

Appendix P: BMA Commitments

The Terms of Reference requires a list of all commitments made by BMA in the EIS and Supplement EIS (SEIS), together with a reference to the relevant section in either the EIS or SEIS. The following tables of BMA Commitments are grouped into sections reflective of the EIS:

1.1 Environmental Management

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
All BMA sites are certified to ISO14001. The project will also seek to achieve certification to this standard in the early years of operation.	1.2	
The site ISO 14001 Environmental Management System will include objectives and targets and performance criteria to manage significant environmental impacts within BMA's control. In the event that these criteria are exceeded, responses are initiated and actions/improvements documented as part of the systems continuous improvement.		4.2.1 (11.01)
BMA will consult with QFRS during the detail design of on site buildings.		5.1.2.3

1.2 Land Resources

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
Horse Creek and Caval Creek diversions will be designed to convey storm events up to and including the 1 in 100 AEP within the diversion channel.	4.1.8.2	
Soils will not be disturbed without suitable erosion and sediment controls being implemented. These measures could include the construction of structural soil conservation works such as contour, graded and diversion banks and drop structures together with sediment control basins.	4.4.8.3	
If fossil materials are encountered during the project, operations shall be managed to preserve the materials and the materials conserved subject to the directions of the Queensland Museum.	4.4.9	
A topsoil management plan will be developed.		4.1.4 (4.21)
<p>Where topsoil stripping and stockpiling is required, the following topsoil handling techniques will be employed to prevent excessive soil deterioration.</p> <ul style="list-style-type: none"> ■ Strip material to the depths stated in Table 4.17 subject to further investigation as required. ■ Topsoil will be maintained in a slightly moist condition during stripping. Material will not be stripped in either an excessively dry or wet condition. ■ Marker pegs will be used to indicate required stripping depth in the uniform clays (brown clays and dark clays). ■ Stripped material will be placed directly onto reshaped overburden and spread immediately (if mining sequences, equipment scheduling and weather conditions permit) to avoid the requirement for stockpiling. ■ Soil transported by dump trucks will be placed directly into storage. Soil transported by bottom dumping scrapers will be pushed to form stockpiles by other equipment (e.g. dozer) to avoid tracking over previously laid soil. ■ The surface of soil stockpiles will be left in as coarsely textured a condition as possible in order to promote infiltration and minimise 	4.4.9.1	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>erosion until vegetation is established and to prevent anaerobic zones forming.</p> <ul style="list-style-type: none"> ■ Where practicable, stockpiles will be maintained with a maximum height of 3 m. ■ Long-term stockpiles (i.e. greater than 12 months) will be seeded and fertilised as soon as possible. Annual cover crop species that produce sterile florets or seeds will be sown. ■ An inventory of available suitable surface cover material will be maintained to ensure adequate topsoil materials are available for planned rehabilitation activities. 		
<p>Topsoil will be spread in accordance with the following:</p> <ul style="list-style-type: none"> ■ Where possible, suitable topsoil will be re-spread directly onto reshaped areas. ■ Where topsoil resources allow, topsoil will be spread to a minimum depth of 100 mm (preferable 150 -200 mm) on all regraded spoil. ■ Topsoil will be spread, treated with fertiliser or ameliorants (if required) and seeded in one consecutive operation, to reduce the potential for topsoil loss to wind and water erosion. ■ Prior to re-spreading stockpiled topsoil onto reshaped overburden (particularly onto designated tree seeding areas), an assessment of weed infestation on stockpiles will be undertaken to determine if individual stockpiles require herbicide application and / or scalping of weed species prior to topsoil spreading. 	4.4.9.2	
<p>Reseed techniques to be used will include the following:</p> <ul style="list-style-type: none"> ■ Thorough seedbed preparation will be undertaken to ensure optimum establishment and growth of vegetation. ■ All topsoiled areas will be contour ripped using a small dozer with ripper attachment (after topsoil spreading) to create a key between the soil and the spoil. ■ Ripping will be undertaken on the contour and the tynes lifted for approximately 2 m every 200 m to reduce the potential for channelised erosion. ■ Where possible, ripping will be undertaken when soil is moist and immediately prior to sowing. ■ The respread topsoil surface will be scarified prior to, or during seeding, to reduce run-off and increase infiltration. 	4.4.9.3	
<p>Upon the completion of mining operations, the project site will be rehabilitated in accordance with the site closure plan. The project site will also be rehabilitated progressively throughout the life of the project. Rehabilitation of the site will return the land to a stable landform. A closure plan will be prepared and will stipulate criteria including final grades, drainage requirements and cover requirements including topsoil depths and vegetation to be planted or sown. These criteria will meet the overriding objectives of returning a stable, self-sustaining, beneficial landform and preserving downstream water quality.</p>	4.5.3.5 4.8.2.1	
<p>Initially, the waste rock produced by mining will be placed in out of pit waste rock dumps, most likely located within and close to the perimeter of the mining lease to contribute to bunding for environmental management. When sufficient space is created within the mined-out areas, subsequent waste rock will be placed in the pits.</p>	4.7.17.1	
<p>Soil and waste rock material from the mining operation will be used to construct mounds as close as possible to the sections of public road where visual mitigation is considered necessary. In order to provide immediate visual screening the height of the mounding will be in the order of 5 to 10 m, subject to detailed assessment in relation to the mining operations. Tree planting on the outer slope of the mound will be carried out to provide additional visual screening. In situations where there are no significant existing stands of trees then the character of the mounding will primarily be grassland with scattered clumps of trees.</p>	4.7.17.6	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
A buffer zone with a minimum width of 50 m will be maintained on both sides of the section of Peak Downs Highway running through the project site and supplemented with additional tree planting in some locations to ensure effective visual screening.	4.7.17.6	
Colours to be used for the various structures would be selected with the aim of minimising the level of contrast. Low reflectivity finishes will also be used on structures and buildings.	4.7.17.6	
Design of the lighting for the project will aim to minimise light spill and avoid direct line of sight to lights associated with the CHPP and loading facilities. This will involve the use of hoods and shields where necessary and ensuring lights are not directed at adjoining public roads.	4.7.17.6	
Rehabilitation of disturbed land will be conducted so that: <ul style="list-style-type: none"> ■ Suitable species of vegetation are planted and established to achieve the relevant post-mine land uses. ■ Potential for erosion is minimised, including likelihood of environmental impacts being caused by the release of dust. ■ The quality of surface water and seepage released from the site is such that releases of contaminants are not likely to cause environmental harm. ■ The water quality of any residual water bodies meets criteria for subsequent uses and does not have the potential to cause environmental harm. ■ The final landform is stable and not subject to slumping or erosion which will result in the agreed post-mining landform being maintained. 	4.8.5	
A detailed Rehabilitation Management Plan will be developed.		5.8.2.8
EIS (EMP (3.7.6.2)) states that rehabilitation of disturbed land will generally proceed within two years of the areas becoming available for rehabilitation. In some situations, progressive rehabilitation may not be possible because the area may be effectively integrated with areas nearby that are unavailable for rehabilitation.		5.4.2.10
Wherever practicable landscaping and rehabilitation works will employ endemic native species of local provenance, and if suitable will also make use of conservation significant flora species or species that can provide habitat opportunities for conservation significant fauna	Appendix Q-3.7.6.2	
Final land-uses of the rehabilitated site will include a mixture of grassland and bushland. Waterways running through the site will have riparian areas rehabilitated to include a diverse vegetative community of native trees, shrubs and grasses. Monitoring will be undertaken to ensure that objectives are being met.	4.8.5.1	
Rehabilitation will be undertaken to achieve the success criteria listed in Table 4.30 in the EIS. The listed criteria will be further developed based on results of ongoing research, monitoring of progressive rehabilitation areas and risk assessments. The success criteria will be reviewed every three to five years with stakeholder participation to ensure the criteria remain realistic and achievable.	4.8.5.2	
Areas to be rehabilitated will be prepared prior to revegetating. To reduce the potential for surface erosion, dispersive soil will be buried under at least 1 m of other material where possible and away from the toe of the landform.	4.8.6.2	
Burning of cleared vegetation is not proposed as standard practice at Caval Ridge Mine. However should the burning of some vegetation be required, BMA will seek approval prior to commencing the burn.		4.1.4 (4.10)
Topsoil will be placed on landform surfaces to an approximate depth of 150-200 mm where possible, depending on the available volume of topsoil and the characteristics of the material being topsoiled.	4.8.6.2	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>Most rejects and overburden materials will be placed back into the void behind the mining (stripping) face in the Horse and Heyford Pits.</p> <p>Some overburden will be set aside for rehabilitation and revegetation of the spoil and some (less than 2 % of the overall total) will be disposed into an out-of-pit dump along the western edge of the Horse Pit box-cut.</p>	4.8.6.3	
<p>Revegetation activities will be scheduled to occur after the completion of reshaping, re-topsoiling and drainage works. Where possible, the timing of these works will enable a preferred seasonal sowing of pasture and tree seed in autumn or spring.</p> <p>On prepared surfaces, selected tree, shrub and pasture species will be sown using seed stock and/or planted depending on the species, slope gradients and area to be revegetated.</p> <p>Tree and shrub species will be established at a density and richness consistent with the nominated post-mine ecosystem.</p>	4.8.6.4	
<p>Plant selection for areas to be returned to bushland will focus on species that will successfully establish on the available growth medium, species that that will bind the soil, and species that will result in a variety of structure and food/habitat resources, with an aim to establishing woodland to open forest.</p> <p>Native species will be established through direct seeding or planting of tube stock/nursery-raised stock from local propagules.</p> <p>Seed will be collected from site where possible to ensure it is adapted to environmental conditions in the area.</p>	4.8.6.4	
<p>The native tree and shrub species mix used will be reviewed and amended periodically depending on the results of rehabilitation monitoring, species trials and changes in technology/best practice.</p>	4.8.6.4	
<p>A combination of native and introduced pasture species will be used on the bushland sites to ensure the quick establishment of a continuous groundcover, thereby reducing the risk of erosion. Legumes may also be selected to assist in the supply of bio-available nitrogen to the soil.</p> <p>Possible pasture species include:</p> <ul style="list-style-type: none"> ■ Indian Couch ■ Rhodes Grass ■ Bambasti Panic ■ Purple Pidgeon Grass ■ Siratro ■ Stylo ■ Red Natal Grass ■ Sabi Grass ■ Silk Sorghum <p>Aerial sowing and ground broadcasting will be conducted for pasture seed as the preferred sowing methods.</p> <p>All revegetated areas will be monitored to ensure long-term groundcover establishment and success.</p> <p>Revegetation techniques will be continually developed and refined over the life of mine through an ongoing process of monitoring at the site and recognition of other industry experiences.</p>	4.8.6.4	
