SARAJI EAST MINING LEASE PROJECT

Environmental Impact Statement

Appendix O-1

Summary of Commitments

BMA

BHP Mitsubishi Alliance

Prepared for
BM Alliance Coal Operations Pty Ltd
ABN: 67096412752

Environmental Impact Statement

Appendix O-1 Summary of Commitments

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Saraji East Mining Lease Project

AEP	Annual exceedance probability
ALCAM	Australian Level Crossing Assessment Model
AMD	Acid and metalliferous drainage
BMA	BM Alliance Coal Operations Pty Ltd
CDMP	Community Development Management Plan
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CHPP	Coal handling and processing plant
CMSH Act	*Coal Mining Safety and Health Act 1999*
DEHP	Department of Environment and Heritage Protection
DES	Department of Environment and Science
DESBT	Department of Employment, Small Business and Training
DNRME	Department of Natural Resources, Mining and Energy
DSDMIP	Department of State Development, Mining, Infrastructure and Planning
DTMR	Department of Transport and Main Roads
EA	Environmental Authority
EIS	Environmental Impact Statement
EMR	Environmental Management Register
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
ERA	environmentally relevant activities
ESCP	Erosion and sediment control plan
EWP	Elevated work platform
FIFO	Fly in fly out
GHG	Greenhouse gas
GMP	Groundwater Monitoring Program
GTIA	Guide to Traffic Impact Assessment
IMG	Incidental mine gas
IRC	Isaac Regional Council
MAW	Mine affected water
MDSS	Moranbah and District Support Services
MIA	Mine infrastructure area
ML	Mining Lease
MLA	Mining Lease Application
MNES	Matters of National Environmental Significance
MRL	Mandatory Reporting Level
NATA	National Association of Testing Authorities
NC Act	*Nature Conservation Act 1992*
NGER Act	*National Greenhouse and Energy Reporting Act 2007*
NPI	National Pollutant Index
ONRSR	Office of the National Rail Safety Regulator
PIA	Pavement impact assessment
PPE	Personal protective equipment
PRCP	Progressive Rehabilitation and Closure Plan
QFES	Queensland Fire and Emergency Service

RAP	Reconciliation Action Plan
RAPTA	Resilience, Adaptation Pathways and Transformation Assessment
RSNL	Rail Safety National Law
REMP	Receiving environment monitoring program
ROM	Run of Mine
SDS	Safety data sheet
SIA	Social impact assessment
SIMP	Social Impact Management Plan
SMP	Subsidence Management Plan
SWL	Static water level
SWMP	Site Water Management Plan
TARP	Trigger Action Response Plan
WAV	Workplace Accommodation Village

1.0 Commitments

A summary of commitments made by BM Alliance Coal Operations Pty Ltd (BMA) throughout the Environmental Impact Statement (EIS) is provided in Table 1. These commitments should be read in the context the Project has been approved by the Department of Environment and Science (DES).

Table 1 Summary of commitments for the Project

Aspect	Number	Commitment
General	1	BMA will complete conversion of the Mining Lease Application (MLA) to Mining Lease (ML) as per requirements of the *Mineral Resources Act 1989*.
	2	In refining the design and carrying out the mining activity, BMA will execute the Project in general accordance with the Project Description in Chapter 3 and Project Layout in Figure 3-2. The underground mine will generally be developed with Figure 3-7 Underground Mine Plan.
	3	Exploration activities will continue across the entire MLA 70383 and MLA 70459 for ongoing definition and delineation of the Project coal resource and structure. Disturbance due to exploration activities in areas not authorised to be mined will be rehabilitated in accordance with the *Eligibility criteria and standard conditions for exploration and mineral development projects.*
	4	BMA will design and construct Incidental Mine Gas (IMG) management infrastructure to minimise disturbance to riparian zones along Boomerang Creek, Plumtree Creek, Hughes Creek and the oxbow wetlands and preferentially avoid placement of IMG extraction wells and infrastructure within remnant vegetation and particularly within Endangered Regional Ecosystems (RE 11.3.1, RE 11.4.8 and RE 11.4.9) where alternative locations are suitable. Where unavoidable, requirement for offsets will be confirmed and addressed as part of implementation of the Offset Strategy.
	5	Agricultural and grazing land uses surrounding the Project area will continue and generally co-exist with the Project.
	6	The location of crossings of creeks and drainage lines to preferentially utilise natural breaks in vegetation or existing disturbed areas. Width of crossings to be minimised, and particularly retaining tall trees on either side of crossing locations wherever safe to do so.
	7	For surface infrastructure, previously disturbed areas within the existing Saraji Mine will be preferentially selected.
	8	To facilitate the proposed electricity infrastructure works, BMA will obtain consent from all parties holding a lawful interest in land impacted by the works, secure appropriate land tenure arrangements (e.g. easements) and obtain relevant permits and approvals. BMA will consult with Energy Queensland and Powerlink to ascertain interests and delivery requirements for the proposed electricity infrastructure.
	9	Where road works will intersect with assets managed by Isaac Regional Council (IRC) and Department of Transport and Main Roads (DTMR), BMA will consult with the relevant entities and obtain the necessary permits and approvals as required.

Aspect	Number	Commitment
	10	Subsidence-related impacts will be monitored and managed in accordance with the **Appendix K-2 Subsidence Management Plan** (SMP), which incorporates proactive measures to predict and potentially improve the overall condition of the subsidence-affected areas to minimise adverse impacts.
	11	Monitoring of potential subsidence areas will be undertaken prior to any panel being subsided to ensure subsidence impacts are quickly identified and appropriate mitigations applied. Monitoring for surface subsidence parameters will commence after cessation of subsidence movements and will continue periodically.
	12	Preliminary contaminated land site investigation will be undertaken during the detailed design phase to identify the location and nature of contamination with potential to be encountered during Project works
	13	If the preliminary contaminated land site investigation identifies significant contamination, a detailed site investigation will be undertaken prior to construction of the Project to assess the health and environmental risks of the contaminants. A management and remediation plan will then be developed to minimise the impact of these contaminants if required.
	14	A Progressive Rehabilitation and Closure Plan (PRCP) will be developed for the Project for submission to the DES for approval prior to construction commencement.
	15	Areas significantly disturbed by mining activities will be rehabilitated to a stable landform with a self-sustaining landcover or to a condition where maintenance requirements are consistent with an agreed post mining land use. Rehabilitation will be undertaken progressively with the mining sequence in accordance with **Appendix K-1 Rehabilitation Management Plan**.
	16	Prior to construction and following the approval of the PRCP, the **Appendix K-1 Rehabilitation Management Plan** will be reviewed and updated as needed.
	17	Coal rejects will be trucked to the Saraji Mine for disposal in-pit in accordance with Saraji Mine EA.
	18	Direct and indirect disturbance of the Project will disturb up to 1,220.35 hectares (ha) of remnant vegetation.
	19	Direct impacts will disturb up to 62.37 ha of Category B ESA (Endangered RE) and indirect impacts up to 211.75 ha of Category B ESA (Endangered RE),
	20	Areas for clearing will be clearly delineated to avoid inadvertent clearing.
Flora and fauna	21	The Project will significantly impact the following threatened species and ecological communities protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as Matters of National Environmental Significance (MNES): • Up to 43.76 ha Brigalow TEC

Aspect	Number	Commitment
		• Up to 133.42 ha Squatter Pigeon habitat • Up to 389.44 ha Ornamental Snake habitat • Up to 136.38 ha Koala habitat • Up to 38.55 ha Greater Glider habitat
	22	If habitat trees can be retained without compromising safety, these will be identified and clearly marked for avoidance.
	23	Habitat features such as felled trees and logs will be considered for relocation to other areas to provide microhabitat.
	24	Erosion and sediment control measures will be installed and maintained (see **Chapter 5 Land Resources**) for ground disturbance activities and stream crossings.
	25	Induction training and work instructions will include detail of actions to be taken in the event fauna interactions occur.
	26	During detailed design, lighting will be designed to minimise light spill into adjacent habitat areas.
	27	Suitably qualified spotter catchers will be present during vegetation clearing activities to minimise risk of injury to native fauna. All spotter catchers will hold appropriate permits under the *Nature Conservation Act 1992 (*NC Act).
	28	NC Act requirements including assessing the need to prepare a Species Management Program prior to any construction will be undertaken (under section 332 of the Nature Conservation (Wildlife Management) Regulation 2006).
	29	Heavy vehicles (and where practical, light vehicles) will not traverse vegetated areas outside designated disturbance zones and will be required to remain on established access tracks.
	30	Dust suppression measures will be undertaken to minimise dust deposition on vegetation adjacent to tracks and construction areas. This may include sealing or gravelling frequently trafficked surfaces to reduce dust generation, the use of water trucks to suppress dust or a combination of suitable dust control measures. Dust control measures will be confirmed prior to the development of an Air Management Plan.
	31	BMA will use already disturbed areas for crossings of creeks and drainage lines where practicable.
	32	The Weed and Pest Management Plan (WPMP) will be developed prior to construction and will cover construction, operation and rehabilitation periods. The WPMP will also include maps showing the distribution and abundance of weeds.
	33	Remnant vegetation within subsidence impacted areas will be monitored for early detection of change in vegetation communities to identify unforeseen decline of vegetation condition or extent of canopy dieback for investigation and mitigation by other measures proposed in a Trigger Action Response Plan (TARP).
	34	Prior to construction, BMA will finalise the Offset Strategy and develop and implement an approved Offset Area Management Plan to compensate for significant impacts.
Surface Water	35	A full Consequence Categories Assessment (CCA) for regulated structures will be developed as part of the detailed design. The final configuration of dam structures and spillways, including heights of the dam embankments, will be confirmed during the detailed design

