

This Appendix provides a summary of the commitments Waratah Coal has made throughout the EIS and SEIS.

1 PROJECT APPROVALS

1.1 Licences permits and approvals

Waratah Coal will obtain the necessary licenses, permits and approvals set out in the *Approvals Pathway* in the *Appendices – Volume 2* of this SEIS, which details the licenses that are required to be obtained.

2 EM PLAN (MINE) AND EMP (RAIL)

The *Draft EM Plan* for the Mine and the *Draft EMP* for the Rail will be finalised

The *EM Plan* and the *EMP* will include a review of all relevant mining activities including a list of anticipated Environmentally Relevant Activities (ERAs) for the site based on existing information. Completion of the specialist studies, particularly in relation to infrastructure arrangements will confirm the ERAs to be carried out. At this stage it is proposed to outsource a number of project elements that would trigger ERAs if Waratah Coal were to undertake the activity themselves (e.g. concrete batching, extraction and screening etc.).

3 CLIMATE CHANGE AND CLIMATE CHANGE ADAPTATION

In order to manage potential impacts of climate and climate change associated with the project, Waratah Coal will:

- incorporate adaptive management approach to climate change throughout the life of the mine
- incorporate climate change adaption strategies into the design process
- co-operate with government, other industry and other sectors to address adaptation to climate change.

4 LAND

4.1 Mine

Waratah Coal commit to undertaking the following actions:

- identification of specific access areas to minimise disturbance areas
- managing lay down areas in a manner that will not result in a reduction in land quality
- a Rehabilitation and Decommissioning Plan will be prepared prior to construction commencing, based on practicable and relevant best practice techniques that have been successfully implemented in similar mining operations and environments where available. The Rehabilitation and Decommissioning Plan will cover all closure domains on the mine site, including potential areas of subsidence, and will appropriately define the conceptual final land uses proposed for each domain
- the rehabilitation and decommissioning plan will allow for:
 - ongoing and progressive rehabilitation of the disturbed areas against the agreed criteria
 - rehabilitation to occur throughout the life of the mine with the aim to return the land to the pre mining land uses
 - inclusion of a Biodiversity Enhancement Program focusing on the re-establishment of Desert Uplands Ecosystems throughout the life of the mine and for five years post cessation of mining activities
 - the Final Rehabilitation and Decommissioning Plan will provide more information as to the final landforms, including voids, to be remaining on site come closure. A Rehabilitation and Decommissioning section of the *Draft Mine EM Plan* has been prepared (see *Appendices – Volume 2* of this SEIS)

