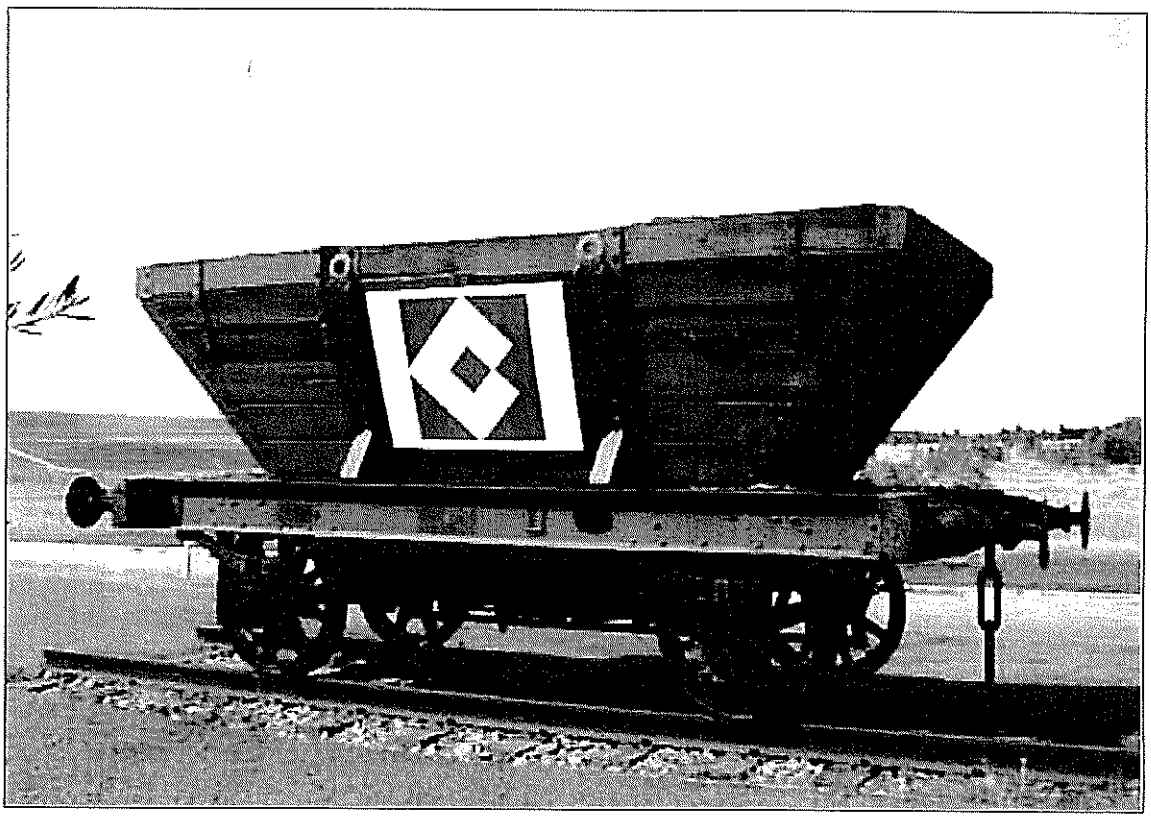
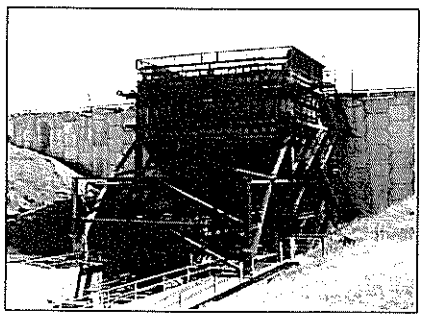
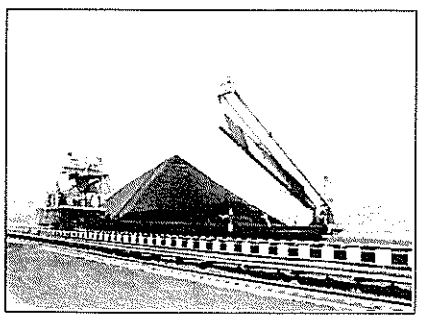
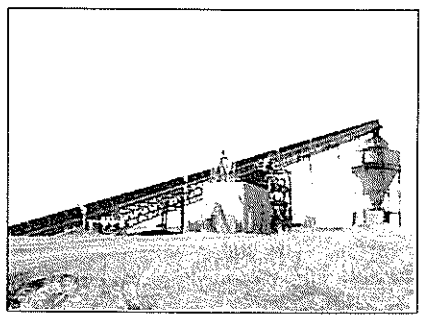
CAMBERWELL COAL PTY LIMITED

COAL HANDLING AND PREPARATION PLANT UPGRADE - CAMBERWELL MINE STATEMENT OF ENVIRONMENTAL EFFECTS VOLUME 1









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Statement of Environmental Effects
Coal Handling and Preparation Plant Upgrade
Camberwell Mine

31 March 2005

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Coal handling and Preparation Plant Upgrade
Camberwell Mine
31 March 2005

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ABBREVIATIONS

ACN	Australian Company Number
AEMR	Annual Environmental Management Report
CCPL	Camberwell Coal Pty Limited
CHPP	Coal Handling and Preparation Plant
DEC	Department of Environment and Conservation
DIPNR	Department of Infrastructure Planning and Natural Resources
DMR	Department of Mineral Resources
DPI	Department of Primary Industries
EPA	Environment Protection Authority
EPI	Environmental Planning Instrument
EP&A Act	Environmental Planning and Assessment Act 1979
EIS	Environmental Impact Statement
HLA	HLA–Envirosciences Pty Limited
ISCST3	Industrial Source Complex – Short Term v3"
LA_{eq}	Equivalent Continuous Noise (A-weighted)
LEP	Local Environment Plan
LGA	Local Government Area
ML	Mega litres
MOP	Mine Operating Plan
Mtpa	Mega tonnes per annum
NIA	Noise Impact Assessment
PM_{10}	Particulate Matter with an aerodynamic diameter of less than 10 micrometers
POEO Act	Protection of the Environment Operations Act 1997
RAC	Rail Access Corporation
REP	Regional Environment Plan
ROM	Run of Mine
ROTAP	Rare or Threatened Australian Plant
RTA	Roads and Traffic Authority
SEE	Statement of Environmental Effects
SEPP	State Environmental Planning Policy
SSC	Singleton Shire Council
tph	Tonnes Per Hour
TSC Act	Threatened Species Conservation Act
TSP	Total Suspended Particulates
WA	Wildlife Atlas

EXECUTIVE SUMMARY

This Statement of Environmental Effects supports the application by Camberwell Coal Pty Limited (Camberwell Coal) to modify its existing development consent, under the provisions of section 96(2) of the Environmental Planning and Assessment Act, to enable an upgrade to its Coal Handling and Preparation Plant (CHPP). The upgrade will facilitate the processing of the increased volume of coal, both that currently approved and that proposed, by Glennies Creek Coal Mine (Glennies Creek).

Several agreements exist between Camberwell Coal and Glennies Creek, which determine that a matching capacity is required in the CHPP for the total output of Glennies Creek and Camberwell.

The increased capacity of the CHPP is proposed to be achieved through modifications to the existing infrastructure of the plant. The proposed upgrade is minor in nature and as such the plant will be substantially the same development.

It is proposed to complete the upgrade in two stages. The first stage (Stage 1B) will increase the throughput of the plant from the currently approved 800 tonnes per hour to 1000 tonnes per hour. The second stage upgrade (Stage 2) will further increase the capacity to 1200 tonnes per hour.

The main environmental aspects of the proposed upgrade relate to air, noise, and waste management.

The Air Quality Impact Assessment reveals that under worst case conditions, cumulative particulate concentrations are predicted to exceed the DEC assessment criteria for TSP (Annual Criteria) and PM_{10} (Annual Criteria) at "Dulwich" (Receptor 39) only. "Dulwich" is located within the current Camberwell Coal zone of affectation. The potential increases in local particulate levels are not considered to be significant, and existing mitigation measures will continue to be employed.

The results of the Noise Impact Assessment show that under worst case operating conditions there is a possibility of a 1dB(A) exceedance of the cumulative noise criterion at the Lambkin and Mordey residences. However, on the basis of the results of regular noise monitoring undertaken to date, an exceedance of the criterion is not likely.

The proposed upgrade will facilitate the removal of all particles greater than 0.5mm from tailings. As a result, the proportion of the smallest size fraction in the tailings reject material will increase after Stage 1. Following the addition of the flotation process in Stage 2 which will enable the removal of a proportion of the fine coal from tailings, the proportion of smaller to larger size particles will return to the current level. The impact of the change in particle size is currently the subject of geotechnical investigation that will be submitted, as agreed by the Department of Infrastructure Planning and Natural Resources (DIPNR), as additional information prior to the commencement of Stage 2.

Conservative assessment of the proposed upgrade reveals that adverse impact to the environment and sensitive receptors will be minimal and manageable.

1 INTRODUCTION

P J. Murray & Associates, on behalf of Camberwell Coal Pty Ltd (Camberwell Coal), has engaged HLA-Envirosciences Pty Limited (HLA) to prepare this Statement of Environmental Effects (SEE) to support an application pursuant to Section 96(2) of the *Environmental Planning and Assessment* (EP&A) *Act, 1979.* This application seeks to modify the development consent determined by the Minister for Planning on 19 March 1990 (DA 86/2889) for Camberwell Coal.

1.1 Background

Camberwell Mine was established in 1990 and included the construction of a Coal Handling and Preparation Plant (CHPP). In November 1991, Maitland Main Collieries Pty Ltd was granted development consent for the construction of the Glennies Creek Coal Mine (Glennies Creek) located adjacent to Camberwell Mine. During 1998 the development consent for Glennies Creek was modified to allow Glennies Creek coal to be transported by haul road to and processed through the Camberwell Coal CHPP for a period of three years.

In 2001 there were modifications to the Glennies Creek and Camberwell Coal consents, which granted approval for the CHPP to receive and process Glennies Creek coal for the life of Glennies Creek operations. As part of those consents, a three-year limitation was placed upon the road haulage of coal and a requirement to install a conveyor was added. In 2004, Camberwell Coal applied for a deferment of conveyor installation and the continued haulage of Glennies Creek coal by truck to the CHPP. The Department of Infrastructure Planning and Natural Resources (DIPNR) approved this application on 10 February 2005.

The development consent for Glennies Creek approved the construction of a CHPP to service that mine. However, with the subsequent approval of modifications in 1998 and 2001, in particular the longterm use of the Camberwell CHPP by Glennies Creek, the construction of the previously approved CHPP has been deferred. This has positive implications, as environmental impacts are restricted to one location and facilities are not unnecessarily duplicated.

1.2 Context of This Proposal

1.2.1 Need for the Project

A number of agreements are in place between Camberwell Coal and Glennies Creek, which require Camberwell to increase in throughput of the CHPP consistent with forecasted increases in coal production at Glennies Creek.

Glennies Creek proposes to increase its underground ROM coal production from the current approved limit of 3 million tonnes per annum (Mtpa) (current actual production of 2.8 Mtpa), to 4.5 Mtpa, with pretreatment at Glennies Creek reducing the amount of coal which will be transported to and processed through the CHPP to 4 Mtpa. Glennies Creek currently have an application before DIPNR (DA105/90-Mod2) to increase the rate of production from the underground workings to 4.5 Mtpa: an increase throughput at the CHPP is a prerequisite for the achievement of both the existing approved and planned increase in production. The quantity of Camberwell coal delivered to and processed in the CHPP will remain unchanged.

1.2.2 Description of the Project

This application seeks to increase the approved throughput of the CHPP from the currently approved 800 tph to 1200 tph of Run Of Mine (ROM) coal. Approval of the increase in CHPP throughput is sought to accommodate both the approved and proposed increased production of coal at Glennies Creek, as well as to maintain the current production levels of Camberwell Coal.

The increased capacity of the CHPP will be achieved through modifications to the existing infrastructure of the plant. The proposed upgrade is minor in nature and as such, the plant will be substantially the same development.

This proposed upgrade was, in part, foreshadowed in the 1990 Camberwell Coal EIS, which stated that Camberwell Coal viewed the recommendation to share rail loading facilities *"as an environmentally desirable option"*. The long term utilisation of the Camberwell Coal CHPP to prepare coal from Glennies Creek is, in effect, a refinement of the 1990 alternative that produces an enhanced *"environmentally desirable option"*.

1.2.3 Statutory Context

The proposed upgrade will not significantly alter the existing development. The function of the CHPP will remain unchanged, however some aspects of the process will be modified to allow a greater throughput. The proposal can therefore be considered to be substantially the same development as that originally approved. Consequently, approval for the proposed modification is sought under the provisions of section 96(2) of the *Environmental Planning and Assessment Act 1979*.

It is noted that DIPNR agreed in correspondence dated 13 October 2004 that the proposal would be considered under section 96(2) of the EP&A Act 1979. A copy of DIPNR's correspondence outlining this advice is included as **Appendix 1**.

1.3 Location

Camberwell Mine is an operating open cut coal mine located 10 km northwest of Singleton (see **Figure 1**). The land is located within part of Coal Lease 357 for which there is no surface exception. Therefore surface operations including open cut mining may be conducted on all the land. **Appendix 2** contains a schedule of lands to which this application applies.

