessment Criteria

19. The Applicant shall ensure that the air pollution generated by the development does not exceed the criteria listed in Tables 3, 4, and 5 at any privately-owned land.

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³

Table 3: Long term impact assessment criteria for particulate matter

Pollutant	Averaging period	Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³

Table 4: Short term impact assessment criterion for particulate matter

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

Table 5: Long term impact assessment criteria for deposited dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Land Acquisition Criteria

20. The land acquisition criteria for air pollution generated by the development are listed in Tables 6, 7 and 8.

Pollutant	Averaging period	Criterion
Total suspended particulate (TSP) matter	Annual	90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	30 µg/m ³

Table 6: Long term land acquisition criteria for particulate matter

Pollutant	Averaging period	Criterion	Percentile ¹	Basis
Particulate matter < 10 µm (PM ₁₀)	24 hour	150 µg/m ³	99 ²	Total ³
Particulate matter < 10 µm (PM ₁₀)	24 hour	50 µg/m ³	98.6	Increment ⁴

Table 7: Short term land acquisition criteria for particulate matter

¹Based on the number of block 24 hour averages in an annual period.

²Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with the EPA.

³Background PM₁₀ concentrations due to all other sources plus the incremental increase in PM₁₀ concentrations due to the mine alone.

⁴Incremental increase in PM₁₀ concentrations due to the mine alone.

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level
Deposited dust	Annual	2 g/m ² /month	4 g/m ² /month

Table 8: Long term land acquisition criteria for deposited dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Operating Conditions

21. The Applicant shall carry out the development in a way that prevents and/or minimises the air pollution generated by the development.
22. The Applicant shall ensure that any visible air pollution generated by the development is assessed regularly, and that mining operations are relocated, modified, and/or stopped as required to prevent air quality impacts occurring on any privately-owned land, and ensure that the visibility and safety of motorists using the surrounding public roads are not compromised.
23. The Applicant shall ensure that the real-time ambient air quality monitoring for 24 hour average PM₁₀ (see Conditions 24 and 25) and the meteorological monitoring data (see Conditions 27 and 28) are assessed continuously, and that mining operations are relocated, modified and/or stopped as required to prevent air quality impacts occurring on any privately-owned land.

Monitoring

24. ¹The Applicant shall establish air quality monitoring stations at the residences on the land numbered 13 and 26 in the EIS, whilst privately-owned, and at least 4 other locations approved by the EPA, and to the satisfaction of the Director-General. These stations shall monitor the dust deposition rate, and concentrations of TSP matter and PM₁₀.
25. ²The Applicant shall monitor (by sampling and obtaining results by analysis) the concentration of each pollutant in Table 9, using the specified units of measure, averaging period, frequency, and sampling method in the table.

Pollutant	Units of measure	Averaging period	Frequency	Sampling method ¹
Dust deposition	g/m ² /month	Month, annual	Continuous	AM-19
TSP matter	µg/m ³	24 hour, annual	1 day in 6	AM-15
PM ₁₀	µg/m ³	24 hour, annual	Continuous	AS3580.9.8 – 2001 ²
Siting	-	-	-	AM-1

Table 9: Air quality monitoring

¹ Incorporates EPA GTA

² Incorporates EPA GTA

¹ NSW EPA, 2001, *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*.

²Standards Australia, 2001, AS3580.9.8-2002, *Method for Sampling and Analysis of Ambient Air - Determination of Suspended Particulate Matter - PM₁₀ Continuous Direct Mass Method using a Tapered Element Oscillating Microbalance Analyser, or any other method that is approved by the EPA and the Director-General*.

26. The Applicant shall prepare and implement a detailed Air Quality Monitoring Program for the development in consultation with the EPA. The Applicant shall not carry out any development in the extension area before the Director-General has approved this program.

Meteorological Monitoring

27. ³The Applicant shall establish a permanent meteorological station at a location approved by the EPA, and to the satisfaction of the Director-General. The meteorological station shall continuously measure and record wind speed, wind direction, total solar radiation, temperature (i.e. at two levels), sigma theta and rainfall.
28. ⁴The Applicant shall monitor the parameters specified in Table 10, using the specified units of measure, averaging period, frequency, and sampling method in the table.

Parameter	Units of measure	Averaging period	Frequency	Sampling method¹
Lapse rate	°C/100m	1 hour	Continuous	Note ²
Rainfall	mm/hr	1 hour	Continuous	AM-4
Sigma Theta @ 10 m	°	1 hour	Continuous	AM-2
Siting	-	-	-	AM-1
Temperature @ 10 m	K	1 hour	Continuous	AM-4
Temperature @ 2 m	K	1 hour	Continuous	AM-4
Total Solar Radiation @ 10m	W/m ²	1 hour	Continuous	AM-4
Wind Direction @ 10 m	°	1 hour	Continuous	AM-2
Wind Speed @ 10 m	m/s	1 hour	Continuous	AM-2

Table 10: Meteorological monitoring

¹ NSW EPA, 2001, *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW*.

²The Applicant shall calculate lapse rate from measurements made at 2m and 10m.

NOISE

Impact Assessment Criteria

29. ⁵The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 11 at any privately-owned land.

³ Incorporates EPA GTA

⁴ Incorporates EPA GTA

⁵ Incorporates EPA GTA

Day/Evening/Night $L_{Aeq}(15\text{ minute})$	Land Number
40	26 - Henderson J
39	1 - Kannar H
	31 - Russell C
	38 - Heuston P/L
	58 - Russell BJ & R
38	5 - Berry KG, TK, GE & LA
	35 - Kelly CM
	47 - Hall J
	70 - Langdon B
	Bulga Village ⁶
	Warkworth Village ⁷
37	2 - Lucas JL & KA
	4 - O'Hara J & R
	8 - Russell B & C
	12 - Headly J
	39 - Heuston P/L
	40 - Ball WEA
	41 - Ball CS & GA
	45 - Marendale P/L
	48 - Slade C & L
	49 - R Thriff & Co
	50 - Ventra F & J
	56 - Langdon L & S
	57 - Kannar RW
	69 - Headly S
36	7 - Waldock K
	9 - Isaac K
	11 - Headly S
	42 - Topdock
	43 - Moore
	54 - Edward & Haynes K & LF
	55 - Wellard M & F
	106 - Welsh G & L
	125 - Clemson D
35	All other residential or sensitive receptors, excluding the following:
	<ul style="list-style-type: none"> • 6 - Klasen J & R; • 10 - Russell P & C; • 34 - O'Hara R & J; • 36 - Heuston P/L; • 46 - Berry GE & EA; • 127 & 128 - Stuart D, B & P; and • 129 - Kime V.

Table 11: Noise impact assessment criteria

Notes:

- a) Noise from the development is to be measured at the most affected point on or within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary, to determine compliance with the $L_{Aeq}(15\text{ minute})$ noise limits in the

⁶ Bulga Village includes the residential or sensitive receptors generally within the area bounded by properties 18, 20, 23, 22, 117, 122, 89, and 111 on the map EIS-35 in Volume 4 of the EIS.

⁷ Warkworth Village includes the residential or sensitive noise receptors generally within the area bounded by properties 29, 68, and 121 on the map EIS-35 in Volume 4 of the EIS.

above table if it can be demonstrated that direct measurement of noise from the development is impractical, the EPA may accept alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.

- b) Noise from the development is to be measured at 1 metre from the dwelling façade to determine compliance with the $L_{A1(1\text{ minute})}$ noise limits in the above table.
- c) The noise emission limits identified in the above table apply under meteorological conditions of:
 - Wind speeds of up to 3 m/s at 10 metres above ground level;
 - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 3m/s at 10 metres above ground level.

Land Acquisition Criteria

30. The land acquisition criteria for noise generated by the development are listed in Table 12⁸.

Day/Evening/Night $L_{Aeq}(15\text{ minute})$	Land Number
44	129 - Kime V
43	1 - Kannar H
	26 - Henderson J
	127 - Stuart D, B & P
	128 - Stuart D, B & P
	Bulga Village ⁹
	Warkworth Village ¹⁰
42	10 - Russell P & C
40	All other residential or sensitive receptors

Table 12: Land acquisition criteria

Operating Conditions

31. The Applicant shall carry out the development in a way that prevents and/or minimises the noise generated by the development.

Monitoring

32. The Applicant shall establish permanent real-time noise monitoring stations at the residence on the land numbered 129 in the EIS, whilst privately-owned, and at least 6 other locations approved by the EPA, and to the satisfaction of the Director-General. These stations shall monitor the noise generated by the development, in general accordance with the *NSW Industrial Noise Policy* and *AS 1055: Acoustics – Description and Measurement of Environmental Noise*.
33. The Applicant shall prepare a detailed Noise Monitoring Program for the development in consultation with the EPA, which includes a detailed noise monitoring protocol for evaluating compliance with the criteria in Conditions 29 & 30. The Applicant shall not carry out any development in the extension area before the Director-General has approved this program.

⁸ See Notes in Condition 29 for guidance on how to interpret this Table.

⁹ Bulga Village includes the residential or sensitive receptors generally within the area bounded by properties 18, 20, 23, 22, 117, 122, 89, and 111 on the map EIS-35 in Volume 4 of the EIS.

¹⁰ Warkworth Village includes the residential or sensitive noise receptors generally within the area bounded by properties 29, 68, and 121 on the map EIS-35 in Volume 4 of the EIS.

BLASTING & VIBRATION

Airblast Overpressure Impact Assessment Criteria

34. ¹¹The Applicant shall ensure that the airblast overpressure level from blasting at the development does not exceed the criteria in Table 13 at any residence on privately-owned.

Airblast overpressure level (dB(Lin Peak))	Allowable exceedance
115	5% of the total number of blasts over a period of 12 months
120	0%

Table 13: Airblast overpressure impact assessment criteria

Ground Vibration Impact Assessment Criteria

35. ¹²The Applicant shall ensure that the ground vibration level from blasting at the development does not exceed the criteria in Table 14 at any residence on privately-owned land.

Peak particle velocity (mm/s)	Allowable exceedance
5	5% of the total number of blasts over a period of 12 months
10	0%

Table 14: Ground vibration impact assessment criteria

Blasting Hours

36. ¹³The Applicant shall only carry out blasting at the development between 7 am and 6 pm, Monday to Saturday inclusive. No blasting is allowed on Sundays or public holidays.

Public Notice

37. During the life of the development, the Applicant shall:
- Operate a Blasting Hotline, or alternate system agreed to by the Director-General, to enable the public to get up-to-date information on blasting operations at the development; and
 - Notify the occupants of any land within 2 kilometres of the site about this hotline or system on a regular basis.

Property Inspection

¹¹ Incorporates EPA GTA

¹² Incorporates EPA GTA

¹³ Incorporates EPA GTA

38. Before carrying out any development in the extension area, the Applicant shall advise all landowners within 2 kilometres of the site that they are entitled to a property inspection.
39. If the Applicant receives a written request for a property inspection from any landowner within 2 kilometres of the site, the Applicant shall:
 - (a) Commission a suitably qualified person within 14 days of receiving the request – whose appointment is acceptable to both parties - to inspect the condition of any building or structure on the land, and recommend any preventative and/or remedial measures to minimise any potential blasting impacts; and
 - (b) Give the landowner a copy of this property inspection report within 14 days of receiving the report.

If the Applicant or the landowner disagree with the findings of the property inspection report, either party may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (See Appendix 2).

Operating Conditions

40. The Applicant shall carry out blasting at the development to:
 - (a) Prevent and/or minimise the airblast overpressure, ground vibration and air pollution generated by the development; and
 - (b) Ensure that no people, property and/or livestock are damaged as a result of blasting operations.
41. The Applicant shall co-ordinate blasting at the development with the blasting at surrounding mines – such as Bulga, Mount Thorley, Wambo, and Hunter Valley Operations – to minimise the cumulative impacts of blasting in the region.

Monitoring

42. ¹⁴The Applicant shall monitor airblast overpressure and ground vibration at the:
 - (a) Residence on the land numbered 26 in the EIS, whilst privately-owned; and
 - (b) Any residence or other noise-sensitive buildings, such as hospitals and schools, on land within 2 kilometres of the site if it receives a written request from the landowner, unless the Director-General agrees otherwise.
43. ¹⁵The Applicant shall monitor the parameters in Table 15, using the specified units of measure, frequency, sampling method, and location in the table.

¹⁴ Incorporates EPA GTA

¹⁵ Incorporates EPA GTA

Parameter	Units of Measure	Frequency	Sampling Method	Location
Airblast overpressure	dB(Lin Peak)	During every blast	AS2187.2-1993 ¹	Not less than 3.5 m from a building or structure
Peak particle velocity	mm/s	During every blast	AS2187.2-1993	Not more than 30 m from a building or structure

Table 15: Airblast overpressure and ground vibration monitoring

¹Standards Australia, 1993, AS2187.2-1993: Explosives - Storage, Transport and Use - Use of Explosives.

44. The Applicant shall prepare and implement a detailed Blasting Monitoring Program for the development in consultation with the EPA. The Applicant shall not carry out any development in the extension area before the Director-General has approved this program.

Property Investigations

45. If any landowner within a 2 kilometre radius of the site claims that his/her property has been damaged as a result of blasting at the development, the Applicant shall:
- Commission a suitably qualified person within 14 days of receiving this claim in writing – whose appointment is acceptable to both parties - to investigate the claim in detail; and
 - Give the landowner a copy of the property investigation report within 14 days of receiving the report.

If this independent investigation confirms the landowner's claim, and both parties agree with these findings, then Applicant shall repair the damages to the satisfaction of the Director-General.

If the Applicant or landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (See Appendix 2).

SURFACE WATER

Pollution of Waters

46. Except as may be expressly provided by an EPA licence, the Applicant shall comply with Section 120 of the *Protection of the Environment Operations Act 1997* during the carrying out of the development.

Discharge Limits

47. ¹⁶Except as may be expressly provided by an EPA licence or the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*, the Applicant shall not discharge more than 100ML/day from any licenced discharge point at the development.
48. ¹⁷Except as may be expressly provided by an EPA licence or the *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*, the Applicant shall ensure that discharges from any licensed discharge point at the development comply with the limits in Table 16:

Pollutant	Units of measure	100 percentile concentration limit
pH	pH	$6.5 \leq \text{pH} \leq 9$
Non-filterable residue	mg/litre	$\text{NFR} \leq 120$

Table 16: Discharge Limits

Note: This condition does not authorise the pollution of waters by any other pollutants.