<p>Weeds will be managed across the site through a series of control measures, including:</p> <ul style="list-style-type: none"> ■ Hosing down equipment in an approved wash down area before entry to site. ■ Scalping weeds off topsoil stockpiles prior to re-spreading topsoil. ■ Regular inspections of rehabilitation to identify potential weed infestations. ■ Identifying and spraying existing weed populations on-site together with ongoing weed spraying over the life of the mine. <p>The spread of weeds will be managed in rehabilitation areas by using</p>	4.8.6.5	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
weed-free soil from the open cut area and monitoring and controlling weed populations should they occur. Weed control, if required, will be undertaken in a manner that will minimise soil disturbance.		
<p>A weed management plan will be developed and will include:</p> <ul style="list-style-type: none"> ■ Implementation of effective weed management strategies to control the spread of declared weed species across the project site (including herbicide spraying). ■ Weed hygiene protocols for machinery and vehicles entering and leaving the project site. ■ Ongoing monitoring of the project site to identify any new incidence of weed infestation or changes in known extents of declared weeds. 		4.1.6 (6.03)
<p>Leachate and site water derived from, or in contact with, spoil piles, reject materials or other mineral waste will be retained on-site and re-used as part of the overall site water resource.</p> <p>Seepage collection ponds and drainages will be monitored to ensure that soluble metals and salt concentrations are below regulatory guidelines or licence conditions prior to discharge off-site.</p>	4.8.7.1	
<p>The water quality monitoring program for runoff/seepage from overburden and reject storage facilities will focus on pH, EC and total dissolved solids (TDS). Sampling and testing of the full suite of dissolved metals will be undertaken annually.</p> <p>If the pH of runoff and seepage from overburden or potential reject materials drops below pH 6.0 or the EC value increases by more than 50 %, then a more comprehensive range of water quality analysis may be warranted. Also, if the pH drops below 6.0 or the EC increases, the handling and storage (management) of all mineral waste materials will be re-evaluated.</p>	4.8.7.1	
<p>Monitoring of the rehabilitated areas will broadly involve the following:</p> <ul style="list-style-type: none"> ■ Ongoing chemical analysis of topsoil ■ Comparison of soil erosion rates and rill and gully dimensions with measurements taken from reference sites ■ Comparison of vegetation measurements with measurements taken from reference sites ■ Ongoing analysis of water quality parameters collected at water storages, ramps and pits, sediment basins, and creeks (upstream and downstream of the mine) in accordance with requirements of the environmental authority and environmental management plan. ■ Visual surveillance including the use of digital photogrammetry/low level oblique or vertical aerial photography to monitor changes over time in the rehabilitation (e.g. changes in vegetation structure, erosion rates and landform drainage). 	4.8.7.2	
<p>Monitoring of the elements listed in Table 4.33 of the EIS will be undertaken to determine the level of achievement of success criteria of the rehabilitation program.</p>	4.8.7.2	
<p>Maintenance of rehabilitated areas will be undertaken where necessary and in response to results of the monitoring program, to ensure success criteria are met, or in the case of progressive rehabilitation, are projected to be met at the time of mine closure.</p>	4.8.8	
<p>Post-mining surveys of the rehabilitation will be undertaken across the site to determine whether the site meets success criteria and whether this result is being maintained over time.</p> <p>Once this occurs and the site is relinquished, the land will be returned to the relevant stakeholders and maintenance of the rehabilitation will no longer be required.</p>	4.8.8	
<p>At closure the following decommissioning activities will be undertaken:</p> <ul style="list-style-type: none"> ■ All services including power, water, data and telephone for the entire site will be isolated, disconnected and terminated to make them safe. ■ All sumps will be de-watered and the excess coal removed prior to the 	4.8.9.1	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>commencement of demolition.</p> <ul style="list-style-type: none"> ■ All items of equipment will be de-oiled, degassed, depressurised and isolated and all hazardous materials removed from the site. ■ All buildings will be demolished and removed from the site. Where possible assets may be re-used or sold to other mines. ■ Other remaining items will be demolished, removed and transported from the site as required. ■ All recoverable scrap steel will be sold and recycled, with the remaining non-recyclable wastes either being taken to a licensed landfill or buried in the backfill of the final voids. Only inert wastes will be placed in the backfill. ■ All concrete footings and pads will be broken up to at least 1.5 m below the surface and removed with the non contaminated waste material being buried in the void before it is rehabilitated. ■ The bitumen roadways, car parks and hardstand areas around the CHPP, workshop and administration areas will be ripped up with the inert waste material being placed in the open cut voids and buried. ■ The carbonaceous material on the base of the ROM and product stockpile areas will be stripped to a depth of at least 0.5 m and buried in the low wall of the open cut void. ■ The entire CHPP and infrastructure areas will be dozer trimmed to facilitate the appropriate drainage of surface runoff from the site. Appropriate surface water management structures (contour banks, drains and settlement ponds) will also be constructed. The site will be rock raked to remove all surface rocks to a size of less than 500 mm and ripped to a depth of at least 1 m. Fertiliser and pasture/tree seed will be applied to assist establish pasture post-mine land use. ■ Contaminated, carbonaceous or unsuitable (gravel, etc) material will be removed from the haul roads and hardstand surfaces and disposed of and covered in the low wall area. ■ Any creek crossings (i.e. culverts, etc) will be removed and the pre-existing drainage line re-instated (where applicable). ■ A light vehicle access road will be maintained to enable inspections of the site following closure of the mine. ■ All sediment basins which assist in the water flow from the final rehabilitated surface will be retained following mine closure. The water storage basins will be removed and the original drainage paths re-established wherever possible. 		
<p>At closure, a preliminary sampling and analysis program (Phase 1) will be implemented to determine whether an assessment (Phase 2 – detailed investigation of contamination involving drilling, etc) should be conducted to quantify the amount of contaminated material that will need to be bio-remediated on site.</p> <p>Following closure the existing environmental monitoring program will be maintained until all decommissioning and rehabilitation works have been completed. Notwithstanding this, there may be the need to establish some additional monitoring sites depending on the nature of the decommissioning works and also in response to finding possible sources of pollutants to the environment.</p>	<p>4.8.9.1</p> <p>4.8.10</p>	
<p>Stability of the low wall will be achieved through implementing the following:</p> <ul style="list-style-type: none"> ■ The low wall will be battered back from the angle of repose to ensure that long term geotechnical stability of the face. ■ Drainage on and over the low wall will be minimised through the construction of drainage control structures ■ Erosion of the low wall will be controlled by limiting the length of slope, minimising the degree of slope, and by the establishment of suitable vegetation ■ Benching of the spoil material will be considered in some areas in order to achieve geotechnical stability and minimise erosion. 	<p>4.8.11.2</p>	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<ul style="list-style-type: none"> ■ Low wall slopes with gradients of 17 degrees or less will be sown conventionally via ground broadcasting. ■ Low wall slopes exceeding 17 degrees, and where structural soil conservation earthworks cannot be used, will be hydro mulched to enhance the surface stability of the slopes by hastening vegetative germination and establishment. 		
<p>The following will be undertaken to reduce the potential for spontaneous combustion to occur:</p> <ul style="list-style-type: none"> ■ Accumulations of coal material, particularly pyritic, will be buried under inert spoil ■ Any remaining coal spalling will be removed from the highwall where possible ■ If any coal on the highwall face is prone to spontaneous combustion, it will be sealed with water, clay or inert soil where possible ■ Should any outbreaks of spontaneous combustion occur in the final void, details on the materials involved, presence of pyrites, location, date, time and climatic conditions will be recorded. 	4.8.11.2	
<p>Drainage will be directed away from the highwall face through the construction of interceptor channel drains around the perimeter of the highwall and spoon drains will be utilised on the upslope side of all benches.</p> <p>Drainage from external catchments will be diverted away from the final void.</p> <p>Drainage over the low wall will be minimised through constructing surface water diversions, and drainage on the wall will be limited and controlled to reduce the erosion potential.</p>	4.8.11.2	
<p>The following will be considered at the time of closure to ensure that the void is left in a safe manner. These include:</p> <ul style="list-style-type: none"> ■ To ensure the stability of the high walls and low walls they will be battered back to a stable slope angle as required ■ Exposed coal seams will be covered with inert material to prevent ignition either from spontaneous combustion, bush fires or human interference ■ A barrier will be placed at a safe distance from the perimeter of the void to prevent human access. ■ Suitable signs, clearly stating the risk to public safety and prohibiting public access will be erected at 50 m intervals along the safety barrier. ■ Shrub and/or tree planting along the outside edge of the bund wall will be implemented where practicable to lessen the visual impact of the wall, and will be in accordance with the agreed post-mining rehabilitation criteria and land use. 	4.8.11.2	
<p>The PSI identified the potential occurrence of contaminated soil at areas within the project site. These are considered to have a low project risk. A protocol will be developed to further assess (and manage as required) these areas. These assessments will include site inspections as deemed necessary and possible soil testing where required.</p>	4.9.3.13	
<p>General mitigation measures to avoid the contamination of soil and groundwater will include the following:</p> <ul style="list-style-type: none"> ■ Workshop areas, chemical stores, fuel tanks and waste disposal/storage areas will be located on hardstand or compacted soil. Runoff from these areas will be collected using appropriate drainage and water management structures. ■ Relevant Australian Standards (e.g. for the storage and handling of flammable and combustible liquids and dangerous goods) will be complied with, and all chemical and fuel storage areas will be bunded. ■ Where possible, hazardous chemicals and materials will be replaced with less harmful alternatives. Material Safety Data Sheets (MSDSs) for chemicals used or brought to site will be kept in a central register 	4.9.4	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>on site and at the area of use and be readily available to workers at all times.</p> <ul style="list-style-type: none"> ■ Spills will be cleaned up immediately. For significant chemical or fuel spills, the site emergency response plan will be followed and the appropriate authorities notified as soon as possible. ■ Detailed records will be kept of any activities or incidents that have the potential to result in land contamination. Regular inspections of containers, bund integrity, valves and storage and handling areas will be carried out. ■ All staff will be trained as part of their site induction in appropriate handling, storage and containment practices for chemicals, fuel and other potential contaminants as relevant. ■ Spill cleanup kits, in accordance with Australian Standards (AS1940 and AS3780), will be located in convenient locations such as the work vehicles. ■ Refuelling will occur within bunded areas in accordance with AS1940. ■ Should a spill occur, it will be contained to ensure that it does not enter drainage lines or watercourses. 		
<p>During final design BMA will consult with DTMR to ensure acceptable safe stock route egress/access on and off the Peak Downs Highway for live stock.</p>		5.4.2.9