Aspect	Number	Commitment
		phase, preceding full CCAs. All structures which are dams or levees associated with the operation of an environmentally relevant activity (ERA) are generally required to have their consequence category assessed in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (DES, 2016) (the DES manual). Regulated structures will be conditioned by DES in the Environmental Authority (EA) for the Project, designed according to specific hydrologic and hydraulic performance criteria set out in the DES manual, and inspected annually by a suitably qualified professional.
	36	Pipes and pump systems will be designed with consideration to volume requirements predicted from water balance modelling and designed by a suitably qualified engineer.
	37	Regular inspections of mine water storages, pipeline, drain, bund and levees will be undertaken particularly in relation to integrity of constructed embankments.
	38	All fuel and chemical storages will be designed and operated in accordance with Australian Standards, including AS1940 The Storage and Handling of Flammable and Combustible Liquids and AS3780 The Storage and Handling of Corrosive Substances
	39	Refuelling to occur within contained, hardstand areas in accordance with AS1940 The Storage and Handling of Flammable and Combustible Liquids away from areas subject to stormwater inundation. Where this is not possible, refuelling activities should be located away from streams and drainage lines and be supervised by an appropriately trained operator equipped with a spill kit at all times.
	40	Spill clean-up kits will be located appropriately based on the risk of a spill occurring and potential volume of material that might be spilled at the location. Instructions on spill containment and clean-up to be available at refuelling locations and in vehicles where there is a moderate risk associated with spill events.
	41	Spills are to be contained and cleaned up as soon as practical to mitigate the mobilisation of pollutants in drainage lines or watercourses. Contaminants and major spills will be collected by a licensed waste collection and transport contractor for disposal at an offsite licensed facility.
	42	Water and oily water from fuel and oil storage areas removed from bunds and sumps will be treated through an oil water separator and managed through the MAW system and in accordance with the EA.
	43	Runoff from undisturbed areas of the Project Site and its vicinity will be diverted away from disturbed areas by diversion bunds and drains which will drain via diverted creeks and natural watercourses of Hughes and Boomerang Creeks.
	44	Runoff from disturbed areas of the Project will be diverted away from undisturbed areas and pumped to the process water dam and used preferentially to satisfy the Project's, dust suppression and Coal Handling and Processing Plant (CHPP) process water demands.
	45	Raw water from BMA's surface water allocations will be piped to the Project Site and used to satisfy the Project's potable water and longwall mining equipment demands. Raw water will be used to supplement CHPP make-up water as required.
	46	A post-mining monitoring program will be developed to address the recovery of groundwater drawdown impacts observed during operation.
	47	A receiving environment monitoring program (REMP) will be developed and implemented prior to construction. The REMP will monitor and assess the receiving environment and potential impacts of controlled and uncontrolled releases of mine affected water (MAW) to the environment from a regulated activity.
	48	Where safety and access permits, the receiving water will be monitored at upstream and downstream locations during release events.

Aspect	Number	Commitment
	49	Monitoring of surface water quality in the receiving water bodies of Boomerang Creek, Hughes Creek and Isaac River downstream will be undertaken as conditioned by the EA for the Project.
	50	Monitoring of MAW dam water levels will be automated and dam water levels will be managed in accordance with the Site Water Management Plan (SWMP) to manage contaminants and containment in regulated water structures and minimise uncontrolled releases.
	51	Prior to construction, a TARP will be developed to identify the corrective actions and responses required in the event that operations result in exceedances in surface water quality or adverse changes in stream health.
	52	BMA will conduct controlled releases of MAW from the released point authorised by the EA. The indicative location for the authorised controlled release of MAW is located on Boomerang Creek adjacent to the proposed process water dam. The location of this release point will be confirmed in detailed design.
	53	Mine water storages will be designed with consideration given to the predictions of the water balance model which considers all inputs and outputs, and which has run through a long-term period of climatic data to test storage capacities particularly in high rainfall wet season.
	54	BMA is committed to participation in the FRREEMP together with adjacent Saraji and Peak Downs Mines as outlined in the Fitzroy Coal Mine Receiving Water Monitoring for Regulation – Efficiency Review and Gap Analysis (2018). This includes the utilisation of existing monitoring locations, shared data management, coordination of releases between mines, as well as combined mitigation and response procedures. This commitment will be made for the operational and post closure phase of the project.
	55	An Erosion and Sediment Control Plan will be developed as part of the Site Water Management Plan during the detail design stage of the Project.
Groundwater	56	Prior to the operational phase, BMA will develop and implement a Groundwater Monitoring Program (GMP) to monitor the magnitude and distribution of actual changes to groundwater conditions in response to the Approved and Project mining and to provide early detection of any unforeseen impacts to groundwater levels, groundwater flows or groundwater quality. A GMP will allow for the validation of model predictions and allow for the instigation of investigations into potential for environmental harm should groundwater monitoring results differ from predictions. An objective of the program will be to detect a significant change to water quality values (considering the current unsuitability of the groundwater for domestic and agricultural use in many areas) due to activities that are part of the Project.
	57	From the existing groundwater monitoring bores, groundwater level measurements will be automated via dedicated level logger reinstated and programmed to collect static water level (SWL) measurements at least once a week.
	58	Prior to the Project mining activities, additional monitoring bores are proposed to ensure the collection of representative groundwater monitoring data to assess potential predicted impacts of the Project on local groundwater resources (refer Table 9-4 and Figure 9-16). All monitoring bores are to be drilled using a water bore drilling rig, using mud-rotary, air-percussion or other appropriate techniques. The groundwater monitoring bores are to be designed in accordance with the *Minimum Construction Requirements for Water Bores in Australia, 3rd Edition* (National Water Commission, 2012) or as current.
	59	Field monitoring equipment, such as electrical conductivity and pH meters will be calibrated. QA/QC laboratory samples will be collected. All external laboratories will be National Association of Testing Authorities (NATA) accredited for the analytical procedures they are performing.

Aspect	Number	Commitment
	60	If groundwater level decline is more than the levels defined through predictive modelling, an investigation will commence within 14 days of detection. The investigation will aim at determining if the fluctuations in groundwater levels are a result of: • Mining activities authorised under the Project EA • Pumping from licensed bores • Seasonal variation • Neighbouring land use resulting in groundwater impacts. If the trigger exceedance is from authorised mining activities, then BMA will complete an investigation into the potential for environmental harm and notify DES within 28 days.
	61	Consistent with the intent of the groundwater monitoring program, additional baseline data will be collected for two years to allow further characterisation of the seasonal ecohydrological function and baseline condition of terrestrial GDE on Hughes Creek, off lease to the east of EPC837 where impact to mapped terrestrial GDE may potentially be propagated due to groundwater level changes.
	62	A post-mining monitoring program will be developed by a suitably qualified hydrogeologist towards the end of mining operations (e.g. within two years of mine closure). The program will be customised to address recovery of actual groundwater drawdown impacts observed during operation of the underground mine. The monitoring program will be defined within the PRCP to be developed and submitted for approval prior to commencement of mining.
Geochemistry	63	BMA will conduct an ongoing geochemical assessment program that is commensurate with the current acid and metalliferous (AMD) risk of the mineral wastes. Monitoring of potential drainage/seepage water quality from in-pit spoil dumps, with parameters to include for pH, EC, acidity, major cations and ions, and dissolved to include at a minimum Al, As, Cd, Cu, Cr, Co, Fe, Pb, Ni, Mo, Hg, Se and Zn. The monitoring protocol will be reviewed and where appropriate improved over time based on results of on-going monitoring.
Air quality and Greenhouse Gas	64	When requested by the administering authority or as a result of an air quality complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring will be undertaken and the results notified to the administering authority.
	65	BMA will report annual greenhouse gas (GHG) emissions under the National Greenhouse and Energy Reporting System under the *National Greenhouse and Energy Reporting Act 2007 (*NGER Act).
	66	Management measures proposed for the Project to minimise GHG emissions during operation include: • Preferencing fuel efficient mining equipment during procurement • Maintaining mining equipment in good working order that so fuel efficiency is maximised • Using appropriately sized equipment. Further opportunities for abatement are being investigated.