Impact Assessment Criteria

49. Before carrying out any development in the extension area, the Applicant shall establish a set of surface water impact assessment criteria for the surface water monitoring locations determined by the EPA to the satisfaction of the EPA and the Director-General.

Transfer of Water

50. During the development, the Applicant may transfer water to, and receive water from, the Redbank Power Station, and the Lemington and Mount Thorley Mines.

Operating Conditions

51. The Applicant shall carry out the development in a way that prevents and/or minimises the potential surface water impacts of the development.
52. The Applicant shall take all practicable measures to minimise the diversion of run-on water into the mine water management system.

Monitoring

53. ¹⁸The Applicant shall:
- (a) Continuously measure the following parameters at any licenced discharge point at the development during discharge:
- The volume of the wastewater discharged (in megalitres per day);
 - The conductivity of the wastewater discharged (in MicroSiemens per centimeter);
 - Non-filterable residue (in milligrams per litre); and
 - pH.

¹⁶ Incorporates existing EPA Licence condition

¹⁷ Incorporates existing EPA Licence condition

¹⁸ Incorporates EPA GTA

- (b) Forward the results of this continuous monitoring to the regional water quality monitoring network, operated by DSNR, via the Hunter Integrated Telemetry System.
54. ¹⁹The Applicant shall measure the following parameters in the receiving waters at locations to be determined by the EPA:
- (a) Non-filterable residue;
 - (b) pH; and
 - (c) Conductivity.
55. The Applicant shall establish a network of water meters to measure the following on a monthly basis:
- (a) Water use on-site;
 - (b) Dam and water structure storage levels;
 - (c) Water management flows;
 - (d) Transfers of water between the mine, and the Lemington and Mount Thorley Mines and Redbank Power Station; and
 - (e) All uncontrolled discharges.
56. The Applicant shall prepare and implement a detailed Surface Water Monitoring Program for the development, in consultation with the EPA and DSNR. The Applicant shall not carry out any development in the extension area before the Director-General has approved this program.

Site Water Balance Review

57. Each year, the Applicant shall:
- (a) Review the site water balance for the development against the predictions in the EIS;
 - (b) Recalculate the site water balance for the development²⁰; and
 - (c) Report on the results of this review in the AEMR.

Audit of Dams

58. At the end of Year 2 of the development, and every 3 years thereafter, the Applicant shall:
- (a) Conduct an audit of the all the dams in the mining lease area in terms of their status as Harvestable Rights dams, excluding any dams or licensable structures, in consultation with DSNR; and
 - (b) Report on the results of this audit in the AEMR.

¹⁹ Incorporates EPA GTA

²⁰ These calculations must exclude the clean water system, including any sediment control structures, and any dams in the mine lease area which fall under the Maximum Harvestable Right Dam Capacity; include any dams that are licensable under Section 205 of the Water Act 1912, and water harvested from any non-harvestable rights dam on the mine lease area; address balances of inflows, licenced water extractions, and transfers of water from the site to other sites; include an accounting system for water budgets; and include a salt budget.

GROUNDWATER

Note: The Applicant is required to get a licence from DSNR under Part 5 of the Water Act 1912 for bores, wells and excavations that will intersect the groundwater table.

Impact Assessment Criteria

59. Before carrying out any development in the extension area, the Applicant shall establish detailed groundwater impact assessment criteria for the development to the satisfaction of DSNR and the Director-General.

Operating Conditions

60. The Applicant shall carry out the development in a way that prevents and/or minimises the potential groundwater impacts of the development.
61. ²¹The Applicant shall ensure that any works used to convey, distribute, or store groundwater extracted during the development do not obstruct the free passage of floodwaters in, to, or from a river or lake.

Monitoring

62. The Applicant shall:
- (a) Measure the quantity of groundwater extracted by the development; and
 - (b) Conduct quarterly monitoring of groundwater levels and groundwater quality up and down gradient of the development, in accordance with DSNR's *Draft Groundwater Monitoring Guidelines for Mine Sites Within the Hunter Region*, to the satisfaction of DSNR.
63. The Applicant shall prepare and implement a detailed Groundwater Monitoring Program for the development. The Applicant shall not carry out any development in the extension area before DSNR and the Director-General have approved this program.

Investigations

64. If any landowner of land on Map EIS-26 in Volume 4 of the EIS, claims that the development is adversely affecting his/her groundwater supply, the Applicant shall, in consultation with DSNR:
- (a) Commission a suitably qualified person within 14 days of receiving this claim in writing – whose appointment is acceptable to both parties – to investigate the claim in detail; and
 - (b) Give the landowner a copy of the groundwater investigation report within 14 days of receiving this report.

If this investigation confirms the landowner's claim, and both parties agree with the findings of the report, then the Applicant shall provide the landowner with a replacement water supply or suitable compensation, to the satisfaction of DSNR.

If the Applicant or the landowner disagrees with the findings of the report, then either party may refer the matter to the Director-General for resolution.

²¹ Incorporates DSNR GTA

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (See Appendix 2).

EROSION AND SEDIMENT CONTROL

- 65. The Applicant shall implement all practicable measures to minimise soil erosion and the discharge of sediments and water pollutants from the site.
- 66. The Applicant shall prepare and implement an Erosion and Sediment Control Plan for the development, in consultation with Council and DSNR. This plan must:
 - (a) Be consistent with the requirements in DSNR’s draft guideline for the *Establishment of Stable Drainage Areas on Rehabilitated Mine Sites*, and the Department of Housing’s *Managing Urban Stormwater: Soils and Construction* manual;
 - (b) Identify the development that could cause soil erosion or discharge sediment or water pollutants from the site;
 - (c) Describe the location and capacity of all erosion and sediment control structures, and nominate which, if any, of these structures would be used as water sources for the development;
 - (d) Describe in detail what actions and measures would be implemented to minimise soil erosion and the discharge of sediments or water pollutants from the site; and
 - (e) Describe how the effectiveness of these actions and measures would be monitored during the development;

The Applicant shall not carry out any development before the Director-General has approved this plan. However, with the agreement of the Director-General, this plan may be prepared and approved in stages, during the life of the development; and the Applicant may carry out any development that is covered by an approved Erosion and Sediment Control Plan.

ABORIGINAL & EUROPEAN HERITAGE

Archaeological Salvage Excavations

- 67. ²²The Applicant shall conduct archaeological salvage excavations in the landform zones listed in Table 17, and depicted in Figure 4 of Part E of the EIS, to the satisfaction of the NPWS.

Landform Zone	Description
4	The sand sheet
1	Along the upper reaches of Sandy Hollow Creek
8a	On the relatively less disturbed areas along the ridge-tops
8c	on the relatively less disturbed areas along the ridge-tops

Table 17: Landform Zones for Archaeological Salvage Excavations

Note: Before carrying out these excavations, the Applicant is required to obtain an Excavation Permit from the NPWS, under Section 87 of the National Parks & Wildlife Act 1974

²² Incorporates NPWS GTA

Consent to Destroy

68. ²³The Applicant must obtain consent from the National Parks and Wildlife Service, under Section 90 of the *National Parks & Wildlife Act 1974*, to destroy the Aboriginal sites and artefacts listed in Table 18, and depicted in Figures 8 and 10 of Part E of the EIS.

<i>Site Name</i>	<i>Site Type</i>	<i>Landform Zone</i>
B	A	1. Sandy Hollow Creek
K	A	3. Unnamed Tributary to Wollombi Brook
PN1	A	8c. Undulating Terrain
PN2	IF	8c. Undulating Terrain
PN3	IF	8c. Undulating Terrain
PN7	IF	2. Longford Creek
PN8	A	2. Longford Creek
PN9	IF	2. Longford Creek
PN10	GG	2. Longford Creek
PN11	A	2. Longford Creek
PN12	IF	8a. Undulating Terrain
PC1	IF	8c. Undulating Terrain
PC2	A	8c. Undulating Terrain
PC3	A	8c. Undulating Terrain
PC4	IF	3. Unnamed Tributary to Wollombi Brook
PC5	A	3. Unnamed Tributary to Wollombi Brook
PL12	A	3. Unnamed Tributary to Wollombi Brook
PL13	A	3. Unnamed Tributary to Wollombi Brook
PL14	A	3. Unnamed Tributary to Wollombi Brook
PL15 ('X')	IF	3. Unnamed Tributary to Wollombi Brook
F1	IF	7. Woodlands
F2	IF	7. Woodlands
F3	IF	7. Woodlands
W1	A	7. Woodlands
W6 (Remainder – not already covered by Consent #435)	A	1. Sandy Hollow Creek
W7	A	1. Sandy Hollow Creek
W8	A	1. Sandy Hollow Creek
W9	IF	1. Sandy Hollow Creek
W10	A	1. Sandy Hollow Creek
W11	A	1. Sandy Hollow Creek
W14	A	1. Sandy Hollow Creek, and 4. Sand Sheet Adjacent to Sandy Hollow Creek
W15	A	1. Sandy Hollow Creek
W16	A	1. Sandy Hollow Creek
W17	A	1. Sandy Hollow Creek
W18	A	1. Sandy Hollow Creek
W19	A	1. Sandy Hollow Creek
W22	A	3. Unnamed Tributary to Wollombi Brook
W23	A	8c. Undulating Terrain
W24	IF	8c. Undulating Terrain
W30	IF	8a. Undulating Terrain
W37	A	8a. Undulating Terrain
W38	A	8a. Undulating Terrain

²³ Incorporates NPWS GTA

Site Name	Site Type	Landform Zone
W39	A	8a. Undulating Terrain
W40	IF	8a. Undulating Terrain
W41	A	8a. Undulating Terrain
W42	A	7. Woodlands
W43	IF	3. Unnamed Tributary to Wollombi Brook
W44	IF	3. Unnamed Tributary to Wollombi Brook
W45	IF	8c. Undulating Terrain
W46	A	8c. Undulating Terrain
W62	1F	1. Sandy Hollow Creek
W63	A	1. Sandy Hollow Creek
W65	A	8b. Undulating Terrain
W66	A	1. Sandy Hollow Creek
W67	A	8b. Undulating Terrain
W68	1F	8b. Undulating Terrain
W69	A	4. Sand Sheet Adjacent to Sandy Hollow Creek
W72	IF	7. Woodlands
W73	IF	7. Woodlands
W74	IF	3. Unnamed Tributary to Wollombi Brook
W75	IF	8c. Undulating Terrain
W76	A	8c. Undulating Terrain
W77	A	8b. Undulating Terrain
W78	IF	8b. Undulating Terrain
W79	A	8b. Undulating Terrain
W80	A	8b. Undulating Terrain
W81	IF	8b. Undulating Terrain
W82	A	8b. Undulating Terrain
W83	A	8c. Undulating Terrain
W84	IF	4. Sand Sheet Adjacent to Sandy Hollow Creek

Table 18: List of Section 90 Artefacts and Sites

Cultural Salvage

69. Before it destroys the archaeological sites listed in Table 17, the Applicant shall allow local Aboriginal groups to collect, salvage, and/or record material from these sites in accordance with the Cultural Salvage Program (see Condition 72).

Conservation

70. Throughout the development, the Applicant shall actively protect and conserve the archaeological sites and artefacts in the NDAs and HMAs in accordance with the Conservation Program (see Condition 72).

Trust Fund Contribution

71. Within 6 months of DMR approving the initial MOP for development in the extension area, or as agreed otherwise by the Director-General, the Applicant shall contribute \$50,000 to the Hunter Aboriginal Cultural Heritage Trust Fund for further investigations into Aboriginal cultural heritage, as defined by the Trust Deed.

Archaeology and Cultural Heritage Management Plan

72. The Applicant shall prepare and implement an Archaeology and Cultural Heritage Management Plan, in consultation with the NPWS and local Aboriginal groups including the Wonnarua Nation Aboriginal Corporation, Upper Hunter Wonnarua Council, Lower Hunter Tribal Council, Ungooroo Aboriginal Corporation, and Wonnarua Local Aboriginal Land Council. This plan must:
- (a) Describe the following in detail:
 - Archaeological Salvage Excavation Program;
 - Cultural Salvage Program;
 - Destruction Program; and
 - Conservation Program.
 - (b) Establish a consultation protocol for Aboriginal Cultural Heritage Management on-site during the development; and
 - (c) Describe the procedures that would be implemented if any new heritage or archaeological sites are discovered during the development.

The Applicant shall not carry out any development in the extension area before the Director-General has approved this plan.

Reporting

73. The Applicant shall give a detailed progress report on the Archaeological Salvage Excavation, Cultural Salvage, Destruction, and Conservation programs in the AEMR.

TRAFFIC & TRANSPORT

²⁴Road Works in MR503

74. Before carrying out any development in the MR503 (The Putty Road) road reserve, the Applicant shall execute a Deed with the RTA for the proposed construction, operation, and maintenance of this development.
75. The Applicant shall bear all the costs associated with the design, survey, approval, construction, maintenance, monitoring, rehabilitation, and removal of the development, as described in the EIS, in the MR503 road reserve.
76. Development in the MR 503 road reserve shall remain the property and responsibility of the Applicant, and shall not become part of the State Road reserve.
77. The Applicant shall ensure that the development in the MR503 road reserve complies with current RTA and Austroads Design Standards, and the RTA's Quality Assurance Specifications.
78. Before carrying out any development in the MR503 road reserve, the Applicant shall submit detailed engineering plans and a Traffic Control Plan for the proposed development to the RTA for approval. The Applicant shall not carry out any of this development before the RTA has approved these plans.

²⁴ Incorporates the RTA GTAs

Note: For more information on the RTA's assessment process see the RTA's publication "Private Sector Development Work on the Road Network – Developer's Notes".

79. The Applicant shall ensure that a RTA Pre-qualified Contractor, whose appointment has been approved in writing by the RTA before construction starts, carries out all development in the MR503 road reserve.
80. Following the construction of any development in the MR503 road reserve, the Applicant shall commission a suitably qualified person to carry out an annual inspection of this development, and provide the RTA with a written report detailing the condition and safety of the development, identifying any maintenance works that are required, and describing when and how these works would be carried out.
81. When the mining-related development ends, the Applicant shall remove all redundant development from within the MR503 road reserve, and rehabilitate the associated land to the satisfaction of the RTA.

