Narrabri Coal Pty Ltd

ABN: 76 107 813 963

Narrabri Coal Project

Final Statement of Commitments

Compiled by:

R.W. CORKERY & CO. PTY. LIMITED

Narrabri Coal Project

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1 INTRODUCTION

This Final Statement of Commitments has been prepared in accordance with Section 75H(6(c)) of Part 3A of the *Environmental Planning and Assessment Act 1979*, and presents a compilation of the actions and initiatives the Proponent commits to implement if the Narrabri Coal Project is approved. These commitments have effectively been updated from those presented in Section 6 of the *Environmental Assessment* to address the recommendations made by various NSW government agencies.

2 FINAL STATEMENT OF COMMITMENTS

The commitments are designed to effectively manage, mitigate, guide and monitor the project through its various phases.

All parties involved in the design, establishment and operational phases of the project will be required to undertake their work in accordance with the commitments. The commitments are presented in tabular form (**Table A**) and identify the desired outcome, action and timing of commitments, arranged initially by operational activity and then by environmental issues.

Figure A (preferred) (on Page 19) provides the site layout of the Pit Top Area and **Figure B (preferred)** (on Page 21) records the locations of surrounding residences and monitoring locations relevant to these commitments. These a*re intentionally fold-out plans to assist readers when reviewing this section.*

Table A
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
1. Area of Activities			
All approved activities are undertaken in the area(s) nominated on the approved plans and figures (unless moved slightly to avoid individual trees).	1.1	Survey and mark the boundaries of the areas of disturbance on the ground.	Prior to any vegetation clearing within the sand removal areas.
	1.2	Survey and peg the centre line of the site access road.	Prior to construction of the Site Access Road.
2. Operating Hours – Site Establishment			
Management of site establishment activities in accordance with the approved operating hours.	2.1	Undertake vegetation clearing/soil removal within the hours: 7:00am to 6:00pm / 7 days	Continuous.
	2.2	Undertake box cut excavation and rail loop construction of Surface Infrastructure and Pit Top Area within the hours of: 7:00am to 10:00pm / 7days	Continuous.
	2.3	Undertake raw materials / supply delivery within the hours: 7:00am to 10:00pm / 7 days	Continuous.
	2.4	Undertake construction of drifts from box cut during the hours of 7:00am to 10:00pm / 7 days.	Continuous.
	2.5	Undertake all blasts for the box cut and rail loop when necessary between 10:00am and 4:00pm, Monday to Friday.	As required.
3. Operating Hours – Operations			
Management of operating hours of work in accordance with the approved consent conditions.	3.1	Undertake underground coal extraction within the hours: 24 hours / 7 days	Continuous.
	3.2	Undertake crushing and stockpiling within the hours: 24 hours / 7 days	Continuous.
	3.3	Undertake rail loading and transportation within the hours: 24 hours / 7 days	Continuous.
	3.4	Undertake surface maintenance within the hours: 24 hours / 7 days	Continuous.
	3.5	Undertake raw materials / supply delivery within the hours: 7.00am to 10.00pm / 7 days	Continuous.
4. Waste Management			
Minimisation of general waste creation and recycle wherever possible. Minimisation of the potential risk of environmental impact due to waste creation, storage and/or disposal.	4.1	Dispose all paper and general waste in 205L drums and 240L mobile bins.	Ongoing.
	4.2	Collect general waste bins daily and place contents in large, lidded waste storage receptacles or dumpsters to await removal by licensed contractor.	Ongoing.
	4.3	Collect industrial waste fortnightly, or more frequently if required.	At least fortnightly.

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
4. Waste Management (Cont'd)			
Minimisation of general waste creation and recycle wherever possible.	4.4	Install separate containers for the collection of recyclable items and despatch off site at appropriate intervals.	Ongoing.
Minimisation of the potential risk of environmental impact due to waste creation, storage and/or disposal.	4.5	Employ a licensed waste collection contractor for all general waste / garbage at least on a weekly basis.	Ongoing.
	4.6	Collect waste oils and grease and pump to bulk storage tanks.	As required.
	4.7	Collect all parts and packaging and transfer to the maintenance workshop for disposal or recycling.	As required.
	4.8	Install adequate toilet and ablution facilities within the mine facilities area for the site workforce and visitors.	Initial activities of site establishment phase.
	4.9	Install a self irrigating septic sewage system approved by Narrabri Shire Council.	Initial activities of site establishment phase.
	4.10	Service facilities by a licenced sewage collection / disposal contractor.	As required.
5. Rehabilitation			
The creation of a stable final landform, available for the proposed future use(s) of agriculture and/or nature conservation.	5.1	Stabilise all earthworks, drainage lines and disturbed areas no longer required for mine-related activities in order to minimise erosion and sedimentation, and to reduce the visibility of the activities from adjacent properties and the local road network.	As required.
	5.2	Provide a low maintenance, stable and safe landform that blends with the surrounding topography and which is commensurate with re-established agricultural land uses.	Prior to mine closure.
	5.3	Ensure any areas of disturbance that require profiling meet the requirements of the final landform.	As area becomes available.
	5.4	Replace subsoil and topsoil over areas of disturbance in the same order and approximately same depths as it was removed.	As area becomes available.
	5.5	Undertake consultation with the future landowner / land user to determine the most appropriate crop / pasture species to be replanted.	As area becomes available.
	5.6	Conduct ongoing rehabilitation monitoring and maintenance throughout and beyond the operation.	Ongoing.

