COAL & ALLIED

Managed by Rio Tinto Coal Australia

Mr Alexander Grierson
Planning Officer
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

27 June 2017

Your reference: DA 450-10-2003 Modification 7

Dear Mr Grierson,

Proposed modification 7 to Hunter Valley Operations North development consent (DA 450-10-2003) to amend historical boundary alignment and update the Schedule of Lands

Your email dated 22 June 2017 to Anthony Russo requested further information in the Environmental Assessment (EA) for the Modification 7 application for Hunter Valley Operations (HVO) North.

Specifically you requested that Coal & Allied provide evidence of where the land to be included in the consent boundary has been assessed or considered in previous environmental assessments and development consents.

Attached to this letter are various extracts from previous EISs for HVO North, or its predecessors. The details of how these apply to the application are described below. Also attached are the figures presented in the Modification 7 application.

MLA 489

MLA 489 is contained within the development consent boundary but not contained in the schedule of lands (see Appendix 2). This land parcel enables the establishment of a clean water diversion upslope of the proposed mining area.

This clean water diversion can be seen in Figure 3.1 of Appendix D of the Carrington West Wing EIS (presented in Appendix 1 of this letter). This volume is available on the Department's website via the link below:
https://majorprojects.accelo.com/public/bb5a8779cce7451c49d761140dd148a8/Environmental%20Assessment%20-%20Volume%202.pdf

A comparison of that figure with the proposed development consent boundary amendment presented in Figure 1.3 of Volume 1 of the Carrington West Wing EIS shows that the MLA 489 land parcel was considered by the EIS.

The link to the Volume 1 of the EIS is below:
https://majorprojects.accelo.com/public/51cdce652e2d3f40a1323d31f49c3782/Environmental%20Assessment%20-%20Volume%201.pdf

Section 5.81 of Volume 1 of the CWW EIS states that the study area for the ecological assessment goes beyond the boundaries of the project area and is defined by the extent of the direct and indirect impacts on the flora and fauna that have the potential to occur as a result of the proposal.

The ecology report states that the vast majority of the study area comprises a completely modified landscape, in poor condition, with little or no native vegetation. This modified landscape is shown in Figure 1 with two views of MLA 489 that indicate the cleared and disturbed nature of the vegetation.

Figure 1. Two views of MLA 489 between the Carrington West Wing approved project and Lemington Road.

MLA495

MLA 495 seeks the inclusion of a land parcel on the northern extent of Parnells Dam. Figure 3 of the HVO North modification 7 application shows that the majority of Parnells Dam is within the consent boundary (duplicated in Appendix 6 of this letter). The high water mark of the dam and the clean water diversion extends outside the development consent boundary. The lot and DP covering these areas are already within the existing Schedule of Lands for the HVO North development consent, however, the consent boundary is requested to be extended to include these areas.

The construction and use of Parnells Dam was approved by Singleton Council in 1990 in the EIS titled BP Coal, *Environmental Impact Statement for Proposed Extension of Howick Mine*, October 1989. That EIS sought a lease extension as well as various infrastructure works such as water management and pollution control installations.

An extract of this EIS referring to the construction of Parnells Dam (referred to as Pond No. 1) with a figure showing the location of the dams and the clean water diversion (cutoff drain) is attached in Appendix 3.

No change to the use of this area is proposed other than to ensure that the mining purpose is within the HVO North development consent boundary.

MLA496

MLA 496 relates to the location of the existing clean water diversion. The clean water diversion was approved with the original development consent on 4 May 1986. The drains were approved to divert clean water runoff around the Howick Mine coal handling and processing areas. This clean water diversion is outlined and shown in the EIS titled BP Coal, *Environmental Impact Statement for Proposed Extension of Howick Mine*, October 1989. Extracts of the EIS that refer to the contour drain have been attached in Appendix 4 and the figure associated with Appendix 3. This EIS was approved by Singleton Council in 1990 in DA 89/158.

The majority of the clean water diversion is included within the development consent boundary for HVO North. Figure 4 of the HVO North modification 7 application shows a small section that extends beyond the existing boundary. The distinctive 'M' shape of the diversion in this area can be been in the extract from the 1989 EIS in Appendix 3.

With the exception of part Lot 93 DP 752468, the majority of the lot and DPs covering this requested area are already mentioned within the existing Schedule of Lands for the HVO North development consent. To ensure that this mining purpose is included within the consent boundary, the additional Lot and DP have been included in Appendix 1 of the HVO North modification 7 application and the consent boundary is requested to be extended to include these areas.

To ensure that this mining purpose is entirely contained within the consent boundary, it is requested that the boundary be modified to include these areas.

No change to the use of this area is proposed other than to ensure that the mining purpose is within the HVO North development consent boundary.

MLA520

As outlined in the HVO North modification 7 application, the existing haul road was approved under DA 77/20 which permitted the construction of the coal haul road between North Pit and the rail loader. The existing development consent, DA 450-10-2003, consolidated the 18 historical approvals for the activities undertaken at HVO North.

Appendix 5 shows the figures 5 and 13 from Volume 4 of the HVO West Pit Extension and Minor Modification EIS dated October 2003. These figures illustrate that the area subject to the haul road was considered under DA 77/20 and represented a haul road route between the Hunter Valley coal preparation plant (HVCPP) and the Hunter Valley load point (HVLP).

Please note that a replacement land schedule for DA 450-10-2003 that includes the land parcels referred to is attached to the HVO North modification 7 application, as is a figure that illustrates the requested modified development consent boundary.

If you have any questions about this modification request to DA 450-10-2003, please contact me on 0477 335 409.

Yours sincerely

Michael Lloyd
Approvals Specialist

Appendix 1

Clean water diversion as shown in Figure 3.1 of Appendix D of the Carrington West Wing EIS.