Road Closure

82. The Applicant shall not close any public roads without the approval of the relevant road authority.

Parking

83. The Applicant shall provide at least 240 parking spaces on-site.
84. The Applicant shall ensure that these parking spaces comply with the minimum standard for car park construction in Singleton Council's *Car Parking Development Control Plan*.

Coal Haulage

85. The Applicant shall not haul any coal from the mine on public roads, except in an emergency, as agreed by the Director-General in consultation with Council.

Conveyor

86. The Applicant shall construct the proposed conveyor between the Warkworth and Mount Thorley mines by the end of Year 5 of the development, unless otherwise agreed by the Director-General.

WASTE MANAGEMENT

87. ²⁵The Applicant shall not cause, permit or allow any waste generated outside the mine to be received at the mine for storage, treatment, processing, reprocessing or disposal, or any waste generated at the mine to be disposed of at the mine, except as expressly permitted by an EPA licence²⁶.

²⁵ Incorporates an Existing Condition on EPA Licence

²⁶ The current EPA licence allows the Applicant to accept the following waste generated at the Redbank Power Station:

- (a) Ash;
 - (b) Brine in ash;
 - (c) Boiler chemical cleaning solutions;
 - (d) Water treatment plant solid residues;
 - (e) Rock removed from back-up fuel; and
- Any other matter approved in writing approved by the EPA.

Note: This condition only applies to the storage, treatment, processing, reprocessing, or disposal of waste that requires a licence under the Protection of the Environment Operations Act 1997.

VISUAL IMPACT

Visual Amenity

88. The Applicant shall carry out the development in a way that prevents and/or minimises the visual impacts of the development.
89. The Applicant shall install bunds at strategic locations around the site, and plant additional trees along the boundary of the site to the satisfaction of the Director-General in order to screen the development, as far as is practicable, from external viewers.
90. If a landowner of any dwelling located at raised elevations to the west of the development requests the Applicant in writing to investigate ways to minimise the visual impact of the development on his/her dwelling, the Applicant shall:
 - (a) Commission a suitably qualified person within 14 days of receiving this request – to investigate ways to minimise the visual impacts of the development on the landowner's dwelling;
 - (b) Give the landowner a copy of the visual impact mitigation report within 14 days of receiving this report.

If both parties agree on the measures that should be implemented to minimise the visual impact of the development, then the Applicant shall implement these measures to the satisfaction of the Director-General.

If the Applicant and the landowner disagree on the measures that should be implemented to minimise the visual impact of the development, then either party may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 2).

Overburden Dumps

91. The Applicant shall construct the overburden emplacements generally in accordance with the EIS, and to the satisfaction of DMR.

Lighting Emissions

92. The Applicant shall take all practicable measures to prevent and/or minimise any off-site lighting impacts from the development.
93. All external lighting associated with the development shall comply with *Australian Standard AS4282(INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*.

HAZARDS MANAGEMENT

Spontaneous Combustion

94. The Applicant shall:
- (a) Take the necessary measures to prevent, as far as is practical, spontaneous combustion on the site; and
 - (b) Manage any spontaneous combustion on-site to the satisfaction of DMR.

Dangerous Goods

95. The Applicant shall ensure that the storage, handling, and transport of:
- (a) Dangerous goods is done in accordance with the relevant *Australian Standards*, particularly *AS1940* and *AS1596*, and the *Dangerous Goods Code*; and
 - (b) Explosives are carried out in accordance with the requirements of DMR.

BUSHFIRE MANAGEMENT

96. The Applicant shall:
- (a) Ensure that the development is suitably equipped to respond to any fires on-site;
 - (b) Assist the Rural Fire Service and emergency services as much as possible if there is a fire on-site during the development.
97. Before carrying out any development, the Applicant shall prepare a Bushfire Management Plan for the site, to the satisfaction of Council and the Rural Fire Service.

REHABILITATION

98. The Applicant shall:
- (a) Rehabilitate all mining areas in accordance with the requirements of any Mining Lease granted by the Minister for Mineral Resources, having regard to the *Synoptic Plan – Integrated Landscapes for Mine Site Rehabilitation*; and
 - (b) Ensure that the progressive rehabilitation is carried out to the satisfaction of the DMR and DSNR.

FINAL VOID MANAGEMENT

99. At the end of Year 13 of the development, the Applicant shall prepare a Final Void Management Plan for the development, in consultation with the DMR, DSNR and Council, and to the satisfaction of the Director-General. This Plan must:
- (a) Investigate options for the future use of the final void;
 - (b) Re-assess the potential groundwater impacts of the development;
 - (c) Describe what actions and measures would be implemented to:
 - Minimise any potential adverse impacts associated with the final void; and
 - Manage, and monitor the potential impacts of, the final void over time.

SCHEDULE 5
ADDITIONAL PROCEDURES FOR AIR QUALITY & NOISE MANAGEMENT

Notify Landowners

1. If the air dispersion and/or noise dispersion model predictions in the documents listed in Condition 2 (of Schedule 3) suggest that the air pollution and/or noise generated by the development are likely to be greater than the air quality and/or noise impact assessment criteria in Conditions 19 & 29 (of Schedule 4), then the Applicant shall notify the relevant landowners and/or existing or potential tenants (including tenants of mine-owned properties) accordingly before it carries out any development in the extension area.
2. If the results of the air quality and/or noise monitoring required in Schedule 4 suggest that the air pollution and/or noise generated by the development are greater than the air quality and/or noise impact assessment criteria in Schedule 4, then the Applicant shall notify the relevant landowners and/or existing or potential tenants (including tenants of mine-owned properties) accordingly on a quarterly basis.
3. Before carrying out the development in the extension area, the Applicant shall develop a procedure in consultation with EPA and NSW Health, for notifying the landowners and tenants referred to in Conditions 1 & 2. This procedure must ensure that:
 - (a) All existing and potential (prior to signing a residential tenancy agreement to occupy the residence) tenants are advised in writing about: the air quality impacts likely to occur at the residence during the operational life of the mine; and the likely health and amenity impacts associated with exposure to particulate matter;
 - (b) The written advice in (a) is based on current air quality monitoring data, dispersion modelling results, research and literature; and
 - (c) There is an ongoing process for providing current air quality monitoring data, dispersion modelling results, research and literature to the tenants.

Independent Review

4. If a landowner considers the development to be exceeding the air quality and/or noise impact assessment criteria listed in Schedule 4 at his/her dwelling, or at any proposed dwelling on his/her vacant land, then he/she may ask the Applicant for an independent review of the air pollution and/or noise impacts of the development on his/her dwelling, or proposed dwelling.

If the Director-General is satisfied that an independent review is warranted, the Applicant shall:

- (a) Consult with the landowner to determine his/her concerns; and
- (b) Commission a suitably qualified person whose appointment has been approved by the Director-General – to conduct air quality and/or noise monitoring at the relevant dwelling to determine whether the development is complying with the relevant impact assessment criteria, and identify the source(s) and scale of any air quality and/or noise impact at the dwelling, and the development's contribution to this impact.

Within 14 days of receiving the results of this independent review, the Applicant shall give a copy of these results to the Director-General and landowner.

5. If the independent review (referred to in Condition 4) determines that the development is complying with the relevant impact assessment criteria listed in Schedule 4 at the dwelling, then the Applicant may discontinue the independent review with the approval of the Director-General.
6. If the independent review (referred to in Condition 4) determines that the development is not complying with the relevant impact assessment criteria listed in Schedule 4 at the dwelling, and that the development is primarily responsible for this non-compliance, then the Applicant shall:
 - (a) Take all practicable measures, in consultation with the landowner, to ensure that the development complies with the relevant impact assessment criteria; and conduct further air quality and/or noise monitoring at the dwelling to determine whether these measures ensure compliance; or
 - (b) Secure a written agreement with the landowner to allow exceedances of the air quality and/or noise impact assessment criteria listed in Schedule 4.

If the additional monitoring referred to above subsequently determines that the development is complying with the relevant impact assessment criteria listed in Schedule 4 at the dwelling, then the Applicant may discontinue the independent review with the approval of the Director-General.

If the measures referred to in (a) do not ensure compliance with the air quality and/or noise land acquisition criteria listed in Schedule 4 at the dwelling, and the Applicant cannot secure a written agreement with the landowner to allow exceedances of the air quality and/or noise impact assessment criteria listed in Schedule 4, then the Applicant shall, upon receiving a written request from the landowner, acquire all or part of the landowner's land in accordance with the procedures in Conditions 9-11 below.

7. If the independent review determines that the development is not complying with the air quality and/or noise impact assessment criteria listed in Schedule 4 at the dwelling, but that several mines are responsible for this non-compliance, then the Applicant shall, with the agreement of the landowner and other mine(s), prepare and implement a Cumulative Air Quality and Noise Impact Management Plan to the satisfaction of the Director-General. This plan must provide details of the joint approach to be adopted by the Applicant and other mine(s) to manage cumulative air quality and/or noise impacts at the landowner's dwelling, and the acquisition of any land.

If the Applicant is unable to finalise an agreement with the landowner and/or other mine(s), and/or prepare a Cumulative Air Quality and Noise Impact Management Plan, then the Applicant or landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.

If, following the Independent Dispute Resolution Process, the Director-General decides that the Applicant shall acquire all or part of the landowner's land, then the Applicant shall acquire this land in accordance with the procedures in Conditions 9 - 11 below.

8. If the landowner disputes the results of the independent review (referred to in Condition 4), either the Applicant or the landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.

Land Acquisition

9. Within 6 months of receiving a written request from the landowner, the Applicant shall pay the landowner:
 - (a) The current market value of the landowner's interest in the land at the date of this consent, as if the land was unaffected by the development the subject of the DA, having regard to the:
 - Existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
 - Presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date;
 - (b) The reasonable costs associated with:
 - Relocating within the Singleton local government area, or to any other local government area determined by the Director-General;
 - Obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
 - (c) Reasonable compensation for any disturbance caused by the land acquisition process.

However, if within 6 months of receiving this written request, the Applicant and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the Australian Institute of Valuers and Land Economists to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired.

If either party disputes the independent valuer's determination, then the independent valuer must refer the matter back to the Director-General.

Upon receiving such a referral, the Director-General shall appoint a panel to determine a fair and reasonable acquisition price for the land, and/or the terms upon which the land is to be acquired, comprising the:

- (i) Appointed independent valuer,
- (ii) Director-General or her nominee, and
- (iii) President of the Law Society of NSW or his nominee.

Within 14 days of receiving the panel's determination, the Applicant shall make a written offer to purchase the land at a price not less than the panel's determination.

If the landowner refuses to accept this offer within 6 months of the date of the Applicant's offer, the Applicant's obligations to acquire the land shall cease, unless otherwise agreed by the Director-General.

10. The Applicant shall bear the costs of any valuation or survey assessment requested by the independent valuer, panel, or the Director-General and the costs of determination referred to in Condition 9.
11. If the Applicant and landowner agree that only part of the land should be acquired, then the Applicant shall pay all reasonable costs associated with obtaining Council approval for any plan of subdivision, and registration of the plan at the Office of the Registrar-General.

SCHEDULE 6
ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING & REPORTING

ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Applicant shall prepare and implement an Environmental Management Strategy for the development. This strategy must:
 - (a) Provide the strategic context for environmental management of the development;
 - (b) Identify the statutory requirements that apply to the development;
 - (c) Describe in general how the environmental performance of the development would be monitored and managed during the development;
 - (d) Describe the detailed procedures that would be implemented to:
 - Keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - Receive, handle, respond to, and record complaints;
 - Resolve any disputes that may arise during the course of the development;
 - Respond to any non-compliance;
 - Manage cumulative impacts; and
 - Respond to emergencies; and
 - (e) Describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development.
2. The Applicant shall not carry out any development in the extension area before the Director-General has approved this strategy.
3. Within 14 days of the Director-General's approval, the Applicant shall:
 - (a) Send copies of the approved strategy to the relevant agencies, Council, and the CCC; and
 - (b) Ensure the approved strategy is publicly available during the development.

ENVIRONMENTAL MONITORING PROGRAM

4. The Applicant shall prepare a detailed Environmental Monitoring Program for the development in consultation with the relevant agencies. This program must consolidate the various monitoring requirements in Schedule 4 of this consent into a single document.
5. The Applicant shall not carry out any development in the extension area before the Director-General has approved this program.
6. The Applicant shall keep this program up to date, in consultation with the Director-General and the relevant agencies, and notify the relevant agencies, Council, CCC, and general public of any changes to the program.
7. The Applicant shall regularly review, and if necessary update, this program in consultation with the Director-General, and notify the relevant agencies, Council, CCC, and general public of any changes to the strategy.

ANNUAL REPORTING

8. The Applicant shall submit an Annual Environmental Management Report to the Director-General and the relevant agencies. This report must:
- (a) Identify the standards and performance measures that apply to the development;
 - (b) Include a detailed summary of the complaints received during the past year, and compare this to the complaints received in the previous 5 years;
 - (c) Include a detailed summary of the monitoring results on the development during the past year,
 - (d) Include a detailed analysis of these monitoring results against the relevant:
 - Impact assessment criteria;
 - Monitoring results from previous years; and
 - Predictions in the EIS;
 - (e) Identify any trends in the monitoring over the life of the development;
 - (f) Identify any non-compliance during the previous year; and
 - (g) Describe what actions were, or are being, taken to ensure compliance.

INDEPENDENT ENVIRONMENTAL AUDIT

9. At the end of year 2 of the development, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) Be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;
 - (b) Be consistent with *ISO 14010 – Guidelines and General Principles for Environmental Auditing*, and *ISO 14011 – Procedures for Environmental Auditing*, or updated versions of these guidelines/manuals;
 - (c) Assess the environmental performance of the development, and its effects on the surrounding environment;
 - (d) Assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;
 - (e) Review the adequacy of the Applicant's Environmental Management Strategy and Environmental Monitoring Program; and, if necessary,
 - (f) Recommend measures or actions to improve the environmental performance of the development, and/or the environmental management and monitoring systems.
10. Within 3 months of commissioning this audit, the Applicant shall submit a copy of the audit report to the Director-General, with a detailed response to any of the recommendations contained in the audit report.