The location of sensitive receptors and the land to which the modification of consent will apply are shown in **Figure 2**. The nearest sensitive receptor, "Dulwich", is located within the existing zone of affectation. The zone of affectation relates to the entire mine operation, with the CHPP only being a minor contributor to the extent of the zone.

1.4 Purpose of this SEE

This SEE has been prepared by HLA for Camberwell Coal, for proposed upgrade to the existing CHPP located at Bridgman Road, Singleton.

The purpose of this SEE is to assess the environmental effects of the proposed upgrade and to describe the measures Camberwell Coal would take to minimise any adverse environmental effects. In addition, this SEE seeks to justify the proposal in the context of section 96(2) of the EP&A Act, by demonstrating that the proposal represents substantially the same development and will not have any significant environmental impacts.

1.5 The Proponent

The proponent for the section 96(2) application for modifications to the development consent for the existing CHPP is Camberwell Coal Pty Limited.

2 THE SITE

2.1 Site Description

The subject site (existing CHPP and associated facilities and proposed modifications) is located within the Camberwell Coal mine off Bridgman Road, Singleton (**Figure 2**). The site is currently occupied by a working CHPP, raw and product coal stockpiles, conveyors and dump hoppers. The site is generally level.

Vehicular access to the CHPP is from Bridgman Road.

2.2 Land Ownership and Legal Description

Camberwell Coal Pty Limited (ACN 003 825 018) operates Camberwell mine on behalf of the Camberwell Coal Joint Venture. The joint venture partners are Toyota Tsusho Mining (Australia) Pty Ltd 40% (ACN 003 765 008), Navidale Pty Ltd 50% (ACN 003 924 972) and Dia Coal Mining (Australia) Pty Ltd 10% (ACN 003 724 249).

The owner of the land is RHA Pastoral Company Pty Limited (RHA), which is wholly owned by the Camberwell Coal Joint Venture.

Land that is the subject of the proposed upgrade is Lot 3 DP 752455 and Lot 174 DP729917, which contain the CHPP, dump hoppers, stockpiles, pumps and pipes.

All lands that are owned by RHA Pastoral Company are listed in **Appendix 2**.

3 PROJECT DESCRIPTION

3.1 Overview of the Project

Camberwell Coal currently undertakes the processing of both Camberwell and Glennies Creek coal within its CHPP. Camberwell Coal proposes to modify the CHPP to increase the throughput of the plant. It is proposed to undertake this upgrade in two stages. In Stage 1 it is proposed to widen the conveyors and reduce the load on the thickener.

In Stage 2 it is proposed to add two flotation columns, an optional teetered bed separator (TBS), an additional dump hopper and an additional coal product valve as well as some other minor modifications, which are outlined in **Section 3.3.2**.

3.2 Existing Development

The existing CHPP has a nominal coal preparation (washing) capacity of 900 tph (averages 880 tph with peaks of up to 1000 tph) and is available to handle and treat coal on a 363 days per year basis. Planned maintenance and unscheduled outages result in an effective availability of the CHPP of approximately 7250 hours per year i.e. 83% overall availability.

The existing CHPP utilises dense medium cyclones and fine coal spirals as the primary means of coal preparation. This equipment is supported by ancillary pumping, screening and coal handling facilities including a fine coal rejects (tailings) thickener to increase the solids content of the tailings prior to its hydraulic transport by pipeline to Camberwell Coal's second tailings dam (TD2) as illustrated in **Figure 3**. Coarse coal rejects are transported by haul truck from the CHPP to the overburden area, currently in the North Pit void, where the coarse rejects are incorporated with overburden in the emplacement area.

The current on-site coal haulage route for the delivery of Glennies Creek coal to Camberwell Coal's CHPP as illustrated in **Figure 2**.

Table 1 indicates the annual production of ROM and saleable coal from both Camberwell Coal and Glennies Creek.

Table 1: Annual Production of Run of Mine and Saleable Coal from 94/95 to 03/04

Year (Sept to Aug)	CAMBERWELL COAL		GLENNIES CREEK	
	ROM (Mt)	Saleable (Mt)	ROM (Mt)	Saleable (Mt)
94/95	3.24	2.02	NA	NA
95/96	3.27	2.07	NA	NA
96/97	3.15	1.82	NA	NA
97/98	3.63	2.18	NA	NA
98/99	3.65	2.23	NA	NA
99/00	3.34	1.88	0.17	0.08
00/01	3.22	1.87	0.38	0.19
01/02	2.92	1.69	0.29	0.12
02/03	3.83	2.32	1.17	0.62
03/04	3.51	2.30	2.05	1.14

Saleable coal yield has generally been in the range of 57% to 62% of Camberwell ROM coal treated by the CHPP, and 55% to 60% for Glennies Creek coal.

Washed coal is transported from CHPP to the Port of Newcastle by rail. Coal is loaded by automated control from a load-out bin located on a rail loop to the south of the CHPP on the mining lease. This rail loop is also utilised by the adjacent Rixs Creek Mine, which has its own dedicated coal stockpiles and rail load-out bin.

For the twelve-month period to the end of December 2004, Camberwell Coal loaded trains with 3,116,675 tonnes saleable coal. Prior to 2004 the quantity of coal railed from Camberwell Coal had typically been within the range of 1.8 to 2.9 Mtpa.

In 2004, trains transporting Camberwell's coal increased in size from 5000 tonnes to 7600 tonnes. As a result more coal is being transported in fewer trains.

3.3 Proposed Development

The transport of 4MTPA of coal from Glennies Creek to the CHPP by the RL 100 haul road was approved by DIPNR on 10 February 2005. Glennies Creek is currently proposing to increase its ROM coal production from the current rate of approximately 2.8 MTPA to 4.5 MTPA. Pre-treatment at Glennies Creek will reduce the amount of underground coal to be processed to 4 MTPA. The CHPP does not currently have the capacity to process the proposed 4MTPA from Glennies Creek.

To facilitate the processing of both the approved and the proposed increased production from Glennies Creek, Camberwell Coal proposes to upgrade the CHPP to increase its nominal throughput to 1200 tph of ROM coal. This will be achieved in two stages.

3.3.1 Proposed Stage 1B Upgrade

The first stage proposes to increase production to 1000 tph, as shown in the flow chart in **Figure 4**. The proposed Stage 1B upgrade will increase the width and slow the speed of two of the raw coal conveyors feeding the plant. The material flow through Module 1 will also be improved in order to relieve some of the restrictions within the plant. Material flow through Module 1 will be improved in the following manner.

- The return medium lines currently reporting to the wing tank will be redirected to the circulating medium sump.
- A new circulating medium pump will be installed along with new piping to deliver medium to the launder and wing tank.
- The magnetite bleed line size will be increased.
- The existing VM1400 centrifuge will be replaced with a new VM1650 centrifuge.
- The two product drain and rinse screens will be sloped at a 5 degree angle.
- The product drain and rinse screen sieve bends will be relocated to suit the modified screens.

It is also planned to relieve some of the load on the existing thickener by installing a new spiral reject dewatering screen and cyclone cluster. This will allow the spirals reject to be trucked back to the mine rather than pumping it to the tailings dams as is the current practice.

3.3.2 Proposed Stage 2 Upgrade

The proposed Stage 2 upgrade will increase the throughput capacity of the CHPP from 1000tph to 1200tph. There are two potential options (referred to herein as Option 1 and Option 2) for the manner in which the proposed modifications will be carried out in Stage 2. The option chosen will be determined based on which will be most efficient. Information to determine this is still being gathered. Both proposed options will include the following:

- The CHPP will be modified to suit the new 1200 tph duty (see Options 1 and 2 below).
- A second dump hopper will be installed to the northwest of the existing dump hopper.
- A conveyor to transport coal from the new dump hopper to the plant feed conveyors will be installed.
- Installation of two flotation cells to reduce the amount of fine coal going to the tailings dam. This will also involve the modification of the existing classifying cyclones and the addition of new vacuum belt filters;
- Installation of an additional coal valve to the end of the existing product stockpile above the TL1 conveyor drive.

The detail below outlines those components that will differ depending on which of the Stage 2 options is ultimately adopted.

3.3.2.1 Option 1

The details of the proposed Option 1 for Stage 2 are illustrated in **Figure 5** and include:

- Addition of a new 900mm wide feed conveyor (RC12) with a new head chute and tertiary crusher feed chute;
- Installation of a new tertiary crusher at the head of the new RC12 conveyor this crusher will be located within the building;
- Replacement of the RC8 conveyor with two new vibrating feeders;
- Re use of RC9 conveyor as is but with divergators removed;

- Surge bin will have a new dual outlet cone section fitted to feed the new conveyor RC12 and to new vibrating feeders;

Module 1

- Installation of a new desliming screen.

Module 2

- Installation of a new static sieve prior to product drain and rinse screen;
- Installation of a new wing tank;
- Raising the height of the circulating medium tank;
- Installation of a new circulating medium pump;
- Installation of a new 1150mm dense medium cyclone that comes with overflow and underflow boxes; and
- Modification to the spillage bucket elevator.

Medium Circuit

- Installation of a new magnetic separator.

3.3.2.2 Option 2

The details of the proposed Option 2 within Stage 2 are shown in **Figure 6** and include:

RC9 Conveyor

- Increasing the width and reducing the speed of the conveyor.

Classifying cyclones

- Modifying cyclones to suit new duty.

Teetered Bed Separator

- Installation of two Teetered Bed Separators between the classifying cyclones and the spirals;
- Direct reject to dewatering screen; and
- Directing product to a sieve bend. Overflow of the sieve bend to fine coal centrifuges and underflow to spirals for further treatment.

3.3.3 Site Preparation

As the majority of the changes required for the proposed upgrade, particularly in Stage 1, involve changes to equipment within the existing building there is little site preparation required.

For Stage 2, site preparation activities are required to enable:

- The installation of the seventh product coal cell. This will require the laying of foundations and a small amount of fill.
- The construction of an additional dump hopper. This will require some cutting and filling as well as laying of foundations.

For Option 1, foundations will be required for:

- the new product D&R screen which will be positioned outside the original building;
- flotation cells, vacuum pumps and the belt filter;
- one sump within the plant; and
- the new conveyor feeding the plant.

For the Option 2, foundations will be required for:

- the new teetered bed separators that will be positioned outside the original building;
- flotation cells, vacuum pumps and the belt filter; and
- one sump within the plant.

3.3.4 Stormwater Drainage

In 2001, Camberwell Coal engaged Hannan Environmental Management to undertake a review of the mine's surface water management system. The review suggested improvements to the system with an emphasis on the diversion of clean water away from the mine's water management facilities and towards natural drainage lines. These suggestions have been implemented and the surface runoff from undisturbed land is kept separate from saline pit and process water at all times. The proposed upgrade will not have any impact upon this surface water management system.

3.3.5 Car Parking and Amenities

As discussed in Section 3.3.8, additional mine employment will be generated as a result of the proposed modifications. Car parking spaces for additional site employees will be allocated within the existing parking area adjacent to Camberwell Coal's administration building. Amenities for site employees are provided within that building.

3.3.6 Environmental Management

An Environmental Management System has been developed for the site. This system is available to all staff and addresses environmental induction and issues such as spill cleanup protocols.

3.3.7 Hours of Operation

The plant will continue to nominally operate on a 363 days per year basis for 24 hours each day. It is expected that the productive operating hours of the plant after maintenance and other delays will remain at approximately 7250 hours per year i.e. about 83% availability.

3.3.8 Workforce Requirements

The total number of employees currently working at Camberwell Coal is 201. Employment demography is shown in **Table 2**. There will be an additional five staff employed as a result of the proposed upgrade.

Table 2: Employment Demography

Place of Residence	Number	Percent %
Singleton, Bulga, Broke, Glennies Creek, Scotts Flat, Mt Olive, Glendon, Jerrys Plains, Mitchells Flat, Glendonbrook, Belford	137	68
Branxton, Greta	15	7
Muswellbrook	14	7
Cessnock, Quorrobolong, Kurri Kurri, Heddon Greta, Aberdare	12	6
Maitland, East Maitland, Metford, Morpeth, Bolwarra, Ashtonfield, Telarah, Rutherford	15	7
Newcastle (and surrounds)	7	4
Gloucester	1	1
Total	**201**	**100**

4 STATUTORY PLANNING CONTEXT

The proponent seeks to modify to the existing development consent under section 96(2) of the *Environmental Planning and Assessment Act 1979*. The proposal is considered to be non-designated development and not integrated development, and will be determined by the Minister for Infrastructure and Planning. This SEE has been prepared to support the application for modification to the development consent DA86/2889 to enable the proposed upgrade.

4.1 Local Planning

4.1.1 Singleton Local Environmental Plan (LEP), 1996

Singleton Local Environmental Plan 1996 (LEP 1996) applies to the CHPP site. Under that instrument the land is zoned 1(a) - Rural Zone. Coal mines and coal works are permissible with consent in this zone. The objectives of the 1(a) Rural Zone are identified in Clause 16 of LEP 1996 as:

(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; and

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

The definition of mining in LEP 1996 includes coal processing which is permissible with consent.

The subject land is not listed in LEP 1996 as being or containing any heritage item, nor is it in a heritage conservation area.

4.1.2 Development Control Plans (DCPs)

Singleton Shire Council's Car Parking Development Control Plan is not applicable to the proposal as there is no increase in the demand for car parking associated with the proposal. Current car parking arrangements are adequate for the proposed upgrade, as original car parking facilities were designed for a larger workforce.