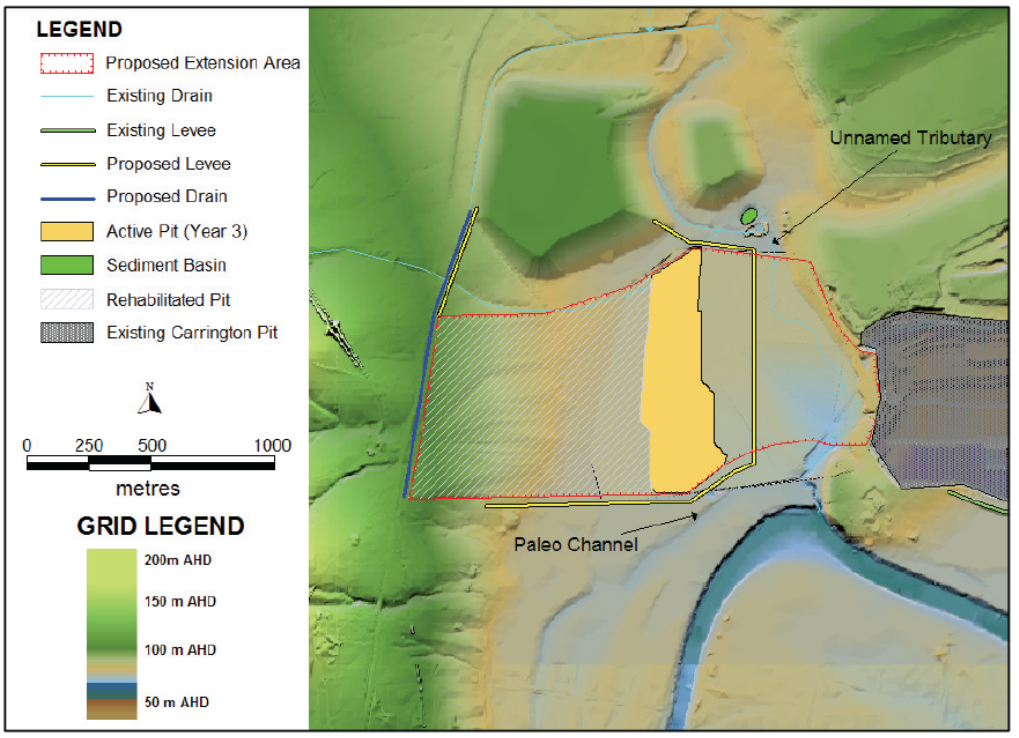
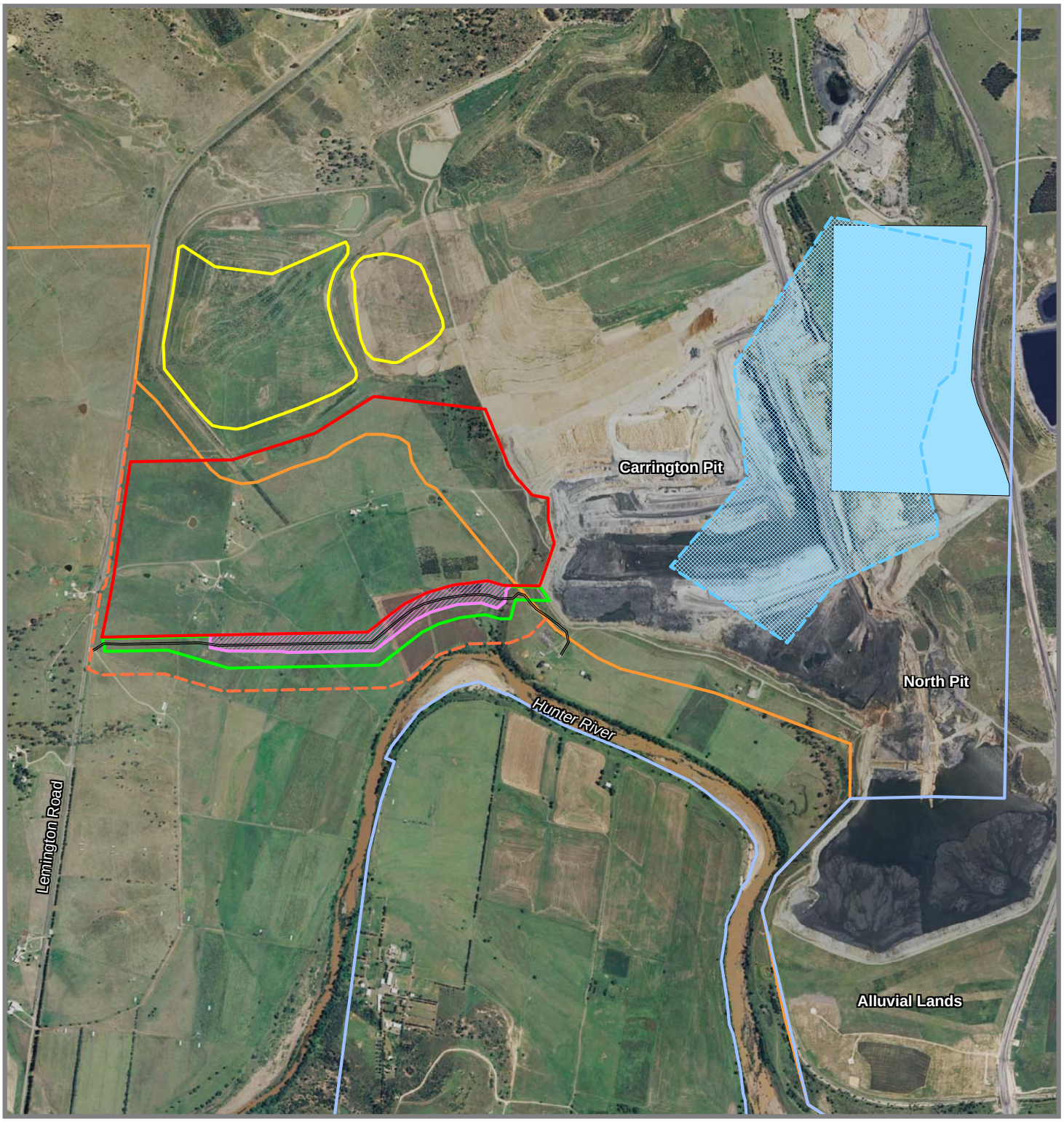


Figure 3.1 Stage 1 Levees and Drainage Channels

Appendix 2

Proposed development consent boundary amendment presented in Figure 1.3 of Volume 1 of the Carrington West Wing EIS.