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
5. Rehabilitation (Cont'd)			
The creation of a stable final landform, available for the proposed future use(s) of agriculture and/or nature conservation.	5.7	Prevent excessive development of weeds within the rehabilitated areas.	As area becomes available.
	5.8	Undertake noxious weed control or eradication in consultation with DPI (Agriculture) and/or local Noxious Weeds Inspector.	For life of project.
	5.9	Implement principles of responsible land ownership and ensure that feral animals and weeds are managed.	For life of project.
	5.10	Excavate all remaining salt from evaporation / brine ponds and dispose of either off-site or place within the completed underground mine workings.	Annually (initially) and then as required based on deposition rates.
	5.11	Sample and test soil / sub-soil below and surrounding the ponds for signs of salt contamination.	Prior to rehabilitation of the Project Site.
	5.12	Prepare a Rehabilitation and Landscape Management Plan, including all disturbed area of the Project Site.	Within 12 months of receiving project approval.
	5.13	Conduct a post-mine monitoring program.	For a period of 3 years following mine closure.
6. Surface Water			
Minimisation of changes to existing drainage patterns of the Project Site.	6.1	Retain selected surface water structures such as the farm dams and diversion swales to allow for continued water management across the Pit Top Area.	During construction period.
	6.2	Construct concrete causeways or pipe culverts at natural drainage lines along the alignment of the Site Access Road.	During construction period.
Prevention of discharge of dirty, saline or contaminated water from the Project Site.	6.3	Direct runoff collected by the catch drains to the sediment basin and/or storage dams in the Pit Top Area.	Ongoing.
	6.4	Design and construct sediment basins to allow sufficient settlement time such that any discharged water meets the following quality criteria: - Total Suspended Solids ≤ 50mg/L. - Oil & grease ≤ 10mg/L. - pH = 6.5 – 8.5.	Site establishment phase.
	6.5	Direct all water from wash-down areas and workshops to oil/water separators and containment systems.	Ongoing.

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
6. Surface Water (Cont'd)			
Prevention of discharge of dirty, saline or contaminated water from the Project Site.	6.6	Ensure all storage tanks are either self-bunded tanks or bunded with an impermeable surface and have a capacity to contain a minimum 110% of the largest storage tank capacity.	Ongoing.
	6.7	Securely store all hydrocarbon products.	Ongoing.
	6.8	Refuel all of the Proponent's mining fleet within designated areas of the project surface facilities.	Ongoing.
	6.9	Maintain sufficient freeboard within evaporation / storage ponds to cater for design 1 in 100 year ARI event.	Ongoing.
	6.10	Pumping of groundwater to the evaporation pond system will cease when the approved freeboard is exceeded.	As required.
	6.11	Construct a containment bund downstream of the evaporation ponds to retain any spill in the unlikely event of an embankment failure.	During construction of the ponds.
Manage dewatered groundwater to prevent saline contamination of the surrounding landform and downstream drainage.	6.12	Monitor the volume of water discharged to, and remaining storage capacity of, the evaporation ponds.	Continuous.
	6.13	Undertake an annual review of the water balance and submit a report demonstrating a nil discharge for the equivalent wettest 10 year cycle of the 116 year rainfall record. Following completion of the transient calibration of the groundwater model and first annual review of the water balance, prepare a Dewatering Plan for the project. The plan will include identification of lead times to implement the proposed management strategies.	Annually.
	6.14	Provide for the construction and operation of a reverse osmosis water conditioning plant within the Dewatering Plan once dewatering volumes exceed operational requirements sufficiently to warrant the operation of such a plant (approximately 880m^3/day). The design of the RO water conditioning plant would be based on the design plan provided by Parsons Brinckerhoff (2007) (**Appendix 4** of the *Environmental Assessment*).	Once mine in-flows exceed 880m^3/day.
Minimisation of impact from contamination event.	See 7. Evaporation Ponds and Salt Management		

Table A (Cont'd)
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Desired Outcome	Action		Timing
6. Surface Water (Cont'd)			
Minimisation of Erosion and sedimentation.	6.15	Maintain a ground cover of vegetation at 70% or better over areas disturbed but no longer required by the project.	Ongoing.
	6.16	Construct the Site Access Road with a crowned surface to divert water that falls onto the road into roadside drains either side of the road surface. Immediately grass the roadside drains to provide erosion and sediment control and install sediment fencing within the minor drainage lines, if required.	Ongoing.
	6.17	Armour the banks of the rail loop with ballast (larger diameter competent rock).	Ongoing.
	6.18	Inspect the banks of the rail loop and remediate erosion damage within Kurrajong Creek Tributary 1.	Following flood events.
Prevent the occurrence of dryland salinity over the Project Site.	6.19	Maintain and/or enhance as much vegetation on the Project Site as possible, particularly trees.	Ongoing.
Manage and monitor surface water resources in accordance with commitments 6.1 to 6.18 and any additional conditional requirements of consent.	6.20	Prepare and implement a Surface Water Management Plan (SWMP). The SWMP would include: - a site water balance; - design detail of clean and dirty water management structures; - an erosion and sediment control plan; - a monitoring program for surface and mine inflows; and - contingency plans for contamination events or elevated impacts on the availability of water resources.	Within 6 months of project commencement.
7. Evaporation Ponds and Salt Management			
Design and construct storage structures for saline water dewatered from the underground workings to ensure to saline contamination of surrounding land or downstream waters.	7.1	Complete sampling and analysis of in-situ clay resources to determine if sufficient material of appropriate permeability available for the construction of the ponds.	Prior to construction of the ponds.
	7.2	Design and construct evaporation / brine ponds with either a 900mm thick clay layer of permeability ≥$1x10^{-9}$m/s at 900mm thickness floor and walls OR an FML with a minimum thickness of 1.5mm, effective permeability of $1x10^{-14}$m/s and appropriate sub-grade preparation to minimise puncture of materials and long term protection of the liner from UV degradation.	During construction of the ponds.