Aspect	Number	Commitment
	67	The Project incorporates dust reduction features, most notably the transport of run of mine (ROM) coal by conveyor from the mine portal to the Project CHPP. Dust mitigation will be considered during the detailed design phase to capitalise on opportunities to minimise overall dust emissions during adverse conditions, including partial or full enclosure, belt scrapers, water sprays or other engineering solutions. Dust control measures will be confirmed through the development of an Air Management Plan prior to construction. General management strategies for the minimisation of pollutant generation during construction may include (but not be limited to): • Minimising the extent of exposed areas. Disturbed areas would be stabilised as soon as practicable to prevent or minimise wind-blown dust • Use of water sprays on haul routes, exposed areas and stockpiles as required to adequately dampen and prevent the emission of dust from the site. • Reducing vehicle speed on unsealed roads to reduce dust generation and keep vehicles to well-defined roads • Strict adherence to plant and equipment maintenance programs • Minimising haulage distances between construction sites to spoil stockpiles • Addressing equipment for dust control under performance in a timely manner by keeping it in good operation condition • Ensuring all personnel are familiar with the objectives and requirements of the Project's Air Management Plan • Stockpiles would be maintained in a condition that minimises windblown generated dust • Erosion and sediment control structures would be regularly maintained to ensure silt does not become a source of dust • Unsealed trafficable areas would be kept damp during high wind events to minimise dust generation In addition, the plan will also include mitigation for during the operation phase of the Project. General management strategies for the minimisation of pollutant generation during operation may include (but not be limited to): • Minimising vehicle speed • Watering of haul roads • Optimising the use of water sprays • Reducing heavy vehicle movements between the Project CHPP and the SRM CHPP and the associated reducing in coal handling at the Project CHPP and dumping of ROM coal at the SRM ROM dump. • Reducing throughput through the Project CHPP breaker station • Reducing dozer activities at the Project CHPP • Strict adherence to plant and equipment maintenance schedules • Addressing equipment for dust control under performance in a timely manner by keeping it in good operation condition • Ensuring all personnel are familiar with the objectives and requirements of the relevant operational management plans.
	68	Continuous monitoring of meteorological parameters will occur at the location of the Project CHPP and co-located with the Saraji East Mine Met Station. One continuous dust monitoring station will be installed at a location to be confirmed prior to any disturbance activities.

Aspect	Number	Commitment
	69	BMA will develop an Air Quality Monitoring Program that includes proposed monitoring location, details of sampling equipment, parameters and frequency of maintenance. The monitoring program will support decision making with respect to the management of dust.
Noise and Vibration	70	Where receptors are predicted to receive noise exceeding the Project specific noise criterion noise mitigation measures will be determined in consultation with potentially affected landholders.
	71	BMA will implement noise control measures where practicable which may include: • Maintaining machinery to minimise noise • Working with equipment suppliers to provide machinery that is designed to be quieter • Stopping and starting up equipment as far away as possible from receptors • Maintaining internal roads in good working order • Use of broadband reverse alarms on all machinery that regularly reverse (e.g. bulldozers and front-end loaders) • Noise control to the ventilation shafts, which could comprise: - Orientate discharge outlets away from nearby sensitive receptors - Variable speed devices fitted to fan motors. • Treatments to conveyors, such as the used of low noise idlers, and partial enclosures BMA will finalise the noise mitigation measures prior to the construction phase.
	72	BMA will provide awareness and understanding of noise issues through site inductions for all staff and contractors.
	73	Community and complaints management techniques will be undertaken in accordance with the community complaints and grievances procedure that is current at the time of Project commencement. Such techniques include: • Taking steps to inform the community as to how complaints can be made • Investigating the complaints and, where required, the use of appropriate dispute resolution activities • Maintaining a complaint register to record all relevant information associated with the complaint, including the personnel responsible for handling the complaint and the corrective actions taken • Ensuring that a complainant is advised of the outcomes in relation to their complaint.
	74	When requested by the administering authority or as a result of a noise or vibration complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), noise or vibration monitoring will be undertaken at the nearest privately-owned dwelling or affected receptor and the results notified to the administering authority.
	75	A Noise Management Plan will be developed and implemented. Ther management plan will document transparent baseline noise data.
Scenic Amenity	76	Vegetation will remain in situ for the greatest length of time possible prior to removal. This will ensure that the screening effects of existing vegetation are maintained for as long as possible. Where practical, retention of existing roadside and fence line vegetation would assist in partially screening the mine expansion areas and may assist in limiting expansive views of the Project Site from sensitive receivers. This action will particularly be considered at the following locations: • Saraji Road (near to the Mining Industrial Area (MIA)) • Near to residential dwellings, including Meadowbrook and Lake Vermont homesteads.

Aspect	Number	Commitment
	77	The Project Site will be maintained in good condition, particularly adjacent to neighbouring properties. Fences and signage will remain in good repair and litter will be regularly removed.
	78	The number of lights will be kept to a minimum, while maintaining operational and health and safety requirements.
	79	The Project is committed to ongoing consultation with impacted landholders. As required, residences will be consulted to determine if future perceived impacts require mitigation and if so, discuss what form of mitigation is appropriate. In the event of a complaint about light from any mining activity that, after investigation, is in the opinion of an authorised person, causing a nuisance at a sensitive place, BMA will take appropriate action to mitigate the nuisance. BMA will take the action within the reasonable time set by the administering authority.
Transport	80	Trucks and trains used for transporting bulk materials from mining lease(s) will leave the mining lease(s) with appropriate load preparation to prevent the spillage and/or loss of particulate matter and/or windblown dust during transport.
	81	BMA will undertake consultation with Isaac Regional Council (IRC) for works on Peak Downs - Saraji Road prior to construction.
	82	BMA will undertake a Pavement Impact Assessment (PIA) in accordance with the Guide to Traffic Impact Assessment (GTIA) during the detailed design phase and no later than 6 months prior to construction, in consultation DTMR and pay an agreed (between BMA and DTMR) monetary contribution to DTMR, and/or implement other agreed implementation measures to mitigate pavement impacts on the State-controlled road network.
	83	Where necessary BMA will arrange for Australian Level Crossing Assessment (ALCAM) assessments to be undertaken by the railway manager (Aurizon). The outcomes of the ALCAM assessments will identify potential railway safety issues and inform the development of appropriate mitigation measures.
	84	A Traffic Management Plan will be prepared prior to construction that considers the requirement for escorts and/or public notices during the transportation of oversize vehicles on public roads. The Traffic Management Plan will be developed in accordance with the latest Transport and Main Roads GTIA, no later than 6 months prior to construction and implemented prior to construction to address safety issues on public roads, including but not limited to: • Transportation of oversize vehicles and use of escorts and/or public notices • Upgrade Lake Vermont Road for approximately 11 km from Saraji Road (if required for the proposed construction accommodation village), including sealing of the road, assessment of the existing corrugated iron tunnel currently in place under the Norwich Park Branch rail line to determine the structural integrity and tunnel dimensions required for the Project and potential upgrade of the existing tunnel • Provide intersection lighting at Intersection 1 (Lake Vermont Road / Saraji Road) to improve visibility in low light conditions • Construct proposed Intersection A on Saraji Road, including deceleration lanes on the north and south approaches to the intersection on Saraji Road, and active devices such as boom barriers and flashing lights in addition to road lighting at the intersection • Provide intersection lighting at Intersection 3 (Peak Downs Mine Access / Peak Downs Mine Road / Saraji Road) to improve visibility in low light conditions.

Aspect	Number	Commitment
	85	During the detailed design phase and no later than 6 months prior to construction, in consultation with DTMR, BMA will prepare an updated Traffic Impact Assessment including, amongst other things a Road Use Management Plan, in accordance with section 7.6 of the GTIA and implement agreed management and / or mitigation measures.
	86	During the detailed design phase and no later than 6 months prior to construction, in consultation with DTMR, BMA will undertake a road safety audit in accordance with Part C – section 9 of the GTIA and implement identified mitigation measures.
	87	Prior to completing an application for registration of a rail siding, BMA will contact the Office of the National Rail Safety Regulator (ONRSR) via email contact@onrsr.com.auto to enter into discussions regarding the process associated with registration of their rail infrastructure. A rail infrastructure manager of a proposed private siding/s is required to apply for registration before commencing construction of the private siding or undertaking any railway operations. ONRSR may take up to 6 months to review an application for registration.
	88	The following commitment will be applied with timing, (a) at all times, and (b) – (c) prior to the commencement of construction/works: (a) The development must ensure that there is no disruption to the safety and operational integrity of railway crossings (including railway level crossings and rail bridge structures). (b) Provide RPEQ certification to the Program Delivery and Operations Unit, Central District within the Department of Transport and Main Roads (Central.Queensland.IDAS@tmr.qld.gov.au), confirming that the development has been designed in accordance with part (a) of this condition. In particular, the RPEQ certification must include the following supporting documentation: i. A traffic management plan identifying: • the expected access/haulage routes; • the existing traffic flows, background traffic growth and expected development generated traffic that will use railway crossings (expressed as vehicles per day); • the maximum size and type of vehicle (including length, width, height and weight) expected to use railway crossings; • any safety procedures and controls and management measures for the safe use of railway crossings; • any railway crossing upgrades/works required to ensure safe use of specified access/haulage routes for development generated traffic; and • site induction requirements for all personnel and drivers on safe access/haulage routes and the appropriate use of railway level crossings. ii. A swept path analysis of the maximum design vehicle demonstrating adequate queuing distance between the impacted railway level crossing/s and relevant intersections/access points. The minimum clearance must be 5m from