Singleton Shire Council's Erosion and Sediment Development Control Plan applies to any activity that involves or could involve:

- disturbance of or placing fill on the soil surface, and/or changes to the contours of the land; and
- change in the rate and/or volume of runoff flowing over land, or directly or indirectly entering "waters".

The proposed upgrade will have little impact upon overland flow of water. The requirements of this DCP are adequately addressed by conditions in Camberwell Coal's existing consent and the provisions of the Mine Operations Plan (MOP) that has been submitted to, and ratified by the then Department of Mineral Resources (DMR).

4.1.3 Section 94 Contributions

Singleton Shire Council has in place a section 94 Contributions Plan under which it may levy contributions to be applied to the provision of public facilities. Camberwell Coal was required to make a section 94 contribution under the original conditions of consent for Camberwell Mine. The proposed modifications will not generate additional demand for services, which would be funded through section 94.

4.2 Regional Planning

4.2.1 Hunter Regional Environmental Plan 1989

Hunter Regional Environmental Plan 1989 (REP 1989) outlines the factors that should be considered in preparing Local Environment Plans and approving developments. It contains the following goals:

a) to promote the balanced development of the region, the improvement of its urban and rural environments and the orderly and economic development and optimum use of its land and other resources, consistent with conservation of natural and man-made features and so as to meet the needs and aspirations of the community;

b) to coordinate activities related to development in the region so there is optimum social and economic benefit to the community; and

c) to continue to strive for a regional planning process that will serve as a framework for identifying priorities for further investigations to be carried out by the Department [of Infrastructure Planning and Natural Resources] and other agencies.

As the proposed modifications are minor in terms of environmental impact and will provide important economic benefits, the proposal is in keeping with the goals of the Hunter REP.

4.2.2 Hunter Regional Environmental Plan (Heritage) 1989

The Hunter REP (Heritage) 1989 aims to conserve environmental heritage, to promote the appreciation and understanding of the Hunter Region's distinctive variety of cultural heritage items and areas, and to encourage the conservation of the Region's historic townscapes.

The Hunter REP (Heritage) applies to those Local Government Areas identified in Clause 3 of the REP. Singleton LGA is excluded from this list, and therefore the provisions of Hunter REP (Heritage) do not apply to the modification being considered in this proposal.

4.2.3 Hunter Valley Railway Programs Task Force

The Hunter Valley Railway Programs Task Force was formed to identify the impacts of rail traffic on residents within 200 metres of the rail network. The report of the Task Force (Trudeau & Associates 1997) made 22 recommendations aimed at improving:

- The regulatory environment in which the rail network is operated, in particular the noise and vibration criteria applied to rail operations in residential areas;
- Baseline data collection relating to environmental amenity;
- Operation of the rail network, particularly mitigation of primary sources of noise and vibration;
- Management of community relations; and
- Safety of rail operations.

These recommendations for action are directed towards government agencies and corporations, such as Australian Rail Track Corporation (ARTC) and the Department of Environment and Conservation (DEC) who are charged with managing the operational and environmental amenity of the rail network. The Task Force concluded that:

> *The conveyance of freight (including coal) remains the safest, most efficient, most economic and most environmentally responsible means of transport. The current policy and practice of rail encouragement and development should therefore be maintained.*

4.3 State Planning

The following State Environmental Planning Policies (SEPPs) are potentially applicable to this proposal:

4.3.1 State Environmental Planning Policy No 11 – Traffic Generating Developments

State Environmental Planning Policy 11 – Traffic Generating Development (SEPP) requires that certain development applications listed in Schedules 1 and 2 of the policy be referred to the Roads and Traffic Authority (RTA) for comment before approval can be given.

Schedule 1 of the policy includes development for "extractive industry and mining", therefore the original development would have been subject to the provisions of this policy. The proposed development is for a modification to an existing consent and there will be no increase in traffic on public roads as a result of the modification. Therefore the provisions of SEPP11 do not apply.

4.3.2 State Environmental Planning Policy No 34 – Major Employment Generating Industrial Development

State Environmental Planning Policy 34 – Major Employment Generating Industrial Development (SEPP34) applies to certain development listed under Schedule 1 of the policy and provides that for such development:

- Development consent is required;
- The Minister is the Consent Authority; and
- The local Council must be consulted and any submissions received considered in the determination of the application.

The original development on the site is included within Schedule 1 of the policy as development which (after the construction phase) employs 100 or more persons on a full-time basis for the purpose of mining. The subject application is for a modification to the existing development consent and therefore the above provisions of SEPP34 do not apply. The role of the Minister in this modification stems from his role as the consent authority for the original development.

4.3.3 State Environmental Planning Policy No 44 – Koala Habitat Protection

State Environmental Planning Policy 44 – Koala Habitat Protection (SEPP44) applies to land within certain local government areas including Singleton, on sites greater than 1 hectare in area. The policy requires that an assessment be undertaken to determine whether the subject land constitutes potential koala habitat prior to consent being granted for development.

The proposed modifications at Camberwell only apply to land that has been previously mined by open cut methods or land that has existing infrastructure located upon it. There are no trees to be removed and therefore SEPP 44 will have no practical application.

4.3.4 State Environmental Planning Policy No 45 – Permissibility of Mining

State Environmental Planning Policy 45 – Permissibility of Mining (SEPP45) removes the effect of certain provisions in environmental planning instruments that might, in the absence of the policy determine whether or not a proposed development for mining would be permissible with consent and whether or not that consent is granted. The policy does not affect provisions in environmental planning instruments that have no relevance in determining whether or not mining is permitted on land. It applies only to those provisions that must be satisfied for mining (including coal processing) to be permissible. The Singleton LEP permits mining in the applicable 1(a) Rural Zone therefore the provisions of this policy are not relevant to the proposal.

4.4 Environmental Planning and Assessment Act

The *Environmental Planning and Assessment Act* (EP&A Act) and the *Environmental Planning and Assessment Regulation* (EP&A Regulation) provide a framework for environmental planning in NSW and include provisions to ensure that proposals, which have the potential to significantly affect the environment, are subject to detailed assessment, and provide opportunity for public involvement.

The EP&A Act describes different types of development in three broad categories, being development that does not require development consent, development that requires consent and development that is prohibited. Part 4 of the EP&A Act establishes the processes and matters for consideration by consent authorities when determining the impact of developments which requires development consent.

Section 96 of the EP&A Act provides for modifications to development consents primarily under two circumstances:

- Section 96(I) is for modifications involving minor error, misdescription or miscalculation.
- Section 96(2) is for modifications where the modified development is substantially the same as the original development.

This application seeks modifications under Section 96(2) of the EP&A Act.

4.4.1 Permissibility

Singleton Local Environmental Plan 1996 (LEP 1996) applies to the CHPP site. Under that instrument the land is zoned 1(a) - Rural Zone. Coal mines and coal works are permissible with consent in this zone.

4.4.2 Section 96(2) Modification

The proposed upgrade will not significantly alter the existing development. The function of the CHPP will remain unchanged, however some aspects of the process will be modified to allow a greater throughput. The proposal can therefore be considered to be substantially the same development as that originally approved. Consequently, approval for the proposed modification is sought under the provisions of Section 96(2) of the *Environmental Planning and Assessment Act 1979.*

4.4.3 State Significant Development

Under section 76A(7) of the EP&A Act, State significant development is identified as development:

(a) That is declared by a SEPP or a REP to be State significant development, and that may be carried out with development consent, or

(b) Particular development, or a particular class of development that, under an EPI may be carried out with development consent, and that, in the opinion of the Minister, is of State or regional environmental planning significance. The Minister is required to have declared by notice in the Gazette, a particular development to be State significant development, or

(c) Development that is proposed to be carried out in accordance with a development application that the Minister has directed, under section 88A, to be referred to the Minister for determination, or

(d) Prohibited development in respect of which a direction by the Minister under section 89 is in force.

The proposal is for a modification to an existing development consent and does not constitute State significant development.

4.4.4 Designated Development

Section 77A of the EP&A Act identifies designated development as development that is declared by an Environmental Planning Instrument (EPI) or the EP&A Regulation.

The proposal is not an application for development but an application for modification to an existing consent and therefore does not constitute designated development.

4.4.5 Integrated Development

Integrated development is development (not being complying development) that in order for it to be carried out, requires development consent and approval from a government agency under one or more of the provisions of the following legislation:

- *Fisheries Management Act 1994 (sections 144, 201, 205 and 209);*
- *Heritage Act 1977 (section 58);*
- *Mine Subsidence Compensation Act 1961 (section 15);*
- *National Parks and Wildlife Act 1974 (section 90);*
- *Protection of the Environment Operations Act 1997 (sections 43(a), 43(b), 43(d), 47, 48, 55 and 122);*
- *Roads Act 1993 (section 138)*
- *Rural Fires Act 1997 (section 100B);* and
- *Water Management Act 2000 (sections 89,90 and 91).*

The proposed modification to DA 86/2889 is not a development application requiring development consent and therefore the current application is not integrated development.

Camberwell Coal is the holder of Environmental Protection Licence No. 3390 issued under Section 55 of the *Protection of the Environment Operations Act 1997* (POEO Act). Should approval be given for the proposed modification, a variation to Camberwell Coal's Environment Protection Licence will be required under Section 58 of the POEO Act. Currently Camberwell is licensed to produce 3,500,000 tonnes of saleable material per annum. The initial upgrade will require the submission of a licence variation application to increase the fee category to >3,500,000 – 5,000,000 tonnes.

4.5 Proposed Modifications to Consent Conditions

On 19 March 1990, the Minister for Local Government and Minister for Planning granted consent for the construction and operation of a surface coal mine by Camberwell Coal. There have been six subsequent modifications to the original consent. Copies of these consents and modifications are attached at **Appendix 3**.

The following is a list of the modifications that have been made to the original consent.

- 22 April 1992 – for the construction and operation of tailings disposal ponds;
- 22 December 1994 – to modify the due date of the annual report;
- 6 May 1999 – to delete the condition regarding the cumulative impact study;
- 18 December 2001 – to upgrade the CHPP to process Glennies Creek Coal for the life of that mine and to construct a conveyor between Glennies Creek and the CHPP; and
- 22 December 2003 – to allow the transportation of raw coal from Glennies Creek across the Camberwell mining lease.
- 10 February 2005 – to extend the duration of haulage of coal from Glennies Creek until December 2010.

AGC Woodward-Clyde undertook a compliance audit of Camberwell Coal in 1998 on behalf of the Department of Urban Affairs and Planning. The audit comprised an assessment of whether the mine had been constructed and was operating in accordance with the conditions of development consent. The audit concluded that there were no significant issues of non-compliance.

The proposed modifications to the current conditions of development consent are primarily to allow for an increase in the throughput of the CHPP. **Appendix 3** lists the original conditions of consent and all subsequent modifications.

The approval of the proposed modifications would require the addition of the following condition at Condition 1:

> "As modified by the information contained within, and the works set out in the *Statement of Environmental Effects, Coal Handling and Preparation Plant Upgrade, Camberwell Mine 2005*".

4.6 Consultation with Government Agencies

4.6.1 DIPNR Requirements

DIPNR was consulted regarding the requirements for this SEE on 15 September 2004. Copies of this correspondence and the response from DIPNR are included in **Appendix 1**. **Table 3** summarises DIPNR's requirements and identifies the section within this SEE where each requirement is addressed.

Table 3: Checklist of DIPNR Requirements

DIPNR Requirements for SEE Content	SEE Report Reference
Consideration of the use of the statutory provisions relevant to the modifications.	Section 4
Justification for the use of Section 96(2).	Section 4
Details of elements of the construction and operation of the proposal.	Section 3
Clear Map representing existing operation and proposed elements marked.	Figure 5
A schedule of property descriptions to which the application applies, with ownership details.	Section 2.2 & Appendix 2
Copy of current development consents with previous modifications.	Appendix 3
Details of how the proposed modification will affect the existing development consent at the Camberwell Mine	Section 4.5
Details of how the proposed modification will affect operations at the Camberwell Coal Mine and interactions with the Glennies Creek Coal Mine	Section 3
Details and documentation of consultation undertaken with relevant government agencies	Section 4 & Appendix 4
Details and documentation of consultation undertaken with the potentially affected community, in regards to the proposal	Section 6.5
Description of the existing environment of the area	Section 5
Assessment of the potential impacts on environmental considerations	Section 5
Details of proposed mitigation and management measures to minimise predicted impacts from the proposal	Section 5
Relevant matters for consideration under Section 76(C) of the *Environmental Planning and Assessment Act 1979.*	Section 6

4.6.2 Other Agency Requirements

The DEC, Singleton Council and the Department of Primary Industries (DPI) were consulted in early February 2005 regarding their requirements for the SEE. This correspondence is included in **Appendix 4.** The issues raised by each of the organisations are summarised in **Table 4** below and are discussed in detail in **Section 5**.

Table 4: Issues Raised by Council and Other Government Departments

Government Agency Consulted	Issues to be Addressed in the SEE
Department of Environment and Conservation	Air quality impacts
	Acoustic impacts
	Water management
	Lighting
Department of Primary Industries	Issues to be Addressed in the SEE
	Lighting
	Reject and tailings management
	Rehabilitation of tailings dam
	Water management
Singleton Council	Issues to be Addressed in the SEE
	Lighting
	Noise
	Dust
	Use of Council Roads
	Water Management

5 ENVIRONMENTAL IMPACT ASSESSMENT

A detailed description of the existing environment and the interaction of the proposed upgrade is provided in the following sections.