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Proposed extension area

HVO North current development consent boundary

HVO South project approval boundary

Proposed development consent boundary amendment

Out-of-pit overburden emplacement

Services road

Indicative disturbance area associated with main levee and groundwater barrier wall

Potential temporary disturbance zone associated with construction

Indicative footprint of approved evaporative sink

Proposed footprint of evaporative sink

0 0.5 1

Kilometres

Figure 1.3

Key proposal components

Carrington West Wing

Appendix 3

Extract from the 1989 Howick Mine EIS showing the cut off drain above the Howick Mine operations.

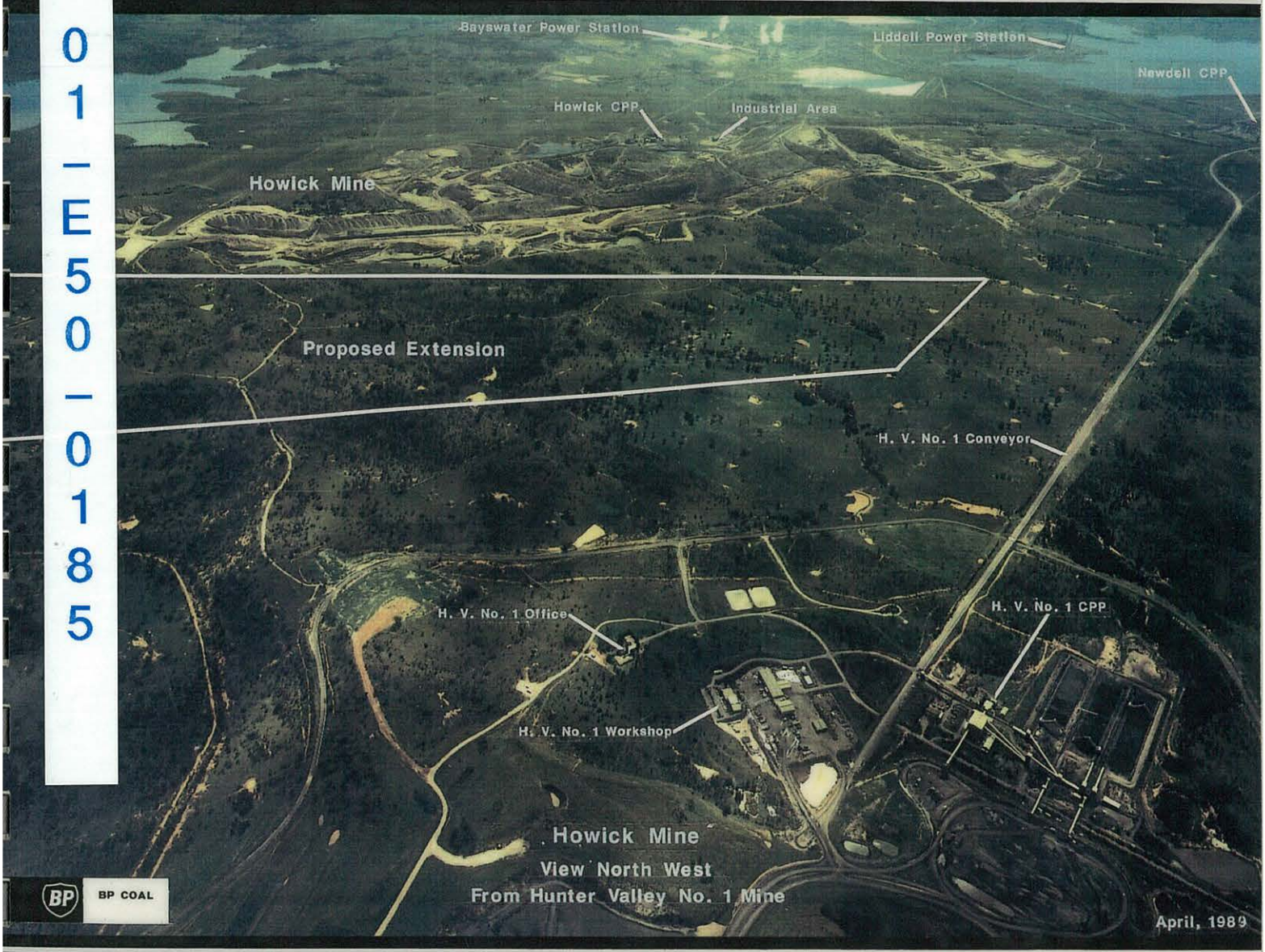
BP Coal Development Australia Pty Ltd

Northern Area Operations

Environmental Impact Statement

For

Proposed Extension of Howick Mine



BP COAL

01-E50-0185

Prepared by

SINCLAIR KNIGHT & PARTNERS

CONSULTING ENGINEERS

BP COAL

October, 1989

TABLE 5.2 - DESIGN STORM RUNOFF VOLUMES

Location	Initial Loss (mm)	Continuing Loss Rate (mm/hr)	Design Storm Runoff ML/ha
Undisturbed and Rehabilitated Areas	10	2.5	.63
Facilities Areas	0	1	1.02
CPP Areas	5	2	.73
Roads	5	2	.73
Coal Stockpiles	10	2.5	.63
Topsoil Stockpile & Smaller Spoil Areas (unrevegetated)	10	3.0	.54
In-Pit Areas	10	2.5	.63
Working Face	5	2	.73

Using this data, detention ponds may be sized according to their respective catchment areas and design storm runoff volumes. Pond requirements and capacities for the overburden and in-pit areas may require reassessment as mining progresses.

5.2 COMPONENTS OF THE HOWICK RUNOFF CONTROL SYSTEM

5.2.1 Introduction

The runoff control system has been designed within the constraints imposed by the proposed mine plan. There is flexibility in the proposed system which will allow adaptation of the system to take account of future modifications to mine planning and phasing both prior to and after commencement of mining and to suit changing conditions as mining progresses.

5.2.2 Runoff from Spoil Areas

It is intended that spoil areas be graded, landscaped and rehabilitated as quickly as possible following completion of mining. However until vegetation is established, these areas will be susceptible to surface erosion and to prevent this, measures such as contour surface ploughing can be undertaken.

In general, detention ponds will be located so as to collect both surface runoff and leachates percolating through the spoil disposal heaps. Ponds will allow settlement of suspended solids prior to revegetation and dilution of leachates with surface runoff after revegetation has become established.