Aspect	Number	Commitment
		the edge running rail (of the closest railway track) as per Section 5.4 – Short Stacking and Figure 3.2 – Yellow Box Marking of AS1742.7:2016 Manual of Uniform Traffic Control Devices, Part 7: Railway plus the length of the maximum design vehicle. (c) Provide written evidence that comparative Australian Level Crossing Assessment Model assessments demonstrate that the development will not worsen the safety risk at the impacted railway level crossing/s or detailed design drawings showing mitigation measures in accordance with AS1742.7:2016 Manual of Uniform Traffic Control Devices, Part 7: Railway to mitigate the identified risks.
	89	Under section 83 of the Rail Safety National Law (RSNL) a rail infrastructure manager of a private siding that is connected to or has access to a railway operated by an accredited rail transport operator must be registered to operate that siding or other sidings which they manage, unless they are otherwise accredited or hold an exemption. BMA will consult with these agencies on need for level crossing and potential to rationalise locations across level crossings at all BMA sites.
	90	The following commitment will be applied, with timing (a) at all times and (b) prior to the commencement of mining operations: (a) Development involving dangerous goods must not adversely impact on the safety or operations of the railway corridor. (b) RPEQ certification must be provided to the Program Delivery and Operations Unit, Central Queensland Region within the Department of Transport and Main Roads (Central.Queensland.IDAS@tmr.qld.gov.au), confirming that the development has been designed in accordance with part (a) of this condition. In particular, the RPEQ certification must include supporting documentation addressing the following: i. A risk assessment in accordance with Attachment 1: Risk Assessment Guide of the Guide for Development in a Transport Environment: Rail ii. Details of the measures that have been incorporated into the design and management of the development to minimise any identified risks, including but not limited to: • Minimising or controlling the outbreak of fire; • Controlling smoke and/or gas release and dispersion; • Minimising heat build-up in structures; • Limiting the possibility of structural components being blast damaged; • Providing stability or contingency measures in the proposed development; • Providing safe emergency access and egress; and

Aspect	Number	Commitment
		• Ensuring effective containment and clean-up of dangerous goods incidents. The development must provide dangerous goods management measures in accordance with parts (a) and (b) of this condition.
	91	The following commitment will be applied with timing (a) & (c) at all times, and (b) Prior to the commencement of construction/works, and (c) prior to the commencement of mining operations: (a) The stormwater and flooding management of the development must not cause worsening to the operating performance of the railway corridor such that any works on the land must not: i. Create any new discharge points for stormwater runoff onto the railway corridor; ii. Concentrate or increase the velocity of flows to the railway corridor; iii. Interfere with and/or cause damage to the existing stormwater drainage on the railway corridor; iv. Surcharge any existing culvert or drain on the railway corridor; v. Reduce the quality of stormwater discharge onto the railway corridor; vi. Adversely impact on the railway corridor by impeding or interfering with overland flow or hydraulic conveyance; vii. Reduce the floodplain immunity of the railway corridor. (b) Submit RPEQ certification, with supporting documentation to the Program Delivery and Operations Unit, Central District within the Department of Transport and Main Roads (Central.Queensland.IDAS@tmr.qld.gov.au), confirming that the development has been designed in accordance with part (a) of this condition. (c) Submit RPEQ certification, with supporting documentation, to the Program Delivery and Operations Unit, Central District within the Department of Transport and Main Roads (Central.Queensland.IDAS@tmr.qld.gov.au), confirming that the development has been constructed in accordance with part (a) of this condition.
General Waste	92	Project wastes generated from construction and operation will be managed through development and implementation of a Project-specific Waste Management Plan to identify waste streams, infrastructure and management systems, including interfaces with the existing waste management framework associated with the adjacent Saraji Mine. The Waste Management Plan will detail a Project-specific program safe reuse, recycling and disposal of each waste stream and detail waste management control strategies for segregation and storage, transport and procedures for dealing with accidental spills. Primary objectives of the Waste Management Plan will be to: • Avoid or minimise waste generation • Maximise resource recovery through reuse and recycling

Aspect	Number	Commitment
		• Safely manage waste streams to protect health and environmental values • Comply with waste management, monitoring and reporting requirements.
	93	To facilitate waste management for the Project, the Project EA will need to specifically condition proposed interactions with Saraji Mine, including transporting waste to the existing Saraji Mine spoil dumps, as acceptable. Depending on the waste management activities and corresponding thresholds for waste sorted, stored or disposed of at the Project Site, the Project EA is expected to authorise sewage treatment (ERA 63) and include conditions for monitoring treated sewage effluent.
	94	All reject and tailings material will be trucked to the Saraji Minefor disposal in accordance with the Saraji Mine EA conditions.
	95	As part of the Waste Management Plan, BMA will commit to identifying and confirming regulated waste facilities in the region for disposal of regulated waste associated with the Project.
	96	BMA will identify waste associated with the decommissioning of the Project as part of the Waste Management Plan. This includes details of all waste expected to be generated during the decommissioning of Project infrastructure, including expected waste types, quantities and management strategies.
	97	Subject to meeting thresholds, Project waste emissions to land (air and water) will be estimated and reported annually in accordance with National Pollutant Inventory (NPI) requirements. Monitoring and audit reviews will identify non-conformances and opportunities for improvement that can be addressed by corrective and adaptive management processes set out in the Waste Management Plan.
	98	Bulk rubber waste resulting from mining activities will be disposed in spoil emplacements within the Saraji Mine open cut pits on ML70142 and or ML1775. Bulk rubber waste disposed of within the MLs must not impede saturated aquifers or compromise the stability of the consolidated landform. A record will be kept of the number, volume and location for all bulk rubber waste disposal.
	99	Records of trade and regulated wastes or material leaving the mining leases for recycling or disposal, including the final destination and method of treatment, must be in accordance with the *Environmental Protection Act 1994.*
Chemicals and flammable or combustible liquids	100	All explosives, hazardous chemicals, corrosive substances, toxic substances, gases and dangerous goods will be stored and handled in accordance with the current Australian standard where such is applicable. Flammable and combustible liquids, including petroleum products, will be stored and handled in accordance with the latest edition of AS1940—The storage and handling of flammable and combustible liquids. Where no relevant Australian standard exists, such materials will be stored within an effective on-site containment system. BMA will minimise the potential for contamination of land and waters by diverting stormwater around disturbed areas and facilities used for the storage of chemicals and flammable or combustible liquids. Management measures for the prevention of spills and to minimise the risk of harm if a spill occurs include: • Site drainage designed to facilitate retention of spills onsite • Engineered hardstand above the natural ground level • Construction of appropriate spill containment facilities for all areas where process reagent and petroleum products are stored (e.g. impervious containment and bunding around stationery/fixed storage areas in accordance with Australian Standard (AS) 1940) • Regular inspection and maintenance of spillage control devices • Overfill protection

Aspect	Number	Commitment
		• Auto-shutoff nozzles on vehicles • Procedure for the storage and handling of hazardous substances • Procedure for the refuelling and servicing of vehicles and machinery • Prompt spill clean-up and reporting • Spill kits located at points that are easily identifiable, accessible and most likely to be needed such as high-risk areas i.e. refuelling points and the workshops • Firefighting equipment readily available, easily identifiable and accessible in high-risk areas associated with hydrocarbons • Appropriate personal protective equipment to be used. The potential for underground spills will be minimised by: • Storing oil drums in locations where the possibility of impacts from vehicles is minimised • Appropriate housekeeping i.e. ensuring only the required number of oil drums are taken underground Capture of oil drained from machinery during maintenance in containers which will be returned to the surface and pumped into the waste oil storage facility.
Cultural Heritage	101	Aboriginal cultural heritage will be identified and managed under the existing Cultural Heritage Management Plan (CHMP) developed in accordance with requirements established under the Queensland *Aboriginal Cultural Heritage Act 2003*.
	102	Cultural heritage inductions will be provided for all Project personnel engaged in works requiring ground disturbance.
	103	Procedures will be implemented in the case of unexpected items of cultural heritage significance, including: • All works will cease in the vicinity of the find • Supervisor or cultural heritage coordinator will be informed • A qualified archaeologist will make an assessment and recommend management measures.

Aspect	Number	Commitment
Social and Stakeholders	104	BMA will consult with Barada Barna Aboriginal corporation (BBAC) again prior to Project construction to confirm their understanding of the Project's social impacts and benefits. In recognition of cultural heritage values and cultural connections between Barada Barna People and Country, the Project will: • Provide signage at the Project entrance and within the site recognising Barada Barna people as the area's traditional owner • Provide training about cultural awareness and cultural heritage management to all Project staff The Project will be in line with the Reconciliation Action Plan (RAP) current at the time of Project commencement and will include: • Seeking to reach agreements with Aboriginal and Torres Strait Islander peoples which deliver sustainable improvements in their economic, social and cultural wellbeing • Minimising impacts on aspects of significant heritage value • Developing and implementing an Aboriginal and Torres Strait Islander Economic Empowerment Plan • Delivering Aboriginal and Torres Strait Islander cultural awareness and competency training, in consultation with Barada Barna people, to Project employees • Maintaining grievance and complaints mechanisms which are culturally appropriate and accessible to Aboriginal and Torres Strait Islander people.
	105	BMA will not establish a 100% fly-in fly-out (FIFO) workforce for the operations phase. At an operational peak of 500 personnel, BMA estimates the workforce may comprise of up to 300 non-resident personnel.
	106	BMA will assess skills availability for the construction and operational phases (prior to both phases) to enable specific training and recruitment strategies to be established in time to resource the Project.
	107	The Project will align with the BHP Safety Our Requirements (BHP, 2018b). BMA also contracts an Employee Assistance Program provider to provide proactive support for mental health and family issues.
	108	BMA will monitor demands on local and community health services in co-operation with the Mackay Hospital and Health Service Rural Services. If a need for additional services is identified, BMA will work with local community partners in Moranbah, Dysart and Middlemount to identify appropriate service and program responses to address mental health issues. BMA will also collaborate with Hinterland Community Care in Dysart and Moranbah and District Support Services (MDSS) to identify and support programs and partnerships which develop employment pathways for local people with disability.
	109	Fatigue and journey management procedures for operations will include: • A training approach which educates managers, supervisors and personnel in fatigue management • Standard rosters which can only be varied through risk assessment and authorised sign-off • Accommodation in ensuite rooms with state-of the-art light, noise and temperature control • Separation of crews on night and day shift within the workplace accommodation village (WAV) utilised to accommodate operational personnel • Monitoring employees and contractors shifts to ensure fatigue management guidelines are met