- rehabilitation planning will ensure the total area of disturbance at any one time is minimised to reduce the potential for wind-blown dust, visual impacts and increased sediment-laden run-off. Rehabilitation will be designed to achieve a safe and stable final landform compatible where practicable and possible with the surrounding environment. This will involve the reshaping of the majority of overburden emplacement slopes to <math><10^\circ</math>. Where slopes are >math>>10^\circ</math>, additional drainage and revegetation works will be carried out to achieve the necessary erosion / sediment control and groundcover establishment
- a subsidence management program will be developed in accordance with the Department of Natural Resources and Mines (DNRM) guideline “*Watercourse Subsidence – Central Queensland Mining Industry*” and in liaison with DNRM to control the surface effects of mine subsidence
- land usage post subsidence will be returned to similar pre-subsidence land usage at completion of remedial works
- The use of natural re-contouring will be incorporated in rehabilitation design and construction and treed vegetation will be retained where possible along the toe of rehabilitation areas. Where ever possible vegetation will be retained unless an unacceptable safety or erosion risk remains
- waterways and diversions on the project site will be rehabilitated to a pre-determined post-mining standard. This will include the use of endemic native trees, shrubs and grasses where suitable
- the conceptual final landform for the entire site will be determined through consultation with relevant Government agencies and the local community. Once a conceptual design is finalised, a detailed Landscape Rehabilitation Plan, based on the desired post-mining landform will be developed and submitted to Government for consideration
- the *Draft Mine EM Plan* will outlines weed management measures including control strategies for environmental weeds such as Parthenium and Buffel Grass
- Erosion and Sediment Control Plans (ESCPs) will be developed and put in place prior to the commencement of construction works for all areas of the project that may cause erosion and implemented measures will be monitored and maintained
- prior to construction, Waratah coal will carry out soil sampling at waterways to better identify erosion risk and put in place appropriate management measures
- prior to construction, Waratah Coal will undertake soil resistivity surveys of high risk areas, record the current salinity status of these areas and implement measures to ensure no further significant salinisation occurs due to the project activities
- topsoil management measures will be documented, monitored and maintained with a reconciliation of top soil excavation and rehabilitation maintained. Excess topsoil will be used in project areas with topsoil deficits. Waratah coal will source further top soil (if required) from local suppliers in the project area
- establish a set of environmental investigation protocols to manage gross or previously unidentified contamination encountered during project construction
- works to be undertaken for the contaminated land study, and the subsequent technical reports, will outline the requirements for further contaminated land works for mining activities, including preparation of Site Management Plans, notification, engagement of a third party reviewer (TPR), etc. The commissioning of a TPR will be undertaken if considered necessary following the outcomes of the contaminated land investigations (i.e. works to follow the Phase 1 assessment works)
- if contamination is present within the project footprint, Waratah Coal will enter into agreements with the owner of the contamination to assess and appropriately manage or remediate the contamination
- where contamination is identified it will be managed and/or remediation under the EP Act with Department of Environment and Heritage Protection (DEHP) approved Site Management Plans (SMPs) and / or Remediation Action Plans (RAPs) in order to make the sites suitable for the proposed use
- any building / structures to be demolished will be assessed for hazardous material content with preparation of demolition management plans for the appropriate demolition and disposal of the hazardous materials

- Waratah Coal will appoint a third party reviewer to assess all contaminated land assessment and remediation work
- any Notifiable Activities that are required for the project will be implemented and managed under relevant legislation and guidelines once construction commences and also during the operational phase
- mine closure will achieve the agreed rehabilitation success criteria
- final voids will be designed to a standard whereby they are safe, stable and sustainable

Other commitments relevant to land and land use are presented in the Waste section of this document

4.1.1 LAND USE AND TENURE

To ensure potential impacts to land use are minimised, Waratah Coal commits to:

- minimising the land required for the open cut mine development to the extent practicable
- undertaking consultation with relevant landholders in the area of the proposed development
- implementing the requirements of the Environmental Management Plan (EMPlan) throughout the life of the project.

4.1.2 LANDSCAPE AND VISUAL AMENITY

- Waratah Coal commits to undertaking actions that will reduce potential impacts through a proactive rather than reactive approach to changes in the landscape character and perceived visual amenity
- plants will be used to provide a buffer and screen will be established pre-construction, and in the initial stages of construction and maintained during development to ensure effective screening by the commencement of operations
- flood and site lighting will be designed by a lighting specialist to ensure that light pollution from the mine to surrounding areas is minimized to the greatest extent possible
- existing topsoil from the site should be stripped and placed into temporary stockpiles prior to construction to provide additional visual buffering.

4.2 Rail

To ensure appropriate management of soils and land are conducted during the construction and operation of the rail, Waratah Coal commits to doing the following:

- identifying specific access areas and determine goals for rehabilitation of disturbed land to minimise areas that will have lower land use quality post-mining
- preparing and implementing erosion Erosion and Sediment Control Plans (ESCPs) which will be developed and put in place prior to the commencement of construction works for all areas of the rail that may cause erosion
- topsoil management measures which will be documented, monitored and maintained with a reconciliation of top soil excavation and rehabilitation maintained. Excess topsoil will be used in project areas with topsoil deficits. Waratah coal will source further top soil (if required) from local suppliers in the project area
- prior to construction carry out soil sampling at waterways, to better identify erosion risks and to put in place appropriate management measures.