The proposed upgrade will incorporate a number of mitigation measures, which are identified in this SEE and include dust suppression sprays and the housing of particular equipment within the CHPP building.

5.1 Air Quality

HLA-Envirosciences conducted an assessment of potential air quality impacts. The full report of this assessment is attached at **Appendix 5.**

The report was prepared in accordance with the *Approved Methods and Guidance: For the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2001)* and the *National Environment Protection Measure for Ambient Air Quality (NEPC, 1998).*

This assessment was prepared using the following goals:

- DEC 24-hour PM_{10} 50 $\mu g/m^3$ standard to assess increases due to the proposed CHPP upgrade and reject haulage activities in isolation from existing environment PM_{10} concentrations;
- US EPA 24-hour PM_{10} 150 $\mu g/m^3$ standard to assess cumulative impacts;
- DEC annual average PM_{10} 30 $\mu g/m^3$ standard to assess cumulative impacts;
- DEC annual average TSP 90 $\mu g/m^3$ standard for sensitive receptor sites; and
- DEC annual average 2 g/m^2 month maximum increase and 4 g/m^2 month maximum dust deposition rates.

5.1.1 Existing Environment

Monitoring of ambient air quality in the area immediately surrounding the CHPP has been carried out since September 2000 for Total Suspended Particulates (TSP). A summary this data is given in **Table 5**. The values for PM_{10} were calculated as 40% of the TSP and are shown in **Table 6**.

Table 5: Camberwell Coal TSP Existing Environment Data (Sept 2000 – February 2004)

Averaging Period	HV1 - Bridgeman	HV2- Dulwich	HV3 – Hardy's
	Annual Average ($\mu g/m^3$)	Annual Average ($\mu g/m^3$)	Annual Average ($\mu g/m^3$)
2000	33	77	59
2001	34	91	56
2002	49	96	74
2003	46	89	56
2004	44	114	64
All Data	41	94	62
Allowable Increase*	49	0	28

*Allowable increase corresponds to the relevant assessment criteria ($90 \mu g/m^3$) less the existing background dust

Table 6: Camberwell Coal PM_{10} Existing Environment Data (Sept 2000 – February 2004)

Averaging Period	HV1 – Bridgeman		HV2- Dulwich		HV3 – Hardy's	
	Avg	Max	Avg	Max	Avg	Max
2000	13	27	31	82	23	42
2001	14	86	37	122	23	47
2002	20	52	38	95	30	90
2003	18	86	35	101	22	71
2004 (available data)	18	29	46	75	26	32
All Data	17	86	37	122	25	90
Allow.Increase[1] 24hr[2]	64		28		60	
Allow.Increase[1] Ann.[3]	13		0		5	

All units are $\mu g/m^3$
[1] Allowable increase means the relevant criteria less the existing background dust
[2] Cumulative assessment criteria for particulates are 150 $\mu g/m^3$ for 24 hour average PM_{10} concentrations; and
[3] Cumulative assessment criteria for particulates are 30 $\mu g/m^3$ for annual average PM_{10} concentrations.

The data indicates that at the Dulwich property dust levels already exceed the assessment criteria. Dulwich is within the zone of affectation for Camberwell Coal as shown in **Figure 2.**

5.1.2 Assessment of Impacts During Construction

Minor earthworks will be required during construction of the proposed upgrade. During this construction period, some exposure of soils may occur which may give rise to dust emissions. Given the minor scale of the earthworks and the implementation of standard dust control safeguards for earthworks activities, the construction phase of the proposed alterations and additions is not predicted to have an adverse impact on air quality.

5.1.3 Assessment of Impacts During Operation

The United States Environmental Protection Agency's Gaussian plume dispersion model "Industrial Source Complex – Short Term v3" (ISCST3) was employed to determine the potential air quality impacts.

Due to the nature of the activity to be undertaken, dust is the only significant air quality issue. Particulate concentrations and dust deposition rates at the nearby sensitive receptors are predicted to increase as a result of the upgrade of the CHPP. It should be noted that this was modelled under worst-case conditions with the mitigation measures normally in place, including water sprays on coal stockpiles and the dump hopper, not considered in the model. It should also be noted that in assessing the impacts of Stage 2 of the proposed upgrade the worst case scenario was considered (based on Option 1, due to relatively greater dust generating potential that Option 2).

Outside the Camberwell Coal zone of affectation, the maximum increases in particulate concentrations at the sensitive receptors (shown in **Figure 2**) are predicted to be:

- 0.7 $\mu g/m^3$ (Receptor 14) for Total Solid Particulates (TSP);
- 0.2 g/m^2 month (Receptor 35) for dust deposition;
- 0.3 $\mu g/m^3$ (Receptor 14) for annual average PM_{10}; and
- 1.8 $\mu g/m^3$ (Receptor 20) for 24 hour average PM_{10}.

Cumulative particulate concentrations are predicted to exceed the DEC assessment criteria for TSP (Annual Criteria) and PM_{10} (Annual Criteria) at Dulwich (Receptor 39) only. It is noted that Dulwich is located within the current Camberwell Mine zone of affectation.

5.1.4 Environmental Safeguards

Environmental safeguards to protect air quality to be extended as part of the upgrading of the CHPP include:

- The use of dust suppression measures on disturbed areas during construction works;
- Installation of water sprays in the dump hopper and product coal stockpiles;
- The housing of crushers within the CHPP;
- Shielding of the conveyor system.

5.1.5 Conclusion

The predicted increases in dust are not considered to be significant, particularly as the model was run under worse case conditions and is therefore considered to be conservative. In the normal course of operations, Camberwell Coal will have mitigation measures in place such as water sprays on the dump hopper and coal stockpiles to minimise the emission of dust.

5.2 Noise

HLA-Envirosciences contracted Spectrum Acoustics to conduct a Noise Impact Assessment (NIA) for the proposed upgrade of the CHPP. The full report is attached at **Appendix 6**. The assessment methodology adopted was consistent with the requirement identified in the NSW EPA Industrial Noise Policy (INP, 2000).

5.2.1 Existing Environment

The site is located within an established working coal mine and is located in an environment dominated by coal mining. The nearest sensitive receptor, Dulwich, is located within the Camberwell Coal zone of affectation. The zone of affectation relates to the entire mine operation, with the CHPP being a minor contributor to the extent of the zone.

As part of regular noise monitoring at Camberwell, measurements are made at several residences in the vicinity of the mine. Results of this monitoring indicate that received noise levels do not exceed the criterion and are typically less than 36dB(A)$L_{eq\ (15\ min)}$.

5.2.2 Noise Control Criteria

In NSW, criteria for assessing environmental noise impacts are specified by the Department of Environment and Conservation (DEC). Prior to January 2000, guidance for assessing noise impact was documented in the Environmental Noise Control Manual (ENCM, 1994). In January 2000, the Environment Protection Authority (now part of DEC) released its Industrial Noise Policy (INP). The INP is a "whole of Government" policy, which has the concurrence of DIPNR and other State government authorities as well as the DEC.

Noise level criteria for the sensitive receivers identified in **Figure 2** were established as part of the 2004 application to modify the consent to enable the deferment of the overland conveyor installation and the continued internal truck haulage of ROM coal between Glennies Creek and the CHPP. These criteria, applying to combined emissions from Camberwell Coal operations and coal haulage from Glennies Creek, are shown in **Table 7**. As the operations may take place over 24 hours per day and the CHPP provides a constant noise source the more stringent night time criteria are those shown.

Table 7: Noise Criteria at Assessed Receiver Locations

Location	Noise Criteria, LAeq(15-minute)
Mordey	38
Lambkin	38
Payne	36
Egan*	36
Moore*	36
Noble	36
Donellan*	38
Hardy*	38
Richards	39
Watling	39
Proctor	39
Burgess	39
Hall	39
Oxford	39
"Dulwich"	39

Note: Locations marked (*) were not included in the 2001 assessment. Noise criteria for these locations have been adopted from the nearest assessed location.

5.2.3 Operational Impacts

The majority of the proposed changes to the CHPP will not result in any variation to noise emissions. The major noise-producing item will be the new tertiary crusher, however this will be housed within the CHPP. The installation of an additional dump hopper will generate noise and this has been accounted for in the assessment of noise impact. The installation of larger capacity conveyors moving at a lower speed should result in a decrease in noise emissions.

5.2.4 Assessment of Impacts

During the construction phase noise is expected to minimal, as the CHPP will be shut down during this time. Construction noise is expected to be much less than the normal operation of the CHPP.

Table 8 shows that at the Lambkin and Dulwich residences the cumulative noise may exceed the criterion by 1dB(A) under the worst case temperature inversion conditions assessed, and under conditions where noise from the existing mining operations is equal to the criterion. It should be noted that Dulwich is within the current Camberwell Coal zone of affectation.

It should also be noted that these results assume that noise emissions from the existing mine operations were equal to the noise criteria and that in assessing the impacts of Stage 2 the worst case scenario with respect to potential noise was assessed (Option 1, due to the relatively greater noise generating potential than Option 2).

Table 8: Predicted Cumulative Noise Levels

Receiver (No.)	Noise Levels dB(A) Leq (15 min)		
	Existing mine noise (criterion)	Worst case CHPP	Combined total
Mordey (29)	38	32	39
Lambkin (22)	38	31	39
Egan *	36	25	36
Payne (13)	36	20	36
Moore (9)	36	<20	36
Noble (8)	36	<20	36
Donellan *	38	<20	38
Hardy (41)	38	25	38
Richards (40)	39	27	39
Watling (42)	39	26	39
Proctor (44)	39	24	39
Burgess (45)	39	25	39
G. Hall (47)	39	27	39
Oxford (48)	39	28	39
"Dulwich" (39)	39	33	40

*These receivers are not shown on the source map

At the Mordey residence the cumulative noise may exceed the criterion by 1dB(A) under the worst case assessed atmospheric conditions of a temperature inversion or north west wind, providing noise from the existing mining operations is equal to the criterion.

Under the assessed conditions noise from the existing mining operations may be up to 37dB(A) at both the Lambkin and Mordey residences before any additional noise from the upgraded CHPP results in the criterion being equalled. However under all other atmospheric conditions additional noise from the CHPP will not result in cumulative noise emissions exceeding the criteria under the modelled conditions.

Therefore, under worst case operating conditions there is a possibility of a 1dB(A) exceedance of the noise criterion at the Lambkin and Mordey residences. It is widely accepted that a 1dB(A) increase in noise is not discernable to the human ear. Also, on the basis of the results of regular noise monitoring undertaken to date, such an exceedance of the criterion is not likely.

5.2.5 Environmental Safeguards

Environmental safeguards to be implemented and or extended in association with the proposed upgrade in order to protect noise amenity include:

- Noise monitoring at nearby sensitive receptors will continue to occur;
- Noisy equipment is to be housed within the CHPP;
- The dump hopper will not be emptied completely, providing a cushion for incoming coal;
- The proposal to slow the speed and increase the width of the conveyors feeding the CHPP will actually reduce the noise emission.

5.2.6 Conclusion

A predicted maximum cumulative noise impact of up to 1dB(A) is possible at two receivers (Lambkin and Mordey) under worst-case atmospheric conditions. On the basis of the results of regular noise monitoring undertaken to date, such an exceedence is not likely.

5.3 Waste

5.3.1 Existing Waste Generation

Waste generated from the CHPP comprises two forms: coarse reject (larger size coal reject) and fine reject (tailings).

Coarse Reject
Coarse reject is a by-product of the coal washing process. Coarse reject includes reject from the dense medium cyclones and spirals. The size of the reject is generally minus 50mm plus 0.5mm.

Camberwell trucks on their way from the CHPP to the Camberwell Pit currently dump coarse reject from the CHPP in the North Pit void. The North Pit void is expected to reach capacity by the end of 2005. Following this it is proposed that coarse reject will be trucked to the South Pit.

Tailings
Fine reject removed during the coal washing process is referred to as tailings. Due to the relatively smaller particle size distribution, the recovery of tailings during the coal washing process, and the nature of its disposal, is different from that of coarse reject.

Until September 2002, tailings from the CHPP were piped to tailings dam TD1 (see **Figure 3**). When TD1 reached capacity, tailings disposal to TD2 commenced (see **Figure 3**). TD2 currently has a remaining capacity of 3.3 million cubic metres.

Rehabilitation of TD1 is currently taking place under the provisions of Section 127 of the *Coal Mines Regulation Act, 1982*. The application made under this section discussed the interactions between TD1 and TD2.

5.3.2 Assessment of Impacts

A study was carried out by DFP Solutions Pty Ltd to investigate the impact of the proposed upgrades on the tailings particle size distribution. This report is attached at Error! Reference source not found..

5.3.2.1 Coarse Reject

The upgrade will see an increase in coarse reject production due to the removal of the coarser size fraction by using a new spiral reject dewatering screen and flotation cells.

The increased volumes of coarse reject are proposed to continue being disposed of in the existing manner. The North Pit void will reach capacity by the end of 2005 at which time it is proposed to truck coarse reject to the South Pit. Current projections indicate that in 2010 (at the end of the life of Camberwell Coal) there will be a void with a surface area of approximately 32 hectares remaining in the South Pit. This amount is sufficient to avoid concern over the availability of space to dispose of the increase in coarse reject.

5.3.2.2 Tailings

The proposed Stage 1B upgrade will enable the removal of all particles greater than 0.5mm from tailings. Hence, the proportion of the smallest size fraction (0.063mm) in the tailings reject material will increase. The introduction of flotation in Stage 2 will recover a greater proportion of the –0.063mm material which will reduce its proportion in the tailings. This will effectively return the proportion of the +0.063mm material to the current level.