Aspect	Number	Commitment
		• Providing guidelines which outline acceptable safe journey management practices • Bus transport to and from the accommodation villages and work sites, as well as to and from Moranbah Airport • Discouraging the use of private transport by workers.
	110	Prior to construction, BMA will consult with IRC to identify any issues of concern with respect to infrastructure capacity and/or housing demand, to support development of collaborative responses. BMA will also ensure that IRC, Queensland Health, the Department of Education, Department of Employment, Small Business and Training (DESBT) and the Queensland Police, Ambulance and Fire and Emergency Services are updated on Project planning and are advised of the intended workforce ramp-up, commencing six months prior to Project construction, and ending 12 months after full development is reached.
	111	BMA will consult with Queensland Health, Police, Ambulance and Fire and Emergency Services in developing its Emergency Management Plan and service protocols for the Project.
	112	BMA will comply with the Coal Mine Workers' Health Scheme requirements for employers and will initiate a suite of strategies to enhance awareness of mental health issues and access to support services in the workplace.
	113	BMA will implement a Social Impact Management Plan (SIMP) for the Project, which details how BMA will work with local and regional stakeholders to mitigate social impacts and maximise opportunities identified in relation to the Project. The SIMP includes management plans for: • Community and Stakeholder Engagement • Workforce Management • Housing and Accommodation • Health and Community Wellbeing • Local Business and Industry Content.
	114	The Community and Stakeholder Engagement Management Plan will identify stakeholders to be consulted, types of consultation and communication activities and timing, consultation responsibilities, communication protocols, reporting, feedback and monitoring arrangements. Engagement mechanisms to be undertaken include: • Consultation and communication as agreed with affected and adjacent landholders to identify and mitigate concerns • Periodic construction notices, published in local media and communicated through regular engagement with key stakeholders • Periodic briefings and engagement with government agencies and councils • Provision and promotion of a complaints and feedback mechanism accessible to all local stakeholders.
	115	BMA will undertake periodic reviews of the SIMP during all stages of the Project, in consultation with relevant stakeholders. BMA will update the SIMP where practical.
Economics	116	BMA will promote the additional purchasing opportunities that the project will generate to the 200 plus Local Buy Program registered businesses which make up a key component of BMA's existing local supplier base.
	117	Deliver training programs to raise skill levels of existing and new small business and other personnel attracted to the region as a result of the supply opportunities generated by the project.

Aspect	Number	Commitment
	118	Maintain and expand the focus of BHP's Community Development Management Plans (CDMP) and related social investment spending on local education and training programs.
Hazard, health and safety	119	The management of risks throughout the Project will involve reporting, monitoring, reviewing and documenting the risks. The Project will also ensure that the requirements of the safety management system are implemented and communicated to all Project personnel.
	120	BMA will prepare a detailed risk assessment of potential hazards related to the different phases of the Project prior to construction.
	121	The potential for flooding impacts on surface infrastructure (during flooding and high rainfall events) will be mitigated by the provision of adequate pumping systems and water storages.
	122	The portal design will be designed to a 1 in 1,000 year Annual Exceedance Probability (AEP) flood immunity to mitigate inundation of the underground mine.
	123	Firebreaks will be maintained to assist with the management of bushfires
	124	Suitably equipped water truck or trailer that can support fire response requirements will be present onsite at all times
	125	Toolbox talks and relevant health and safety plans will include discussions of bushfire and ignition prevention measures
	126	Fuel reduction activities will be undertaken to limit the speed and spread of potential unscheduled fires. This would include thinning or removal of undergrowth
	127	Hazard reduction burning will not be undertaken during periods of declared total fire bans.
	128	In the instance of a bushfire event, site firefighting capabilities will be addressed in the Emergency Management Plan
	129	The Fire Danger Ratings during the fire season will be reviewed daily. Any advice to extreme conditions will be relayed to environment and operations staff.
	130	BMA will liaise with landowners and local authorities with respect to firebreaks and ongoing maintenance programs to minimise the risk of bush fire.
	131	Safety berms will be constructed and maintained to protect persons and equipment from driving over embankments. Following construction, these will be regularly inspected to ensure structural integrity.
	132	Ongoing geotechnical investigations and monitoring will be conducted to analyse early indicators to the changes of ground conditions and the effectiveness of ground support. Slumping of stockpiles will be controlled by construction to appropriate slopes and provision of adequate drainage systems. Mine collapse will be controlled by the use of hydraulic roof supports at the underground working face along with secondary supports in other areas to ensure stability. Floor and roof mapping and regular checks will be undertaken to check wall and roof stability. An approved Ground Control System will be developed, maintained and implemented.
	133	Measures to mitigate the risks of above ground fire include: • An approved fire alarm, detection, suppression and fighting system designed and installed in consultation with the relevant fire control authorities.

Aspect	Number	Commitment
		• Liaison with landowners and local authorities with respect on fire breaks and ongoing maintenance programs to minimise the risk of bush fire. • Limit ignition sources around refuelling and fuel storage areas.
	134	The Project will adopt strategies and the appropriate control measures to minimise the risk of an above ground coal stockpile fire, including: • Minimising stockpile age • Appropriate stockpile design • Regular stockpile inspections • Provision of adequate firefighting equipment and water • Provision of training to relevant personnel
	135	High risk activities (including working at heights and confined spaces) will comply with the *BHP Safety Our Requirements* (BHP, 2018b). Mine personnel will be trained and competent for work involving working at heights and entering confined space. Fall of persons will be controlled through appropriate elevated work platforms (EWPs) and the use of properly designed and maintained fall arrest equipment
	136	The Project will ensure the implementation of safety in design process with adherence to CMSH Act. This includes safeguarding of heavy equipment and moving machinery, exclusion zones and adequate access.
	137	All vehicles and equipment will be inspected, maintained and serviced on a regular basis. Records of maintenance and servicing will be retained onsite for the duration of the construction, operation and decommission phases.
	138	All plant will comply with the following: • Any exposed moving or rotating machine components must be guarded or fenced • Conduct testing of braking systems • Provide safe access and egress • Operators must be adequately trained
	139	Staff will be provided with Personal Protective Equipment (PPE), training of risk assessment methods and maintenance lock-out/tag-out safety system prior to starting the work.
	140	Mine personnel will be trained and competent for works involving working at heights and entering confined space. Fall of persons will be controlled through appropriate elevated work platforms and the use of properly designed and maintained fall arrest equipment.
	141	The Project will adhere to fatigue management policy current at the time of Project commencement to ensure conditions of work of personnel align with the CMSH Act. The maximum working time per 24 hours will not exceed 14 hours, inclusive of travel time. Shift work will be of 12 hours duration; this requires that driving time to and from work should be less than one hour.
	142	Throughout the construction, operational and decommissioning phases of the Project, public safety will be managed by limited access to the Project site. Visitors will be escorted on site at all times. Additionally, BMA has a system in place to track access into and within its operating sites by all personnel and visitors. Exclusion zones will be developed to prevent public access, with fences and signs erected to delineate such areas.

Aspect	Number	Commitment
		Security measures implemented may include sign-in procedures for authorised personnel, identification, surveillance camera, security personnel after-hours, and if necessary, the involvement of police to manage more serious incidents.
	143	Chemicals used will be limited where practical, including the storage inventory. Chemicals stored and handled as part of construction or operations activities will be managed in accordance with the CMSH Act and Regulation, the relevant Australian Standards and the requirements of the chemical Safety Data Sheets (SDS). SDS information will be obtained from the supplier of these chemicals and stored in an easily accessible location.
	144	Fuel storage onsite will be predominantly diesel, and storage design will comply with *AS1940:2017 The Storage and Handling of Flammable and Combustible Liquids*. Ignition sources will be controlled to avoid fire involving bulk fuel oil.
	145	Spill kits will be available at unloading pads for use in the event of spillage.
	146	Ignition sources will be strictly controlled and limited to avoid a fire.
	147	Permanent facilities, such as fuel storage areas, will have a dedicated fire alarm, suppression and firefighting equipment
	148	Adequate bunding will be constructed to contain spills, in accordance with the applicable Australian Standards, such as *AS1940:2017 The Storage and Handling of Flammable and Combustible Liquids*
	149	Dangerous goods will be required at construction sites and facilities. Licensed transporters operating in compliance with Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) will be utilised for dangerous goods deliveries. Transport vehicles will display HAZCHEM signage, including placards, and carry appropriate spill containment equipment to be used by emergency services personnel in the event of emergency spill.
	150	The Project will have a Queensland Fire and Emergency Service (QFES) approved fire response/fighting system.
	151	All firefighting facilities and equipment will be installed, serviced, routinely maintained and inspected by a certified body.
	152	All buildings and equipment will be fitted with approved and certified fire detection equipment (smoke detectors, alarms and sprinkler systems) which will be regularly tested.
	153	First aid and firefighting equipment (hand held extinguishers and fire hoses) will be installed at strategic points within each building.
	154	Firefighting equipment and exit locations will be suitably signed.
	155	All work areas will be within the required distance to reach emergency exits and fire drills will be undertaken on a regular basis.
	156	The Project will develop an Emergency Management Plan prior to construction which details the response procedures and available resources to manage emergencies. The Emergency Management Plan will be prepared considering the following components: • 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