1.3 Mineral Waste

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>Ongoing geochemical characterisation of mineral waste materials in the southern section of the project area will be undertaken to confirm the expected geochemical characteristics of these materials.</p> <p>Characterisation of reject materials from the CHPP will be undertaken to verify the expected geochemical data of rejects. This data will be used to re-evaluate the management strategies of mineral waste materials.</p> <p>In addition to standard acid-base and metals testing (static tests), geochemical characterisation will include assessing the general soil properties (sodicity, exchangeable cations) of mined waste materials to evaluate their suitability for use in revegetation activities.</p>	5.4.1	
<p>Inert construction spoil will be placed and mixed in designated mine spoil areas. Waste will be dumped in spoil and mixed into spoil with dozers. These areas will then be covered with prestrip and rehabilitated. The designated areas will be documented and identified in the construction and site environmental management plans. These areas, as with other spoil rehabilitation will be managed to minimise surface exposure.</p>		4.1.4 (4.04)
<p>To ensure the effective management of coal rejects and tailings at Caval Ridge, the following guidelines will be implemented and monitored:</p> <ul style="list-style-type: none"> ■ All reject material will be trucked to in-pit waste dumps; ■ Dumps will be developed in line with the mine plan ■ It is not planned to place reject material within 10m of the final landform slope. ■ Survey control will be utilised to ensure documented evidence of thickness of cover is recorded. <p>There will be no concentrated dumping of reject materials:</p> <ul style="list-style-type: none"> ■ All reject material will be dumped or mixed, either over a tiphead or paddock dumped, alongside dry waste material in order to minimise potential areas of geotechnical instability; ■ The material will be dumped at the same dump face as the pre-strip material then pushed over the edge resulting in mixing. ■ No reject material will be dumped below the pre-mining groundwater 		4.1.4 (4.05)

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>table; and</p> <ul style="list-style-type: none"> All dumps will be designed and constructed to be free-draining. 		
<p>BMA will undertake ongoing operational geochemical characterisation of mineral waste materials in the southern section of the project site to confirm the expected geochemical characteristics of these materials. Continued characterisation of reject materials from the CHPP will also be undertaken to verify the expected geochemical data of rejects. PAF material will be managed in accordance with BMA Guideline Design of Sustainable Mine Land Forms.</p>		4.1.4 (4.07)
<p>Geochemical characterisation, assessment and reporting will be undertaken by a suitably qualified and experienced geochemist.</p>		4.1.4 (4.25)
<p>Feedback from the filter belt press test unit will be used to inform design of the tailings management system.</p>		5.5.2.5