Table A (Cont'd)
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Desired Outcome	Action		Timing
7. Evaporation Ponds and Salt Management (Cont'd)			
Design and construct storage structures for saline water dewatered from the underground workings to ensure to saline contamination of surrounding land or downstream waters.	7.3	Submit detailed designs for the ponds to the DECC.	Prior to construction of the ponds.
	7.4	Complete and submit to the DECC a post-construction verification report which includes works as executed drawings for the completed works; final surveyed dimensions and capacities; and results of QA/QC testing verifying that design clay liner depth and permeability has been achieved.	Prior to the commencement of dewatering.
Manage the operation of the evaporation or brine storage ponds to ensure no spill, leak or seepage to the surrounding environment.	7.5	Operate two active ponds at any one time.	Ongoing.
	7.6	Update predictions of salt accumulation within the ponds based on measured dewatered mine in-flows and water quality.	Annually.
	7.7	Excavate the accumulated salt from the ponds (initial excavation would be annual, with the interval revised over time depending on the deposition rate of the salt) and disposed of either off-site (through commercial arrangement) or placed within the completed underground mine workings.	Annually.
	7.8	Monitor mine in-flows and advise DECC and DWE when the mine water inflow exceeds trigger level for construction of reverse osmosis water conditioning plant ($880m^3$/day).	On exceedance of trigger level.
Identify impacts on the surrounding environment and prepare a contingency management strategy in the event of saline contamination to surrounding lands or downstream waters.	7.9	Construct shallow piezometers or soil lysimeters around the evaporation ponds and monitor soil and/or water quality within these (for salinity).	Prior to commencement of dewatering.
	7.10	Prepare a Salinity Contamination Contingency Plan, in consultation with the DWE and DECC, presenting details of monitoring and remedial measures to identify and mitigate any salinity contamination.	Within 6 months of the commencement of dewatering.
8. Groundwater			
To minimise the volume of mine in-flow to the underground workings.	8.1	Seal the mine drifts where localised elevated in-flows are identified using in-strata grouting or hydrophobic sealant.	During construction.

Table A (Cont'd)
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Desired Outcome	Action		Timing
8. Groundwater			
Review and update predictions of mine in-flow to ensure dewatering and surface management plans remain appropriate.	8.2	Monitor mine in-flows and groundwater quality to allow for comparison against the predictions made by GHD (2007).	Continuous from the commencement of dewatering.
	8.3	Prepare quarterly summary reports of monitoring that include average and maximum daily mine water inflow, average water quality (salinity), stored volume of water within the evaporation/ storage dam system and remaining capacity within the evaporation/ storage dam system.	Quarterly from the commencement of dewatering.
	8.4	Complete a transient calibration of the predictions made by GHD (2007) (based on the measured mine in-flows) and compare against impacts on mine in-flows and local drawdown.	6 and 12 months from the commencement of dewatering.
	8.5	Undertake a review of the transient calibration of the groundwater model after 12 months of mining and update predictions of groundwater inflow rates and drawdown impacts.	12 months from the commencement of dewatering.
	8.6	Commission an annual review of the results and frequency of monitoring by a qualified hydrogeologist to determine the adequacy of monitoring program and to provide interim assessment of operational impacts on groundwater levels.	Annually after 12 months from the commencement of dewatering.
Preparation of a contingency plan in the event that the availability or quality of groundwater is reduced for local groundwater users.	8.7	Undertake remedial action if the available drawdown attributable to the mine for the existing groundwater users is reduced by over 15%. The remedial actions that may be appropriate for the deeper bores includes lowering of the pump sets, installation of pumps with higher lift if casing diameter allow or possibly replacement of bores to accommodate deeper, high lift pumps. For the shallower alluvium bores, deepening of the bores to provide a greater saturated thickness may be required.	As required.
Obtain required licences for the extraction and of groundwater resources.	8.8	Acquire water access licence(s) for the predicted in-flow from the Pilliga Sandstone prior to drawdown impacts in this strata.	Within 5 years of the commencement of coal extraction.

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Desired Outcome	Action		Timing
9. Ecological Management			
Minimise long term impact on flora and fauna on and around the Project Site.	9.1	Clearly identify the boundaries of the Pit Top construction areas. Ensure no clearing occurs outside these boundaries.	Prior to clearing. (see also commitments 1.1 and 1.2)
	9.2	Minimise clearing as much as practicable within the Pit Top Area.	During clearing.
	9.3	Locate the facilities within the Pit Top Area so as to avoid or minimise removal of hollow-bearing trees that are potential nest and/or roost sites.	Prior to Clearing.
	9.4	Re-site all hollow-bearing trees removed where practicable or provide replacement hollows in the form of an equivalent number of nest boxes on suitable trees to be retained (within the Pit Top Area).	Prior to clearing.
	9.5	Conduct a pre-clearance survey by a qualified ecologist to identify and relocate any fauna species residing in any of the individual trees to be cleared.	During clearing.
	9.6	Break up the trees cleared (excluding those found to be hollow-bearing) into small sections and used as mulch.	During construction.
	9.7	Strip all groundcover vegetation with the topsoil to ensure maximum retention of nutrients and native seeds to facilitate rapid vegetation of the soil stockpiles.	Following clearing if areas available, otherwise when revegetation area available.
	9.8	Ensure that weeds are managed and excessive weed development is prevented.	Continuous.
	9.9	Undertake noxious weed control or eradication in consultation with DPI (Agriculture), Rural Lands Protection officer and/or local Noxious Weeds Inspector (Narrabri Council weeds officer).	Annually.
	9.10	Undertake regular inspections of all Pit top Area water storages for fauna and instigate appropriate measures if fauna identified.	Continuous.
	9.11	Undertake regular reviews of the revegetation program to ensure it remains relevant.	Annually.