Aspect	Number	Commitment
		• An onsite plan to handle incidents • An offsite plan with reference to emergency services needed • First aid • Flood management and evacuation • Emergency rescue facilities • Access to medical and allied health support • Communication, emergency responsibilities, control centre establishment • Post emergency procedures, including recovery, debriefing and review of plan • Testing of plan under emergency-like conditions. The Emergency Management Plan will detail response procedures including: • First aid capability • Fire protection capability • Security systems capability • Remote travel emergency response capability.
	157	The IRC Local Disaster Management Plans will be considered when preparing the Project Emergency Management Plan. The IRC Local Disaster Management Groups will also be contacted for consultation and will be notified on the schedule and activities of the Project. Consultation will also occur with the local emergency services to ensure that external support will be provided by these services in an event of an emergency.
	158	An incidental mine gas hazard management strategy will be developed prior to construction to reduce the associated risks during operation.
	159	Potential subsidence impacts and mitigation measures will be monitored and reported in accordance with the Subsidence Management Plan (Appendix K-2).
	160	During detailed design, a pre-subsidence risk assessment will be conducted prior to subsidence and will include a cross section of qualified personnel. The findings of the risk assessment and monitoring will be used to identify suitable measures to mitigate the environmental risks.
Rehabilitation and decommissioning	161	BMA will comply with the legislative amendments associated with the passing of the *Mineral and Energy Resources (Financial Provisioning) Bill 2018.*
	162	A PRCP will be developed prior to construction commencing and will demonstrate the Project will: • be rehabilitated to a safe and stable landform • not cause environmental harm • sustain post mining land uses.
	163	The Project will be progressively rehabilitated in accordance with an approved PRCP. The progress of the rehabilitation will be monitored against indicators, and ultimately against completion criteria to demonstrate successful rehabilitation of the Project.

Aspect	Number	Commitment
	164	The proposed post mining land use will be an undulating landscape that could be used as grazing land, consistent with the surrounding pastoral land use that dominates the region. Native vegetation outside of the surface infrastructure footprint will be retained in a way that is compatible with the pre-existing land use for biodiversity values. However, where vegetation mortality occurs as a result of ponding, associated with subsidence, it will be revegetated with species that are tolerant of inundation. A mix of native and non-native species may be implemented.
	165	Rehabilitation monitoring will be undertaken in accordance with the Rehabilitation Management Plan and/or the future PRCP current at the time of rehabilitation.
	166	Where appropriate photographic monitoring will be conducted for land resources and water resources. Photographic pre-subsidence surveys will include a detailed pre-mining photographic record of the watercourses as they pass over the subsided areas. The monitoring locations will be identified and mapped in GIS and will form the basis of the monitoring program.
	167	BMA in consultation with relevant parties will review all infrastructure assets towards the close of the Project and assess which structures will be retained, sold for recycling or relocation or disposed of as general or regulated waste.
	168	BMA in consultation with the post mine landholder will determine which mine roads are to be retained for ongoing access purposes. All mine roads not being retained will be rehabilitated, unless otherwise agreed with the subsequent landowner and approved by the regulator.
	169	All water storages not required for long term water management will be decommissioned and removed, unless otherwise agreed with the subsequent landowner and in accordance with the EA.
	170	All major infrastructure, including the CHPP, will be decommissioned and removed offsite.
	171	Other facilities, including workshops and warehouses, will be decommissioned and removed, unless otherwise agreed with the subsequent landowner and in accordance with the EA.
	172	During the decommissioning phase, BMA will ensure 'notifiable activities' conducted within the Project Site are investigated for in-situ soil contamination and as required under the EP Act will either: • Be released from the DES Environmental Management Register (EMR) • Be remediated, confirmed by follow-up investigation(s) and released from the DES EMR • Remain on the DES EMR with an agreed site management plan.
	173	Reference sites will be defined with the PRCP and developed as required from undisturbed areas within the ML to represent similar PMLU conditions.
	174	BMA commit to minimising the effects of ponding as a result of the Project through implementation of the Subsidence Management Plan.
	175	Establishing baseline characteristics of potential subsidence areas will be undertaken prior to any panel being subsided

Aspect	Number	Commitment
	176	Monitoring will occur prior to and post individual panels being subsided to ensure that any subsidence impacts on landform, surface water, groundwater, ecology and infrastructure are quickly identified and appropriate control measures applied (per the subsidence risk assessment and TARP). Monitoring will be conducted in accordance with the relevant Australian Standards and EA conditions. Internal reporting will be completed after completion of each subsidence monitoring event and reported externally to DES annually or in accordance with the Project EA (as per Section 7.0 of SMP). As a minimum the annual reporting will address: • watercourse condition and geomorphic processes • the condition of remnant vegetation in riparian zones and in areas of subsidence • examination of pillar zones in watercourses • location and extent of any ponding • groundwater impacts. Key aspects of the annual reporting will include: • description of mining activities undertaken in the preceding 12 months • description of subsidence management activities undertaken in the 12 months since the last report • presentation of pre-subsidence monitoring data results from the preceding 12 months • assessment of monitoring data to identify and document changes • assessment of monitoring data to identify current and future risk locations, mitigation or management actions and their priority (immediate, mid-term, long term) • mitigation measures and associated action plan to be implemented in the subsequent 12 months to achieve completion criteria. The report will also include updates on: • the integrity and effectiveness of the pre-subsidence mitigation measures implemented • the current state of the groundwater and surface water resources • vegetation health assessment • any impacts on these features • a commitment to implement the findings of the report.

2.0 Management Plans

The Saraji East Mining Lease Project (SEMLP) EIS references the development of a number of management plans that will be implemented during the construction and operation phases of the Project. The relevant mitigation and management measures discussed in the EIS will inform the finalisation of these management plans and a number of the plans have been developed in Draft as part of this EIS submission (Subsidence Management Plan, Rehabilitation Management Plan). This section provides an overview of the information to be detailed in the other plans. These plans will be developed and finalised as detailed designs and plans before available.

2.1 Weed and Pest Management Plan

The SEMLP Weed and Pest Management Plan will:

- *be developed by a qualified and experienced person;*
- *cover construction, operations and rehabilitation phases;*
- *be developed and finalised **prior to any disturbance activities** for the SEMLP;*
- *incorporate management, monitoring and reporting requirements;*
- *address obligations under relevant Policy and Legislation*

Minimum inclusions are summarised below.

2.1.1 Introduction

The SEMLP Weed and Pest Management Plan aims to assist in:

- Preventing the introduction of new weeds onto Saraji East operations through early detection of, and rapid response to new weeds;
- Identifying and controlling the spread of weed and pest populations on Saraji East operations;
- Raising awareness and understanding of the risks associated with weeds and pests;
- Ensuring compliance with regulatory and corporate requirements.

2.1.2 Legislative Commitments

SEMLP will have responsibility to manage weeds and feral animals on the land the activity operates on in accordance with:

- *Qld Environmental Protection Act 1994* (EP Act);
- *Qld Biosecurity Act 2014* (Biosecurity Act);
- *Agricultural Chemicals Distribution Control Regulation 2021* (ACDC Regs).
- *Medicines and Poisons Act 2019*

Recommended Biosecurity Queensland methods (Department of Agriculture and Fisheries 2020) and Isaac Regional Council Biosecurity Plan 2020-2023 (Regional Council 2019) will be considered where appropriate.

The Plan will include profiles of relevant weed and pest animal species for reference.

2.1.3 Risk Management

A SEMLP Risk Register will document the key risks and control measures associated with weed and feral animal management. Risks associated with weed establishment and infestations may include:

- Non-compliance with legal obligations to manage weeds;
- Potential to alter the natural diversity and balance of ecological communities;

- Contribution to biodiversity decline through the displacement of native species via competition for habitat, nutrients and sunlight (for weeds) or predation habitat degradation and disease (for feral animals);
- Vehicles have the potential to introduce and/or spread weed species and plant pathogens such as root-rot fungus in disturbed soil;
- The presence of weeds may affect rehabilitation and limit the achievement of acceptable post-mining land use; and
- Greater bushfire intensity through increased fuel loads.

A weed tracking program will be used to quantify the extent of the weed risk at a site and identify the control programs required. Similarly, a feral animal tracking program will be used to quantify the extent of the feral animal risk at a site and identify the control programs required.

Any monitoring program shall inform the regular review of the site Environmental Risk Register.

2.1.4 Management and Controls

Weed and pest management and controls will be dependent on species and location (for example on lease vs areas owned by third parties where BMA has an access agreement). Key aspects of management relate to firstly managing risk during disturbance through implementation of controls, followed by appropriate weed treatment and pest management, and finally appropriate monitoring to allow for proactive management.