4.2.1 LAND USE AND TENURE

To ensure potential impacts to land use are minimised Waratah Coal commits to:

- undertaking consultation with relevant landholders in the area of the proposed development
- undertaking consultation with Government bodies and regulatory agencies in regard to the acquisition of the easement and the design of infrastructure within the easement

- undertaking consultation with utility operators and resource companies regarding the location of the easement and undertaking construction activities nearby to existing utilities
- implementing the requirements of the EMP throughout the life of the project
- stock routes have been allowed within the rail design, and will be specified in detail during the detailed design stage. It is not intended to sever any stock routes
- Waratah Coal will liaise with Department of Agriculture, Fisheries and Forestry (DAFF) Forest Products in detail regarding quantities of sand and borrowed material upon finalisation of design and quantities required.

4.2.2 VISUAL AMENITY

Waratah Coal commits to undertaking actions that will reduce potential impacts through a proactive rather than reactive approach to changes in the landscape character and perceived visual amenity. Waratah Coal commits to the implementation of the following management measures:

- topography changes will be minimal to maintain visual landscape character and existing vegetation will be maintained where possible. Endemic plant species mixes will be used to provide buffering and will be established pre-construction and maintained during project development to ensure effective screening by the commencement of operations
- the most highly impacted of the homesteads will be buffered by extensive planting / mounding or both with consultation with their owners
- flood and site lighting should be designed by a lighting specialist to ensure that surrounding areas do not experience light pollution from the rail
- where all other mitigation measures fail to alleviate the visual impact, homesteads identified as having high visual exposure will be relocated to a less sensitive location further from the rail
- existing topsoil from the site should be stripped and placed into temporary stockpiles prior to construction to provide additional visual buffering
- grade separated crossings will include planting on batters to create vegetated regions at these crossings. The Clermont Alpha Road will gain a 1km vegetation buffer between road and rail to maintain the visual landscape character of the area
- the rail alignment will be designed to cross level crossings of minor roads at right angles and not be aligned parallel to roads on approach
- vehicle wash-downs will continue as standard practice and wash-downs will be located at strategic points along the rail alignment and at all entry points from construction camps
- the working rail corridor will be limited to as little as topography permits (generally around 40-50m), and any clearing outside this width during development will be re-vegetated using 'best-practice' re-vegetation techniques.

4.2.3 RAIL CONSTRUCTION CAMPS

- rail work camps will be located along existing roads, and placed on existing cleared land, or in areas where quick re-vegetation may occur
- once a rail-camp is finished in an area, that area will be returned to the pre-use landscape character, or the naturally occurring local vegetation character
- site lighting for the rail and workers camps will be designed by a lighting expert to minimise light pollution and strict light-use management regimes shall be abided by all workers at these places
- colour and style of existing built form will be investigated and used in rail camps to best blend into the landscape character. Non-reflective materials will be used to reduce glare.

4.2.4 LAND CONTAMINATION

To minimise risks associated with existing contamination and to minimise the risk of causing contamination from the construction and operation of the rail, Waratah Coal commits to doing the following:

- where possible the project footprint will be re-aligned to avoid areas of potential or identified contamination
- where contamination is present within the project footprint, Waratah Coal will enter into agreements with the owner of the contamination to assess and appropriately manage or remediate the contamination
- any building / structures to be demolished will be assessed for hazardous material content with preparation of demolition management plans for the appropriate demolition and disposal of the hazardous materials
- where the project footprint cannot be re-aligned, DEHP compliant Stage 1 and 2 ESAs will be undertaken to assess the scale and extent of contaminant impacts
- where contamination is identified it will be managed and / or remediation under the EP Act with DEHP approved SMPs and / or RAPs in order to make the sites suitable for the proposed use
- Waratah Coal will appoint a third party reviewer to assess all contaminated land assessment and remediation work
- any Notifiable Activities that are required for the project will be implemented and managed in accordance with relevant guidelines and legislation once construction commences and also during the operational phase.

4.2.5 LAND REHABILITATION

To minimise risks associated with rehabilitation, Waratah Coal commit to:

- undertaking rehabilitation works in a progressive manner
- identifying specific access areas and determine goals for rehabilitation of disturbed land to minimise areas that will have lower land use quality post construction of the rail
- prepare and implement rehabilitation management plans for areas disturbed during construction activities
- manage lay down areas in a manner that will not result in a reduction in land quality
- prepare and implement erosion control measures and continue to monitor and maintain the measures implemented
- erosion and sediment control plans will be developed and put in place prior to the commencement of construction works for all areas of the rail that may cause erosion that affects rehabilitation works.