Table A (Cont'd)
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Desired Outcome	Action	Timing
9. Ecological Management (Cont'd)		
Minimise long term impact on flora and fauna on and around the Project Site.	9.12 Time clearing within woodland communities, where practicable, to avoid fauna breeding seasons.	During clearing.
	9.13 Implement a feral baiting and/ or trapping program, consistent with the existing feral animal control strategy.	Prior to clearing.
	9.14 Undertake progressive and final rehabilitation across the Project Site to recreate a final land use of agriculture and native vegetation.	As required.
Provide for ongoing flora / fauna management through establishment of procedures.	9.15 Prepare a Flora and Fauna Management Plan.	Within 12 months of commencement of operations.
10. Indigenous Heritage		
Employees who are sensitive to, and respectful of, possible Aboriginal heritage on the Project Site.	10.1 Involve all site employees and contractors in an awareness program re: Aboriginal heritage issues. This will involve trained assessors and Indigenous representatives.	At Site Induction (and re-induction).
Appropriate protection provided for identified Aboriginal sites and artefacts.	10.2 Identify and mark the location of Aboriginal Sites 3 to 6 for long term protection.	Prior to clearing.
Minimise potential to disturb unidentified sites.	10.3 Conduct all Pit Top Area activities outside Zone 1 (watercourses) with the exception of a minor section of the rail loop.	Ongoing.
	10.4 Undertake further detailed survey work and possibly test pitting and seek advice from the consulting archaeologist and Narrabri LALC, should for for any reason, disturbance be required within Zone 1.	In the event of an Aboriginal site or artefact being identified.
	10.5 Invite a representative of the Narrabri Local Aboriginal Land Council to monitor topsoil stripping activities.	Prior to and during all ground disturbing activities.
Appropriate protection and/or salvage of Aboriginal sites and artefacts identified following the commencement of the project.	10.6 Ensure that if any further Aboriginal objects are uncovered at any time during the course of the project, work at the area ceases and the Proponent contacts the NSW DECC for advice.	In the event of an Aboriginal site or artefact being identified.
	10.7 Ensure that, if a tree to be felled is identified as having culturally made scars it is retained *in situ* and protected.	In the event of a scarred tree being identified.

Table A (Cont'd)
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Desired Outcome	Action		Timing
10. Indigenous Heritage (Cont'd)			
Appropriate protection and/or salvage of Aboriginal sites and artefacts identified following the commencement of the project.	10.8	Ensure that, where it is not possible to retain the scarred trees *in-situ,* they are cut to preserve the scar, and relocated into a designated protected area. Salvage any sites prior to disturbance of this area.	In the event of a scarred tree being identified.
Ongoing management of Aboriginal heritage issues in accordance with commitments made in the Environmental Assessment and the *National Parks and Wildlife Act 1974*.	10.9	Prepare a Cultural Heritage Management Plan (CHMP), to the satisfaction of the DECC and other stakeholders.	Within 6 months of project approval
11. Soils and Land Capability			
Maintenance of soil value for rehabilitation and minimisation of soil loss though erosion.	11.1	Avoid stripping subsoils in SMU 1 below 40cm in depth.	During stripping operations.
	11.2	Carefully select soil stockpile locations to avoid subsequent movement, to ensure that the soil structure is not degraded.	During soil stripping operations.
	11.3	Avoid stripping or replacing under wet conditions.	During soil stripping operations.
	11.4	Position soil stockpiles inside the Pit Top Area perimeter bund to prevent surface water runoff coming into contact with the soil stockpiles.	During soil stockpiling operations.
	11.5	Install protective earthworks such as straw bale or contour bank protection to protect the soil stockpile from overland flow as required.	Following stockpile construction.
	11.6	Install silt-stop fencing or similar protection immediately downslope of stockpiles and retain until such time as they develop a stable cover of vegetation.	Following stockpile construction.
	11.7	Strip topsoil to a depth of 15cm and strip subsoil to a depth of 25cm (where sufficient soil depths are available).	During soil stripping operations.
	11.8	Stockpile topsoil and subsoil separately with topsoil stockpiles not exceeding 2m in height and subsoil stockpiles not exceeding 3m in height.	During stockpiling operations.
	11.9	Remove and re-install / redesign soil conservation banking systems on farmland if it is to be re-used for cropping or in areas where water flow has been concentrated following subsidence.	Continuous.
	11.10	Prevent mobile equipment, including light vehicles, from accessing soil stockpiles once created.	Continuous.