The current tailings dam (TD2) as shown in **Figure 3** has a remaining capacity of 3.3 million cubic metres. TD2 is expected to have adequate capacity for all tailings from the CHPP until 2008 or 2009 when it will reach its final approved level of RL123. Prior to this time an application will be submitted seeking approval to dispose of the remaining tailings from the continued operation of the CHPP to dam D2. D2 has sufficient space to contain tailings from the continued use of the CHPP by Glennies Creek.

Rehabilitation of the original tailings dam (TD1) is currently taking place under the provisions of Section 127 of the *Coal Mines Regulation Act*. Camberwell Coal will apply for a Section 127 approval for TD2 in due course and rehabilitation will commence prior to the closure of Camberwell Mine in about 2010.

5.3.3 Environmental Safeguards

Environmental safeguards with respect to waste management to be implemented as part of the proposed upgrade includes:

- The preparation and submission of a geotechnical investigation to be submitted as additional information, as agreed to by DIPNR, to this SEE.

5.3.4 Conclusion

The impact of the change to tailings management from the Stage 1B upgrade will be temporary, and will not be expected to contribute long term or significant impacts upon the stability of the tailings dam. The impact of the change in particle size due to the Stage 2 upgrade will be subject to geotechnical investigation that will be submitted as additional information, as agreed by DIPNR, to this SEE.

5.4 Hydrology, Hydrogeology and Water Quality

5.4.1 Existing Environment

Currently, 11.1 ML per day of water is reclaimed from dam D1 for use within the CHPP (shown in **Figure 3)** in the washing process. Dam D1 has a capacity of 440 ML. The water in Dam D1 is sourced from the Camberwell South Pit and the sump adjacent to the Glennies Creek mine portals. Within the former Camberwell North Pit there is approximately 60m depth of water.

Approximately 5ML of water per day is transferred from Glennies Creek Mine into D1. This is sourced from the portal sump. Water is periodically pumped from Camberwell Coal's TD2 to D1 at a rate of 6ML per day. All of the water recycled through the CHPP remains in the process water circuit and is not discharged off site or mixed with clean water. As such the CHPP maintains a negative water balance, supporting zero discharge of process water from the site. Losses in the system occur from: evaporation; coal product; water incorporated into tailings and dust suppression.

5.4.2 Assessment of Impacts

Existing the water management system operates near full capacity during extended wet periods. The increased water requirements associated with the proposal will see more water utilised and transported off site with saleable coal product.

The water management system, shown in **Figure 3**, for Camberwell Coal's site will be materially unaffected by the proposal. There will be a small increase of approximately 0.9ML per day of additional water required. The existing sources of process water are expected to be sufficient to supply the increase in water needed for the increased CHPP throughput. There should be no need to apply to extract water from the Hunter River or other sources in view of the large volume of water stored within the former North Pit void.

To ensure delivery of adequate water, an additional raw water pump will be installed at dam D1. A new raw water line will also be installed as shown in **Figure 3**. Raw water will be pumped to the plant through this dedicated line.

5.4.3 Environmental Safeguards

Water management on site will continue to operate under the requirements of the Surface Water Management Plan prepared by Hannan Environmental Management.

5.4.4 Conclusion

The proposed upgrade is not expected to have a significant impact upon water management at the site.

5.5 Heritage

5.5.1 Existing Environment

Indigenous Heritage

No items of aboriginal archaeology were identified in the vicinity of the CHPP in the original 1989 EIS, which supported the original development application for Camberwell Coal. None have been identified on site since, nor would be expected.

Non-Indigenous Heritage

Approximately 2km to the west of the CHPP, on Middle Falbrook Road, is a building known as "Dulwich". This item is listed under "Part 3 – Items classified as being of local significance" of Schedule 3 of the Singleton Local Environmental Plan 1996 (SLEP).

Camberwell Coal's development consent conditions require that all necessary measures shall be taken to ensure that the building known as Dulwich is not materially damaged by blasting arising from the development. It also requires that monitoring take place when blasting occurs. This monitoring has shown that there has been no impact upon the building by blasting at Camberwell mine.

5.5.2 Assessment of Impacts

Indigenous Heritage

Modifications to the CHPP will not involve earthworks in any previously undisturbed areas, and therefore the possibility of discovering any sites or items of aboriginal archaeology is extremely unlikely.

Due to the use of the Camberwell Coal site for open-cut mining and associated activities, the entire ground surface affected by the various components of the proposed upgrade has been disturbed. Consequently no archaeological sites remain to be damaged or threatened by the proposal.

Non-Indigenous Heritage

The proposed upgrade to CHPP operations does not include any blasting activities. As such it is not expected that the upgrade will impact on the structural stability of Dulwich.

5.5.3 Environmental Safeguards

In the unlikely event that any artefacts are encountered during the required earthworks work will cease and the DEC will be contacted.

5.5.4 Conclusion

The proposed upgrade is not expected to have an impact on Indigenous or Non-Indigenous heritage.

5.6 Flora and Fauna

A field survey for flora and fauna on the site was last completed during winter in 1985 (T.J. Fatchen & Associates 1985 – cited in EPPS & Associates 1989) to support the original mining lease application for Camberwell Coal. The mapping completed by EPPS & Associates (1989) was compared to the aerial photography from June 2004 in **Figure 7**, which shows the existing surface facilities. The location of the present development is situated in an area that was mapped in Fatchen (1985) as 'cleared land – dry pasture', with smaller remnants of 'fringing woodland' to the east and 'grassy woodland' where the present day surface facilities are located. There is no habitat remaining in the immediate area of the CHPP.

5.6.1 Existing Flora

The vegetation communities as described in Fatchen (1985) are summarised below:

Cleared Land – Dry Pasture
This community contains isolated trees only and is dominated by native and exotic grass species. This community exists around the coal product stockpile area but not in the direct vicinity of the CHPP.

Fringing Woodland
This community is associated with drainages and is dominated by Swamp Oak (*Casuarina glauca*) and Rough-barked Apple (*Angophora floribunda*). The understorey is generally poorly developed due to shading, however ferns, grasses and sedges are present. This community is present in patches on site but not in the immediate vicinity of the CHPP.

Grassy Woodland
Ironbark (*Eucalyptus crebra*) and Grey Box (*E. moluccana*) dominate this community. In the past grazing limited regeneration and the understorey is therefore poor. A mixture of native and exotic grasses dominates the groundcover. Remnants of this community are present to the south of the existing surface facilities, however not in the immediate vicinity of the CHPP.

A comparison of the mapping undertaken for the 1989 EIS to relatively recent aerial photography shows the area to be highly modified and that the small patches of remnant vegetation will not be impacted upon by the proposed upgrade. Review of the DEC Wildlife Atlas (WA) and Flora On-line data bases reveals that there are no records of Rare Or Threatened Australian Plant (ROTAP) species occurring within 10 km of the proposed developments.

5.6.2 Existing Fauna

The review of the DEC WA identified threatened fauna species that had been recorded within 10 km of the proposed development. The species are listed in **Table 9.**

Table 9: Threatened Species Recorded Within Ten Kilometres of the Site

Species	Threatened Species Conservation Act Status
Speckled Warbler (*Pyrrholaemus sagittatus*)	Vulnerable
Red Goshawk (*Erythrotriorchis radiatus*)	Endangered
Brown Treecreeper (*Climacteris picumnus*)	Vulnerable
Diamond Firetail (*Stagonopleura guttata*)	Vulnerable
Black-chinned Honeyeater (eastern subsp) (*Melithreptus gularis gularis*)	Vulnerable
Hooded Robin (*Melanodryas cucullata*)	Vulnerable
Grey-crowned Babbler (eastern subsp.) (*Pomatostomus temporalis temporalis*)	Vulnerable
Barking Owl (*Ninox connivens*)	Vulnerable
Green and Golden Bell Frog (*Litoria aurea*)	Endangered
Spotted-tailed Quoll (*Dasyurus maculatus*)	Vulnerable
Brush-tailed Phascogale (*Phascogale tapoatafa*)	Vulnerable
Eastern Freetail-bat (*Mormopterus norfolkensis*)	Vulnerable
Squirrel Glider (*Petaurus norfolcensis*)	Vulnerable
Koala (*Phascolarctos cinereus*)	Vulnerable
Grey-headed Flying-fox (*Pteropus poliocephalus*)	Vulnerable
Eastern Bent-wing Bat (*Miniopterus schreibersii oceanensis*)	Vulnerable
Large-footed Myotis (*Myotis adversus*)	Vulnerable

5.6.3 Assessment of Impacts

The site has had a history of disturbances, including present day mining operations. These activities have significantly modified the vegetation and reduced fauna use of the site. The proposed development will not significantly impact species protected by the provisions of the TSC Act as all are either dependant on woodland or aquatic habitats which are absent from the site as shown in **Table 10**.

Table 10: General Habitat Requirements for Threatened Species Recorded Within 10 Km of the Site

Species	Required habitat	Habitat Present on site?	Overall Impact
Speckled Warbler	Foraging: Woodland Breeding: Woodland	No No	None
Red Goshawk	Foraging: Woodland / Riparian Breeding: Woodland	No No	None
Brown Treecreeper	Foraging: Woodland Breeding: Woodland (with hollows)	No No	None
Diamond Firetail	Foraging: Native grassland Breeding: Woodland	No No	None
Black-chinned Honeyeater	Foraging: Woodland Breeding: Woodland	No No	None
Hooded Robin	Foraging: Woodland (near drainage) Breeding: Woodland (near drainage)	No No	None
Grey-crowned Babbler	Foraging: Woodland Breeding: Woodland	No No	None
Barking Owl	Foraging: Woodland (near drainage) Breeding: Woodland (with hollows)	No No	None
Green and Golden Bell Frog	Foraging: Grasslands / aquatic Breeding: Aquatic	No No	None
Spotted-tailed Quoll	Foraging: Woodland Breeding: Woodland	No No	None
Brush-tailed Phascogale	Foraging: Woodland Breeding: Woodland (with hollows)	No No	None
Eastern Freetail-bat	Foraging: Woodland Breeding: Subterranean	No No	None
Squirrel Glider	Foraging: Woodland Breeding: Woodland (with hollows)	No No	None
Koala	Foraging: Woodland Breeding: Woodland	No No	None
Grey-headed Flying-fox	Foraging: Forests / Woodland Breeding: Forests	No No	None
Eastern Bent-wing Bat	Foraging: Woodland Breeding: Subterranean	No No	None
Large-footed Myotis	Foraging: Woodland near water Breeding: Subterranean / Hollows	No No	None

The proposed upgrade will occur within the footprint of the current CHPP where no vegetation communities remain. Connectivity of habitats will not be significantly altered, and important habitat features such as tree hollows, fallen timber, aquatic habitat and flowering plants are absent. Habitat use for flying species will not be significantly altered and foraging habitat for insectivorous bat species will not be significantly impacted. A detailed assessment pursuant to *Section 5A* of the EP&A Act, regarding the impact to any of the threatened species listed in Schedule 1, Part 1 or Schedule 2 of the TSC Act, is not required as no habitats remain in the vicinity of the CHPP.

5.6.4 Endangered Populations

There are no endangered populations, as listed in Schedule 1, Part 2 of the TSC Act, which will be impacted by the proposed development and therefore detailed assessment pursuant to *Section 5A* of the EP&A Act is not required.

5.6.5 Endangered Ecological Communities

The site has been highly modified by agricultural practices and more recently by mining. This has resulted in the removal of the natural woodland vegetation and therefore detailed assessment pursuant to *Section 5A* of the EP&A Act is not required.

5.6.6 Critical Habitat

There are no Critical Habitats registered that may be impacted by the proposed development and therefore detailed assessment pursuant to *Section 5A* of the EP&A Act is not required.

5.6.6.1 Key Threatening Processes

There are no Key Threatening Processes listed in Schedule 3 of the TSC Act that apply to the proposed development and therefore detailed assessment pursuant to *Section 5A* of the EP&A Act is not required.

5.6.7 State Environmental Planning Policy No.44 (Koala Habitat Protection)

The study area is located within the Singleton Shire Council, a Local Government Area (LGA) listed in Schedule 1 of State Environmental Planning Policy No.44 (SEPP No.44). Therefore, SEPP No. 44 applies to development within the LGA. Koalas have been observed 5 km to the east of the site, within an area that was developed as part of the open cut mine. There are no habitat trees within the site, therefore the provisions of SEPP No.44 do not apply.

5.6.8 Conclusion

The proposed upgrade is not likely to have a significant effect on any threatened species, populations or ecological communities, or their habitat, listed under the *Threatened Species Conservation Act 1995*. The preparation of a Species Impact Statement is therefore not required.

Similarly the proposed development is not likely to have a significant impact on any species or communities listed under the *Environmental Protection and Biodiversity Conservation Act,* or their habitat. Referral to the Commonwealth Minister for the Environment for assessment and approval is therefore not required.

5.7 Visual Aspects and Night Lighting

5.7.1 Existing Environment

The CHPP is currently not visible from any sensitive receptor. However, it is visible from a small stretch of the New England Highway.

The CHPP currently operates 24hours per day and therefore currently uses night lighting. To date there have been no complaints from nearby residents regarding lighting at the CHPP.

5.7.2 Assessment of Impacts

The proposed upgrade will not significantly affect the appearance of the exterior of the CHPP. Given the minor nature of the changes proposed, and the distance from which the CHPP can be viewed, the proposed modifications are not expected to have a significant visual impact.