The *Draft Rail EMP* will outline weed management measures including control strategies for environmental weeds such as Parthenium and Buffel Grass.

4.2.6 ACID SULFATE SOILS

Based on the results of the preliminary assessments, Waratah Coal commits to the following:

- Acid Sulphate Soils (ASS) investigations will be conducted on creek and stream channel crossings below 20m AHD where acid sulfate soils may be present at or above the 5m AHD contour
- where ASS are identified within the rail corridor, a detailed ASS Management Plan (ASSMP) will be developed including monitoring, treatment, verification testing and reporting for the individual construction works.

5 TERRESTRIAL ECOLOGY

5.1 Mine

To avoid and reduce potential impacts on terrestrial ecology associated with the construction, operation and decommissioning of the mine, Waratah Coal will:

- finalise the draft *Biodiversity Offset Strategy* which compensates for unavoidable clearing as well as impacts to the Bimblebox Nature Refuge, in consultation with DEHP and Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC)
- Regarding compensation for the Bimblebox Nature Refuge, properties that provide for an impact to offset ratio of 1:2 will be pursued as a priority
- Ecological equivalence will be determined based on the *Ecological Equivalence Methodology Guideline (Version 1)* to ensure that the offset sites have ecological functionality
- Waratah Coal will develop an overarching Biodiversity Management Plan (BMP)
- a Fauna Management Plan will be prepared for the site and, for selected species, specific Species Management Plans will be developed in consultation with DEHP and DSEWPaC
- a DEHP accredited spotted / catcher will be on-site immediately prior to vegetation clearance to inspect habitat trees (i.e. trees with hollows, fissures or with substantial food resource, mature trees or stag trees) to determine the presence of significant fauna and to implement a relocation plan for any fauna found
- native vegetation removal will be conducted only after clearance surveys have been conducted
- Project persons operating vehicles in and adjacent to the Project site will be made aware of the presence of threatened species and the potential for them to be encountered on vehicle tracks
- develop a Vegetation Management Plan for the remaining vegetation overlying the underground mine area and, for selected species, specific Species Management Plans will be developed in consultation with DEHP and the Commonwealth
- a Weed Management Plan (WMP) will be developed as part of the BMP prior to the commencement of activities at the site. The WMP will describe the management strategies for weed species listed under the LP Act or Local Government requirements for weeds not listed under the LP Act
- a Pest Management Plan will be developed as part of the BMP prior to the commencement of activities at the site. The BMP will describe the management strategies for pest species listed under the LP Act, quarantine requirements or Local Government requirements for pest species not listed under the LP Act
- develop a Fire Management Plan, working with BRC and the Rural Fire Service
- rehabilitation and subsidence management plans will be developed in consultation with DEHP (see land section) and will include specific measures in relation to improving habitat linkage in both riparian and terrestrial systems
- develop and implement a biodiversity specific Mine Recovery, Remediation Rehabilitation and Monitoring plan
- trees, shrubs and other vegetation will only be removed where required (and appropriate approvals sought where necessary). Vegetation outside mining and infrastructure areas will where ever possible remain undisturbed
- where possible, infrastructure will be placed in areas to minimise the disturbance of existing native vegetation. Existing tracks and cleared areas will be utilised, where possible
- cleared areas will be progressively rehabilitated in accordance with the Project rehabilitation strategies, including the incorporation of revegetation works in the Erosion and Sediment Control Plan
- cleared vegetation will be managed in a manner consistent with the waste hierarchy

- as part of rehabilitation activities, a biodiversity enhancement program focusing on the re-establishment of Desert Upland ecological systems will be developed and implemented through the life of the mine and for five years post cessation of mining activities
- species used in rehabilitation will where possible be taken from the species listed to be agreed with DEHP.