Table A (Cont'd)
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Desired Outcome	Action		Timing
11. Soils and Land Capability (Cont'd)			
Maintenance of soil value for rehabilitation and minimisation of soil loss though erosion.	11.11	Install well maintained upslope water diversion banks or swales where overland surface water flow has the potential to impact on the soil stockpiles.	Continuous.
	11.12	Implement downslope sedimentation controls as required.	Until the surface of the soil stockpile is stabilised.
	11.13	Ensure soil stockpile surfaces have a generally even surface that is as 'rough' as possible, in a micro-sense, to assist in runoff control and seed retention and germination.	During stockpiling operations.
	11.14	Sow surfaces of soil stockpiles with appropriate groundcover species.	Following construction.
12. Visual			
The operation of the Siding Spring Observatory is not affected by project operations nor local residents adversely affected.	12.1	Use soft lighting strategically placed on the Pit Top Area to minimise impact on surrounding residents while allowing for evening maintenance and deliveries and night train loading activities.	Night-time operations.
Restriction of vantage points of project activities from neighbouring residences and public roads.	12.2	Construct the perimeter amenity bund and vegetate with native grasses, shrubs and trees.	During the site establishment phase.
13. Air Quality			
Site activities are undertaken without exceeding DECC air quality criteria or goals.	13.1	Avoid disturbing areas outside approved	During construction periods.
	13.2	Apply water for dust suppression at critical locations such as at all surface conveyor transfer and discharge points, feed hopper, crusher, stockpiles, hardstand areas, the rail load-out facility and unsealed roads, etc.	Ongoing.
	13.3	Fit all conveyors with appropriate cleaning and collection devices to minimise the amount of material falling from the return conveyor belts.	During site establishment phase.
	13.4	Partly enclose all surface conveyors to minimise dust lift off.	During site establishment phase.
	13.5	Undertake soil stripping at times when most appropriate (such as when there is sufficient soil moisture to prevent significant lift-off of dust and at times other than periods of high winds).	Ongoing.

Table A (Cont'd)
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Desired Outcome	Action		Timing
13. Air Quality (Cont'd)			
Minimise greenhouse gas emissions of the project	13.6	Prepare a Greenhouse Gas Report to the DECC including commitments and procedures to monitor and report annually on greenhouse gas emissions.	Prior to commencement of coal extraction.
Site activities are undertaken without exceeding DECC air quality criteria or goals.	13.7	Progressively rehabilitate of areas of disturbance including topsoil and subsoil stockpiles.	Ongoing.
	13.8	Construct the perimeter amenity bund and windbreaks.	Ongoing.
	13.9	Progressively rehabilitate areas no longer required for operational purposes.	As required.
To minimise the potential for spontaneous combustion of the coal stored and handled on site.	13.10	Minimise the length of time coal is held in stockpiles.	Ongoing.
	13.11	Monitor coal stockpiles for signs of spontaneous combustion.	Ongoing.
	13.12	Immediately report incidents.	Ongoing.
	13.13	Extinguish fire by removal from stockpile, spreading and saturation with water.	In the event of ignition.
14. Traffic and Transport			
All motorists travel safely to and from the Project Site with minimal disruption to Kamilaroi Highway or Kurrajong Creek Road traffic.	14.1	Transport coal entirely by rail.	Ongoing.
	14.2	Construct the Site Access Road as a two lane, sealed road of 8m pavement width with 1m wide unsealed shoulders.	During site establishment phase.
	14.3	Construct the Kurrajong Creek Road Level Crossing with boom gates, flashing lights and warning bells.	During site establishment phase.
	14.4	Construct the Kurrajong Creek Road - Site Access Road intersection as a "T" intersection to emphasize the changed priority on Kurrajong Creek Road. Erect a "Stop" sign on Kurrajong Creek Road at the intersection to control the movement of traffic into the intersection.	During site establishment phase.
	14.5	Construct a channelised right turn lane, including lane development, storage for worst-case rail crossing closure and deceleration distance of 198m for southbound traffic at the intersection of the Kamilaroi Highway with Kurrajong Creek Road. Similarly, construct a 165m channelised left turn lane with a deceleration lane taper for northbound traffic.	During site establishment phase.

Table A (Cont'd)
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Desired Outcome	Action		Timing
14. Traffic and Transport (Cont'd)			
All motorists travel safely to and from the Project Site with minimal disruption to Kamilaroi Highway or Kurrajong Creek Road traffic.	14.6	Construct a purpose-built intersection with the Kamilaroi Highway for project related traffic from the "Bow Hills" gravel quarry. This intersection will be immediately opposite the railway level crossing, removing the requirement for these vehicles to enter the Kamilaroi Highway and increase the number of vehicles that might be required to wait in the right turn lane during level crossing closure.	During site establishment phase.
	14.7	Construct a sealed 7km section of Kurrajong Creek Road in consultation with Narrabri Shire Council.	Within 12 months of the commencement of site establishment activities.
	14.8	Erect appropriate road signage.	As required.
	14.9	Ensure all employees and contractors are regularly informed about the safe driving requirements to and from the Project Site.	Ongoing.
	14.10	Transport all oversize loads with all necessary permits.	As required.
Minimisation of disruption to users of the Kamilaroi Highway and Kurrajong Creek Road during the upgrade of the intersection.	14.11	Prepare a Traffic Management Plan to RTA and Narrabri Shire Council standards to ensure appropriate procedures are in place for the management of both mine-related and public traffic during the road upgrade activities.	Prior to commencement of construction activities.
15. Noise and Vibration			
All activities are undertaken in such a manner as to reduce the noise level generated and minimise impacts on surrounding landholders and/or residents.	15.1	Use equipment with lower sound power levels in preference to more noisy equipment.	Ongoing.
	15.2	Regularly service all equipment used onsite to ensure the sound power levels remain at or below the levels used in the modelling to assess generated noise levels and compliance with the criteria.	Ongoing.
	15.3	Maintain a dialogue between the Proponent and surrounding neighbours and the local community to ensure any concerns over construction, operational or transport noise are addressed.	At regular intervals for the life of the project.