1.4 Surface Water

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>The earthworks contractor will be required to prepare a construction environmental management plan which will include a sediment and erosion control plan and water management plan prior to the commencement of construction. These plans will include the following mitigation measures:</p> <ul style="list-style-type: none"> Erosion control, energy dissipation and watercourse stabilisation measures such as matting, riprap and gabions to be implemented as necessary. Areas of disturbed or exposed soil will be managed to minimise the loss of sediment, either through revegetation and/or use of other stabilisation techniques. Bunds will be used to restrict flow velocities across the project site. No clearing work will be carried out during heavy rainfall. Topsoil and other material will be stockpiled away from watercourses. Vegetation disturbance, especially riparian vegetation, will be minimised. Upon completion of works, revegetation using local species will take place wherever possible and as soon as practicable considering seasonal influences. Routine inspection will be made of sediment control devices. Any release of water from sediment basins to receiving waters, will be tested for quality and ensured that it meets water quality objectives. To limit sediment mobilisation, the existing sediment control structures will be used as appropriate. 	6.2.1.1	
<p>Construction activities at drainage lines and watercourse crossings and vehicle access crossings will be managed as follows:</p> <ul style="list-style-type: none"> Construction activities that will affect existing drainage lines and control measures will only be carried out after suitable stormwater management infrastructure has been installed onsite. Vehicle crossings will be adequately designed for a range of flow conditions, including under road drainage. The temporary diversion of watercourses will be either by low flow diversion or coffer dam with pumping. Disturbance by heavy earth moving equipment will be minimised in riparian areas. All crossings will be in accordance with the DNRW Guideline – Activities in a Watercourse, Lake or Spring Carried out by an Entity. 	6.2.1.2	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>Management measures relating to watercourse disturbances will include the following:</p> <ul style="list-style-type: none"> ■ The area of disturbance will be no greater than the minimum area necessary for the purpose. ■ The area of bed and banks disturbed by the activities will be stabilised regardless of previous stability. ■ The extent and duration of bare surface exposure will be minimised, and protected from weathering, rain drop impact, and water runoff. ■ Clean water run-off will be diverted around areas of disturbance where practicable. ■ Bed and bank stability will be managed to minimise erosion and reduce sedimentation. ■ Where practicable, sediment will be captured and retained on-site. ■ Machinery to be used in carrying out the activities will be selected on the basis of a type and size necessary and capable of safe operation to achieve minimal disturbance of the site. ■ Constructed drainage and discharge structures will not alter the natural bed and bank profile. 	6.2.1.2	
<p>Management strategies for the water management structures will include the following:</p> <ul style="list-style-type: none"> ■ The water storages will be designed in accordance with DME 1995 Technical Guidelines. ■ Monitoring equipment will be installed to monitor storage volume during operation combined with a water management strategy to prevent overfilling. ■ Design and construction supervision of dam embankments will be undertaken by Registered Professional Engineer of Queensland. ■ Regular dam inspections will be undertaken by Registered Professional Engineer of Queensland. ■ Regular pipeline, drain, bund and levee inspections and maintenance will be undertaken during operations. 	6.2.3.1, Table 6.5	
<p>Creek diversions will be designed in accordance with the Watercourse Diversions – Central Queensland Mining Industry (January 2008).</p>	6.2.3.3, Table 6.6	
<p>Drainage diversions and levees will be inspected on a semi-annual basis and after significant storm events to check for erosion, cracking, visible seepage and any other unsuitable conditions.</p>	6.2.3.4	
<p>Emergency response procedures (including evacuation procedures) and a flood warning system will be established and incorporated into the site's Health and Safety Environment Plan to protect on-site personnel.</p>	6.2.3.4	
<p>The mine water management system will be designed and operated to contain contaminated water and prevent discharge to receiving waters. This water will be reused within the CHPP, for industrial use and for haul road dust suppression.</p>	6.2.4	
<p>Where required, approvals will be sought for the mine water storages as follows:</p> <ul style="list-style-type: none"> ■ As Referable Dams under the Water Supply, Safety & Reliability Act 2008; or ■ As Hazardous Dams under the Department of Mines and Energy's Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland 1995. 	6.2.4.3	
<p>A sewage treatment plant will be constructed to treat wastewater to Class A+ as defined by Queensland Water Recycling Guidelines (December 2005). Monitoring will be undertaken in accordance with the Queensland Water Recycling Guidelines, including weekly sampling and testing for the first year of operation and monthly thereafter.</p>	6.2.4.7	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
A surface water monitoring program will be established for the project site, including: <ul style="list-style-type: none"> Permanent water quality and flow monitoring points established upstream and downstream of Horse Creek, Caval Creek, Cherwell Creek (currently monitored by Peak Downs Mine), Nine Mile Creek and Harrow Creek (currently operated by Peak Downs Mine). Parameters monitored will include pH, TDS, TSS, anions, cations and metals, in line with the water quality objectives. 	6.2.4.9	
Daily during discharge, the upstream and downstream water quality and flow monitoring points will be monitored for receiving water quality within the following limits: <ul style="list-style-type: none"> EC < 2,500 µS/cm pH 6 – 9 	6.2.4.10	

1.5 Groundwater

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
The groundwater quality within the aquifers surrounding the project site will be monitored to ensure no marked deterioration in groundwater is occurring as a result of the proposed mining activities.	7.2.1.2	
Areas of hydrocarbon and chemical storage will have spill control measures and regular inspection regimes in order to prevent and monitor activities that could potentially lead to contamination of groundwater. Spill control measures for hydrocarbon facilities will include concrete slabs that are bunded with oil-water separators installed on all permanent hydrocarbon above-ground storage, refuelling and washdown areas. Any accidental spills will be assessed on a case-by-case basis and remediated, which may include excavation and disposal of any contaminated soil in accordance with the requirements of the EPA.	7.2.1.3	
Should a detrimental impact on landholder groundwater supplies be detected, and shown to be related to the Caval Ridge Mine operations, then BMA will seek to reach mutually agreeable arrangements with affected neighbouring groundwater users for the provision of alternate supplies throughout the mine life, and after mine closure.	7.2.3	
The following groundwater monitoring routine will be undertaken: <ul style="list-style-type: none"> Groundwater levels will be monitored monthly, in the entire monitoring network, for the first two years following the commencement of construction to assess seasonal, natural, groundwater fluctuations. Thereafter, groundwater levels will be monitored quarterly. Groundwater samples will be analysed for:- pH, EC, total dissolved solids (TDS), major cations and anions, nutrients (total N, NO_x, ammonia, phosphorous) and selected dissolved metals (boron, chromium, copper, iron, manganese, nickel, selenium and zinc). 	7.2.3.1	
An annual review of the monitoring program will be conducted to evaluate the effectiveness of each monitoring location, to assess if any modifications to the monitoring programme may be needed, and to evaluate what impacts may be occurring.	7.2.3.1	
Potential sources of seepage, such as sediment basins and water storages, will be constructed with low permeability bases. Additional mitigation measures to limit seepage may include installation of cut-off trenches within the foundation along the alignment of the containment embankments or installation of a seepage collection system.	7.2.3.1	
Bunded areas for hydrocarbon and chemicals storage will be provided with spill cleanup kits in accordance with the relevant Australian Standards. All transfers of fuels and chemicals will be controlled and managed to prevent spillage outside bunded areas.	7.2.3.1	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
Any accidental spills will be assessed on a case-by-case basis and remediated, which may include excavation and disposal of any contaminated soil to a licensed facility and installation of a groundwater monitoring and remediation system, in accordance with the requirements of DERM.		