COMMUNITY CONSULTATIVE COMMITTEE

11. The Applicant shall ensure that there is a Community Consultative Committee to oversee the environmental performance of the development. This committee shall:
- (a) Be comprised of:
 - 2 representatives from the Applicant, including the person responsible for environmental management at the mine;
 - 1 representative from Council; and
 - 3 representatives from the local community,

- whose appointment has been approved by the Director-General in consultation with the Council;
- (b) Be chaired by the representative from Council;
 - (c) Meet at least twice a year; and
 - (d) Review and provide advice on the environmental performance of the development, including any construction or environmental management plans, monitoring results, audit reports, or complaints.
12. The Applicant shall, at its own expense:
- (a) Ensure that 2 of its representatives attend the Committee's meetings;
 - (b) Provide the Committee with regular information on the environmental performance and management of the development;
 - (c) Provide meeting facilities for the Committee;
 - (d) Arrange site inspections for the Committee, if necessary;
 - (e) Take minutes of the Committee's meetings;
 - (f) Make these minutes available to the public for inspection within 14 days of the Committee meeting, or as agreed to by the Committee;
 - (g) Respond to any advice or recommendations the Committee may have in relation to the environmental management or performance of the development;
 - (h) Forward a copy of the minutes of each Committee meeting, and any responses to the Committee's recommendations to the Director-General within a month of the Committee meeting.
13. The Applicant shall ensure that the Committee has its first meeting before the Environmental Management Strategy (see Condition 1) is submitted to the Director-General for approval.

Appendix 1

Extension of Warkworth Coal Mine

Development Application Area Schedule of lot, DP/MPS and volume/folio No.s

DP	Lot	Portion	Part	Volume	Folio	Property Owner
260663	271					Miller Pohang Coal Company
658927	17					Miller Pohang Coal Company
247340	9			12454	109	Miller Pohang Coal Company
247339	19			12454	156	Miller Pohang Coal Company
612684	341			14527	42	Miller Pohang Coal Company
251238	6			13281	145	Public Transport Commission of NSW
260663	272					Warkworth Mining Limited
260663	273					Miller Pohang Coal Company
260056	36					Warkworth Mining Limited
43383	5					Warkworth Mining Limited
1041796	1					Crown Reserve
1026900	6					Warkworth Mining Limited
248186	140			14430	229	Warkworth Mining Limited
248186	139			12586	107	Warkworth Mining Limited
113342	21			5527	10	Warkworth Mining Limited
755267	136			5527	10	Warkworth Mining Limited
113342	20			5527	10	Warkworth Mining Limited
657481	166					Warkworth Mining Limited
113342	19			5527	10	Warkworth Mining Limited
182301	B			5527	10	Warkworth Mining Limited
755267	162			5527	10	Warkworth Mining Limited
113342	18			5527	10	Warkworth Mining Limited
755267	105			5527	10	Warkworth Mining Limited
113342	16			5527	10	Warkworth Mining Limited
113342	17			5527	10	Warkworth Mining Limited
755267	102			5527	10	Warkworth Mining Limited
755267	154			5527	10	Warkworth Mining Limited
755267	91			5527	10	Warkworth Mining Limited
755267	104			5527	10	Warkworth Mining Limited
755267	185			5527	10	Warkworth Mining Limited
755267	170			5527	10	Warkworth Mining Limited
182301	A			5527	10	Warkworth Mining Limited
755267	165			14430	217	Warkworth Mining Limited
755267	190			14430	217	Warkworth Mining Limited
248570	6			14527	44	Warkworth Mining Limited
755267	130			14430	217	Warkworth Mining Limited
113342	6					Warkworth Mining Limited
755267	182			14096	188	Warkworth Mining Limited
113342	13			5527	10	Warkworth Mining Limited
755267	179			5527	10	Warkworth Mining Limited
755267	103			5527	10	Warkworth Mining Limited
248186	138			14430	228	Warkworth Mining Limited
248186	137			14430	227	Warkworth Mining Limited
113342	5			11241	191	Warkworth Mining Limited
248186	135			14430	224	Warkworth Mining Limited
573290	141			14430	230	Warkworth Mining Limited
573290	142			14430	231	Warkworth Mining Limited
573290	143			14430	232	Warkworth Mining Limited
531116	841			10913	132	Warkworth Mining Limited
949066	1			2577	229	Warkworth Mining Limited
43383	2					Warkworth Mining Limited
248186	136					Warkworth Mining Limited
248186	134			14430	223	Warkworth Mining Limited
248196	133			14430	222	Warkworth Mining Limited
755267	184			5527	10	Warkworth Mining Limited
113342	12			5527	10	Warkworth Mining Limited

Extension of Warkworth Coal Mine

Development Application Area Schedule of lot, DP/MPS and volume/folio No.s

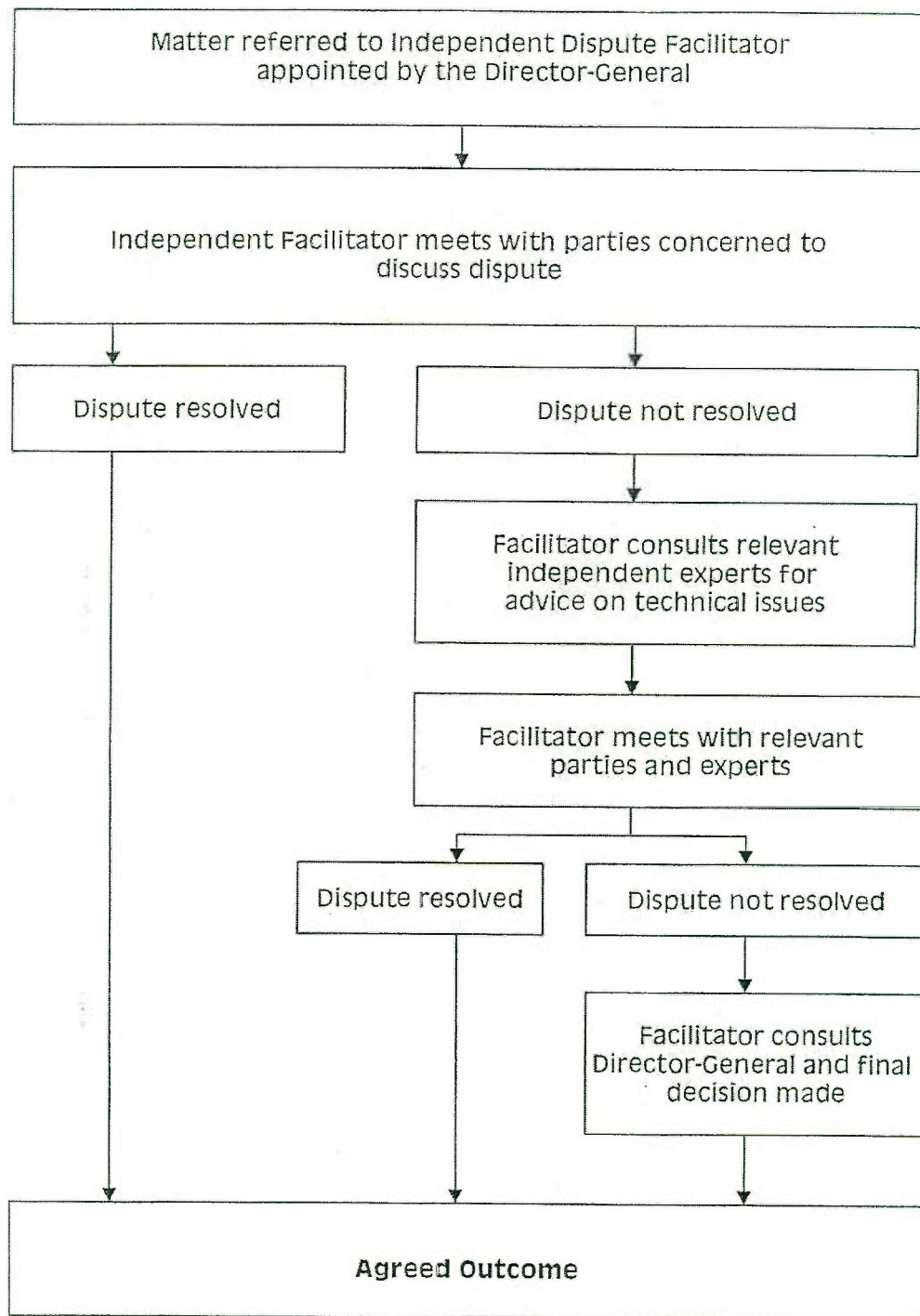
DP	Lot	Portion	Part	Volume	Folio	Property Owner
755267	106			5527	10	Warkworth Mining Limited
113342	22			5527	10	Warkworth Mining Limited
755267	89			5527	10	Warkworth Mining Limited
755267	46			5527	10	Warkworth mining Limited
755267	183			5527	10	Warkworth Mining Limited
113342	15			5527	10	Warkworth Mining Limited
755267	48			5527	10	Warkworth Mining Limited
113342	14			5527	10	Warkworth Mining Limited
755267	189			5527	10	Warkworth Mining Limited
755267	110			5527	10	Warkworth Mining Limited
755267	180			14096	188	Warkworth Mining Limited
755267	187			14096	188	Warkworth Mining Limited
248570	7			14527	44	Warkworth Mining Limited
43383	3					Warkworth Mining Limited
248186	132			14430	221	Warkworth Mining Limited
248186	131			14430	220	Warkworth Mining Limited
573290	144			14430	233	Warkworth Mining Limited
248186	130			14430	219	Warkworth Mining Limited
704466	203					Warkworth Mining Limited
705493	2					Warkworth Mining Limited
130275	1					Warkworth Mining Limited
755267	27			14430	214	Warkworth Mining Limited
573286	1			14430	211	Warkworth Mining Limited
755267	172			14430	237	Warkworth Mining Limited
755267	200			13802	218	Warkworth Mining Limited
755267			47	14430	240	Warkworth Mining Limited
755267		90		14430	240	Warkworth Mining Limited
755267		134		14430	240	Warkworth Mining Limited
113342	10			14430	240	Warkworth Mining Limited
755267			175	13802	219	Warkworth Mining Limited
227280	1			14430	243	Warkworth Mining Limited
227280	2			14430	244	Warkworth Mining Limited
227280	3			14430	244	Warkworth Mining Limited
176095	1			14430	247	Warkworth Mining Limited
130276	1					Warkworth Mining Limited
755267	178			14096	188	Warkworth mining Limited
755267		167		14430	240	Warkworth Mining Limited
755267		1		14430	240	Warkworth Mining Limited
755267	177			14096	188	Warkworth Mining Limited
755267	63			14430	215	Warkworth Mining Limited
113342	7			14096	186	Warkworth Mining Limited
755267	111			14430	216	Warkworth Mining Limited
755267	132			14430	218	Warkworth mining Limited
755267	168			14430	236	Warkworth Mining Limited
43383	1					Warkworth Mining Limited
755267	196			14430	238	Warkworth Mining Limited
245850	6			12361	137	Warkworth Mining Limited
245850	7			12361	138	Warkworth Mining Limited
245850	8			12361	139	Warkworth Mining Limited
755267		157		13802	219	Warkworth Mining Limited
755267		156		13802	219	Warkworth Mining Limited
755267		155		13802	219	Warkworth Mining Limited
755267		150		13802	219	Warkworth Mining Limited
755267			149	13802	219	Warkworth Mining Limited
326244	1			13802	219	Warkworth Mining Limited
326245	1			14926	241	Warkworth Mining Limited

Extension of Warkworth Coal Mine
 Development Application Area Schedule of lot, DP/MPS and volume/folio No.s

DP	Lot	Portion	Part	Volume	Folio	Property Owner
248570	1			14527	44	Warkworth Mining Limited
657482	197					Warkworth Mining Limited
755267	173			14096	188	Warkworth Mining Limited
245850	1			12361	132	Warkworth Mining Limited
245850	2			12361	133	Warkworth Mining Limited
245850	3			12361	134	Warkworth Mining Limited
248570	2			14527	44	Warkworth Mining Limited
755267	159			14430	234	Warkworth Mining Limited
755267	137			14430	226	Warkworth Mining Limited
248570	5			14527	44	Warkworth Mining Limited
248570	4			14527	44	Warkworth Mining Limited
246201	9			12330	226	Warkworth Mining Limited
246201	10			12330	227	Warkworth Mining Limited
246201	5			14430	212	Warkworth Mining Limited
245850	5			12361	136	Warkworth Mining Limited
755267	152			14430	242	Warkworth Mining Limited
245850	4			12361	135	Warkworth Mining Limited
625709	21			14926	239	Warkworth Mining Limited
130264	2					Warkworth Mining Limited
130264	1			5168	244	Warkworth Mining Limited
43383	4					Warkworth Mining Limited
129822	2					Warkworth Mining Limited
755267			120	14926	241	Warkworth Mining Limited
755267	151			14430	242	Warkworth Mining Limited
755267	131			14430	242	Warkworth Mining Limited
129822	1			14430	242	Warkworth Mining Limited
129819	3			13283	151	Warkworth Mining Limited
129819	2			13261	239	Warkworth Mining Limited
129819	1			14522	177	Warkworth Mining Limited
129812	1			12601	84	Warkworth Mining Limited
129811	3					Warkworth Mining Limited
129811	2					Warkworth Mining Limited
129811	1					Warkworth Mining Limited
0	201					Crown Land
246201	8			12330	225	Warkworth Mining Limited
129799	2			12330	224	Warkworth Mining Limited
129799	1			12330	223	Warkworth Mining Limited
705493	1					Warkworth Mining Limited
113342	11			14430	240	Warkworth Mining Limited
625709	22					Warkworth Mining Limited
1026900	7					Warkworth Mining Limited
1026900	8					Warkworth Mining Limited
705493	3					Crown Land
658759	4			14430	245	Warkworth Mining Limited