Night lighting at the CHPP will not be altered as a result of the proposed upgrade.

5.7.3 Environmental Safeguards

As the proposed upgrade would not impact on the visual aspects or night lighting at the site or on surrounding lands, no additional safeguard measures are required.

5.7.4 Conclusion

The proposed upgrade will not result in any significant changes to the appearance of the CHPP and there will be no change to the current night lighting arrangement. As such there is not predicted to be an adverse impact on the visual aspects or night lighting at the site.

5.8 Land Use

5.8.1 Surrounding Land Use

The CHPP is situated within a working open cut coal mine and is surrounded by other coal mining operations as well as some agricultural activities.

The nearest sensitive receptor "Dulwich" is located within the zone of affectation. The zone of affectation relates to the entire mine operation, with the CHPP being a minor contributor to the extent of the zone.

5.8.2 Existing and Proposed Land Use

The site currently houses a CHPP. Under the Singleton LEP 1996 the land is zoned 1(a) - Rural Zone. Coal mines and coal works are permissible with consent in this zone.

5.8.3 Assessment of Impact

The area surrounding the subject site is zoned to allow coal mining. These uses have similar environmental issues such as, noise, air quality and waste. Given this, the subject site and the proposed modifications to the existing CHPP are considered to be consistent with surrounding land uses, and will have negligible environmental impact on such uses.

5.8.4 Conclusion

The proposed modifications will not change the range of land uses currently occurring in the locality nor will it preclude other uses which are consistent with the land use provisions of the local environmental planning instrument. The land is suitably zoned for the existing development and the proposed alterations and additions.

5.9 Traffic and Transportation

5.9.1 Existing Transport Network

On-Site Transport

A modification to condition 12 (iv) of Camberwell Coal's consent in 2001 required that within three years of that consent being issued, a conveyor be constructed between Glennies Creek and the CHPP. Since issue of the modified consent several operational problems have been identified which make the construction of a conveyor impractical at this time. As a result, Camberwell submitted a separate application for approval to continue hauling coal by truck and to defer the requirement to construct a conveyor. Conditions of consent were issued by DIPNR on 10 February 2005 to allow continued road haulage until December 2010.

The potential environmental impacts associated with the onsite haulage from Glennies Creek to the CHPP were addressed in the application for approval of 4Mtpa (David Lane and Associates, 2004) and are not the subject of this assessment.

The current on-site coal haulage route for the delivery of Glennies Creek coal to Camberwell Coal's CHPP can be seen in **Figure 2**. Camberwell trucks on their way from the CHPP to the Camberwell Pit currently dump coarse reject from the CHPP in the North Pit void.

Camberwell Coal's current haul truck fleet includes 26 Caterpillar 789 trucks. An additional four Caterpillar 777 haul trucks owned by Brambles Mining and Industrial Services Pty Ltd currently transport coal to the CHPP on behalf of Glennies Creek.

Off-Site Transport

Washed coal is transported from CHPP to the Port of Newcastle by rail. There is no transport of coal off-site by road. Coal is loaded by automated control from a load-out bin located on a rail loop to the south of the CHPP on the mining lease. This rail loop is also utilised by the adjacent Rixs Creek Mine, which has its own dedicated coal stockpiles and rail load-out bin.

For the twelve-month period to the end of December 2004, Camberwell Coal loaded trains with 3,116,675 tonnes saleable coal. Prior to 2004 the quantity of coal railed from Camberwell Coal has typically been within the range of 1.8 to 2.9 Mtpa.

In 2004, trains transporting Camberwell's coal increased in size from 5000 tonnes to 7600 tonnes. As a result more coal is being transported in fewer trains.

5.9.2 Operational Traffic Impacts

On-Site Traffic
The proposed upgrade will see an increase in coarse reject. Coarse reject is currently dumped in Camberwell Coal's North Pit void. The increased volumes will also be disposed of in this manner until capacity is reached by the end of 2005 at which time it is proposed that coarse reject be trucked to the South Pit.

The increase in on-site traffic associated with the haulage from Glennies Creek to the CHPP was addressed in the application for approval to continue hauling coal between Glennies Creek and the CHPP at a rate of 4 Mtpa (David Lane and Associates, 2004) and is not the subject of this assessment.

Off-Site Traffic
The amount of coal transported via rail will increase as a result of the proposed upgrade. There will be no increase in road traffic as a result of the upgrade.

5.9.3 Assessment of Impacts

On-Site Transport
Coarse reject will continue to be dumped in the North Pit void by trucks returning to Camberwell's pit from the CHPP. Therefore no additional truck movements are required for the disposal of coarse reject.

The potential environmental impacts associated with the onsite haulage from Glennies Creek to the CHPP were addressed in the application for approval to continue hauling coal between Glennies Creek and the CHPP at a rate of 4Mtpa (David Lane and Associates, 2004) and are not the subject of this assessment.

Off-Site Impact
All coal is transported from Camberwell Coal to the Port of Newcastle by rail. This method of product transport will not change with the proposal, however the amount of coal transported via this method will increase. The existing rail loading infrastructure at Camberwell Coal will not require modification to accommodate the additional coal tonnages. In 2004 the trains hauling Camberwell's coal changed from 5000 tonne capacity to 7600 tonne capacity, which translated to a 34% reduction in the number of train movements. This change saw a 50% increase in train capacity, the CHPP upgrade will facilitate a 50% increase in production therefore there will be no increase in train movements.

5.9.4 Environmental Safeguards

As the proposed upgrade would not adversely impact on transportation at the site no specific safeguard measures are required.

5.9.5 Conclusion

The proposed upgrade is not predicted to have an adverse impact upon transportation at the site or off the site.

5.10 Social and Economic

5.10.1 Existing Environment

The total number of employees working at Camberwell Coal is 201 as shown in **Table 2**.

5.10.2 Assessment of Impacts

Employment at Camberwell Coal and Glennies Creek will be positively affected by the proposal as an additional five staff will be employed at the CHPP. In addition, the extension of the operational life of the CHPP will see those jobs currently available extended beyond original estimates. The ongoing provision of coal washing services to Glennies Creek will ensure continued viability of Glennies Creek and therefore the continued employment of its staff.

The use of the CHPP, stockpiling, train loading and reject disposal facilities at Camberwell Coal by Glennies Creek provides economic efficiencies. These efficiencies accrue from a reduction in the capital requirement by Glennies Creek to construct duplicate facilities and increased throughput of the existing/upgraded facilities at Camberwell Coal. Both mines will achieve improved economic viability that in turn produces increased security of employment at both mines.

As shown in **Table 2**, more than 75% of Camberwell Coal's employees live in and around Singleton. Most of the disposable income of Camberwell Coal's workforce is spent in the Singleton district, and helps underpin the local economy and maintain the current level of services in the district.

Both mines are important contributors to the State economy by way of coal royalties, State taxes, rail freight charges and port charges. The national economy benefits from export income earned from the sale of Camberwell and Glennies Creek coal and taxes paid by the mine owners and their workforce.

5.10.3 Environmental Safeguards

In the absence of any significant adverse impacts on the social or economic environments, no specific safeguards are required.

5.10.4 Conclusion

The proposed modifications will enhance the operational and environmental performance of the existing facility which is negligible in environmental impacts, and already performs an important role in the local region. The proposed modifications are in character with the surrounding locality.

5.11 Cumulative impacts

Cumulative impacts can result from a number of different elements within a project as well as from a number of different projects with interacting impacts in the same locality. The cumulative impact of a project is a combination of each elemental impact of a project.

The cumulative impact of each of the elements of the proposed upgrade is summarised in **Table 11**. Cumulative impact is deemed to be minimal with no reason identified why the upgrade should not be approved.

Table 11: Cumulative Impacts of Alterations and Additions

Factor	Impact
Air Quality	Cumulative impacts to air are predicted to be minimal and manageable under worst case modelling conditions. Cumulative particulate concentrations are predicted to exceed the DEC assessment criteria for TSP (Annual Criteria) and PM_{10} (Annual Criteria) at Dulwich only. Dulwich is located within the current Camberwell Coal zone of affectation. It should be noted that the existing background particulate levels in the Hunter Valley are elevated above the assessment criteria. The contribution of the proposed upgrade to cumulative particulate levels in the Hunter Valley will be negligible.
Noise	Cumulative noise impacts have been demonstrated to be minimal and manageable under worst case modelling conditions. At two residences the cumulative noise may exceed the criterion by 1dB(A) under the worst-case atmospheric conditions, if noise from the existing mining operations is already equal to the criterion. Monitoring on site has shown that this is unlikely to occur.
Waste	Fine reject emplacement under operation of the Stage 1B upgrade is a short-term situation with minimal change to current management. The effects of the Stage 2 upgrade will be determined in the geotechnical investigation currently being undertaken.
Hydrology, Hydrogeology and Water Quality	The proposed modifications will not substantially alter water management on the site, which is monitored through the Surface Water Management Plan applicable to the site.
Archaeology and Heritage	The site has been subject to significant disturbance by past land use activities. The site is not therefore predicted to contain Aboriginal archaeological sites or heritage items that would be impacted by the proposed upgrade.
Flora and Fauna	The proposed upgrade will not have an adverse impact on flora or fauna.
Visual Aspects and Night Lighting	The proposed upgrade is not predicted to cause a loss of visual amenity in the area. Night lighting will not change.
Landuse	The land use zoning of the site has been established by Council to allow development of the type proposed. As a consequence, and in view of the findings of the environmental assessment undertaken in this SEE, the proposed upgrade would not have a significant impact on existing and surrounding land uses.
Traffic and Transportation	The proposed upgrade is not predicted to have an adverse impact upon transportation on or off the site.
Social and Economic	The proposed upgrade would have positive social and economic impacts.

6 MATTERS FOR CONSIDERATION

The matters listed in section 79C(1) of the EP&A in relation to the assessment of proposed development are listed in **Table 12**. These matters have been covered in previous sections of this SEE.

Table 12: Section 79C Matters for Consideration

Section 79C Matters for Consideration	SEE Report Reference
1 (a) the provisions of:	
(i) any environmental planning instrument;	Section 4
(ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority;	Not Applicable
(iii) any development control plan;	Section 4
(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph); that apply to the land to which the development application relates;	SEE formulated to conform to the Act and regulations
(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;	Section 5
(c) the suitability of the site for the development;	The site is within an approved operating open cut coal mine on suitably zoned land. The proposed upgrade relates to matters concerning coal processing.
(d) any submissions made in accordance with this Act or the regulations; and	Any submissions will be reviewed by DIPNR and the Minister
(e) the public interest.	Section 6

6.1.1 Provisions of Any Environmental Planning Statement

The provisions of any environmental planning instrument –The proposal is consistent with the relevant provisions and objectives, and is permissible with consent.

The provisions of any draft environmental planning instrument – No draft environmental planning instruments apply to the subject land.

Any development control plan – The proposal is consistent with the relevant provisions and objectives of the relevant development control plans.

Any matters presented by the regulations – The proposal is consistent with the requirements of the regulations.

6.1.2 The Likely Impacts of that Development

Context and Setting – The proposed upgrade will not have any significant impact on the context and setting of the existing site. The proposed modifications are in keeping with the existing site and surrounding context.

Access, Transport and Traffic – The proposed upgrade will not have any significant impact upon access, transport and traffic.

Public Domain – The proposed upgrade will not adversely affect the public domain.

Utilities - The site is well serviced with all necessary utility services.

Heritage – The proposed upgrade is situated on cleared and disturbed land. No sites of aboriginal or heritage significance will be impacted upon by the proposed development.

Other Land Resources – The proposed upgrade does not sterilise land, which is a valuable land resource.

Water – The site is covered by an existing water management plan. There is not likely to be an adverse impact upon water resources at the site.

Soils - No disturbance, clearing or excavation of soils is required as part of the proposal, apart from the installation of footings and foundations for some aspects of the proposed modifications.

Air and Microclimate – Despite minor predicted increases in particulate matter, the proposed upgrade will not have an adverse impact upon air quality.

Flora and Fauna – The proposed upgrade will not have an adverse impact on flora or fauna, and will not pose a threat to the biodiversity of the area.

Waste – Waste disposal will continue unchanged from current practice.

Noise and Vibration – There will be no unacceptable noise or vibration impacts as a result of the construction or operation of the proposed facility. Minor increases are predicted under worst case conditions, however these are unlikely to occur.

Natural Hazards – The site is not subject to bushfire risk.

Safety, Security and Crime Prevention - Safety and security measures will be put into place and maintained at all times.

Social Impact in the Locality – The proposed upgrade will not have an adverse social impact in the locality.

Economic Impact in the Locality - The proposed facility will not have an adverse economic impact in the locality.

Site Design and Internal Design – The proposed facility and its operation have been designed to comply with the relevant legislative requirements and will be integrated into the overall operation and function of the site.

Construction - The construction of the proposed alterations and additions is not expected to have an adverse impact on the local or wider environment.

Cumulative Impacts - The impacts of the proposed development are not expected to have a significant adverse cumulative impact.

6.1.3 The Suitability of the Site for the Development

Does the proposal fit the locality? The proposed upgrade is a continuation of the existing use. The proposal fits within the locality as it is located in a mining area, and performs an important role in the locality by providing a CHPP that enhances the viability of the surrounding mines.

Are the site attributes conducive to development? The proposed modifications are an extension of the existing facilities on site and as such the proposal fits well within this context.