1.6 Terrestrial Flora

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>A biodiversity offset management plan will be developed and implemented to manage the offsetting of cleared significant vegetation communities. The plan will be developed in keeping with the objectives of the current Commonwealth and State legislation for the offsetting of significant vegetation communities. The plan will also be in keeping with the principles of relevant policies and guidelines such as:</p> <ul style="list-style-type: none"> ■ Draft policy statement 'Use of environmental offsets under the EPBC Act 1999' (DEWHA, 2007) ■ Queensland Policy for Vegetation Management Offsets (DNRW, 2007) ■ Queensland Government Environmental Offset Policy. 	8.1.2.1	
<p>The biodiversity offset management plan will include criteria for offset suitability which where practicable, would include:</p> <ul style="list-style-type: none"> ■ The acquisition of a remnant/regrowth community that is equal to, or greater in area than that which will be impacted by the project. ■ Support a comparable suite of plant species contained in RE types impacted by the project; ■ Consider maximising biodiversity gains through site selection, (e.g. habitat requirements for migratory species that will be impacted by loss of foraging trees and water sources). ■ Offset locations which are preferentially closer (at least within the locality) to communities impacted by the project. ■ Offset sites which are preferentially larger contiguous stands of vegetation with connectivity to other habitat types to increase viability of ecological processes. ■ Place potential offset(s) parcels under a secure protection such as a conservation covenant to ensure that protection runs with title. ■ Management measures to ensure offset areas remain viable in the long term. Such measures may include the management of supplementary planting, weed, fire, feral animal, livestock management and restriction on access. ■ Monitoring and maintenance activities to measure success and viability of the offset activities to measure success and viability of the offset. <p>Specific components of the offset management plan will include:</p> <ul style="list-style-type: none"> ■ A map detailing the location and extent of the proposed offset(s), the associated vegetation types and any infrastructure (e.g. fencing, vehicle access networks); ■ Measures for the long-term management and protection of existing areas of the endangered ecological communities <ul style="list-style-type: none"> - Brigalow (<i>Acacia harpophylla</i> dominant and co-dominant) and - Natural Grasslands of the Queensland Central Highlands and the Northern Fitzroy basin native grasslands; ■ Measures to survey and monitor the occurrence of flora and fauna species including but not limited to squatter pigeon (<i>Geophaps scripta</i>) and brigalow scaly-foot (<i>Paradelma orientalis</i>); ■ Where appropriate, measures for weed and feral animal control, supplementary fire management, erosion & sediment control, access 	8.1.2.1	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>restriction and livestock exclusion;</p> <ul style="list-style-type: none"> ■ The development of a process to review and report on the effectiveness of the performance of the management plan and on any unplanned events which may impact on the offset. 		
Only areas absolutely necessary for the construction and the operation of the project will be cleared.	8.1.2.2	
Clearance will be controlled by a Permit to Disturb process, and go/no-go areas will be identified on site, and managed through a GIS system.	8.1.2.2	
For those areas not subject to an existing clearing approval, vegetation loss will be negotiated with DERM and DEWHA.	8.1.2.2	
Utilise standard dust suppression techniques to reduce dust leaving the construction area.	8.1.2.2	
Strategies for managing uncleared remnant vegetation adjacent to disturbed areas will be maintained in the EM Plan.	8.1.2.2	
A specific revegetation plan will be developed for creek diversions subject to the <i>Water Act 2000</i> .	8.1.2.2	
Standard dust suppression techniques will be used during operation to reduce dust leaving the preparation (ROM and CHPP) and transport (conveyor / rail corridor) areas.	8.1.2.2	
Strategies for managing pest and weed species will be maintained in the EM Plan.	8.1.2.2	
Available disturbed areas will be rehabilitated to minimise the net loss of vegetative cover	8.1.2.2	
<p>During the construction phase, a flora monitoring program will be implemented and will include the following:</p> <ul style="list-style-type: none"> ■ Mapping of the distribution of declared and environmental weeds, particularly adjacent to roadway construction. ■ Occurrences of erosion and sedimentation influencing vegetation and stream health. ■ Pest animal activity. ■ Dust effects on native vegetation. 	8.1.2.3	
<p>During the operational phase, a flora monitoring program will be implemented and will include the following:</p> <ul style="list-style-type: none"> ■ The distribution of declared and environmental weeds around the perimeter of the open pits, CHPP, ROM, overland conveyor, rail route, new sediment basins, creek diversions and adjacent to new roadways and the dragline transport route. ■ Habitat rehabilitation/restoration progress. ■ Downstream riparian habitat. 	8.1.2.3	

1.7 Terrestrial Fauna

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
A fauna spotter/catcher will be engaged during clearing of remnant woodland. Consideration of vegetation offset areas will take into account habitat for significant fauna species.	8.2.2.3	
Liaison will be maintained with local wildlife carers for treatment of injured animals or young rescued from adults killed or injured by vehicles or activities associated with the project.	8.2.2.3	
Where possible, local habitats will be reinstated following disturbance and rehabilitation including retention of log piles and retention of hollow-bearing trees.	8.2.2.3	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
Consideration of vegetation offset areas will take into account habitat for significant fauna species.	8.2.2.3	
Strategies for managing pest species will be maintained in the EM Plan.	8.2.2.3	
Appropriate speed limits will be maintained during construction vehicles to minimise the risk to fauna.	8.2.2.3	
The site induction program will include consideration of awareness of wildlife matters.	8.2.2.3	
During the construction phase, a fauna monitoring program will be implemented and will include the following: <ul style="list-style-type: none"> ■ Frequency of fauna spotting and catching. ■ Native animal injuries from construction activities ■ Pest animal activity. 	8.1.2.3	
During the operations phase, a fauna monitoring program will be implemented and will include the following: <ul style="list-style-type: none"> ■ Habitat rehabilitation/restoration progress. ■ Fauna use of rehabilitated areas. ■ Downstream riparian habitat. ■ Pest animal activity. 	8..1.2.3	

1.8 Aquatic Ecology

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
Any interference with watercourses and flows will be in accordance with the <i>Water Act 2000</i> and will include the development of a specific revegetation plan for creek diversions.	9.2.3	
Construction activities at drainage lines and watercourse crossings and vehicle access crossings will be managed as follows: <ul style="list-style-type: none"> ■ Construction activities that will affect existing drainage lines and control measures will only be carried out after suitable stormwater management infrastructure has been installed onsite. ■ Vehicle crossings will be adequately designed for a range of flow conditions, including under road drainage. ■ The temporary diversion of watercourses will be either by low flow diversion or coffer dam with pumping. ■ Disturbance by heavy earth moving equipment will be minimised in riparian areas. All crossings will be undertaken in accordance with the DNRW Guideline – Activities in a Watercourse, Lake or Spring Carried out by an Entity.	6.2.1.2	
Monitoring of watercourses will include bank stability, over-bank flow, and water quality.	9.2.4	

1.9 Air Quality

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
Dust control measures will include a mixture of engineering controls (such as enclosure of conveyors) and control measures (such as watering of haul roads and stockpiles).	10.2.6	
Where necessary, other control measures to be implemented at the northern end of Horse Pit will include: <ul style="list-style-type: none"> ■ Scheduling pit activities to stagger the operation of equipment. ■ Maintaining adequate separation of pre-strip truck and shovel, coal mining fleet and dragline operation. ■ Watering of truck and shovel operations. 	10.2.12.4	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>Watering measures will include the following:</p> <ul style="list-style-type: none"> ■ Watering of haul roads to best-practice level of more than 2 litres/m²/hour of water applied. ■ Watering of ROM stockpiles using water sprays and water cannons that are operated on timers. ■ Fogging system on outlets from conveyor transfer points and sizing stations. ■ Water sprays on stacker/reclaimer units. ■ Maintaining high moisture content of product coal and reject material as they leave the CHPP. ■ Train loadout to incorporate chemical reagent to be sprayed onto the surface of each loaded wagon. 	10.2.13.2	
<p>Rehabilitation of exposed surfaces will be undertaken progressively as mining and stockpiling activities are completed.</p>	10.2.13.3	
<p>A three stage air quality monitoring program will be implemented within the area predicted to be directly impacted upon by dust generating activities at the Caval Ridge Mine.</p> <p>Stage 1 will consist of the following monitoring program at all nominated monitoring sites:</p> <ul style="list-style-type: none"> ■ Dust deposition monitoring at ten locations on a 30 ± 2 day cycle. ■ Monitoring of PM10 at one location using either one or both of the following techniques: <ul style="list-style-type: none"> ■ High volume sampling of PM10 during the construction phase and for the first year of mining operations. ■ Continuous monitoring of PM10, using an industry accepted method. ■ The requirement for additional monitoring of PM10 will be reviewed after the initial one year monitoring of operational mining. ■ Monitoring of the meteorological parameters of wind speed, wind direction, temperature, and relative humidity (as a minimum) at two locations, at 15 minute intervals. ■ One meteorological station will be located in the vicinity of the CHPP and the other will be located in the vicinity of a sensitive receptor. <p>Stage 2 will be implemented at any and all sites for which there is an exceedence of the EPA dust deposition goal of 4 g/m²/month for two consecutive months. It will consist of:</p> <ul style="list-style-type: none"> ■ Continuation of Stage 1 monitoring at all locations. ■ A review of the local environment at the location of the dust deposition monitoring locations by a suitably qualified site personnel in order to identify local factors or activities that may have caused high dust levels. ■ Additional monitoring at the site(s) at which there have been exceedences will include one month of continuous monitoring of PM10 using a method agreed in consultation with the QLD EPA. The one month period is to coincide with the 30 day cycle of the dust deposition monitoring. <p>Stage 3 monitoring will be implemented if there is an exceedence of the Qld EPA dust deposition goal for a period of 4 consecutive months, or if Stage 2 monitoring highlights that dust emissions from site-based activities are attributing to elevated levels of PM10. The need to implement Stage 3 monitoring will result from the inability of the Stage 2 monitoring program to isolate and mitigate problematic dust emission source(s). Stage 3 will consist of the following:</p> <ul style="list-style-type: none"> ■ Continuation of Stage 1 monitoring at all locations; ■ Continuation of Stage 2 monitoring at locations for which there have been exceedences of the Qld EPA goal for dust deposition. ■ An air quality specialist will be commissioned to: <ul style="list-style-type: none"> ■ Conduct a site-based dust audit; 	10.2.13.5	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<ul style="list-style-type: none"> ■ Review the suitability of the site-based monitoring program; ■ Provide recommendations; and ■ Prepare a report outlining the findings and recommendations of the dust audit. 		
BMA has revised and expanded its commitment to ambient air monitoring from that in the EIS to include continuous monitoring of particulate matter at a minimum of two locations.		4.1.8 (8.04)