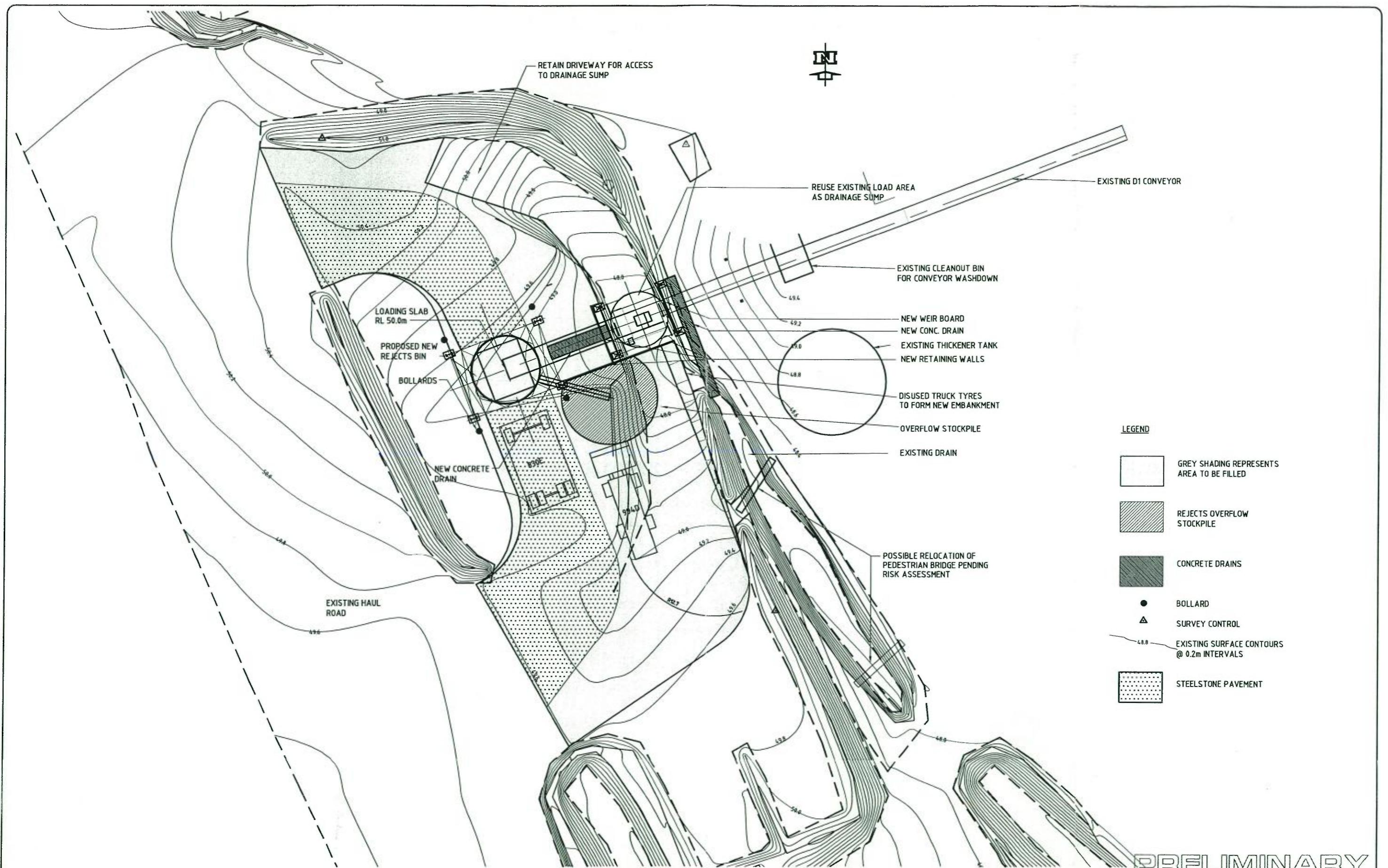
Appendix 2

Independent Dispute Resolution Process (Indicative only)



Annex B

Conceptual Drawings of Modifications



- LEGEND**
- GREY SHADING REPRESENTS AREA TO BE FILLED
 - REJECTS OVERFLOW STOCKPILE
 - CONCRETE DRAINS
 - BOLLARD
 - SURVEY CONTROL
 - EXISTING SURFACE CONTOURS @ 0.2m INTERVALS
 - STEELSTONE PAVEMENT

PRELIMINARY

REV	DESCRIPTION	DATE	APPROVED
1	ISSUED FOR CLIENT REVIEW	12.5.04	

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		Design Check	
		Project Approval	

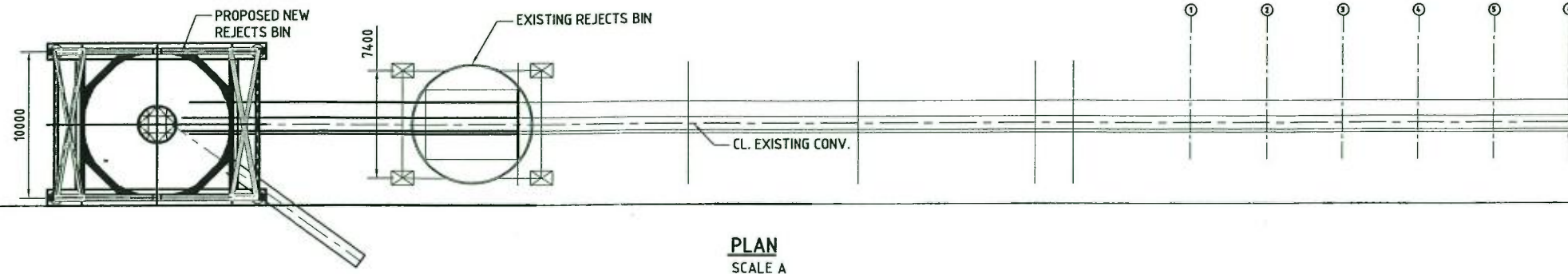
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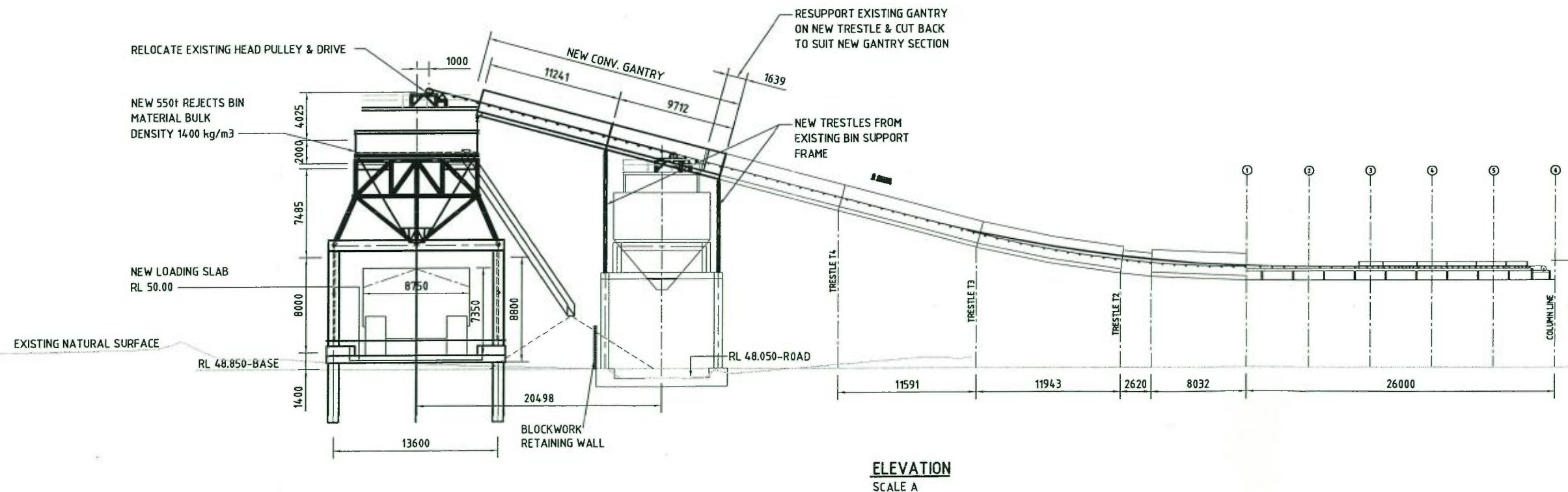
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Client	COAL & ALLIED	Job No	2118370A
Project	WARKWORTH CHPP PROPOSED NEW REJECTS BIN SITE LAYOUT	Drawing No	PD004
		Cad File	PD004.DWG
		Rev	1



PLAN
SCALE A



ELEVATION
SCALE A

PRELIMINARY

REV	DESCRIPTION	DATE	APPROVED
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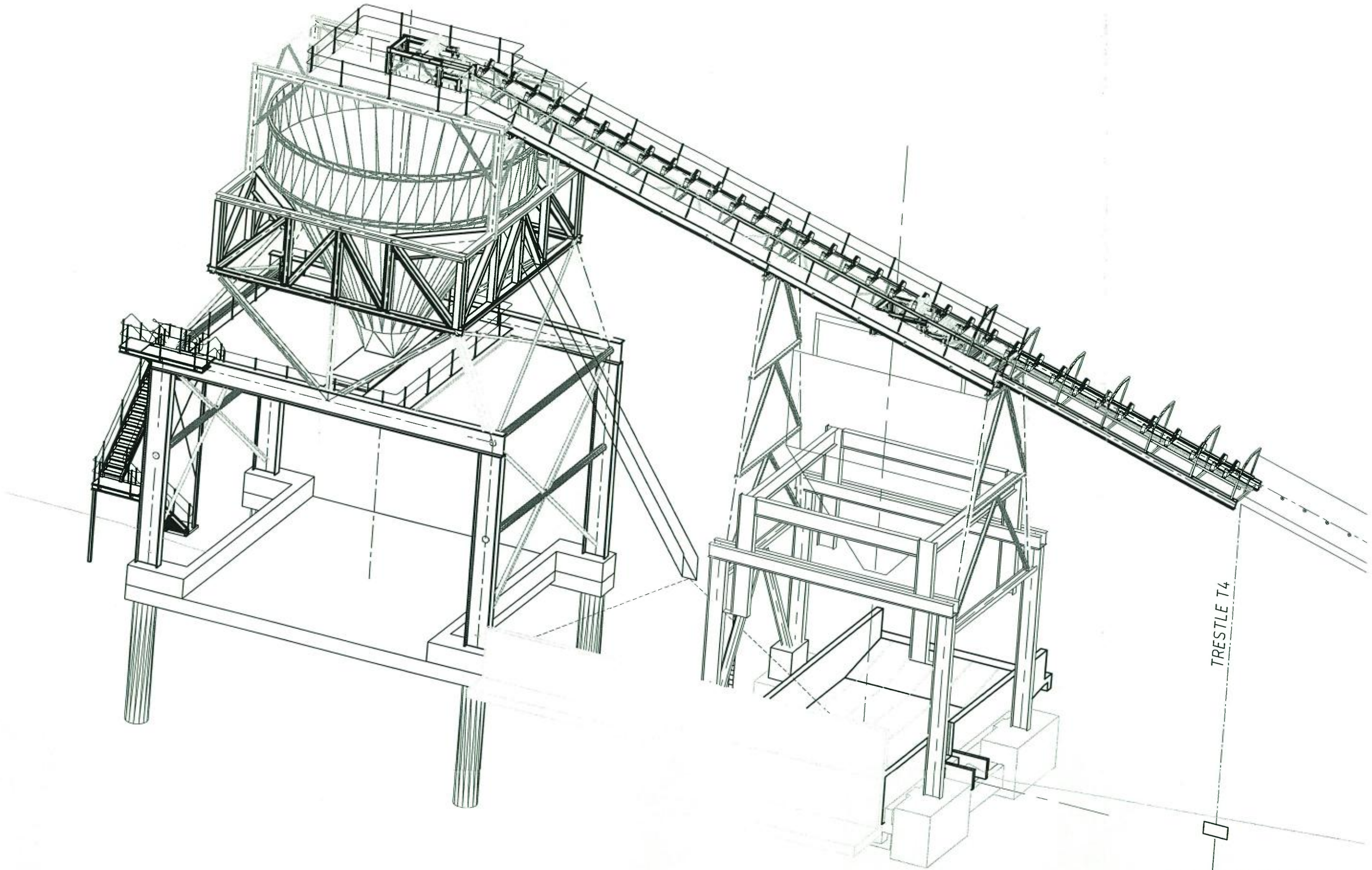
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		Design Check			
		Project Approval			

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Client	COAL & ALLIED	Job No	2118370A
Project	WARKWORTH CHPP PROPOSED NEW REJECTS BIN PLAN & ELEVATION	Drawing No	PD005
		Cad File	PD005.DWG
		Rev	1



PRELIMINARY

REV	DESCRIPTION	DATE	APPROVED

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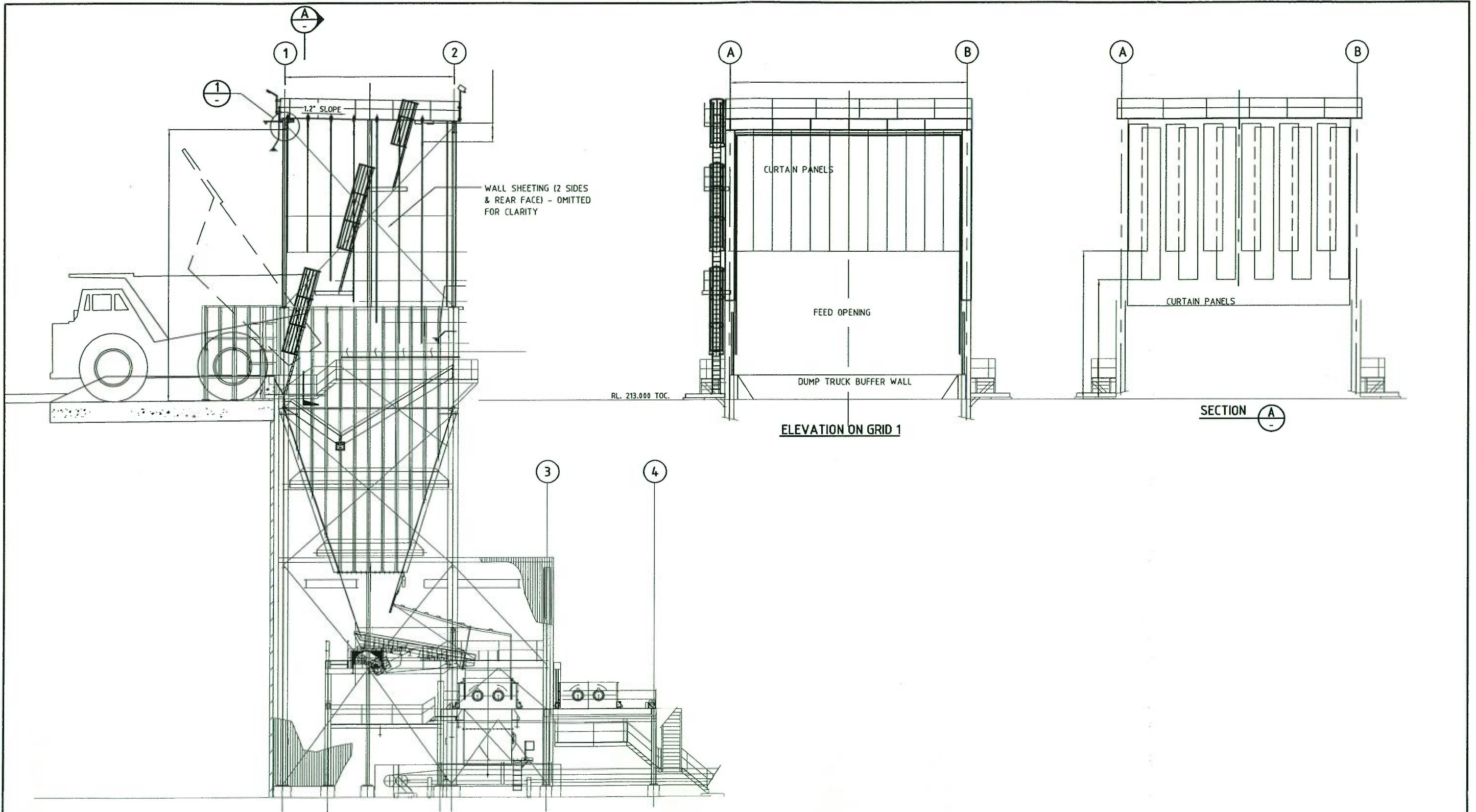
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		Designed	
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		Project Approval	