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
15. Noise and Vibration (Cont'd)			
Noise generated by site establishment and construction activities does not exceed DECC nominated criteria nor significantly impact on neighbouring landowners and/or residents.	15.4	Ensure construction of the eastern end of the rail loop does not occur at times when temperature inversions exist.	During site establishment phase.
	15.5	Ensure that excavation of the box cut does not occur under temperature inversion conditions or when winds from the south and east (bearing 90^{o} – 225^{o}) exceed 3m/s until the excavator can be operated below natural surface topography.	During site establishment phase.
Noise generated by mining and other operational activities does not exceed DECC nominated criteria nor significantly impact on neighbouring landowners and/or residents.	15.6	Ensure that the approved hours of operation are adhered to.	Ongoing.
	15.7	Prepare a Noise Management Protocol. Incorporate within the Protocol the specific details of all noise controls and the measures to address noise criteria exceedances and/or complaints.	Prior to commencement of site establishment activities.
Noise generated by road and rail transport activities does not exceed DECC nominated criteria nor significantly impact on neighbouring landowners and/or residents	15.8	Maintain the on-site road network to limit body noise from empty trucks travelling on internal roads.	Ongoing.
	15.9	Seal and regularly maintain the Site Access Road.	During site establishment phase and ongoing.
	15.10	Restrict the travel speed of all vehicles whilst on site to 40kph or otherwise signposted.	During site establishment phase.
	15.11	Ensure strict adherence to hours of operation, including transport activities through enforcement by Mine Management.	Ongoing.
	15.12	Instruct project employees and contractors to enter and exit the Project Site in a courteous manner and without causing undue traffic noise.	Ongoing.
	15.13	Vehicle movement between the "Bow Hills" gravel quarry and the Project Site is limited to day-time hours and heavy vehicle movements do not exceed 50 per day.	During site establishment phase
16. Community Relationships			
Keep surrounding land owners and land users informed about site activities.	16.1	Establish a Community Consultative Committee or similar and include local community representatives.	Prior to the commencement of the project.
	16.2	Provide regular newsletters regarding project progress and operations.	Ongoing.

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
17. Environmental Monitoring			
Record local surface water environment parameters during site establishment and construction.	17.1	Monitor surface water quality for: pH, EC, TDS, TSS, Total Organic Carbon.	Prior to activity / quarterly / events.
Record local surface water environment parameters to be affected during operations.	17.2	Monitor surface water quality for: pH, EC, TDS, TSS, Total Organic Carbon.	Quarterly / events.
	17.3	Complete a survey to determine the current status, depth, standing water levels and location of all licenced extraction	Prior to commencement of coal extraction.
Record water quality of water stored within the evaporation and/or brine ponds.	17.4	Record the volume of water discharged (dewatered) to the evaporation ponds.	As necessary.
	17.5	Record the volume of water discharged from the retention pond and evaporation pond systems.	As necessary.
	17.6	Record the volume of water pumped from the retention pond to the evaporation ponds.	Continuous.
	17.7	Monitor the water quality with the evaporation / brine ponds. The analysis will include EC, TDS, pH, TSS, TOC, heavy metals, Sodium Adsorption Ratio (SAR).	Quarterly.
To implement a comprehensive and ongoing groundwater monitoring program.	17.8	Measure the standing water levels in the existing monitoring bores on a monthly basis for up to 12 months prior to commencement of mining to establish baseline data and seasonal trends in groundwater levels. Suitable bores would be located in areas above and adjacent to the planned underground workings and may include bores NC98D, NC98S in the drift area and NC122, NC123R and NC127 depending on the monitoring period available and mining rates.	Prior to the commencement of coal extraction.
	17.9	Undertake groundwater monitoring beyond initial 12 months of monitoring.	Quarterly for the life of the project.
	17.10	Include the following registered bores in the groundwater monitoring program: GW022595, GW966836, GW000013, GW000014, GW000018 and GW005023. Use data obtained to review impact predictions and trigger remedial action if reductions in available drawdown exceeds 15%.	Continuing for the life of the project (ie quarterly).

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
17. Environmental Monitoring (Cont'd)			
To implement a comprehensive and ongoing groundwater monitoring program.	17.12	Undertake groundwater quality sampling from all bores in the Project Site in the first year to establish seasonal variations in groundwater quality. The sample analysis will include pH, TDS, EC, major ions and heavy metals.	Six monthly.
	17.13	Develop the groundwater monitoring program in consultation with the Proponent's consultant hydrogeologist, the Department of Natural Resources and those groundwater users potentially affected by the project.	Within 6 months of the commencement of operations.
	17.14	Commission a review by a qualified hydrogeologist of the results and frequency of monitoring to determine the adequacy of the monitoring program and to provide interim assessment of operational impacts on groundwater levels and identify data gaps in monitoring or impact assessment needs.	Within 12 months of the commencement of operations.
	17.15	Install shallow piezometers and/ or lysimeters (depending upon depth to groundwater) progressively above and below any constructed evaporation dams.	Prior to construction of the evaporation ponds.
	17.16	Monitor potential leakage of salts from the ponds.	Ongoing for the life of the project.
To ensure no saline contamination of soils surrounding the evaporation ponds.	17.17	Undertake soil profile testing down-gradient of the evaporation pond system to assess whether seepage of salts into the soils is occurring.	Annually.
Implementation of an appropriate air quality monitoring program to ensure continuing compliance with DECC guideline levels.	17.18	Monitor deposited dust levels at 8 sites.	Monthly.
	17.19	Review and submit dust monitoring result to DECC.	Annually.
	17.20	Undertake noise monitoring at the residences most likely to be affected by construction noise.	As specified in project approval.
	17.21	Review and submit noise monitoring results to the DECC.	Annually
	17.22	Undertake operational noise monitoring at the following residences: • "Bow Hills". • "Westhaven". • "Naroo". • "Greylands".	6 monthly from the commencement of the project.