1.10 Greenhouse Gas

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>The following activities will be undertaken to improve efficiencies in electricity use:</p> <ul style="list-style-type: none"> ■ Regular monitoring of electrical load on the draglines and investigations should the electrical use fall outside optimal parameters. ■ A regular program of bucket inspection and repair. ■ Minimising the distance the dragline needs to swing the bucket load from its source to the dumping location. ■ Undertaking 6-monthly electrical calibration checks on the draglines as per the manufacturers instructions. ■ Use of high efficiency electrical motors throughout the mine site. ■ Use of variable speed drive pumps with high-efficiency linings at the coal handling and preparation plant. ■ Regular monitoring of the compressed air circuit so that leaks are repaired in a timely manner, as this maximises the operating efficiency of the compressor. ■ Maintaining light fittings to maximise light delivery. ■ Installing light-sensitive switches on haul road lights so that lights do not operate during the day. 	11.6.1	
<p>Diesel consumption by on-site vehicles will be minimised by:</p> <ul style="list-style-type: none"> ■ Haul truck scheduling, routing and idling times will be optimised through the use of satellite tracking software designed to minimise the amount of diesel consumed. ■ Pit access ramps will be designed to limit the amount of effort required for fully-laden trucks to climb. ■ Haul roads will be compacted to reduce rolling resistance. ■ The location of ROM and overburden dumps will be optimised to limit the amount of distance haul trucks need to cover while fully laden. ■ Truck maintenance schedule, including tyre condition. ■ Consideration of fuel efficiency of haul trucks during procurement 	11.6.2	
<p>Reductions in GHG emissions from blasting will be minimised by: Optimise blasting operations to minimise rehandling of material. Use waste oils or renewable alternatives for diesel in ANFO as appropriate.</p>	11.6.4	
<p>Caval Ridge Mine will develop a site-specific greenhouse gas management plan and energy conservation plan that implements the commitments for greenhouse gas management in this EMP. The plan will include the following elements:</p> <ul style="list-style-type: none"> ■ Program of ongoing energy efficiency reduction and energy management. ■ Consideration of the life cycle greenhouse gas implications as part of the HSEC assessment of resources, materials, processes and products. ■ Energy efficiency and emission reduction targets to be established for Caval Ridge Mine and included in site and corporate monitoring and 	Appendix Q 3.3.7.5	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>reporting.</p> <ul style="list-style-type: none"> ■ Fulfilling reporting obligations under the National Greenhouse and Energy Reporting Scheme and participation in the Carbon Pollution Reduction Scheme when it is implemented. 		

1.11 Noise and Vibration

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>Where appropriate, noise control measures will be implemented including:</p> <ul style="list-style-type: none"> ■ Low and super low noise idlers for the overland conveyor. ■ Partial and full enclosure of the overland conveyor. ■ The use of self adjusting volume or broad-band buzzer type reversing alarms. ■ Implement maintenance and operation procedures to minimise nuisance noise emissions from equipment, including servicing and maintenance of exhaust systems on mine equipment ■ Receptor building façade upgrades (eg double glazing) – for internal maximum noise levels only. ■ Limit the speed of heavy vehicle traffic on haul roads. ■ Land resumption. 	12.11.2, 12.11.3	
<p>The following noise control strategies for blasting will be implemented.</p> <ul style="list-style-type: none"> ■ Carry out blasting only during daylight hours, generally during the hours of 8.00 am to 5.00 pm, Monday to Sunday. ■ Plan to blast during the middle of the day when background noise levels are higher than at other times of day. ■ Where monitoring indicate airblast overpressure or ground vibration levels of impact consistently above the environmental protection objectives, the following mitigations measures will be considered: <ul style="list-style-type: none"> ▸ Reducing the maximum instantaneous charge (MIC) by using delays, reduced hole diameter and/or deck loading. ▸ Changing the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination. ▸ Ensuring stemming depth and type is adequate. ▸ Restricting blasts to favourable weather conditions. 	12.11.3	
<p>Permanent noise and vibration monitoring will be undertaken at the following locations:</p> <ul style="list-style-type: none"> ■ Hornery Homestead- 183 Goonyella Rd (Moranbah Access Rd) ■ Long Pocket Rd, Moranbah ■ Winchester Downs Homestead- Peak Downs Mine Road ■ Buffle Park Homestead- Peak Downs Highway ■ 'The Bucket' Park, Moranbah Access Rd <p>Non-permanent noise and vibration monitoring will be undertaken at the following locations:</p> <ul style="list-style-type: none"> ■ Lot 7, Moranbah Access Road ■ Peak Downs Highway (near intersection with Moranbah Access Road) ■ 66 Jackson Street, Moranbah <p>A noise and vibration logger will be placed at the non-permanent monitoring stations along with 15-minute operator-attended noise and vibration measurements (carried out during day, evening and night periods), over a 48 hour period each year.</p>	12.11.4.1	
<p>When blasting in the northern section of Caval Ridge Mine where vibration may impact on the community, vibration levels will be considered during blast design.</p>		4.1.8 (8.09)

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
In the event of a community member registering a complaint regarding excessive noise or vibration levels, a two-phase response regime will be implemented: <ul style="list-style-type: none"> ■ First complaint: Remote Response - Data from the nearest permanent monitoring site will be interrogated remotely to determine justification of the complaint. ■ Second complaint: Site Response - An acoustic professional will visit the area where the complaint was registered for a 48-hour period to undertake continuous logging as well as short-term noise and/or vibration monitoring to determine impacts. 	12.11.4.2	
BMA will develop an ISO 14001 EMS for the Caval Ridge Mine. This management system will include a process for registering and addressing complaints regarding the potential impacts of the Caval Ridge project. In addition it is expected that the EA for the Caval Ridge mine will include a condition to investigate and report noise related complaints.		4.1.8 (8.12)

1.12 Infrastructure and Traffic

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
Construction workers will be accommodated in the Denham Village, south of Moranbah, which will be accessed from Moranbah Access Road. A privately-operated BMA bus service will be provided to transport the construction workforce from their accommodation to the site.	13.4.1	
The majority of operations workers will live in Moranbah. A private bus service will be provided to transport these workers to the mine site each day.	13.4.2	
The project site is bisected by Peak Downs Highway. To ensure the site can operate as a single integrated site with no requirement for mining vehicles to interact with the highway, grade separation of the internal mine haul routes and the highway will be provided.	13.5.3.4	
Road works to mitigate the traffic impacts of project will include: <ul style="list-style-type: none"> ■ Formation of a priority-controlled mining operations access on Peak Downs Highway. ■ Upgrade of the Peak Downs Highway/Winchester Road intersection. ■ Upgrade of the Peak Downs Highway/Moranbah Access Road intersection. 	13.7.3	
In relation to fire suppression equipment BMA commits to: <ol style="list-style-type: none"> a) The materials handling washdown, firewater and dust suppression pipe work that service the facility will be included and placement is subject to final design. b) Fire hydrants and pumps will be located at appropriate spacing around the facility. These locations will be finalised during final design. c) Hose reels and fire hydrants will be located along the conveyor gantries and conveyors. These locations will be finalised during final design. d) Hose reels and fire hydrants will be located throughout the CHPP, offices and workshop buildings. The locations will be finalised during final design e) Fire extinguishers will be installed to Australian Standard. The locations will be finalised during final design. f) Manual Call Points (MCP) will be located at the exits from switch rooms and on each level of the CHPP and connected to a Fire Indicator Panel. g) Sub Fire Indicator Panels with automatic detection and alarm systems will be located in the CHPP switch room; h) A fire suppression system will be located in all CHPP switch rooms; and h) The Control Room will be supplied with fire suppression systems. 		4.1.1 (1.02)