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Client	Job No
COAL & ALLIED	2118370A
Project	Drawing No
WARKWORTH CHPP NEW REJECTS BIN MODIFICATIONS ISOMETRIC VIEW	PD006
Cad File	Rev
PD006.DWG	1

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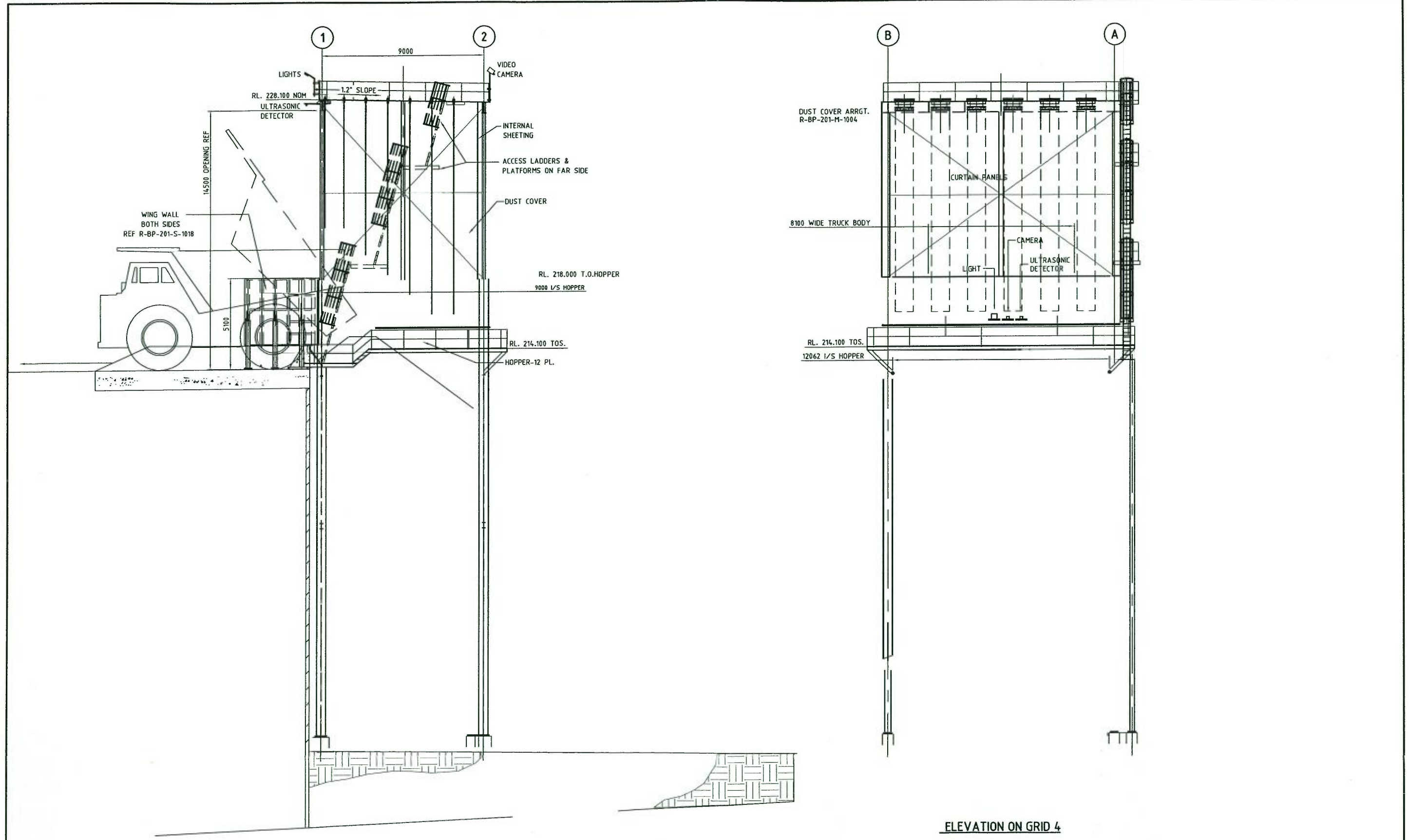
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 BRISBANE - SYDNEY
Australia
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WARKWORTH TRUCK DUMP			
DESIGNED	DATE	BY	PROPOSED ROM TRUCK DUMP DUSTHOOD
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SIDE ELEVATION

ELEVATION ON GRID 4

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ENGINEERS AND CONTRACTORS
BRISBANE - SYDNEY
PTY LTD

WARKWORTH TRUCK DUMP			
DESIGNED	DATE	BY	
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APPROVED			
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			REV. A

PROPOSED ROM TRUCK
DUMP DUST HOOD

Annex C

Copy Of Correspondence

19 March 2004

David Kitto
Department of Infrastructure, Planning and Natural Resources
GPO Box 3927
Sydney NSW 2001

Dear David

**PROPOSAL TO UPGRADE REJECT HANDLING FACILITIES AT
WARKWORTH COAL MINE AND MOUNT THORLEY OPERATIONS**

GENERAL

Further to our meeting at your offices on 17 March 2003 in relation to the above matter, this letter is to request the Department's requirements for the preparation of statements of environmental effects (SEEs) to accompany applications to modify the development consents relating to Warkworth Coal Mine (Warkworth) and Mount Thorley Operations (MTO).

Details on the proposed reject bins at each site follows.

WARKWORTH

At Warkworth, rejects from the Warkworth Coal Preparation Plant are transported to a rejects bin via a conveyor. Two dedicated haul trucks (CAT 785s) are used to empty the bins when required. These two trucks are the only two trucks physically capable to fit under the current bin. Due to their age and the cost of their maintenance, it is proposed to decommission these trucks and use other larger trucks (CAT 789 and Liebherr 240) in the Warkworth fleet to transport the rejects. However, to achieve this a larger rejects bins and corresponding infrastructure is required.

A new rejects bin and extension to the rejects conveyor is proposed to be constructed approximately 20 m west of the existing rejects bin. The existing bin will be used as a support for the extended conveyor. The overall height of the rejects bin will be approximately 22 m.

A plan of the new rejects bin and corresponding infrastructure can be seen in Attachment A of this letter.

Coal & Allied Operations Pty Ltd
ABN 16 000 023 656

Lemington Road, Ravensworth via Singleton NSW 2330 Australia
PO Box 315 Singleton NSW 2330 Australia
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MTO

At MTO, rejects from the Mount Thorley Coal Preparation Plant (MTCPP) are transported to a rejects stockpile via conveyor. From the stockpile, rejects are loaded into haul trucks by a front-end loader for transportation to overburden dumps.

It is proposed to erect a new rejects bin and corresponding rejects conveyor adjacent to the MTCPP for direct loading of rejects to MTO's truck fleet. A new tripper conveyor and transfer station will be constructed to accept the reject from the existing conveyor. The overall height of the rejects bin will be approximately 22 m.

A small extension to an existing haul road will be required to gain access to the bin for the trucks.

A plan of the new rejects bin and corresponding infrastructure can be seen in Attachment B of this letter.

MODIFICATION OF CONSENTS

As discussed at our meeting, we believe the most appropriate avenue to obtain consent for the erection of the rejects bins would be to modify the development consents for Warkworth and MTO via Section 96(1A) of the *Environmental Planning and Assessment Act 1979*. This states:

A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

- (a) it is satisfied that the proposed modification is of minimal environmental impact, and*
- (b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and*
- (c) it has notified the application in accordance with:*
 - (i) the regulations, if the regulations so require, or*
 - (ii) a development control plan, if the consent authority is a council that has made a development control plan under section 72 that requires the notification or advertising of applications for modification of a development consent, and*
- (d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.*

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REQUIREMENTS FOR SEE

As previously indicated, we would appreciate if you could forward through the Department's requirements for the preparation of SEEs to accompany applications to modify the consents for Warkworth and MTO, including an indication of the Department's fees.

Should you have any queries regarding this matter, please do not hesitate to contact Sarah Fish on 6570 0058.

Yours sincerely

Alan Irving
Manager Environmental Services



Department of
Infrastructure, Planning and Natural Resources

Mining & Extractive Industries
Major Development Assessment
Phone: (02) 9762 8162
Fax: (02) 9762 8707
Email: david.kito@dlppr.nsw.gov.au
Level 4 Henry Parkes Building
20 Les Street
GPO Box 3927
SYDNEY NSW 2001

Mr Alan Irving
Manager Environmental Services
Coal & Allied Operations Pty Ltd
PO Box 315
SINGLETON NSW 2830

Dear Mr Irving,

Proposed Modification to Development Consents – Upgrade of reject Handling Facilities at Warkworth Coal Mine and Mount Thorley Operations

I refer to your letter and supporting documentation of 19 March 2004, regarding your intention to lodge modification applications to the consents for the Mount Thorley Operations and the Warkworth Coal Mine.

The Department requires this modification application to clearly justify the validity of the application of Section 96(1A) to this proposal and to provide an assessment of the predicted impact of the proposed modifications. Accordingly, the Department requires that a Statement of Environmental Effects (SEE) be submitted in support of the modification application. The SEE shall cover the following matters:

- justification as to why the development may be modified under Section 96(1A) of the EP&A Regulation;
- details and documentation of consultation undertaken with key government agencies concerning the proposed development, including the Department of Mineral Resources, Department of Environment and Conservation and Singleton Shire Council;
- a consideration of the statutory provisions relevant to the development;
- a copy of all current development consents for the Mount Thorley Mine and Warkworth Mine (both Minister's consents and Council consents) and any previous modifications;
- a detailed description of all elements of the development and the land on which these elements are to be located;
- clear maps with all proposed new or modified elements clearly marked;
- a description of how the development affects the operation of the Mount Thorley Operations and the Warkworth Mine;
- a description of the environment of the area;
- an assessment of impact on air quality and noise conditions, with particular reference to the cumulative impacts of the proposal, particularly at nearby non-mined owned residences. The Noise Impact Assessment must be conducted in

- accordance with the Environmental Protection Authority's (EPA) Industrial Noise Policy;
- details of proposed mitigation and management measures to minimise the predicted air quality and noise impacts from the proposal, particularly at non-mine owned residences;
 - an assessment of the visual impacts of the proposal and any proposed management measures to be adopted to minimise these impacts;
 - a consideration of any risks associated with the development;
 - an assessment of all other potential environmental impacts of the proposed modifications, by reference to the relevant matters in section 79C of the Environmental Planning and Assessment Act, 1979.

You should also note that in addition to an approval from the Minister for the development, the Applicant will be required to obtain any other necessary approvals that may be required as a result of the proposal from any other agency.

When you lodge your modification applications for the proposal, you must include sufficient copies of the SEE and supporting information so that the Department can provide the key agencies with copies of the document for review and comment. Please supply 12 hard copies and 3 copies of the SEE on CD.

As this proposal requires modification to two separate development consents, you should include 2 cheques for \$500, which is the fee prescribed by the Regulation for a section 96(1A) application to modify an existing development consent. The cheques for the modification fees should be submitted to the Department at the same time as the modification applications.

If you have any queries in relation to this matter please do not hesitate to contact Colin Phillips on 9762 8158.

Yours sincerely

David Kitto 1314104

David Kitto
Manager
Mining and Extractive Industries

31 May 2004

The Director General
Department of Infrastructure Planning and Natural Resources
GPO Box 3927
SYDNEY NSW 2001

Attention: David Kitto

Dear David

**PROPOSED SECTION 96 (1A) MODIFICATION TO
MOUNT THORLEY OPERATIONS AND WARKWORTH MINES
DEVELOPMENT CONSENTS**

Subsequent to our previous discussions, I would like to outline Coal & Allied's (CNA) proposal to modify the development consents for Mount Thorley Operations (DA 34/95) and the Warkworth Mine (DA 300-9-2002-i).

Representatives of CNA met with DIPNR on 17 March 2003 to discuss a proposal to upgrade reject handling facilities at both the Mount Thorley Operations (MTO) and Warkworth Mine (WML). This was followed by written correspondence from CNA requesting DIPNRs requirements for the Statement of Environmental Effects (SEE) which were provided in a letter dated 13 April 2004.

Since the proposal to upgrade the reject handling facilities was first discussed additional modifications to both of the operations have been identified. To reduce the number of modifications made to the consents CNA wish to include these changes as part of the Section 96 (1A) application currently being prepared for the upgrade of the reject handling facilities. The additional modifications include:

- The construction of Run of Mine (ROM) sheds at both MTO and WML. These sheds are a three sided and roofed structure that is designed to minimise noise and dust emissions caused by the unloading of coal from haul trucks into the ROM bins. A conceptual drawing of the ROM shed is attached.
- The construction of a storage shed at WML. This shed would be used for general storage and for housing a forklift. No dangerous goods would be stored here; and
- The extension of mining of the Abbey Green Pits. The Abbey Green development was approved in September 2002 and included the development of two 'boxcut type' pits. The mine plan required the removal of 22 Mbcm to uncover approximately 5Mt of ROM coal and the increase of the tonnage of coal produced at MTO to 10Mtpa ROM. The void spaces created by the development are to be filled with reject from MTO and WML.