One major detention pond will be required on the Howick lease area supplemented by a series of minor ponds. The major pond is located on

Parnells Creek in the vicinity of the Mitchell Line of Road. Other ponds are located on minor tributaries of Parnells Creek downstream of the major pond. These ponds are indicated in **Exhibit 6.5** in the main text.

All of these ponds have been sized to contain the runoff from a 1 in 10 year, 72 hour duration storm as discussed in **Section 5.1.3.** The required storage volumes are given below.

TABLE 5.3 - POND VOLUMES

Pond	Volume
Parnells Creek (Pond No. 1)	420 ML
Pond No. 2	31 ML
Pond No. 3	18 ML
Pond No. 4	79 ML

These ponds will collect runoff from spoil and rehabilitated areas of the mine for the entire mine life and have been sized based on the final land form in the current rehabilitation plan. This corresponds to the largest catchment for any stage of the mine life.

As the aim of the ponds is not to store water but rather to provide retention capacity, provision of a decant system will be made to allow draw down of the water levels within the ponds. This water will be available for re-use within the mine.

5.2.3 Runoff from Roads

Runoff from haul roads will be high in suspended solids and will be contaminated with oil and coal dust spillage from haul trucks. Runoff from roads in the industrial area and the coal preparation plant will pass into the respective detention ponds serving these areas. Runoff from roads elsewhere will be collected by side channels and conveyed to 'turkey nest' ponds situated adjacent to the roads. Where overflow from these ponds would discharge off the lease, ponds will have sufficient capacity to retain a 1 in 10 year, 72 hour storm.

In-pit haul roads and benches should, where practical, be graded to provide crossfall toward the face. Longitudinal drainage will be to the dewatering sump such that runoff and inflow is kept clear of the working face and trafficked areas.

5.2.4 Coal Preparation Area and Stockpiles

Surface runoff from the Howick coal preparation area and its stockpiles currently drains to a 10 megalitre primary detention pond. The coal preparation plant is sited entirely within a small valley upstream of the industrial area and consequently all storm runoff from the site gravitates to the primary detention pond. Water from this pond discharges over a wier to

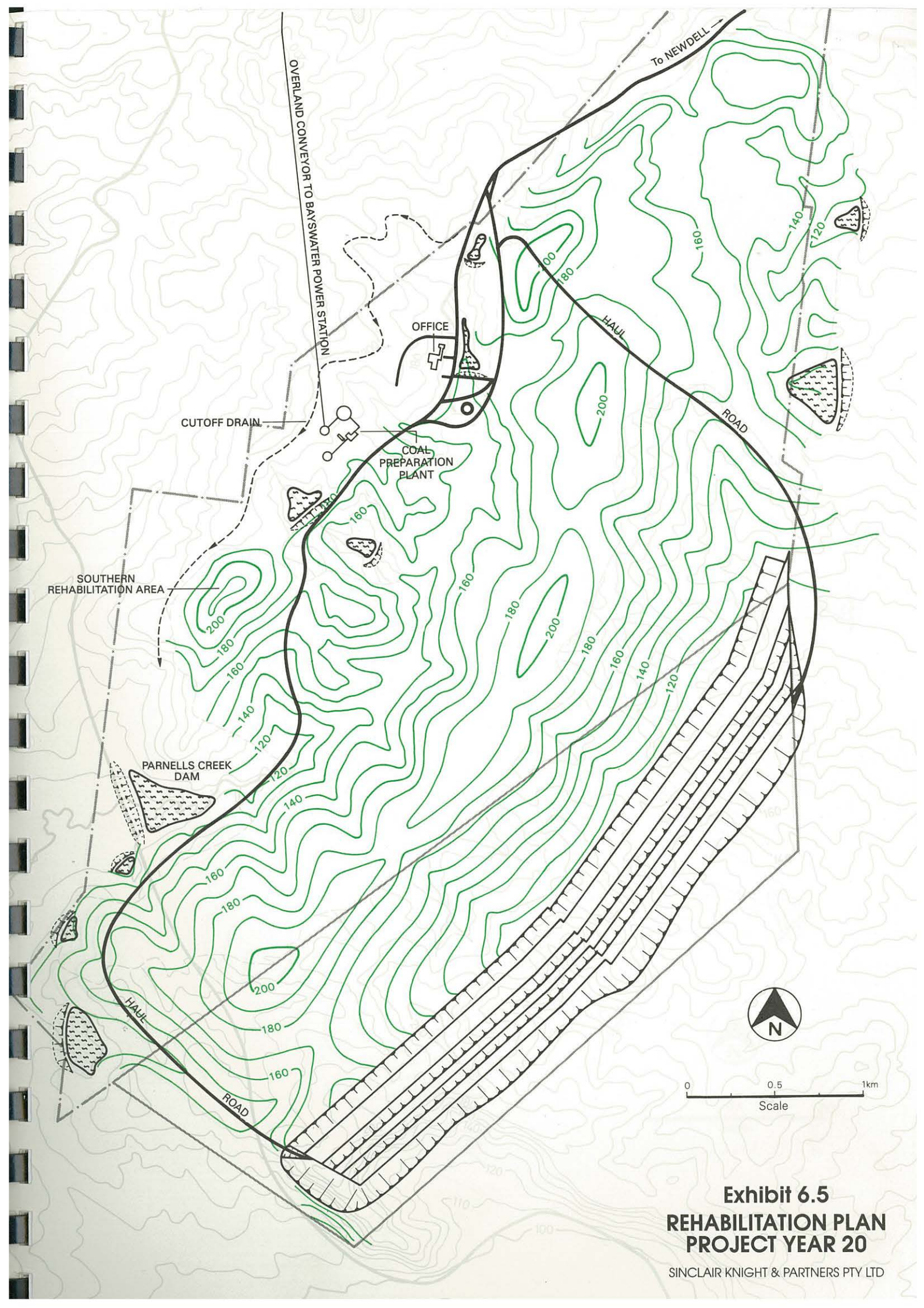


Exhibit 6.5
REHABILITATION PLAN PROJECT YEAR 20

SINCLAIR KNIGHT & PARTNERS PTY LTD

Appendix 4

Section 4.1.4 of the 1989 Howick Mine EIS describing the existing approvals for the Howick Mine.