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
The magazine and Bulk explosive facilities will be designed to store sufficient detonators (estimated 6,000 and up to 12,000 tonnes of bulk explosive), These facilities will be designed and constructed in accordance with AS 2187.1 (Explosives—Storage, transport and use)		4.1.1 (1.04)
The project will avoid loss of flood storage capacity and contain changes to depth duration and velocity of flood water within the subject site for all floods up to the 1:100 AEP flood event		4.1.1 (1.07)
The storage of hazard materials will be within industrial area facilities near the Coal Preparation Plant and will be above the 1:100 AEP flood level or designed to prevent 1:100 AEP flood ingress into the storage areas.		4.1.1 (1.08)
Levees will be constructed for the Horse and Heyford Pits to provide flood immunity for at least the 500 year ARI event.		4.1.4 (4.42)
BMA is the major water supplier to the Moranbah community and will continue to ensure that appropriate supply is maintained in accordance with current agreements.		4.1.1 (1.10)
BMA is committed to providing lighting which is appropriate and to the standard agreed with DTMR.		4.1.7 (7.02)
As part of the future detailed design, the proponent commits to liaise with DTMR to resolve stormwater concerns for the Peak Downs Highway.		4.1.7 (7.04)
BMA commit to further discussions with the DTMR in relation to matters concerned with the infrastructure agreement currently being prepared between the two parties.		4.1.7 (7.12)
Potable water consumed on site will comply with the Australian Drinking Water Guideline 2004 (ADWG). BMA will develop and implement procedures as part of the health and safety management system, to ensure water quality meets these requirements.		4.1.8 (8.01)
BMA will identify and locate appropriate park up area/s as deemed necessary in conjunction with the DTMR and Isaac Regional Council as part of approvals associated with the proposed PD Highway overpass.		4.1.9 (9.06)
The Peak Downs Highway Overpass will be designed and constructed to safety standards approved by DTMR. Anti-gawking screens will be installed to prevent road users from being distracted by mine operations while using the overpass.		4.2.4 (14.08)
BMA will continue to work with DTMR to achieve a practical solution to potential impacts on the road networks around the project site.		4.2.5 (15.06)
Excess water from other operations may be used for construction purposes and/or to seed the water supply dams at Caval Ridge Mine. This will be investigated during the project execution phase.		5.2.2
BMA will engage with QPI&F and apply for water barrier works approval where required.		5.6.2.2

1.13 Waste Management

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
BMA will provide appropriate training in waste management practices to all employees concerned.	14.3.3	
Careful project planning will ensure that the amount of material brought on-site for the construction and operating of the project is minimised. Any excess materials and used chemical containers will, where practical, be returned to the supplier or other local users. BMA will also consider packaging issues when purchasing resources for the project and will encourage bulk purchasing to reduce the amount of	14.3.3.1	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
packaging waste.		
<p>The following are examples of how materials, identified as construction wastes will be reused or recycled where possible:</p> <ul style="list-style-type: none"> ■ Vegetation from site clearing will be used in on-site landscaping where possible. ■ Topsoil from disturbed areas will be stored for use in future rehabilitation activities on-site. ■ Where possible, recyclable materials will be purchased for use throughout the project. ■ Solvents, metals and oil will be recovered and re-used. ■ Recyclable building wastes will be collected separately and reused or recycled 	14.3.3.2	
<p>Waste, where practicable and taking into account health and hygiene issues, will be segregated and collected on-site and stored in suitable containers for removal to approved facilities as agreed with the relevant local council prior.</p> <p>Solid waste streams will be separated into various components at the point of their production. Waste separation at the source will be achieved by providing bins for reusable or recyclable materials. A number of locations will be allocated within the project site for the collection of large quantities of waste to enable segregation of wastes for recycling.</p>	14.3.3.2	
Operational and construction solid wastes that cannot be recycled or reused will be disposed of by a commercial waste contractor at an appropriate facility, depending on the waste type.	14.3.3.2	
The Environmental Management System (EMS) for the project will address waste management with an aim to minimising the quantity of waste generated and improving on the waste disposal and management techniques adopted.	14.4.1	
All waste movement from the site will be tracked in accordance with the requirements of Schedule 2 of the EP (Waste) Regulation.	14.4.3	
In addition to reports for regulated wastes, EPA Waste Transport Certificates will be forwarded to the BMA Waste Management Coordinator. A copy of the certificates will be retained by the waste contractor and also sent to the EPA. Waste contractors will also provide BMA with monthly reports which outline different waste types, their disposal methods and tracking.	14.4.3	
The potential environmental impacts that may result from generation and disposal of waste will be effectively managed and reduced by the implementation of specific waste management procedures. These procedures will form an integral part of the project's environmental management plan and EMS.	14.6.1	
All waste management contractors will have the necessary qualifications to remove waste from site. This will include attendance at generic inductions, obtaining appropriate licenses, being classed as Queensland Coal Board competent, and undergoing a Queensland Coal Board medical examination.	14.6.5	
The waste management plan will be subject to regular internal and external audits. The findings of these audits shall be used to develop methodologies aimed at improving waste reuse, recycling and minimisation.	14.6.7	

1.14 Cultural Heritage

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
BMA has entered into discussions with the native title claimants and is committed to ensuring that the native title interests are captured during	4.5.1.3	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
community consultation and the EIS process and that an agreed cultural heritage management plan (CHMP) is developed.		
<p>Procedures to be implemented to manage and/or mitigate impact on areas containing cultural heritage in the project include the following:</p> <ul style="list-style-type: none"> ■ Disturbance within 100 m of a major creek will be monitored by traditional owner representatives. ■ Identified isolated artefacts and low density scatters, apart from those within specifically defined or protected zones, will be salvaged by traditional owner representatives prior to any development works. ■ Livestock will be managed on leased properties, with 'no-go' areas established at least 100 m along both banks of the major creeks. An experienced traditional owner representatives will be commissioned to plot the width and length of the corridor containing cultural heritage significance to better establish appropriate 'no-go' areas. ■ Disturbance to any of the identified 13 scarred trees will be avoided where possible. Scar trees to be avoided will be marked and fenced as 'no-go' areas. However, if disturbance is unavoidable, procedures established by traditional owner representatives for dealing with scarred trees will be adopted. ■ Further recording and research will be undertaken by traditional owner representatives at the fireplaces identified at the project site and other sites outside protected areas where disturbance is to take place from mine related activities. ■ Impact in the vicinity of the large area of Brigalow and Native Orange trees near the proposed rail extension and the Bower Bird nest will be minimised. ■ Topsoil stripping for the rail extension will be monitored by traditional owner representatives. <p>In the event that unrecorded cultural heritage sites or materials are discovered in surface or sub-surface deposits during future operations, work at that particular location will cease and be cordoned off as a 'no-go' area until traditional owners are contacted to provide advice on significance of the finds, and management/mitigation options.</p> <p>Should skeletal material suspected of being of indigenous human origin be discovered, all operations within 100 m of the skeletal material will cease immediately upon its discovery, and procedures outlined in relevant legislation and the project's Human Remains Draft Burial Policy (NAC 2008) will be followed.</p>	15.2.4.1	
<p>A Cultural Heritage Management Plan (CHMP) will be developed and implemented in consultation with the traditional owner representatives, and in accordance with the requirements of the ACH Act. The following items will be taken into account:</p> <ul style="list-style-type: none"> ■ Arrangements for the ongoing management and protection of cultural heritage after the mine is decommissioned. ■ Assignment of responsibility for management measures and corrective actions to ensure that cultural values are included in the rehabilitation of creeks via plants and cultural items. ■ Consideration of long term arrangements for the artefacts that will be salvaged from various areas and stored in preparation for their eventual return to the land. 	15.2.4.2	
<p>Management strategies for unexpected cultural heritage material or sites found during the construction and pre-clearing activities will include the following:</p> <ul style="list-style-type: none"> ■ Provide all new employees with suitable training to provide them with the skills to identify and report cultural heritage sites or objects. ■ Inform all employees of their obligations to report any cultural heritage finds. ■ Implement a procedure that requires a permit before any relevant employee is able to undertake any clearing or excavations activities. ■ Development cultural heritage policies for management of existing 	15.3.5.3	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>cultural heritage sites or finds.</p> <ul style="list-style-type: none"> Undertake regular cultural heritage educational sessions and distribute educational material. <p>BMA will include these strategies, where appropriate, in the contractors' construction environmental management plan and the site environmental management plan.</p>		
<p>BMA will continue discussions with BaradaBarna (BB) for the Caval Ridge project to continue the strong relationship between BMA and BB.</p>		4.2.2 (13.02)