Table A (Cont'd)
Draft Statement of Commitments for Site Operations and Management

Desired Outcome	Action		Timing
18. Documentation			
A systematic set of documents are in place to guide the planning and implementation of all environmental management strategies.	18.1	Incorporate the environmental procedures in an on-site management system.	Prior to relevant activity.
	18.2	Update the Mining Operations Plan for the mine site.	As required.
	18.3	Incorporate relevant environmental data / information in Annual Environmental Management Reports.	Annually.
	18.4	Prepare the following environmental plans for the project. - Air Quality Monitoring Program. - Noise Monitoring Program. - Blast Management Plan. - Cultural Heritage Management Plan. - Flora and Fauna Management Plan. - Greenhouse Gas Plan. - Site Water Management Plan. - Salinity Contamination Contingency Plan. - Groundwater Contingency Plan. - Rehabilitation and Landscape Management Plan	Variously.
19. General			
All buildings meet necessary building codes and specifications.	19.1	Construct all buildings with certification by Narrabri Shire Council.	During site establishment phase.
All employees and contractors are trained and assessed as competent to undertake those activities influencing the environment.	19.2	Implement a policy encouraging employment of local district personnel, with arrangements for training and certification.	Prior to commencement of project.
	19.3	Include environmental issues in the site induction process for new employees and/or contractors.	Prior to commencement of project.
	19.4	Develop and incorporate an environmental training program to ensure all employees and contractors are environmentally responsible and follow all relevant site-specific procedures.	Prior to commencement of project.
	19.5	Include environmental issues in the agenda for toolbox meetings with employees and/or contractors.	Ongoing.

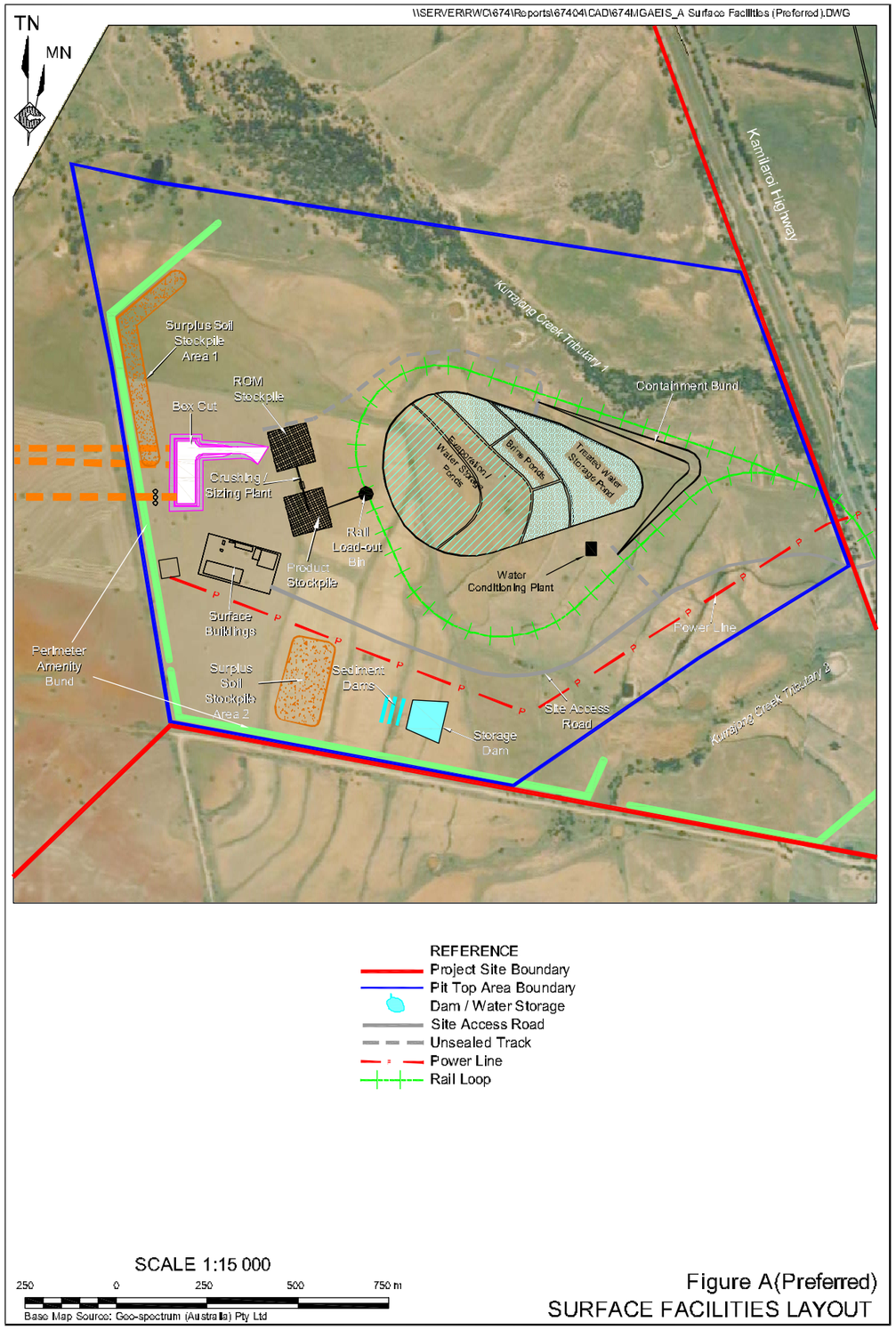
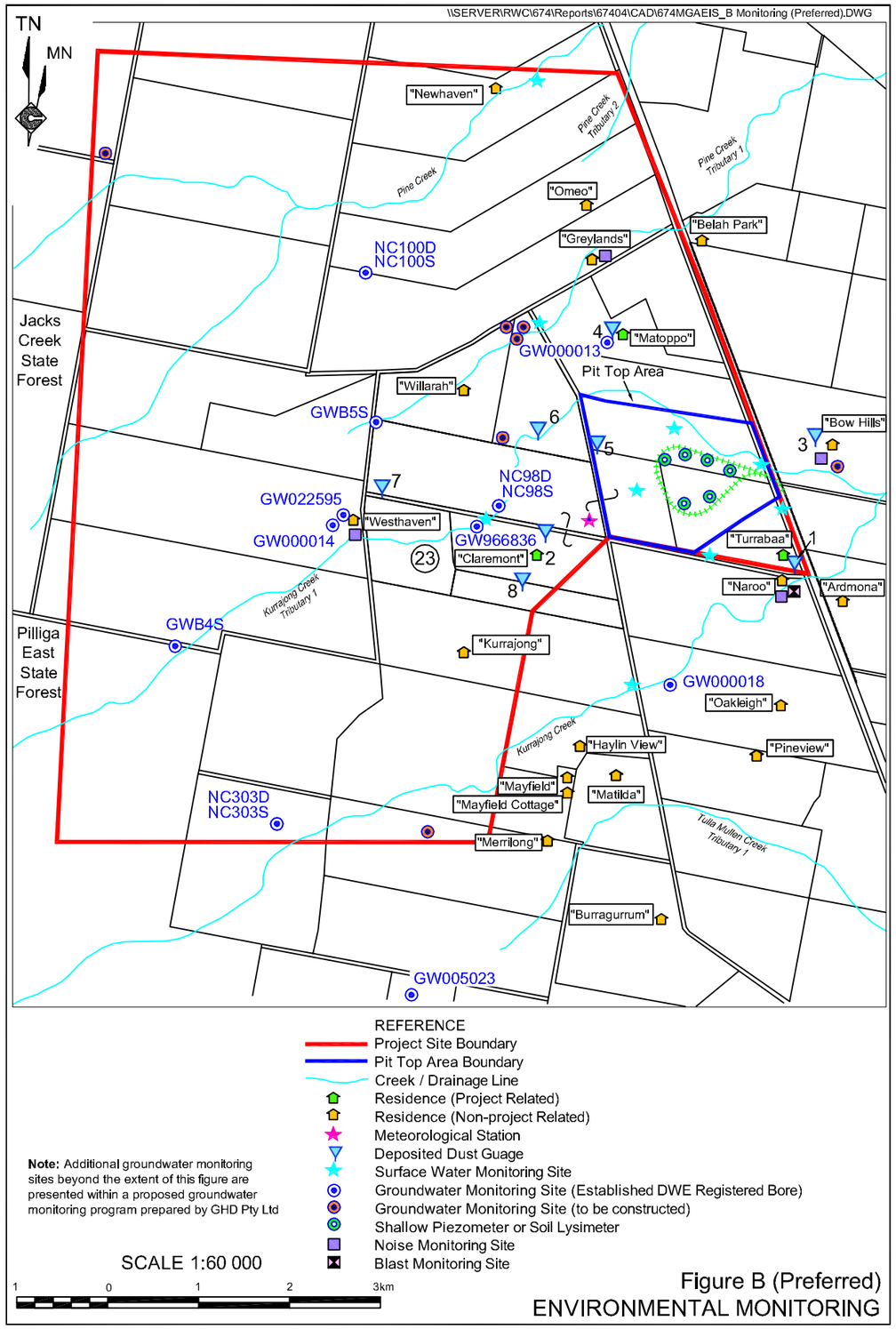