Coal & Allied Operations Pty Ltd
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As a result of a redesign of the Abbey Green development it is now proposed to mine the resource as a single box cut to enable the mining of low ratio coal located beneath the current haul road as shown on the attached figure. It is not proposed to increase the amount of coal or overburden to be mined from the development. Coal haulage from the MTO main pit would be via the existing northern haul road that runs parallel to the Putty Road and was identified as a haulage route in the original Abbey Green development. At the completion of mining the box cut will still be used for the storage of tailings from MTO and WML.

It is considered that the main environmental factors for consideration are:

- Air quality
- Noise and blasting impacts and
- Archaeology

CNA intends to address these issues in the SEE and will remodel the noise, blasting and air quality impacts.

We propose to lodge the application at the end June 2004 and hope to have approval by the end July 2004. Your confirmation on the approvals process and environmental issues is sought. We look forward to your response at your earliest convenience. Should you require any clarification on this proposal, please do not hesitate to contact me on 6570 0058.

Yours sincerely,

Sarah Fish
Environmental Specialist – Reporting, Approvals and Projects

Enc: ROM Shed Conceptual Designs
Proposed Modification to Abbey Green



Department of
Infrastructure, Planning and Natural Resources

Mining & Extractive Industries
Major Development Assessment
Phone: (02) 9762 8162
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Level 4 Henry Deane Building
20 Lee Street
GPO Box 3927
SYDNEY NSW 2001

Ms Sarah Fish
Environmental Specialist
Coal & Allied Operations Pty Ltd
PO Box 315
SINGLETON NSW 2330

Dear Sarah

**Proposed Modification to Development Consents
Warkworth-Mount Thorley Operations**

I refer to your letter, dated 31 May 2004, regarding your intention to include additional modifications in the Section 96 (1A) applications being prepared for the Warkworth and Mount Thorley mines, including the:

- construction of Run-of-Mine sheds at the Mount Thorley and Warkworth mines;
- construction of a storage shed at the Warkworth mine; and
- extension of the proposed Abbey Green Pits at the Mount Thorley mine.

The Department believes these modifications should be incorporated into the proposed Section 96 (1A) applications for both mines, and assessed in the associated Statement of Environmental Effects (SEE). The SEE requirements issued by the Department on 13 April 2004 remain valid, and would apply to the additional modifications.

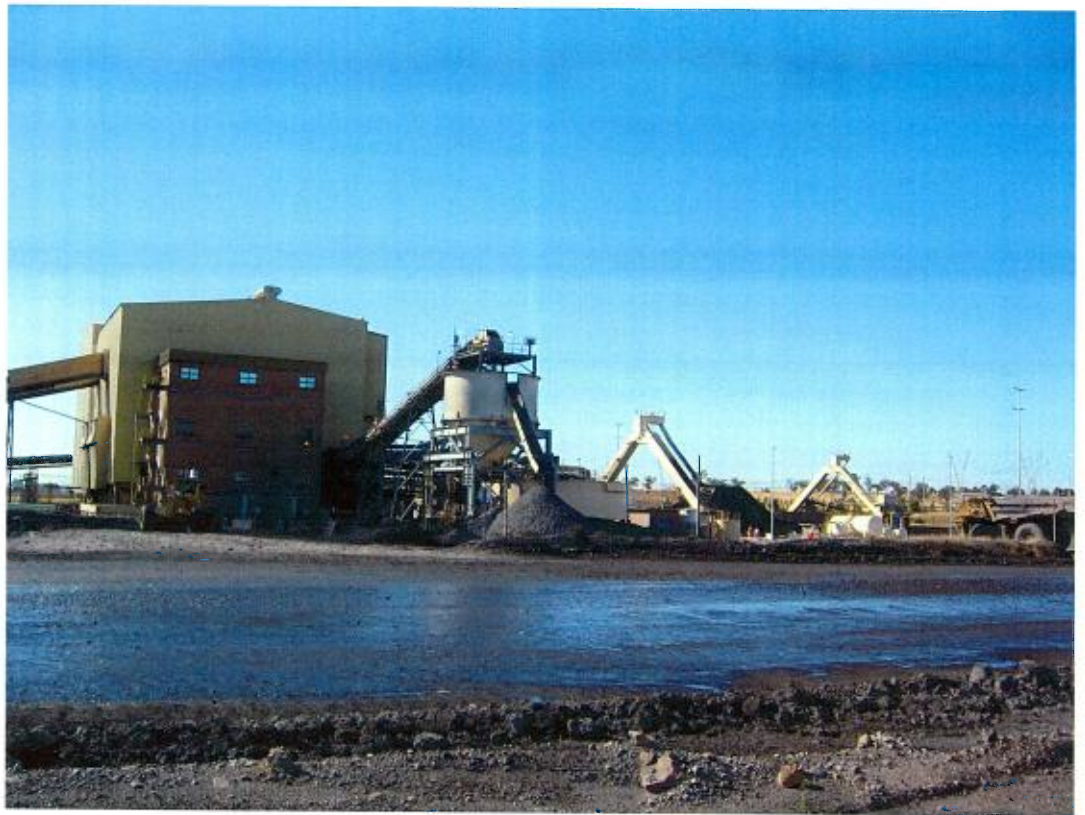
If you have any queries in relation to this matter please contact Mike Young on 9762 8154.

Yours sincerely,

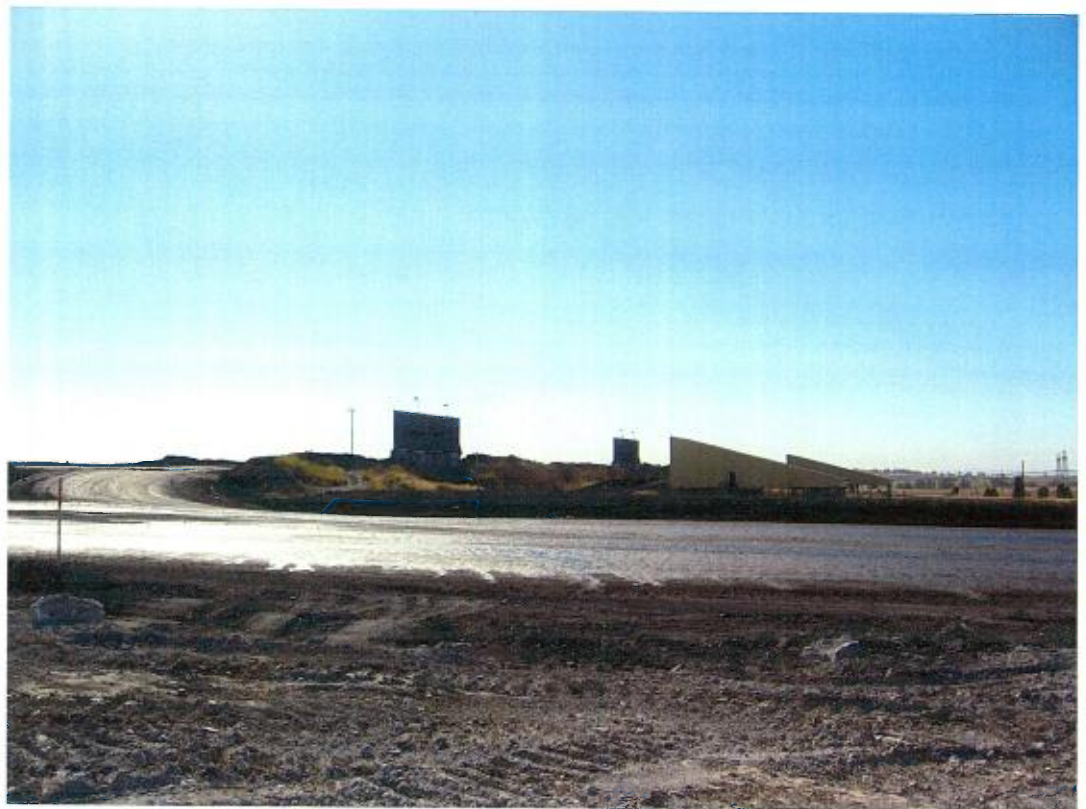
David Kitto
Manager
Mining and Extractive Industries

Annex D

Photographs Of Existing Site
Development



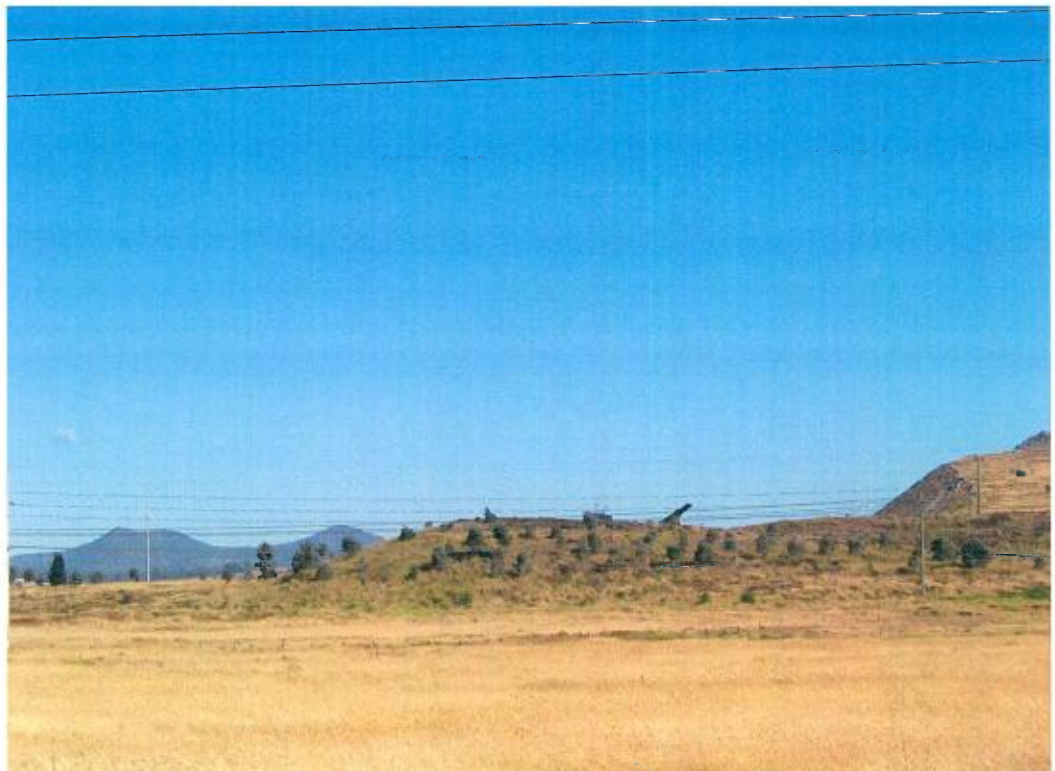
Photograph D.1 View of existing reject bin in Warkworth CPP



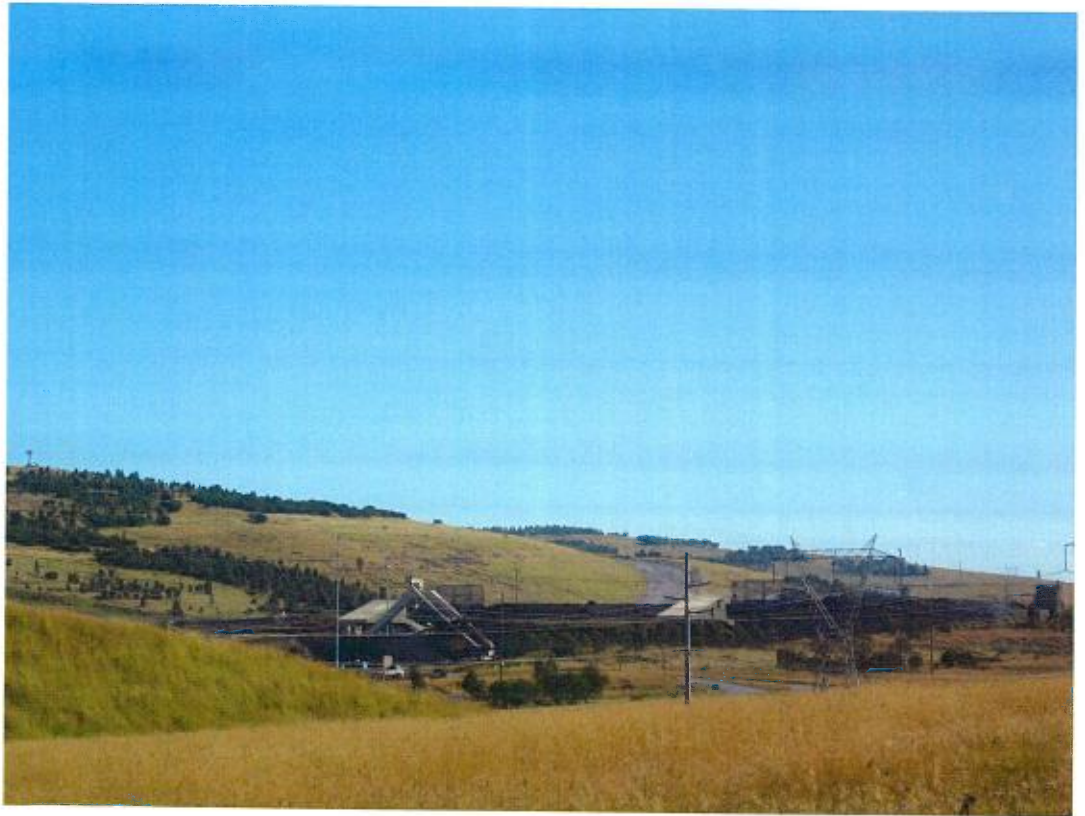
Photograph D.2 View of existing ROM bins at WML



Photograph D.3 View of ROM bin in operation at WML



Photograph D.4 View of existing ROM bins location (behind mounding) at WML from Jerry's Plains Road (Golden Highway)



Photograph D.5 Oblique view of existing ROM bins at WML from Jerry's Plains Road (Golden Highway)

Annex E

Noise Assessment

26 May, 2004

Ms Sarah Fish
Rio Tinto Coal Australia
PO Box 315
SINGELTON NSW 2330

Our Reference: 17639L1-NOISE.DOC



Dear Sarah,

**RE: REJECT BIN MODIFICATION AT WARKWORTH MINE -
ACOUSTIC ADVICE**

1. UPGRADED REJECT BIN

We understand that the proposal includes upgrading the reject bin to a larger capacity and that to accommodate this, the bin location will be shifted westward by approximately 20m. The corresponding reject conveyer will increase in length by approximately 21m. The new bin will be slightly larger with a difference in reject fall height (into the bin) of approximately 2m. The clearance height beneath the bin will also increase by approximately 2m to accommodate larger trucks.