TABLE 4.2 - EXISTING OPEN CUT PLANT AND EQUIPMENT (as at May 1989)

Model	Type	No	Capacity	Task
7900M	Walking Dragline	1	30.6 m^3	Ovb removal
1570W	Walking Dragline	1	52.8 m^3	Ovb removal
395B	Track Shovel	1	29.8 m^3	Ovb removal
P550H) P250)	Truck Drill	2	150 mm	Coal drilling
DMH	Track Drill	2	310 mm	Ovb drilling
773	Truck	1	45 t	Ovb removal
777	Truck	3	73 t	Ovb removal
R170	Truck	9	154 t	Ovb removal
L1100	Wheel Loader	1	15.3 m^3	Ovb removal
992/C	Wheel Loaders	2	10.3 m^3	Coal loading
WA600/800	Wheel Loaders	2	10.5 m^3	Partings removal/ coal loading
D9L	Track Dozer	4		Operations support
D375/475	Track Dozer	4		Operations support
	Motor Graders	2		Road maintenance

4.1.4 Howick Coal Preparation Plant

The Company obtained development consent from the Minister for Planning and Environment on 4 May 1986 for the Howick coal preparation plant, coal handling, transport and receival facilities, tailings dam and water management system for its Howick operations.

The plant was commissioned in March 1987. Total capital expenditure was in the order of $26 million.

The plant is located within the Howick Colliery Holding and adjacent to the Howick industrial area, which services existing opencut mining operations at Howick. The plant comprises a single module capable of treating 450t per hour of raw coal, giving a nominal annual product coal capacity of 1.5 Mt through the preparation plant based on a 5 day per week operation. However, in addition, raw coal can be by-passed around the plant and blended with washed coal to attain different specifications thus bringing the overall facility capacity to 2.4 Mtpa.

Associated developments include coal handling facilities, crushers, raw and product coal stockpiles and installation of water management systems around the coal handling and processing areas, and a product coal conveyor leading to Bayswater power station.

The performance of the plant in recent years has been affected by industrial disputes relating to the rationalisation program undertaken by BP Coal for its Northern Area Operations. This program has now been completed and production rates have increased to meet current contracts.

4.1.5 Rejects Disposal

The coal preparation plant produces both coarse and fine reject material. Coarse rejects are produced from the heavy medium cyclones. The coarse reject material primarily comprises sandstone and mudstone with only very minor quantities of coal. It has no energy value and is not prone to spontaneous combustion since its ash content is much greater than 40 percent, the recognised upper limit for spontaneous combustion.

Coarse rejects are currently disposed within the Howick mining areas where it is buried at depth in mining spoil prior to final landforming and rehabilitation. The material is placed no closer than 3 m from the final landform surface to eliminate any chance of interaction with plant roots.

Fine rejects (known as tailings) are produced from the washery thickener at a maximum rate of 11 percent of raw coal feed. The average rate however is in the order of 7 percent. This is equivalent to a production of approximately 175 000 tpa at average rate of production and up to 275 000 tpa at the maximum rate of production.

Tailings are produced in a slurry form with solids content of approximately 40 percent by weight. The annual volume of tailings slurry produced varies with production rates and is currently in the order of 350 000 m^3.

Tailings are currently being disposed in a dam within the Parnells Creek valley immediately south of the coal preparation plant. This dam has sufficient storage capacity until early 1992.

A smaller dam is located downstream of the current tailings storage which collects the throughflow (in the order of 0.5 ML per day). This water is recycled within the overal water supply system.

In April 1987 two studies were undertaken by SKP that investigated and assessed future tailings disposal strategies. These reports were provided to Singleton Shire Council and relevant regulatory authorities in accordance with the consent conditions to development approval for the Howick Coal Preparation Plant.

A total of nine disposal options were considered. Three options were discounted on environmental grounds while the remaining six, having equal environmental impact, were subject to more detailed evaluation based on practical and cost considerations. The reports concluded that two options, shown on **Exhibit 4.1**, proved feasible and would involve minimum environmental impact. Both options satisfied the consent conditions by providing tailings disposal capacity for at least 15 years.

Appendix 5

Figures from the 2003 HVO West Pit Extension and Minor Modification EIS that illustrate the approvals associated with the haul road.