6.1.4 Any Submissions make in Accordance with the Act or the Regulations

No public submissions have as yet been received in respect of this application.

6.1.5 The Public Interest

Consultation with the potentially affected community was carried out via the Camberwell Coal Community Consultative Committee. At the meeting held on 7 December 2004, a presentation was given outlining the proposed upgrade. The only comment received was from Mr Larry Burgess (sensitive receptor 45) who was concerned about the large amount of money being spent on a mine that will be closing in five years. It was explained that it is proposed to continue using the CHPP to treat Glennies Creek coal following the closure of Camberwell Coal. The details of this meeting are included in Error! Reference source not found..

7 CONCLUSION

As the proposed upgrade relates to activities at an existing operational coal mine, additional environmental impacts are minimal and manageable. The proposal, as previously foreshadowed in the 2001 SEE for the initial expansion of the Camberwell Coal CHPP, will enable the continued use of Camberwell Coal's CHPP and train loading facility for coal sourced from the adjacent Glennies Creek Coal Mine.

Significant environmental impacts will be avoided, as much of the previously planned surface infrastructure for Glennies Creek Coal Mine will not be constructed as planned.

The predicted noise and air impacts are minimal and manageable and will not have an adverse impact upon sensitive receptors.

8 REFERENCES

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R.W Corkery & Company Pty Limited, 2001, *Statement of Environmental Effects in support of a Section 96(2) Application for the Glennies Creek Coal Mine. P*repared for Namoi Hunter Pty Ltd, Glennies Creek.

Trudeau & Associates, 1997, *Report of the Hunter Valley Railway Programs Task Force, Volumes 1-2*. Prepared for Department of Urban Affairs and Planning, Sydney.

Wildthing Environmental Consultants, 1997, *Flora and Fauna Study as part of a Review of Environmental Factors for the proposed upgrade and partial construction of Stony Creek Road, Singleton NSW.* Prepared for Pacrim Environmental Pty Ltd.

Figures

A4

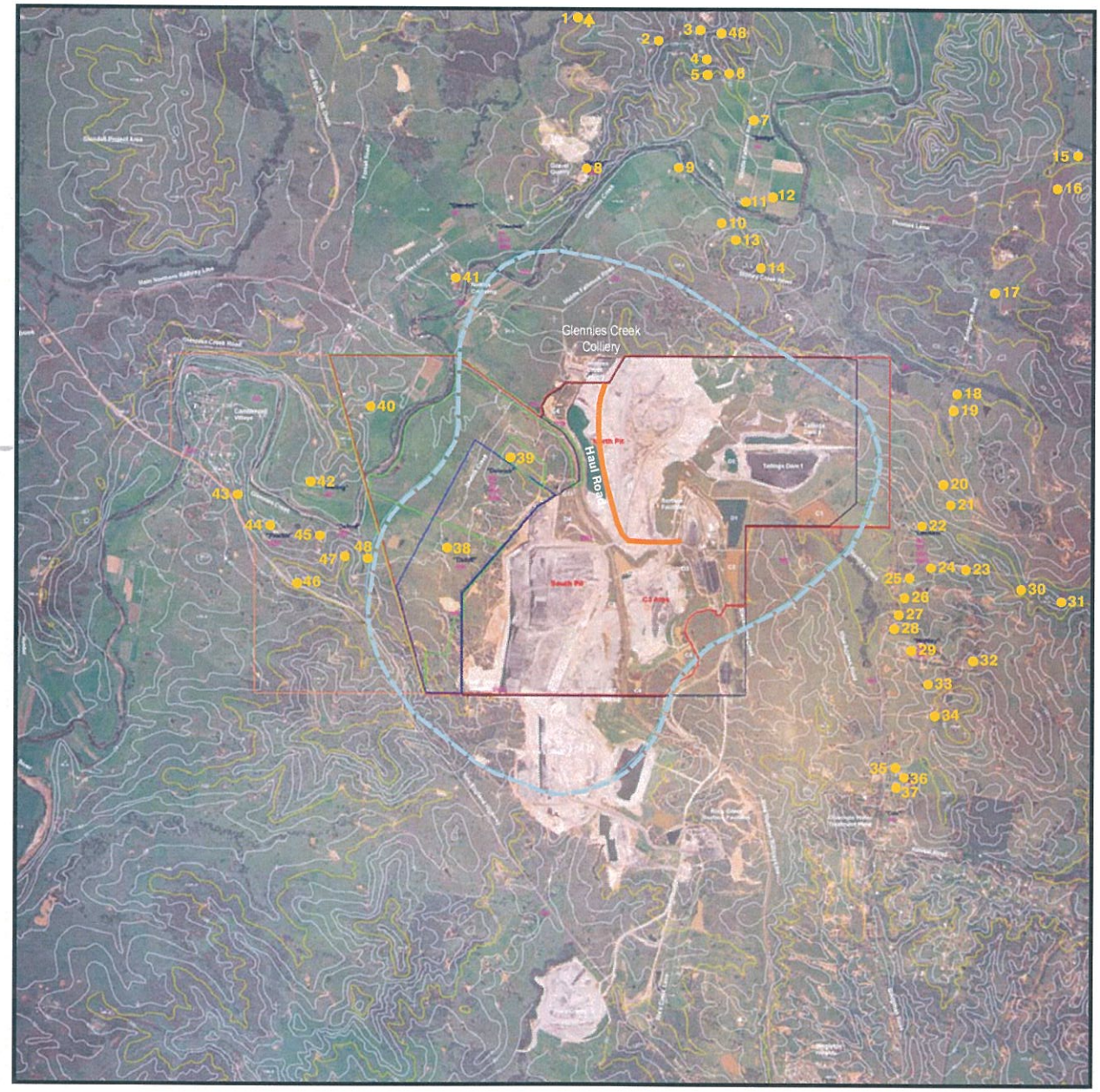
NOTE: Not to scale - for diagrammatic purposes only

HLA

LOCALITY MAP
Camberwell CHPP Upgrade
Camberwell Coal Mine
Singleton NSW

FIGURE
1

PROJECT-FILE NAME N4006401 DATE February 2005 DRAWN amt APPROVED KR



LEGEND:

- Current Zone of Affectation
- 30 — Sensitive Receptors (see table below for description)
- Haul Road

Receptor No.	Receptor
1	Dewar and Fairhall
2	Flynn
3	Mr D. and Mrs T. Watson
4	D. Wilson
5	J. Kemp
6	Scott
7	D. Bridge
8	A. Noble
9	J. Moore
10	B. Cherry
11	G. Cheetham
12	A. Donehue
13	Payne
14	Mr and Mrs B. Evans
15	G. Hamilton
16	D. Hamilton
17	Mr and Mrs G. Lambkin
18	Mrs G. Peebles
19	Mr R. H. Andrews
20	Mr G. Cooper
21	Mr and Mrs C. Lambkin
22	Mr and Mrs A. Lambkin
23	Mr and Mrs G. Barnett
24	Mrs Hogan
25	J. Russell
26	Mr and Mrs F. Ferraro
27	Mr and Mrs E. Kleinmann
28	Mr and Mrs W. Pendered
29	B. Mordey
30	Mr and Mrs H. Morante
31	Mr and Mrs J. Bradford
32	Mr K. Murray
33	Mr and Mrs W. Cox
34	Mr and Mrs D. Cox
35	Mr and Mrs L. Cox
36	Mr and Mrs L. Cox (unoccupied)
37	Mr and Mrs C. Whiting
38	T. Tisdell (Mine Owned)
39	R. Hall (Dulwich)
40	B. Richards
41	Glendell Pty Limited
42	Mrs J. Watling
43	Mt Eather
44	Mr Proctor
45	Mr L. Burgess
46	Mr T. Burgess
47	Mr G. Hall
48	Mrs A. Oxford