Although the noise from the bin contributes to the overall noise from the Warkworth Coal Preparation Plant (WCPP), based on our observations, it is not itself a readily identifiable noise source at distance. Further, the change in reject fall height from the bin will marginally increase the noise from the bin immediately after the bin has been emptied (calculated increase 0.7dB). However, the use of larger trucks should reduce the frequency of the bin being emptied to between 62 to 78% of the current rate, based on existing and proposed truck capacity. When considered over a relatively long term (eg. an hour) the reduction may be between 1 and 2 dB. This will offset any potential noise increase from the larger bin.

In the same respect, although the proposed trucks will be larger (CAT 789 SWL 116 dB(A) passby and Leibherr 240 SWL 118 dB(A) passby) may be slightly louder than the existing trucks (CAT 785) we expect the effect to be offset by the reduced use of such trucks. Additionally, the trucks will be drawn from the existing truck fleet. Hence no overall increase in noise due to operating between the reject bin and the stockpile is anticipated.



The reject conveyer is currently approximately 78m long and the proposal will add approximately 21m to the conveyer length. The conveyer was measured as producing 80dB(A)/m at 1m or a sound power level of 86 dB(A)/m. For the existing 78m of conveyer, this gives a total sound power level of the conveyer of 105dB(A) when considered as a point source. The addition of approximately 21m of conveyer will change the point source equivalent total sound power level of the conveyer to 106dB(A), an increase of 1dB. Based on our measurements at other coal preparation plants and our experience at Warkworth Mine, the sound power level of the WCPP is significantly louder than this. A 1dB(A) increase to a noise source that is significantly less than the total plant will not change the total. Hence the increased conveyer length is insignificant in noise terms.

2. ROM SHEDS

Inclusion of an open-ended shed over the run-of-mine (ROM) bin will not change the noise emanated from the ROM bin as the source of noise (the stockpile) is well below the shed. Hence, the introduction of the ROM shed will have no net effect on noise from the site.

3. CONCLUSION

Having reviewed the proposed changes to operations at Warkworth we find the proposed installations do not result in a change to the received noise from the plant or the mine at residential locations.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd



Najah Ishac
Senior Acoustic Engineer

Annex F

Air Quality Assessment

**AIR QUALITY ASSESSMENT:
CONSTRUCTION OF ROM SHEDS AND UPGRADE OF REJECT
HANDLING FACILITIES AT WARKWORTH MINE**

24 June 2004

Prepared for
ERM Australia Pty Ltd

by

Holmes Air Sciences
Suite 2B, 14 Glen Street
Eastwood NSW
ACN 003 741 035
ABN 79 003 741 035

Phone (02) 9874 8644
Fax (02) 9874 8904
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Holmes Air Sciences

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2	<u>LOCAL SETTING AND IDENTIFICATION OF ISSUES</u>	1
3	<u>CLIMATE AND METEOROLOGY AND AIR QUALITY</u>	1
4	<u>ESTIMATED EMISSIONS OF PARTICULATE MATTER</u>	2
5	<u>CONCLUSIONS</u>	2
6	<u>REFERENCES</u>	3

FIGURES

(all figures are at the end of the report)

1. Location of projects
2. Proposed ROM sheds
3. Reject bin modification

1 INTRODUCTION

This report has been prepared by Holmes Air Sciences for Environmental Resource Management Australia (ERM). ERM are assisting Coal & Allied to prepare a Section 96 Approval for modifications to the consent for Warkworth Mine.

The purpose of the report is to assess the air quality effects likely to arise as a result of the following works:

1. Construction and use of enclosure over the ROM coal dump hopper (referred to as ROM sheds)
2. Modification to the reject bin used to store washery rejects and to load rejects to trucks.

2 LOCAL SETTING AND IDENTIFICATION OF ISSUES

Figure 1 shows the sites where the construction is to take place. **Figures 2** and **3** show plans of the proposed structures (ROM sheds and modified reject bin, respectively). The sites where the works are required are well removed (over 1 km) from the closest residences.

The ROM sheds (see **Figure 2**) will enclose ROM coal trucks as they unload coal to the ROM receival hopper. The enclosure will shield trucks on two sides and to the rear. It will support a water spray system activated by ultrasonic sensors whenever dumping operations are taking place. The enclosure would be expected to reduce dust emissions to lower levels than occur at present and to lower levels than were assumed in the Environmental Impact Statement (EIS).

The new reject bin will be located immediately to the west of the existing bin and would have a capacity of approximately 550 t. It would require the construction of an extension of the conveyor feeding the bin. This would pass over the top of the existing bin as shown in **Figure 3**. Generally, washery rejects are too damp to be considered a significant source of dust. The performance of the bin, from the point of view of dust emissions, would be similar to that of the existing bin.

The effects of dust emissions from Warkworth Mine were assessed in detail in the recently prepared air quality assessment (**Holmes Air Sciences, 2002**) which supported the Warkworth Mine EIS prepared by ERM.

The potential for the proposed works to adversely affect air quality and alter the conclusions reached in the EIS air quality assessment, depend on the quantity of dust emissions generated by the proposals compared with the total emissions from the mine and on the location of the emissions.

As can be seen from the discussion above the two new structures would either result in lower dust emissions, or similar emissions to those assumed in the EIS.

3 CLIMATE, METEOROLOGY AND AIR QUALITY

The EIS made use of meteorological data collected at a meteorological station located to the east of the Mt Thorley Mine CHPP (at ISG 310300 mE and 1386500 mN) and approximately 4 km southeast of the Warkworth Mine coal stockpiles. The prevailing winds are aligned west-northwest and east-southeast. However, a significant percentage of winds blow from the south particularly in winter and autumn.

Air quality is measured at two monitoring sites, HV1 located to the east of the Warkworth Mine stockpiles (approximately at ISG 308900 mE and 1390000 mN) and HV2 (approximately at 303200 mE and 1392200 mN). These two monitors measure 24-hour average concentrations of TSP every sixth day. Concentrations of 24-hour average PM₁₀ can be inferred from the TSP data. These data showed the influence of the mine. The monitor at HV1 indicated that concentration of PM₁₀ was close to, and did on occasions, exceed the NSW EPA's assessment criterion of 30 µg/m³ on the mine site. Data from HV2 showed that off-site concentrations were significantly below the EPA's criterion.

Of greater relevance for the current assessment is the projections of ambient air quality for future years. Modelling was used to prepare projections for Years 2, 5, 10, 15 and 18 in the life of the Warkworth mine plan. These corresponded to 2004, 2007, 2014, 2019 and 2023 approximately. The projected air quality was used to identify properties that could potentially be affected by emissions from the proposed mine at various stages in the future.

The question that needs to be addressed in this current review is, could emissions from the proposed projects affect the air quality in a way that would change the projected impacts.

4 ESTIMATED EMISSIONS OF PARTICULATE MATTER

The EIS estimated that total TSP emissions from mining at Warkworth Mine would be as follows:

- Year 2 – 5,385 t/y
- Year 5 – 7,950 t/y
- Year 10 – 9,255 t/y
- Year 15 – 8,169 t/y
- Year 18 – 8,052 t/y.

These emissions can be compared with the emissions from the construction work required for the proposed works. A simple analysis indicates that the projects are unlikely to generate significant emissions of dust compared with those from other activities on the mine. Most of the construction work will involve welding and the assembly of steel components. Minor site works will be required. Even after making extremely conservative assumptions about the work involved in preparing the sites, it is found that the emissions will be negligible compared with existing emissions. For example, a bulldozer operating 8 hour per day for four weeks (20 days) undertaking site works, would generate approximately 2.6 t of TSP. This would be less than 0.6% of 449 t of the TSP that would be generated from all Year 2 mining operations over the same four-week period. Any changes in projected air quality due to this level of emission would be impossible to detect.

Operation of the proposed works would either, generate dust emissions that are less than or the same as included in the EIS emissions inventories and thus have already been considered in the dust impact assessment in the EIS. This applies for the ROM sheds and modifications to the reject bin.

5 CONCLUSIONS

The proposed works have been assessed to determine how they might affect air quality.

Construction of the new ROM sheds will not generate significant emissions of dust compared with the overall emissions from the mine and the effect of emissions due to operations of the dump hopper will be less than those assumed in the assessment undertaken in the EIS.

Similarly, modifications to the rejects storage bin will be minor compared with current emissions from the mine and emissions due to operation of the bins and the handling of rejects were considered in the EIS. Note: rejects are considered to be too wet to be a significant source of dust emission during loading and dumping.

Thus, it can be concluded that the proposed works will not have any significant effects on air quality beyond the mine boundary or indeed within the mine. Therefore, no sensitive receptors are predicted to be impacted by the proposed modifications.

6 REFERENCES

Holmes Air Sciences (2002)

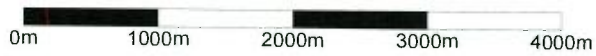
“Air Quality Impact Assessment Extension of Mining Warkworth Coal Mine” Prepared by Holmes Air Sciences, Suite 2B, 14 Glen Street, Eastwood, NSW 2122.

FIGURES

South - North



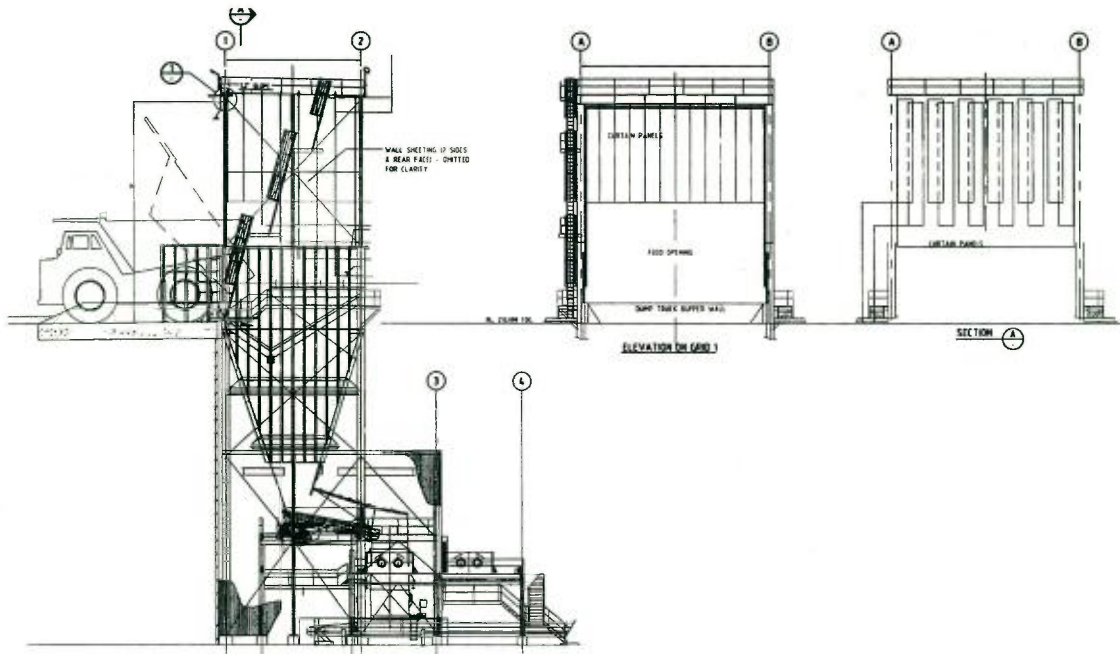
West - East



Location of Projects

(Source: Aerial photograph supplied by Coal & Allied)

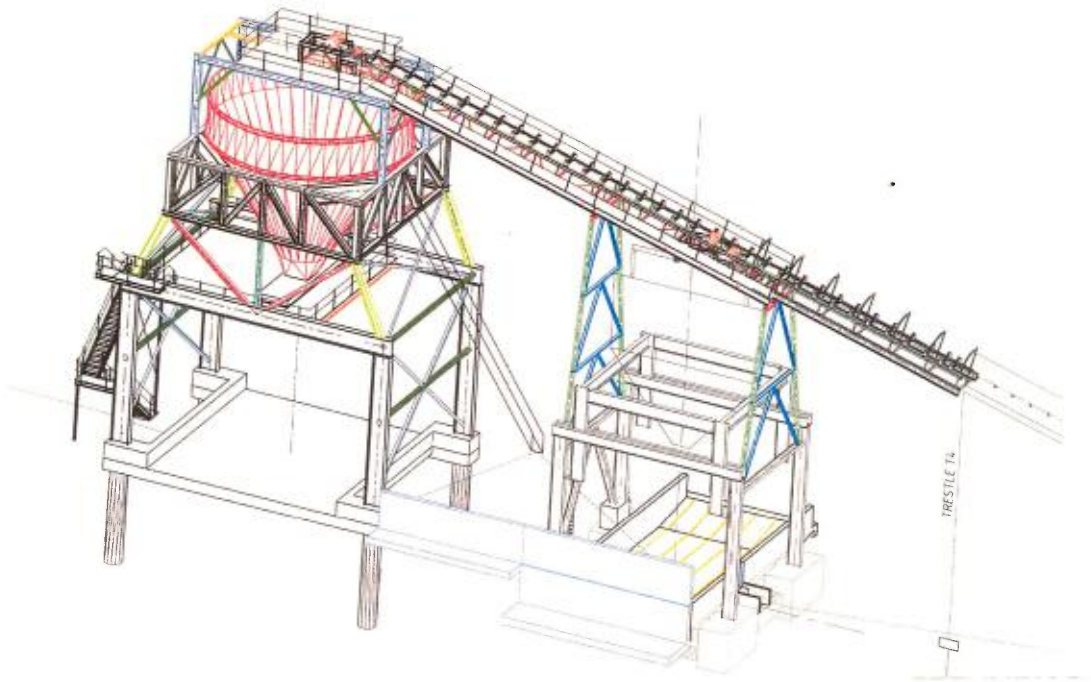
Figure 1



Proposed ROM sheds

(Source: Roberts & Schafer Drawing 02311-SK01)

Figure 2



Reject bin modification

(Source: Coal & Allied Drawing Number PD006)

Figure 3