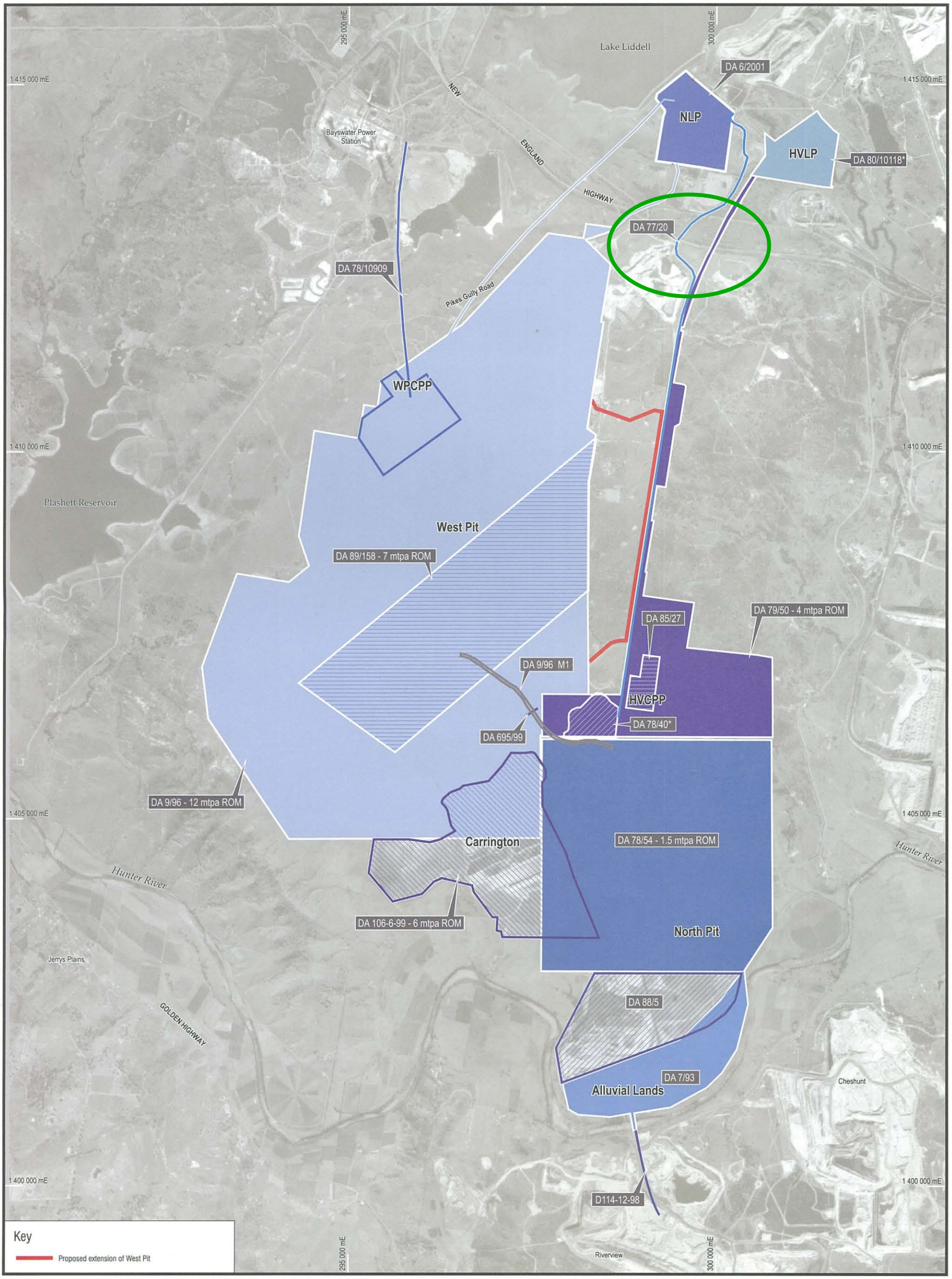


FIGURE 5

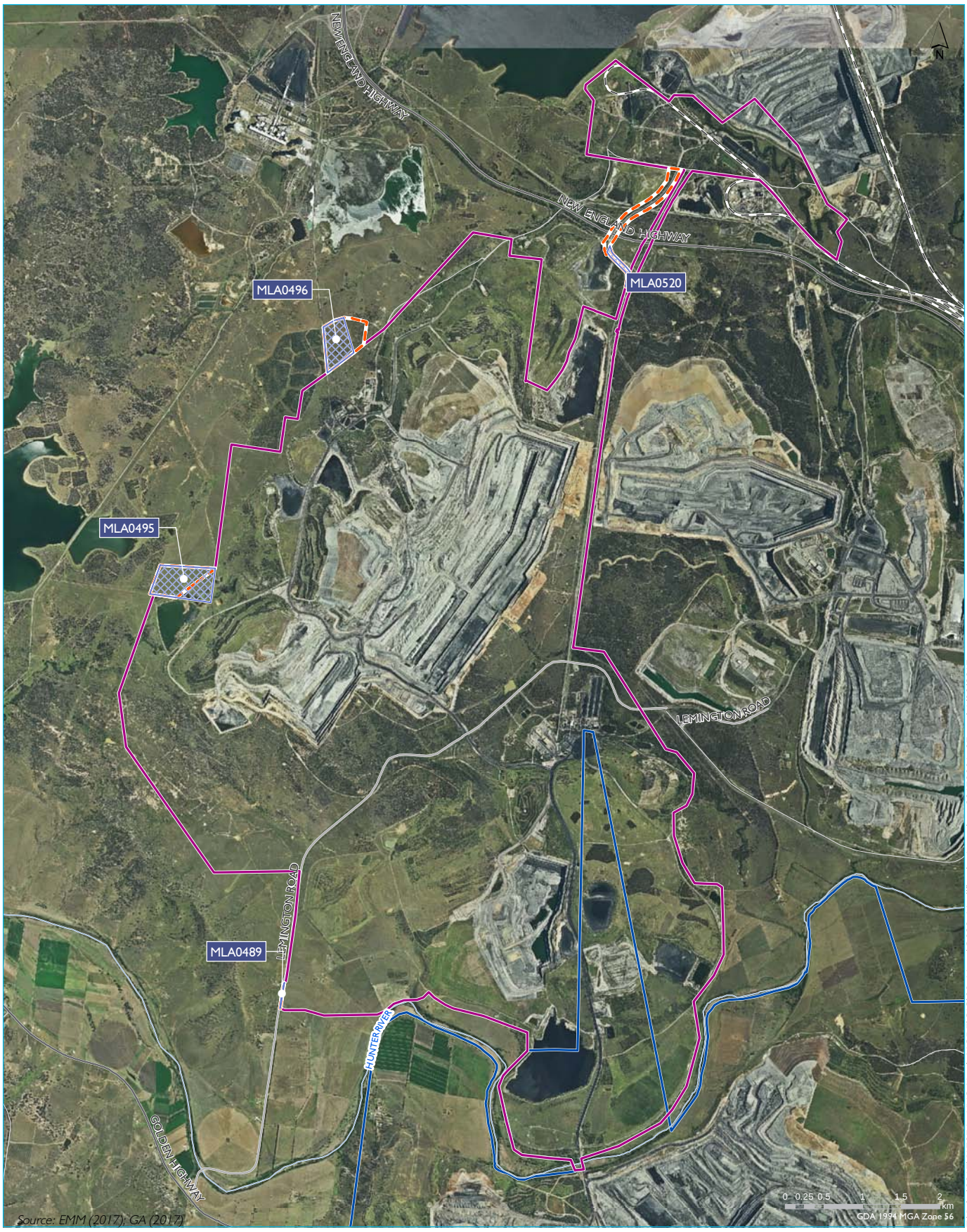
Overview of Existing Approvals with Proposed West Pit Extension

FIGURE 13

Proposed Haulage Routes

Appendix 6

Figures presented in the HVO North modification 7 application showing the land parcels subject to inclusion within the consent boundary as modified.