5.2 Rail

Waratah Coal commit to undertaking the following actions:

- delivering comprehensive updated rail flora and fauna assessment reports (in accordance with assessment methodologies agreed upon with officers from DEHP) to the Coordinator-General (CoG) by mid-2013
- develop Significant Community / Species Management Plans in accordance with Commonwealth and State legislation for those values or species where unavoidable impacts will have a significant impact on their habitat
- develop and implement an Erosion and Sediment Control Plan (ESCP) prior to the commencement of construction in accordance with the relevant local planning policies and the relevant State planning policy
 - ensure bridge and culvert design allows for the passage of aquatic species
 - implement mitigation measures designed to preserve the existing water quality values within and downstream of the rail corridor
- providing for terrestrial fauna crossings through the provision of fauna friendly culverts finalising the Biodiversity Offset Strategy in consultation with DEHP and DSEWPaC
- develop a Fire Management Plan in accordance with the relevant local planning policies, the relevant State planning policy and in consultation with the Rural Fire Service
- develop and a Weed and a Pest Management Plan in consultation with Biosecurity Queensland and the various regional council's
- implement vehicle, equipment and plant wash down procedures as outlined in the EMP.

6 AQUATIC ECOLOGY

6.1 Mine

Waratah Coal commit to undertaking the following actions:

- develop an ESCP prior to the commencement of construction
- develop surface water and storm water management plans for the mine site
- utilise the interim water quality objectives for waterways outlined in the Mine Water Quality Monitoring Plan contained in the SEIS, prior to implementation of a robust monitoring program designed to collect additional data to support setting of more localised interim water quality objectives
- A water and sediment quality monitoring program will be prepared based on the results and a review of the current monitoring program to provide sufficient data to help inform the development of the Environmental Authority for the project.

6.2 Rail

Waratah Coal commits to undertaking the following actions:

- developing an ESCP prior to the commencement of construction
- ensuring bridge and culvert design allows for the passage of aquatic species
- developing an EMP incorporating monitoring requirements for surface waters.

7 SURFACE WATER RESOURCES

7.1 Mine

Waratah Coal commits to undertaking the following actions:

- implement an erosion and sediment control plan prior to the commencement of construction activities on site
- construct, monitor and maintain all sediment and erosion control devices throughout the construction phase of the Project
- undertake all monitoring and sampling techniques in accordance with the DEHP’s Water Quality Sampling Manual and applicable Australian Standards
- obtain and operate in accordance with riverine protection permits and / or relevant guidelines (as required) for all in stream works as part of construction
- construct all creek diversions with an appropriate establishment period prior to the commencement of operations
- design and operate a site water management system to ensure containment and reuse of contaminated water on site
- design and operate a site water management system with a focus on clean water diversion through the use of creek and drainage diversions such that existing downstream water users are not adversely impacted
- rehabilitate disturbed areas as soon as practicable to minimise sediment mobilisation to receiving waters
- design and operate hazardous dams as regulated structures in accordance with regulatory requirements
- undertake additional baseline water quality modelling prior to the commencement of operations
- design and operate a site water management system to minimise demand on external water resources
- not release contaminants from the site water management system that have the potential to cause environmental harm
- operate and monitor the site water management system in accordance with the site’s environmental authority
- develop and implement a receiving water environment management plan prior to the commencement of operations
- design and maintain creek diversions to achieve equilibrium with existing water course
- design and construct flood levees for the protection of people and infrastructure with a 1 in 1000 year ARI flood level of immunity
- operate and maintain flood protection levees as regulated structures
- implement a monitoring program for creek diversions to assess long term performance for relinquishment at the cessation of operations
- investigate all substantiated water related complaints and implement corrective actions as necessary
- liaise with DNRM on the determination of watercourses as defined under the Water Act 2000 at the time of permitting
- Waratah Coal considered the following documents in the design of the watercourse diversions. These will be considered further considered during the detailed design, construction and monitoring of the watercourse diversion:
 - ACARP Project “Project C8030 (Stage 1) – Maintenance of Geomorphic Processes in Bowen Basin River Diversions”
 - ACARP Project “Project C9068 (Stage 2) – Monitoring Geomorphic Process in Bowen Basin River Diversions”
 - ACARP Project “Project C9068 (Stage 3) – Design and Rehabilitation Criteria for Bowen Basin River Diversions”