Management of Disturbance

Noting that most weed species thrive on disturbed ground where there is a lack of competition from native species, the 'Permit to disturb' process at BMA is a key control in the management of disturbed areas with all disturbance required to go through a screening process before being approved for disturbance. This process provides opportunity for weed and pest risks to be identified and appropriate measures to be identified and implemented, depending on the activity type and location.

A permit will identify specific measures such as:

- Vehicle access restrictions to specific locations
- Vehicle and machinery hygiene protocols
- Materials specifications (for example rehabilitation materials brought to site to be weed free)
- Inspection requirements

A Permit to Disturb will be required for all disturbance activities.

Weed Treatment and Control

Weed control measures will be outlined focussing on:

- management measures to remove and control any new weed infestations or areas that have exhibited increased densities and/or extents within disturbance areas (including vegetation fragmented by the IMG network); and
- containment and treatment measures including:
  - management weeds through documented procedures on new infestations, consultation with stakeholders prior to implementation and removal in accordance with Local Government measures
  - prioritising control programs based on risk levels
  - containing the spread of weeds through best practice controls
  - monitoring for response to controls

Weed treatments will vary depending on species and may include manual/hand removal, mechanical, chemical, biological, or other. Selecting the appropriate method is important to achieve successful and efficient results. Ongoing weed treatment may be required to successfully control an infestation.

The frequency of weed treatment will be determined taking into account the classification of the weed species, location/extent of populations and potential impact on un-impacted areas.

Fact sheets are available (DAF invasive weed species fact sheets) to assist in determining chemical control and herbicide application rates. Employees undertaking chemical weed treatment shall be appropriate trained and licenced.

Pest Management

A pest control program will be implemented in the event monitoring confirms a population increase, pests are impacting threatened species, pest species are impacting operations and/or human health, neighbouring landholders raise valid concerns, or a formal complaint is submitted. Once identified a program will be designed and implemented by an appropriately qualified person.

2.1.5 Monitoring

Biosecurity monitoring will seek to understand existing population densities and extents as well as allow for any new introductions/infestations along disturbance areas (i.e. access tracks, infrastructure, rehabilitation areas and topsoil stockpiles, etc.) to be identified. Monitoring will occur throughout the life of the Project to assess ongoing effectiveness of the management plan. Any significant findings, such as new pest or weed species, new outbreaks or any actions resulting from Project activities will be incorporated into a review of the Weed and Pest Management Plan. This will allow the Weed and Pest Management Plan to be adapted for improvement opportunities.

The monitoring program will include:

- pre-clearance surveys within and directly adjacent to the Project Footprint to record presence and abundance of invasive weeds and pests and to identify weed hot spots
- a monitoring schedule and details of methods and data collected
- details of how results from these monitoring activities may trigger a corrective action
- details of the corrective actions which will be triggered when predetermined weed/pest thresholds are exceeded. Corrective actions will include but not be limited to:
    - treatment (mechanical, chemical) of new weed incursions
    - further monitoring of success and treatment
    - review of site procedures for weed management
    - rehabilitate and stabilise disturbed non-operational areas
    - re-educate / train site personnel on management requirements, practices and site rules
    - develop a species-specific control program for pest fauna where require and review as necessary to ensure it remains effective and applicable.
- monitoring for pest plants and fauna within subsided areas where ponding occurs will also be undertaken during subsidence monitoring events to determine the need for specific management measures
- the monitoring will be undertaken in accordance with QLD state and federal survey guidelines for monitoring weed and pest species.

2.1.6 Routines and Responsibilities

The plan will include requirement for, as routine:

- all staff to undergo a site-specific induction that includes the identification, prevention, minimisation and management requirements of weed and pest species on-site
- management methods to control spread of weed species (in particular Parthenium), in keeping with regional management practice or Queensland Department of Agriculture and Fisheries pest control prescriptions
- ongoing inspection of the Project Site to identify any new incidence of weed infestation or areas that have exhibited increased densities and/or extents within disturbance areas

- provision of information for staff on the identification of WONS, Restricted Matter weed species and their dispersal methods
- promotion of awareness of weed management, by inclusion of weed issues, pictures and procedures into the Project's site induction program.

The General Management and Site Leadership team will be responsible for supporting weed and pest animal control and management initiatives. The Site Environment Team will maintain reporting and data and coordinate, review and asses the effectiveness of the control programs. This team will also assist to develop and distribute training material to other site personnel. All employees and contractors will be required to report weed infestations and pest animals and also ensure that vehicle, machinery and equipment inspections are carried as per site requirements.

2.1.7 Reporting

There are obligations to report certain weeds and feral animals to Biosecurity Queensland and/or local authorities, and a social duty to inform neighbouring landowners of certain weeds and feral animals and planned control programs.

Site operations will retain result of monitoring events for the purposes of informing continuous improvement.

2.2 Waste Management Plan

The SEMLP Waste Management Plan will:

- *be developed by a qualified and experienced person;*
- *cover construction, operation and rehabilitation phases;*
- *be developed and finalised **prior to any disturbance activities** for the SEMLP;*
- *incorporate management, monitoring and reporting requirements;*
- *address obligations under relevant Policy and Legislation*

Minimum inclusions are summarised below.

2.2.1 Introduction

Primary objectives of the SEMLP Waste Management Plan will be to:

- avoid or minimise waste generation
- maximise resource recovery through reuse and recycling
- safely manage waste streams to protect health and environmental values
- comply with waste management, monitoring and reporting requirements
- identify waste disposal locations and option.

The SEMLP Waste Management Plan aims to identify the potential environmental risks from generating waste and the controls to minimise risks/impacts. The plan aims to minimise the release of contaminants to the receiving environment to ensure waste generated from SEMLP operations does not adversely impact the local and regional environment.

2.2.2 Legislative Commitments

SEMLP will have responsibility to manage waste on the land the activity operates in accordance with:

- Environmental Protection Act 1994 (QLD) (EP Act);
- Environmental Protection Regulation 2019 (QLD); and
- Waste Reduction and Recycling Act 2011 and Regulation 2011 (QLD).
- Queensland Waste Management and Resource Recovery Strategy

2.2.3 Risk Management

A SEMLP Risk Register will document the potential risks of waste generation, transport, treatment and disposal. Risks associated with these aspects may include:

- wastage of raw materials (e.g. wastage of construction materials, such as steel and concrete);
- wastage of embedded energy and greenhouse gas emissions;
- consumption of landfill space;
- risks to human health or safety (e.g. through poor management of hazardous materials);
- pollution of soil, groundwater, or surface water (e.g. through accidental spills or releases); and
- lost opportunity for resource re-use/recycling if product is disposed.

The SEMLP Waste Management Plan will assess and identify each type of waste, where it is sourced, potential impacts and provided guidance on the disposal requirement.

2.2.4 Waste Minimisation and Management Strategy

The SEMLP general waste streams will be effectively managed onsite or by waste management facilities and recycling / reprocessing services available in the region. Of the Project's general waste streams, only

tyres (and potentially other bulk scrap rubber) will be transported to Saraji Mine for disposal in existing Saraji Mine spoil dumps to the extent authorised by the existing approved EA EPML00862313.

The Waste Management Plan will describe Project waste streams and corresponding management strategies to align with the waste management hierarchy – avoid, reduce, reuse, recycle and energy recovery before safe treatment and disposal and comply with legislative requirements at each stage. Key management strategies in accordance with the hierarchy are described below. With finalisation of the plan additional detail and specification will be included.

Hierarchy	Waste Type
Avoid and reduce waste	• accurate material estimation and specification to avoid wastage of construction materials such as steel and concrete • purchase in bulk or products in minimal or biodegradable packaging to avoid unnecessary or excess packaging • regular stock reviews for efficient stock control • site inductions to include waste awareness training • review production processes to identify opportunities to generate less waste or waste that is less environmentally harmful or reusable for another process
Reuse waste	• reuse timber pallets • return waste oil containers for cleaning and reuse • mine affected water from the Process Water Dam can be used for dust suppression on haul roads • encourage reuse practices and review industry developments to identify opportunities for external reuse programs
Recycle or compost waste	• sort and segregate recoverable waste streams to maximise reuse and recycling • recycle batteries, aluminium, steel, paper, cardboard and appropriate plastics • collect waste oil and hydrocarbon contaminated waste for licensed contractor to transport offsite and reprocess for recycling, recovery and/or disposal • collect scrap metal and empty drums for transport by a licensed waste contractor for recycling (crushing) offsite • collect timber offcuts and unusable pallets for recycling offsite • collect paper and cardboard for recycling • collect and return printer cartridges and batteries • encourage reuse practices and review industry developments to identify opportunities for external reuse program
Recover – energy / fuel from waste	• collect hydrocarbon contaminated rags, absorbent and containers for transport offsite by a licensed waste contractor to a licensed facility for recovery • monitor industry developments to identify new opportunities for generation of waste energy.
Disposal of waste	• general waste will be segregated and stored in a safe, secure manner ready for disposal at a licensed landfill offsite • effluent from onsite STP will be treated and disposed of during construction

Segregation and storage

Each waste stream will have dedicated waste disposal receptacles or laydown areas (to be identified and detailed in the finalised Waste management Plan).