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KEY

- Mining Lease Application boundary
- Proposed consent boundary amendment
- Local road
- Major road
- Rail line
- Major waterway
- HVO North development consent boundary

Modification location

HVO North Modification 7
Environmental Assessment
Figure 2

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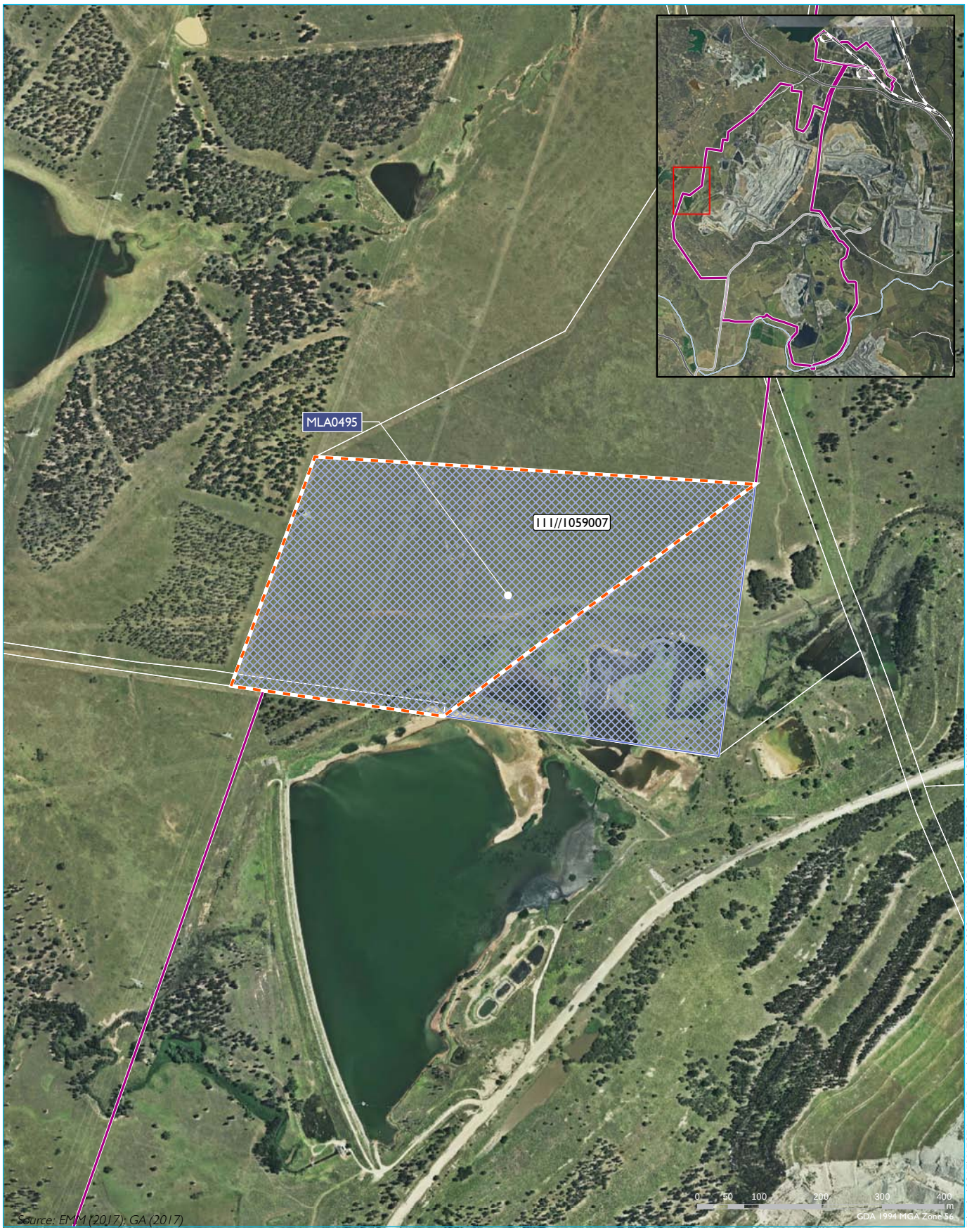

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KEY

- Mining Lease Application boundary
- Proposed consent boundary amendment
- HVO North development consent boundary

MLA 495 tenement details

HVO North Modification 7
Environmental Assessment
Figure 3

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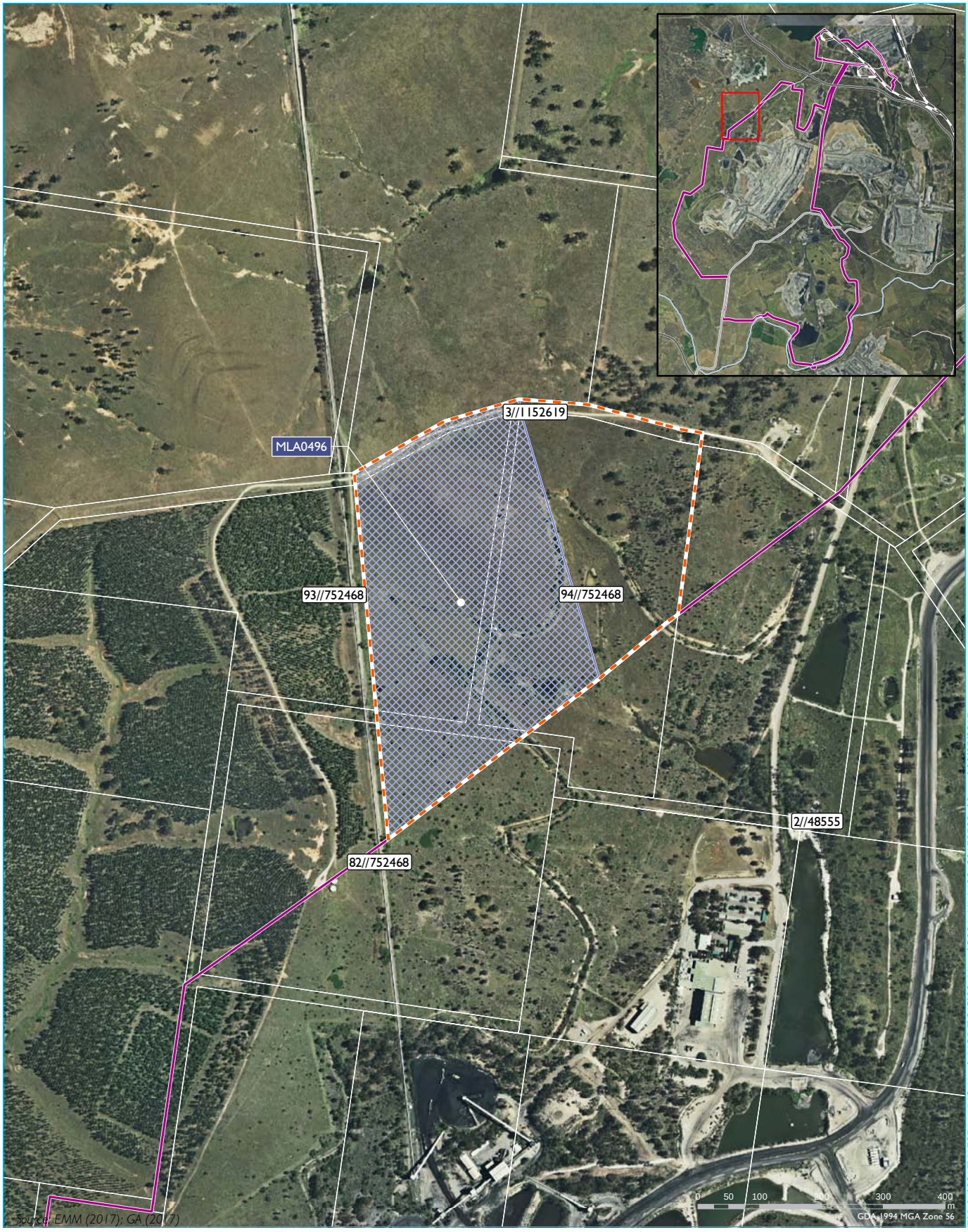