- The DEHP Regional Guideline entitled '*Watercourse Diversions – Central Queensland Mining Industry*' dated 15/03/2011
- with specific regards to the Water Resource (Burdekin Basin) Plan 2007 (WRP), Waratah Coal will ensure that the Project achieves the objectives of the WRP as detailed below:
 - sustainable outcomes for management of water to an acceptable level in accordance with the WRP
 - to introduce performance indicators and objectives and strategies for achieving those objectives for environmental flow, water allocation security
 - where unallocated water is identified that a 'continue moratorium and interim arrangement' is made
 - granting interim water allocation/s as required
 - obtain the relevant resource operation licenses and distribution operations licenses for water allocation, infrastructure operations and water supply arrangements
 - obtain water entitlements as required
 - ensure that water allocations / licenses are in place or obtained to take or interfere with un-supplemented water
 - compliance with this Act, the *Sustainable Planning Act 2009* and the *Environmental Protection Act 1994* with respect to the regulation of overland flow water. Where overland flow water is to be taken or interfered with, the relevant authorisations, water licenses under the resource operations plan and development permits will be obtained by the nominated assessing authority
- for sewerage, a detailed site assessment, including of site opportunities and constraints, soils and local climatic conditions will be coupled with MEDLI mass balance modelling to determine sustainable irrigation loads for the site, coupled with a suitably sized wet weather storage and buffer storage systems to manage variable loads and low irrigation demands during wet periods
- the Drinking Water Treatment Plant (DWTP) will be developed and managed such that output water will meet the Australian Drinking Water Guidelines, and will operate under a Drinking Water Management Plan which will be developed prior to commissioning the plant, and based on the system chosen for the site
- a rehabilitation plan for these creek diversions will be prepared and will include the rehabilitation of the diverted creeks and specification of riparian habitats. The use of locally propagated native flora species will be implemented where practicable to maintain habitat characteristics and prevent the spread of weed and pest flora species
- the final Rehabilitation and Decommissioning Plan for the site will identify the closure actions required for the various surface water management structures including the watercourse diversions. At this stage, it is considered that the diversions would remain (Section 1.3 of the existing EIS): given the operational life of the project the diversions will be functioning as natural watercourses by closure, hence re-establishment of the original watercourse could potentially result in additional impact downstream.

7.2 Rail

Waratah Coal commits to undertaking the following actions throughout the construction and operation of the rail:

- where required, developing Acid Sulphate Soil Management Plans (ASSMP) and ESCPs prior to the commencement of construction
- construct, monitor and maintain all sediment and erosion control devices throughout the construction phase of the Project
- developing storm water management plan prior to construction. This will consider the use of storm water tanks and re-use of grey water

- conducting sediment sampling where works are to be carried out within the waterways (i.e. piling for creek crossings and the coal conveyor) to identify potential contaminants including pesticides and herbicides
- undertake all monitoring and sampling techniques in accordance with the DEHP's Water Quality Sampling Manual and applicable Australian Standards
- obtain and operate in accordance with riverine protection permits and / or relevant guidelines (as required) for all in stream works as part of construction
- rehabilitate disturbed areas as soon as practicable to minimise sediment mobilisation to receiving waters
- undertake additional baseline water quality modelling prior to the commencement of construction
- not release contaminants associated with construction activities that have the potential to cause environmental harm
- investigate all substantiated water related complaints and implement corrective actions as necessary.

8 GROUNDWATER RESOURCES

8.1 Mine

- a groundwater monitoring network and program has already been installed to establish background groundwater level and quality conditions providing a basis for mine impact assessment
- the groundwater monitoring bore network and program has been configured to facilitate assessment of potential impacts to surrounding groundwater users and other sensitive areas.