1.15 Community Consultation

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>Community engagement activities will be ongoing in response to key issues and concerns.</p> <p>Information displays will continue during the EIS advertising period and BMA representatives and their consultants will be available to answer questions and provide further detail about the project.</p> <p>Ongoing contact with participants, through stakeholder briefings, the CRG, and meetings with council will ensure that issues are identified before project development, and mitigation strategies are prepared in collaboration.</p>	16.5	
<p>BMA will continue to regularly consult with local government and community service agencies to ensure best outcomes for BMA operations, our employees and our communities in line with organisational policies and standards.</p>		4.1.1 (2.04)

1.16 Social

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>BMA will undertake the following community development activities:</p> <ul style="list-style-type: none"> Investigate the development of a childcare needs analysis to identify priority childcare needs for our Bowen Basin communities. Seek to work closely with the Queensland Government in providing workforce planning and employee forecasting numbers, to allow for closer population monitoring and planning. Continue its support and contribution towards youth, education and recreation programs including the Community Partnerships Program which invests in the categories of: <ul style="list-style-type: none"> Economic development and business skills training Community development and welfare Community safety, sport wellbeing and recreation Environment and sustainable development Arts, entertainment and cultural development Youth development and leadership. Through its <i>Landmark Program</i> BMA is currently pursuing the development of additional recreational facilities for the community, to better support youth and community connectedness. 	17.5.2	
<p>BMA will continue to offer an Employee Assistance Program to its employees, a free and confidential counselling service to support staff during difficult times.</p> <p>BMA will also continue to provide funding for the families of those employees who form part of DIDO/FIFO workforces, by funding children's programs in the Mackay and Sarina communities through the Community Partnerships Program.</p>	17.5.2	

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
<p>BMA will work in partnership with the Department of Education and Training to identify priorities across the following areas:</p> <ul style="list-style-type: none"> ■ Hard infrastructure – upgrades and new facilities for kindergartens, before and after school care and childcare. ■ Retrofitting of people’s homes to compliance standards in order to increase Family Day Care availability. ■ Education, training and skills development for childcare employees, particularly to acquire Group Leader level qualifications - where there is the greatest shortage. ■ Affordable accommodation. ■ Business skills diagnostics for the not-for-profit sector to assist in building capacity and business acumen. 	17.5.2	
BMA has, and will continue to consult within the Moranbah community and with the Isaac Regional Council on workforce accommodation.		4.1.10 (10.14)
Since the completion of the SIA, BMA has developed a draft Communities Strategy which is expected to be launched in mid FY10.		5.17.2.28
BMA will continue to support and develop relationships with local primary, secondary and tertiary/vocational education and training providers to develop mutually beneficial partnerships.	17.5.4.1	
<p>BMA will encourage construction contractors to provide local employment opportunities as part of the tender process.</p> <p>BMA will also actively promote local employment opportunities for the operational workforce, which may include advertising roles in the local community. Existing and planned training programs would also gather workforces from regional areas.</p>	17.5.5	
BMA (in partnership with local employers and service providers) will continue to work with local business organisations and with the partners of their workforce to provide training, support, advocacy and encouragement.	17.5.5..2	
BMA will build on its own code of conduct policy to ensure leading practice is applied in the development of a Workforce Community Cohesion Program. Suggestions regarding community safety planning will be further explored during the development of the program.		4.1.10 (10.09)
BMA will proactively monitor and work to mitigate potential impacts on the community and the local economy.		4.1.10 (10.25)
<p>BMA will continue to engage with the community, local government and service agencies on all matters involving accommodation needs and is committed to providing houses for its own business needs to reduce demand drivers and increase affordability.</p> <p>BMA will continue to provide rental subsidies for some critical service providers, such as childcare workers and medical staff, to continue to attract service personnel to the region. BMA will continue to assess this need, based on feedback about skills shortages from government agencies, local council and the community.</p>	17.5.6	
BMA will continue to provide financial support for local recreation groups and encourage participation in activities where possible.	17.5.8.5	
<p>BMA will be a good neighbour and actively monitor impacts from the project to sensitive receptors.</p> <p>BMA will continue to make information available to the public about its processes for monitoring and mitigating against dust, noise and vibration.</p> <p>BMA will proactively discuss the project including relevant environmental issues with neighbours and the broader community.</p>	17.5.10.1	
BMA will continue to identify mitigating strategies in partnership with government and other mining companies relating to the cumulative impacts of mining. This will be an important focus of the Sustainable Resource Communities Partnership and Leadership Groups, for which BMA has nominated to be involved.	17.5.11.1	

1.17 Health, Safety and Risk

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
A hazard and operability study will be carried out for the project prior to construction commencing. Operational risk assessments such as failure mode effect analysis and job safety analysis will be carried out on mechanical and task based exposures.	19.8	
Monitoring will be undertaken to assess whether project's health, safety and environment measures are being implemented and are effective. Monitoring will involve the compilation and assessment of data relating to health, safety and environment issues, such as reported near misses, accident reports and any health surveillance data (e.g. sickness data). Accident and near miss data will be monitored to identify where: <ul style="list-style-type: none"> ■ Common themes occur ■ PPE is being incorrectly used/abused ■ Corrective actions have not been strictly implemented ■ Corrective actions are ineffective ■ Procedures/practices need to be reviewed ■ Re-training may be required. ■ Health and environmental surveillance data will be monitored to identify common themes. 	19.9	
An emergency response plan will be prepared for the construction and operation phases. Emergency planning will be based on the following components: <ul style="list-style-type: none"> ■ An analysis of the key incidents likely to take place for each operational area ■ An assessment of the degree of impact likely to occur ■ An assessment of what constitutes an emergency for the particular operation ■ An on-site plan to handle incidents ■ An off-site plan with reference to emergency services needed ■ Communication, emergency responsibilities, control centre establishment ■ Post emergency procedures, including recovery, debriefing and review of plan ■ Testing of plan under emergency-like conditions. 	19.10	
BMA is committed to developing emergency response plans in consultation with the appropriate agencies and organisations such as QFRS		4.1.1 (1.12)
BMA will consult with QFRS (including the ambulance services) prior to and during the development of the Caval Ridge Mine.		4.1.1 (1.13)
Manifests and inventories of dangerous goods to be used on site will be prepared as part of the mine operating documentation and BMA will provide this information to QFRS		4.1.1 (1.14)
BMA will consult with Isaac Regional Council, Local Disaster Management Group and other relevant stakeholders during the formulation of the Caval Ridge Emergency Response Plan		4.1.1 (1.17)
BMA will provide the Caval Ridge disaster management plan to Emergency Management Queensland (EMQ) Regional Office.		4.1.1 (1.18)
BMA will provide an orientation regarding the Caval Ridge Mine Development to the Area Director Mackay, local controller SES and SES Group leaders of the Isaac Regional Council Area.		4.1.1 (1.19)
BMA will provide evacuation and access maps to EMQ and emergency agencies as part of the Caval Ridge Emergency Management Plan.		4.1.1 (1.20)
BMA will provide the Caval Ridge disaster management plan to Emergency Management Queensland (EMQ) Regional Office.		4.1.1 (1.21)

Proponent Commitment	Relevant Section in EIS	Relevant Section in SEIS
BMA will provide structured travel options for employees through planned fly-in fly-out and bus-in bus-out options to address health and safety issues		4.1.1 (2.02)
BMA will include mosquito management requirements as part of the Caval Ridge Health and Safety management.		4.1.8 (8.17)
BMA will provide the number of oversized deliveries to the QPS once the final design for the project is completed to assist the QPS in planning for capacity and resourcing in so far as wide load movements are concerned		4.1.9 (9.08)
BMA is committed to working with QPS during the preparation of the disaster management plan.		4.1.9 (9.14)
As part of emergency response and training BMA will undertake risk assessments to ensure the development of response and management arrangements for incidents, emergencies and disasters that include service providers (QPS, QAS, QFRS, IRC).		4.1.9 (9.18)
BMA will liaise with the Queensland Police Service in relation to the response and investigation associated with protest activity that may impact upon production or delivery of coal.		4.1.9 (9.19)