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KEY

- Mining Lease Application boundary
- Proposed consent boundary amendment
- HVO North development consent boundary

MLA 496 tenement details

HVO North Modification 7
Environmental Assessment
Figure 4

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KEY

- Mining Lease Application boundary
- Proposed consent boundary amendment
- HVO North development consent boundary
- Local road

MLA 489 tenement details

HVO North Modification 7
Environmental Assessment
Figure 5

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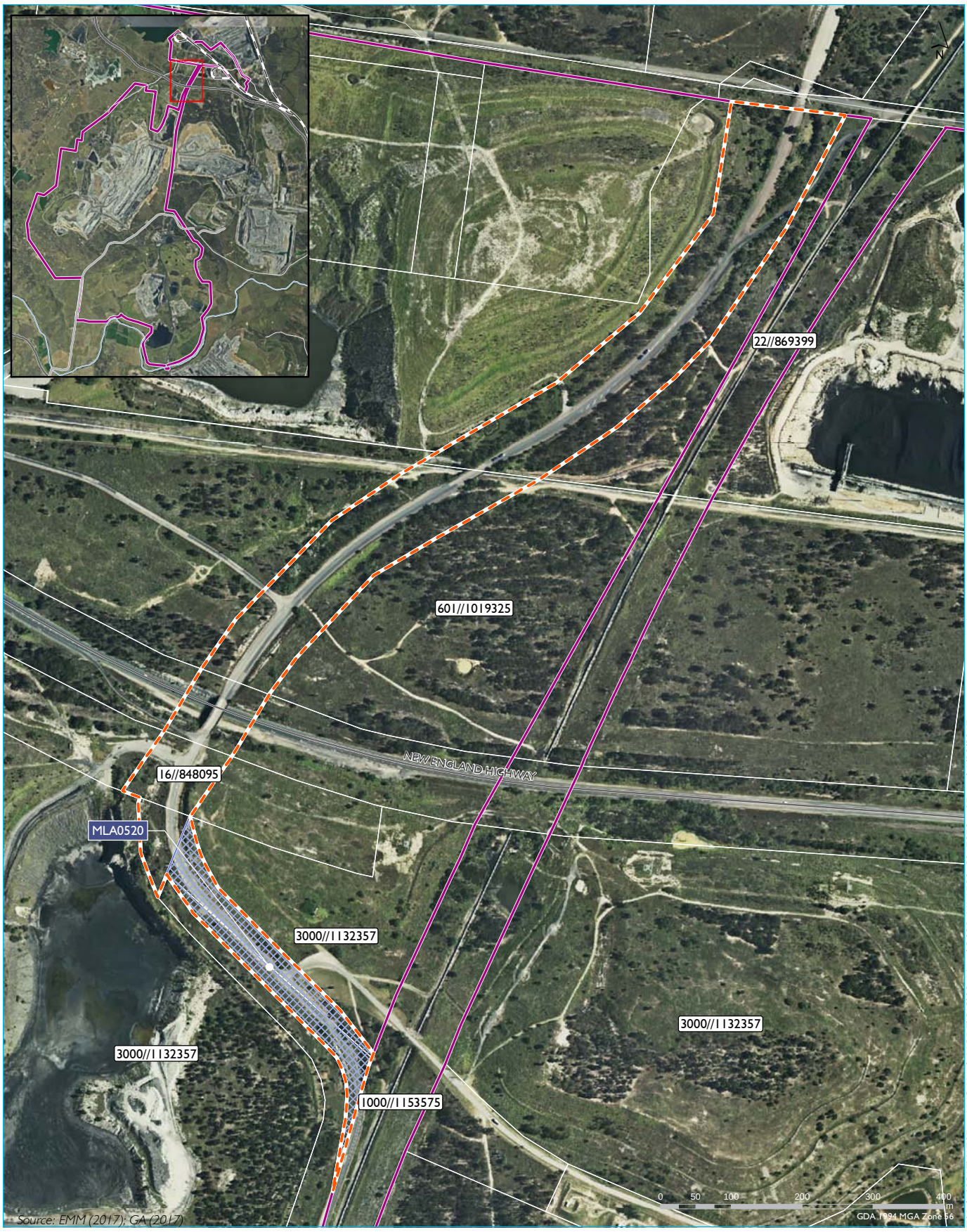

Source: EMM (2017); GA (2017)

KEY

- Mining Lease Application boundary
- Proposed consent boundary amendment
- HVO North development consent boundary
- Major road

MLA 520 tenement details

HVO North Modification 7
Environmental Assessment
Figure 6

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