PROJECT-FILE NAME	N4006401
DATE	February 2005
DRAWN	amt
APPROVED	KR

0.0 0.5 1.0 1.5 2.0

Kilometres

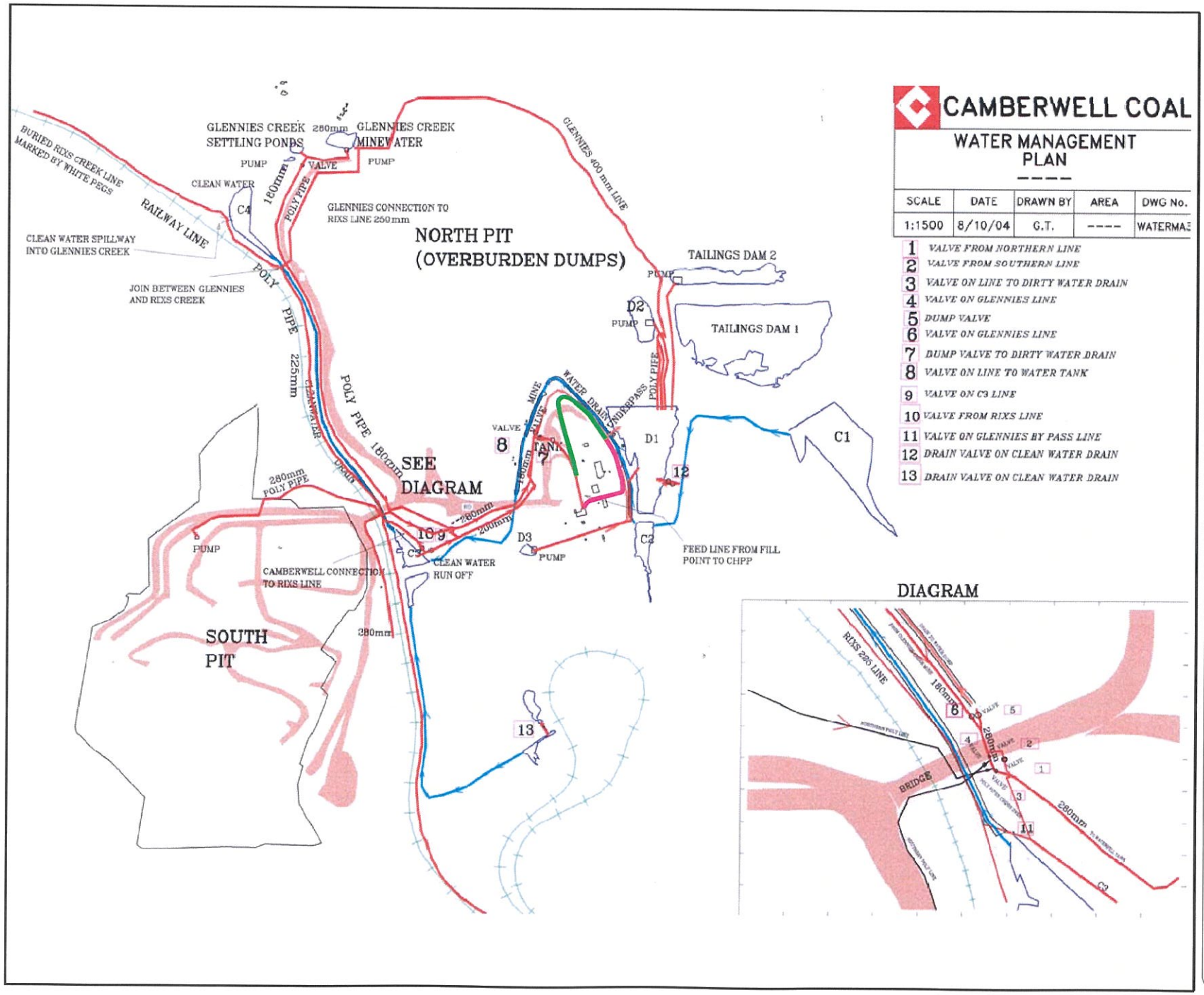
Scale: 1 : 50 000

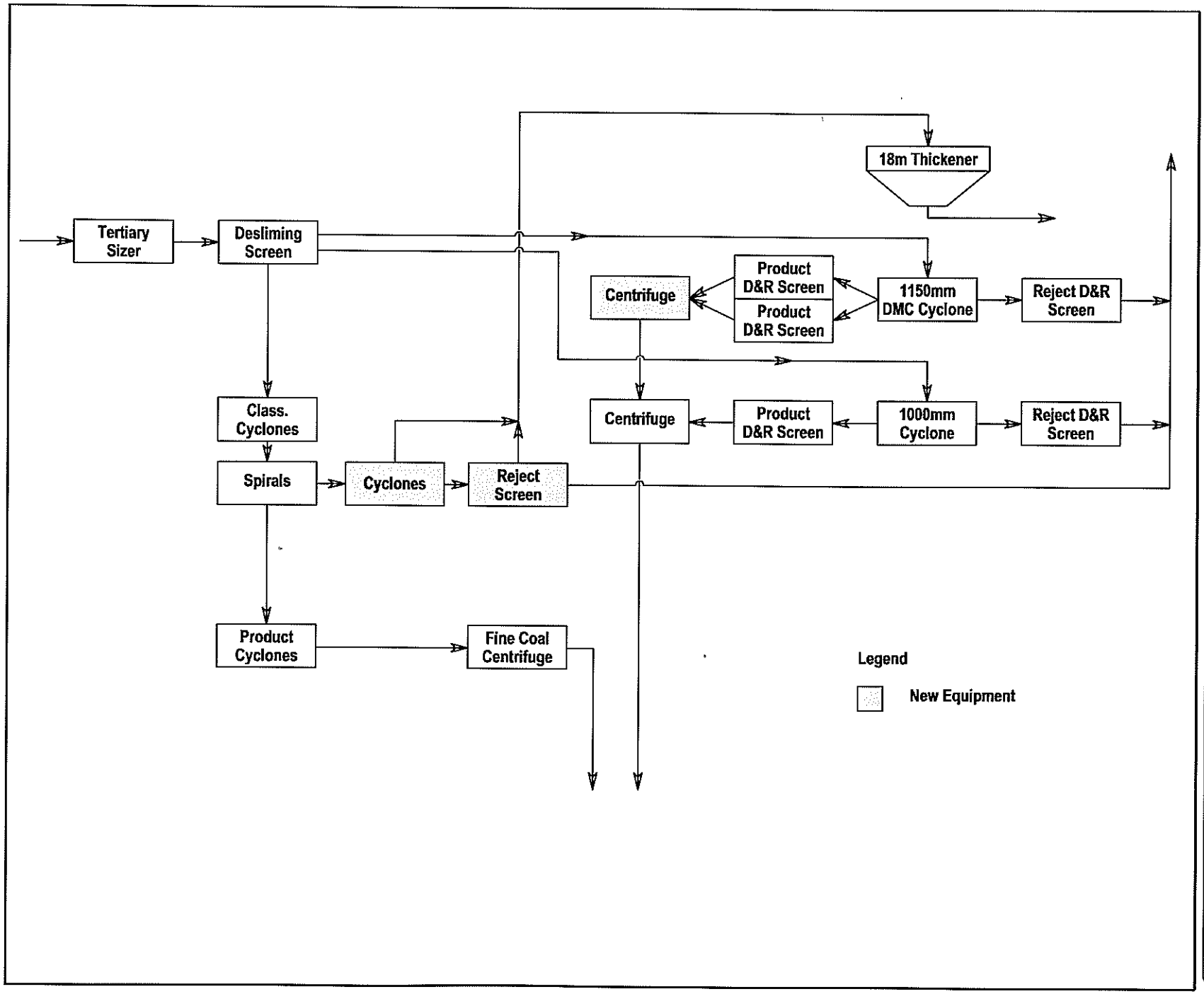
SENSITIVE RECEPTOR LOCATIONS
Camberwell CHPP Upgrade
Camberwell Coal Mine
Singleton, NSW

HLA

FIGURE

2


CAMBERWELL COAL
WATER MANAGEMENT PLAN
SCALE 1:1500 | DATE 8/10/04 | DRAWN BY G.T. | AREA ---- | DWG No. WATERMAP
1 VALVE FROM NORTHERN LINE
2 VALVE FROM SOUTHERN LINE
3 VALVE ON LINE TO DIRTY WATER DRAIN
4 VALVE ON GLENNIES LINE
5 DUMP VALVE
6 VALVE ON GLENNIES LINE
7 DUMP VALVE TO DIRTY WATER DRAIN
8 VALVE ON LINE TO WATER TANK
9 VALVE ON C3 LINE
10 VALVE FROM RIXS LINE
11 VALVE ON GLENNIES BY PASS LINE
12 DRAIN VALVE ON CLEAN WATER DRAIN
13 DRAIN VALVE ON CLEAN WATER DRAIN
GLENNIES CREEK SETTLING PONDS
GLENNIES CREEK MINE WATER
280mm
PUMP
VALVE
CLEAN WATER
C4
180mm POLY PIPE
GLENNIES CONNECTION TO RIXS LINE 250mm
GLENNIES 400 mm LINE
BURIED RIXS CREEK LINE MARKED BY WHITE PEGS
RAILWAY LINE
CLEAN WATER SPILLWAY INTO GLENNIES CREEK
JOIN BETWEEN GLENNIES AND RIXS CREEK
NORTH PIT (OVERBURDEN DUMPS)
TAILINGS DAM 2
TAILINGS DAM 1
D2
POLY PIPE 225mm CLEANWATER
POLY PIPE 180mm
MINE WATER DRAIN
BY PASS
POLY PIPE
VALVE 8
TANK 7
D1
C1
12
SEE DIAGRAM
280mm POLY PIPE
200mm
10 9
C3
D3
C2
CLEAN WATER RUN OFF
FEED LINE FROM FILL POINT TO CHPP
CAMBERWELL CONNECTION TO RIXS LINE
SOUTH PIT
380mm
13
DIAGRAM
RIXS 225 LINE
180mm
280mm
BRIDGE
C2
Legend
Existing pipeline
Proposed pipeline
PROJECT-FILE NAME N4006401
DATE February 2005
DRAWN amt
APPROVED KR
WATER MANAGEMENT PLAN
Camberwell CHPP Upgrade
Camberwell Coal Mine
Singleton, NSW
HLA
FIGURE
3

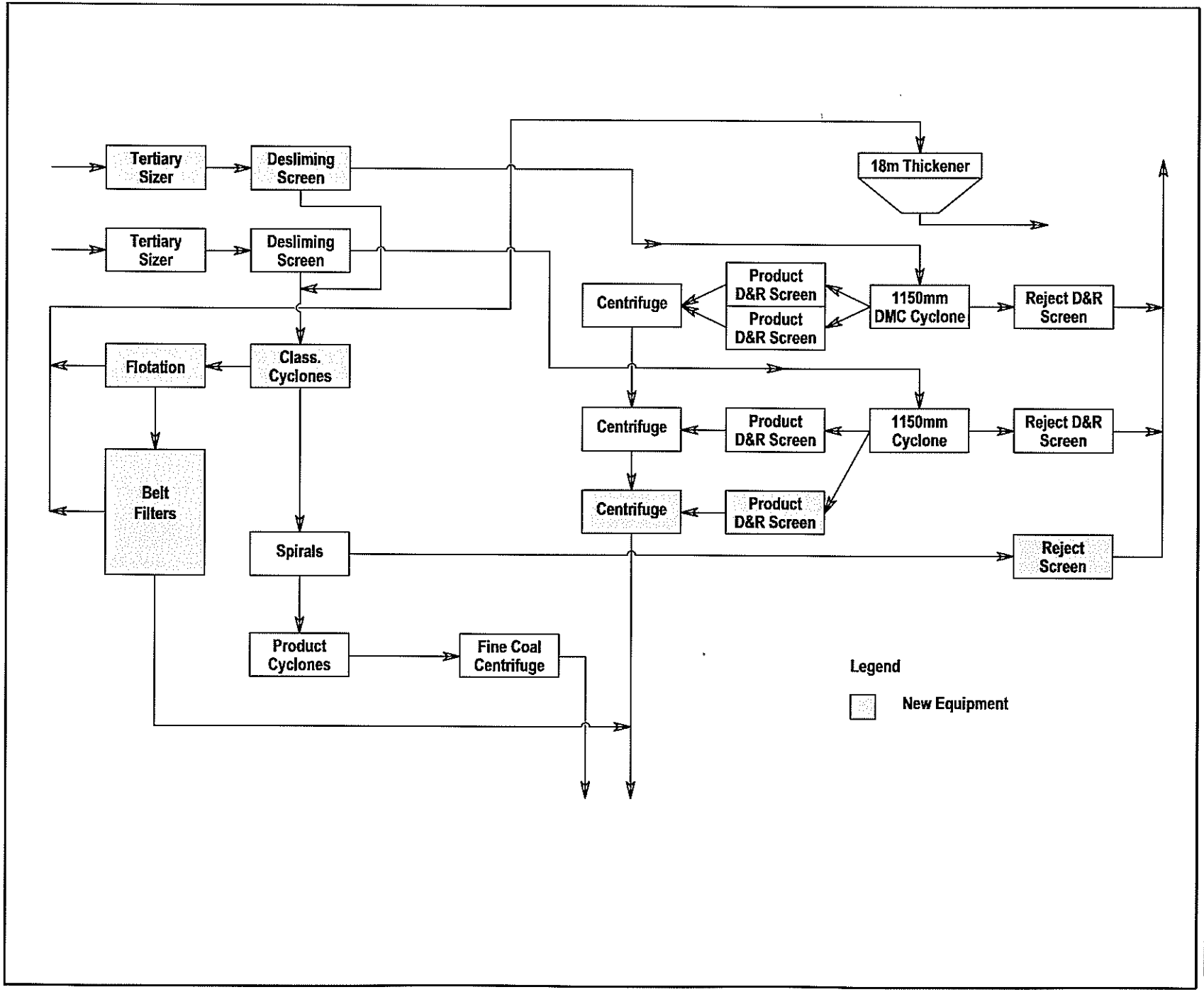


PROJECT-FILE NAME	N4006401
DATE	February 2005
DRAWN	amt
APPROVED	KR

PROPOSED UPGRADE
TO 1000 tph
Camberwell CHPP Upgrade
Camberwell Coal Mine
Singleton, NSW

HLA

FIGURE
4

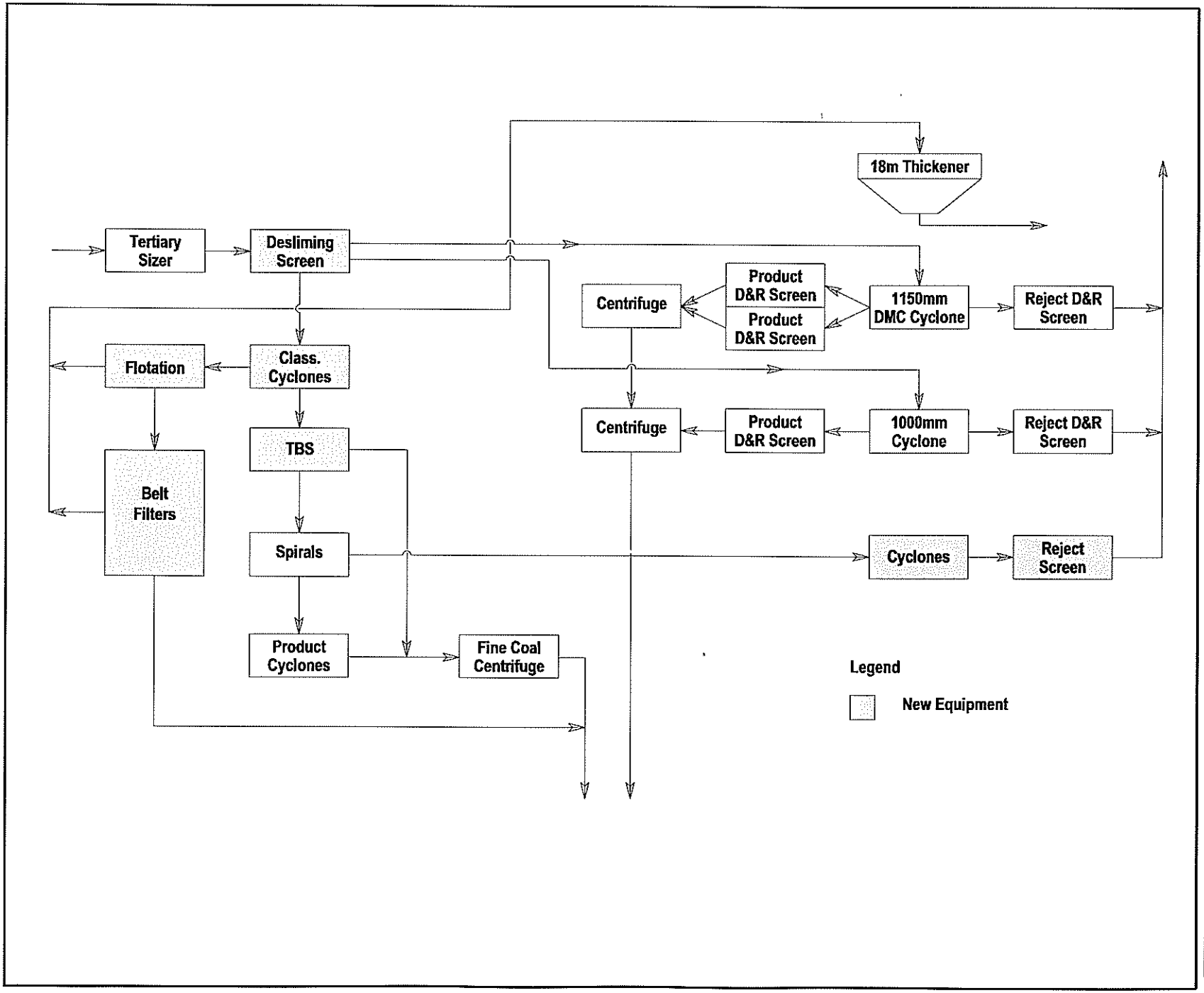


PROJECT-FILE NAME	N4006401
DATE	March 2005
DRAWN	amt
APPROVED	KR

PROPOSED UPGRADE
TO 1200 tph - Stage 2 - Option 1
Camberwell CHPP Upgrade
Camberwell Coal Mine
Singleton, NSW

HLA

FIGURE
5



PROJECT-FILE NAME	N4006401
DATE	March 2005
DRAWN	amt
APPROVED	KR

PROPOSED UPGRADE
TO 1200 tph - Stage 2 - Option 2
Camberwell CHPP Upgrade
Camberwell Coal Mine
Singleton, NSW

HLA

FIGURE
6

PROJECT-FILE NAME	N4006401
DATE	March 2005
DRAWN	amt
APPROVED	KR

AERIAL PHOTOGRAPH OF CHPP

Camberwell CHPP Upgrade

Camberwell Coal Mine
Singleton, NSW

HLA

FIGURE

7