To prioritise segregation of wastes, waste management areas and receptacles distributed onsite will be easily identifiable, using clear signage and colour coding. Enough appropriately sized bins will be provided to maximise recycling opportunities and appropriate segregation of hazardous wastes. Solid wastes will be retained in wheelie bins and skip bins and liquid wastes will be contained within bunded areas to reduce the risk of accidental release of wastes prior to offsite disposal. Smaller bins and larger bins or skips will be covered (where practical) to reduce the potential for attracting insects and vermin.

Waste handling and storage will aim to control environmental impacts (such as odours, noise from transfer and transport, dust from transfer and transport, leachate from storage vessels and vermin/pests) through:

- designated location for waste collection, sorting and transfer to collection vehicles
- designated traffic routes for waste transport
- covered storage vessels to minimise odours and vermin/pests
- housekeeping practices
- regular monitoring and reporting.

Waste will be sorted and stored for minimum time prior to removal by waste contractor.

The Waste Management Plan will clearly identify segregation and storage requirements for each waste stream.

Spill Response

Overall, onsite facilities for the storage of flammable and combustible materials will be designed and constructed in accordance with the most current version of AS 1940 to reduce the risk of loss of containment.

Activities will be undertaken in a way that minimises the risk of ground and water contamination through hydrocarbon and/or chemical spills (and the generation of associated waste). Management measures for the prevention of spills and to minimise the risk of harm if a spill occurs will be applied n a case-by-case basis. The Waste Management Plan will include details of specifications or procedures relating to the risk areas identified in risk assessment. The procedures or requirement may include:

- site drainage design requirements to facilitate retention of spills onsite
- drainage design such that stormwater directed away from potentially contaminated areas
- requirement for engineered hardstand above the natural ground level
- construction of appropriate spill containment facilities for all areas where process reagent and petroleum products are stored in accordance with relevant standards (e.g. impervious containment and bunding around stationery/fixed storage areas in accordance with Australian Standard (AS) 1940)
- regular inspection and maintenance of spillage control devices in order to identify maintenance needs
- efficiency measures such as auto-shutoff nozzles on vehicles
- procedure for the storage and handling of hazardous substances
- procedure for the refuelling and servicing of vehicles and machinery
- requirement for prompt spill clean-up and reporting
- provision of spill kits located at points that are easily identifiable, accessible and most likely to be needed such as high-risk areas i.e. refuelling points and the workshops
- firefighting equipment readily available, easily identifiable and accessible in high risk areas associated with hydrocarbons
- provision of appropriate personal protective equipment to be used.

There will be additional measures specific to managing the potential for underground spills such as by:

- storage of oil drums in locations where the possibility of impacts from vehicles is minimised
- appropriate housekeeping
- capture of oil drained from machinery during maintenance in containers for return to the surface and pumping into the waste oil storage facility.

2.2.5 Monitoring and Reporting

Monitoring and tracking of waste are an important element of waste management providing a mechanism for assessing against performance indicators and statutory requirements. Monitoring may include but is not limited to; volume of general waste with specific area breakdown, volume of recyclable waste, tracking of all forms of waste, waste transport certificates, waste oil and similar waste is tracked in litres, oil drums and filters leaving site is recorded, types and volumes of scrap metal. Results are recorded into a monthly report and reviewed to detect trends and identify improvement opportunities.

When new waste streams are introduced to the site, the Waste Management Plan will be updated accordingly.

Verification of the effectiveness of implemented controls will be conducted through:

- Monthly compliance sampling activities
- Periodic review of the Waste Management Plan and risk assessment
- Internal audits
- Review of reported events.

In the event of an emergency or incident, the Plan will require all reasonable actions are taken by the SEMLP to minimise environmental harm and any notification to the Administering Authority will be required in accordance with the EA.

2.3 Noise Management Plan

The SEMLP Noise Management Plan will:

- *be developed by a qualified and experienced person;*
- *cover construction, operation and rehabilitation phases;*
- *be developed and finalised **prior to any disturbance activities** for the SEMLP;*
- *incorporate management, monitoring and reporting requirements;*
- *address obligations under relevant Policy and Legislation*

Minimum inclusions are summarised below.

2.3.1 Introduction

The purpose of the Noise Management Plan is to ensure that noise and vibration from the mining activities does not cause an environmental nuisance at sensitive receptors or commercial place and appropriate monitoring and abatement measures are in place.

2.3.2 Legislative Commitments

SEMLP will have responsibility to management noise when undertaking activities in accordance with:

- Environmental Protection Act 1994 (QLD) (EP Act);
- Environmental Protection Regulation 2019 (QLD).

2.3.3 Noise Sources

Sources of noise and / or vibration at SEMLP include the following:

- Operation of mobile equipment (large earthmoving equipment);
- Operation of fixed plant equipment such as the CHPP and associated equipment;
- Coal transport by overland conveyor and rail; and
- Maintenance activities.

Sources of noise and/ or vibration that occur outside of SEMLP can include the following:

- Operations neighbouring SEMLP;
- Road traffic noise;
- Local access road traffic; and
- Local farm activities.

2.3.4 Management and Controls

Noise management and controls will be dependent on the source and location of the source (for example underground or at surface) in relation to sensitive receptors.

Key aspects of management relate to operation and maintenance of machinery, and interaction with stakeholders.

Management of Machinery

Management activities will be outlined and defined in terms of:

- Maintenance requirements for various plant and equipment including frequency of inspections
- Procedures for stopping and starting equipment
- Design specifications (where relevant) and supplier guidance

- Description of equipment alarm specifications (for example reversing alarms) and directions for use
- Ventilation shaft controls relating to fan motor specifications and discharge outlet locations
- Conveyor controls including locations where specific add-ons may be required (for example partial enclosure sections, low noise idlers)

Stakeholder Interaction

The Noise Management Plan will outline the techniques to be implemented in relation to the various stakeholders. This will include:

- Establishing an appropriate mechanism whereby complaints or feedback from the community can be received
- Detail of the community complaints and grievance procedure in the event a noise related complaint is received, including outlining the responsibility for taking action
- Requirement for noise awareness and understanding of noise issues to be a component of site induction requirements for all staff and contractors
- Role of co-existence agreements and internal procedures for interacting with relevant stakeholders

2.3.5 Monitoring and Reporting

This section will specify the location of the complaints register. Condition in the Project Environmental Authority will require investigation of any complaint that is neither frivolous nor vexatious. The investigation may require monitoring, analysis and interpretation and if deemed necessary implementation of abatement measures.

Site operations will retain result of monitoring events for the purposes of informing continuous improvement.

2.4 Air Management Plan

The SEMLP Air Management Plan will:

- *be developed by a qualified and experienced person;*
- *cover construction, operation and rehabilitation phases;*
- *be developed and finalised **prior to any disturbance activities** for the SEMLP;*
- *incorporate management, monitoring and reporting requirements;*
- *address obligations under relevant Policy and Legislation*

Minimum inclusions are summarised below.

2.4.1 Introduction

The purpose of the Air Management Plan is identify potential risks from air emissions and the controls to minimise impacts. The plan aims to minimise impacts on air quality to ensure SEMLP operational activities do no adversely impact the receiving environment and local communities.

**Note this plan will not specifically address greenhouse gas emissions as this is dealt with in a separate document.*

2.4.2 Legislative Commitments

SEMLP will have responsibility to manage air emissions when undertaking activities in accordance with:

- Environmental Protection Act 1994 (QLD) (EP Act);
- National Environmental Protection (Ambient Air Quality) Measure 2015.

The Environmental Authority will set the acceptable level of impact to air quality at sensitive receptors.

2.4.3 Baseline Environment

Local environmental conditions with direct implications for air quality management include the existing air quality, prevailing meteorology and the location of sensitive receptors in relation to SEMLP.

The Plan will summarise the key existing sources of particulate emissions in the vicinity of SEMLP and describe the prevailing meteorological conditions. This may include wind-roses, rainfall statistics and ambient air statistics.

The Plan will define the location an nature of sensitive receptors.

2.4.4 Emissions Sources

The Plan will detail the air emissions inventory of the Project. The EIS documentation identified the key dust generation activities to include:

- Land disturbance during construction activities
- Conveying of coal
- Coal processing
- Stacking/reclaiming coal
- Dozers on coal
- Wind erosion
- Transport of excess ROM to Saraji CHPP
- Dumping of coal
- Underground ventilation outlets

2.4.5 Management and Controls

General mine planning considerations will be outlined for considerations during the life of the mine. The Plan will detail mine planning opportunities to limit dust at the mine. For example:

- Consideration of prevailing winds and sensitive receptors when siting dust generating activities (eg haul roads)
- Minimise exposed surface areas by only clearing vegetation/disturbing areas required for mining activities
- Setting aside sufficient water within the site's water balance for dust suppression
- Progressively rehabilitating exposed surfaces

Key aspects of management air quality relate to minimising dust generation during operational activities, and these will be detailed in the Plan for example:

- Establishing vehicular speed limits
- Maintaining and making available water trucks for dust suppression as needed

2.4.6 Monitoring and Reporting

The SEMLP will install one continuous monitoring station strategically to assist in understanding sources of dust emissions during mining. This section will detail the location and specifications of the monitoring station as well as define the maintenance regime required.

Monitoring data will be stored in a central repository for all environmental data.

There will be linkages to monitoring undertaken at SRM and this section will highlight the processes for interpreting monitoring results.