Figure A(Preferred)
SURFACE FACILITIES LAYOUT


\\SERVER\RWC\674\Reports\67404\CAD\674MGAEIS_B Monitoring (Preferred).DWG
TN
MN
"Newhaven"
Pine Creek Tributary 2
Pine Creek Tributary 1
Pine Creek
"Omeo"
"Belah Park"
"Greylands"
NC100D
NC100S
Jacks Creek State Forest
4
"Matoppo"
GW000013
Pit Top Area
"Willarah"
GWB5S
6
5
"Bow Hills"
3
7
NC98D
NC98S
GW022595
"Westhaven"
GW000014
GW966836
"Claremont"
23
2
"Turrabaa"
1
8
"Naroo"
"Ardmona"
Kurrajong Creek Tributary 1
GWB4S
Pilliga East State Forest
"Kurrajong"
GW000018
"Oakleigh"
Kurrajong Creek
"Haylin View"
"Pineview"
"Mayfield"
"Matilda"
"Mayfield Cottage"
NC303D
NC303S
Tulla Mullen Creek Tributary 1
"Merrilong"
"Burragurrum"
GW005023
REFERENCE
Project Site Boundary
Pit Top Area Boundary
Creek / Drainage Line
Residence (Project Related)
Residence (Non-project Related)
Meteorological Station
Deposited Dust Guage
Surface Water Monitoring Site
Groundwater Monitoring Site (Established DWE Registered Bore)
Groundwater Monitoring Site (to be constructed)
Shallow Piezometer or Soil Lysimeter
Noise Monitoring Site
Blast Monitoring Site
Note: Additional groundwater monitoring sites beyond the extent of this figure are presented within a proposed groundwater monitoring program prepared by GHD Pty Ltd
SCALE 1:60 000
1 0 1 2 3km
Figure B (Preferred)
ENVIRONMENTAL MONITORING