Waratah Coal commits to:

- development and implementation of a groundwater monitoring program
- the groundwater monitoring network and program will be modified over time to cater for evolving mine influence during operation and post closure
- groundwater monitoring will be conducted in accordance with recognised standards (i.e. AS/NZS 5667.11:1998)
- groundwater monitoring data will be maintained in an appropriate data base with data being reviewed within two weeks of receipt and validated by a qualified and experienced hydrogeologist to facilitate timely response to any issues or potential issues identified
- a formal review of all groundwater monitoring data will be conducted annually by a qualified and experienced hydrogeologist and will include recommendations for any modifications to the program and ameliorative measures considered necessary
- the implementation of long term pumping tests of bores in the mine area to assess impacts on local users
- updating the conceptual model with data obtained during the monitoring to assess any potential impacts on the mine on groundwater ecosystems
- collection of mine inflows for reuse
- developing ESCP prior to the commencement of construction to reduce impacts on groundwater
- implementation of management plans and containment structures for potential contaminants
- remediation of any groundwater contamination caused by the project
- site specific investigation of the areas identified from geotechnical review
- a data base of surrounding groundwater users potentially influenced by the mine will be established including relevant bore details as available
- records of any complaints (including basis for the complaint and actions taken) from surrounding groundwater users will be maintained for internal and potential third party / regulatory use

- entering into agreements with surrounding landowners regarding monitoring of impacts and make good provisions should impacts occur.

8.2 Rail

To minimise potential impacts to groundwater, Waratah Coal commit to:

- developing ESCPs prior to the commencement of construction to reduce impacts on groundwater
- implementation of management plans and containment structures for potential contaminants
- remediation of groundwater contamination should it be caused by the Project
- geotechnical assessment of the rail alignment to assess areas where construction requirements (i.e. excavation or blasting) have potential for impacts to groundwater
- site specific investigation of the areas identified from geotechnical review
- entering into agreements with surrounding landowners regarding monitoring of impacts and make good provisions where impacts occur.

9 AIR QUALITY AND GREENHOUSE GAS

9.1 Mine

Waratah will meet air quality objectives by:

- managing short term dust emissions during the construction phase through a comprehensive EMP
- achieving effective dust management during mining operations through appropriate planning and awareness of conditions during peak dust emissions. This includes minimal disturbance to the area being mined, minimising haul distances, and controlling vehicular speeds on haul roads and minimising mining activities during high wind speed events
- implementing dust control measures during mining operations, such as watering of haul roads, water spraying at stockpiles, fully enclosed conveyor systems, underground loading of coal at the preparation phase and facilities, wet coal handling facility and ongoing revegetation of stripped areas in the open cut mines
- implementing a comprehensive dust monitoring program across the site that includes onsite and offsite dust monitoring points and a meteorological station to provide accurate measure of local weather conditions
- collaborating with other proposed large-scale mining developments across the region. A requirement to manage dust emissions to levels below the adopted air quality guidelines is necessary from all parties
- use of industry best practice techniques to reduce dust emissions from the site
- preparing specific dust control and mitigation measures as part of a mine decommissioning strategy
- particulate matter from the coal mine will be continuously monitored
- preparation of a reactive Air Quality Management Plan and Dust Management Plan for the operational mine that details actions that must be taken when high dust levels are monitored near the mine boundary and at the closest sensitive receptors (residences)
- Waratah Coal will use the dust management plan to control emissions and to mitigate impacts surrounding the mine once the mine is operational. The dust management plan will incorporate best practice measures to reduce emissions from wheel generated dust on haul roads
- the Project will meet the Ambient Air Monitoring program requirements
- the Project will investigate all substantiated dust complaints
- the Project will implement corrective action resulting from complaints investigations as required

- all monitoring and sampling techniques will be consistent with the DEHP’s Air Quality Sampling Manual and applicable Australian Standards.

In minimising the amount of GHG emissions generated by the mine, Waratah Coal commits to:

- measuring and reporting GHG emissions in compliance with the National Greenhouse and Energy Reporting System (NGERS)
- developing ongoing processes for minimising energy consumption and GHG emissions within the mine, by investigating the use of renewable energy sources in the operation of the mine
- working with government on developing measures to address GHG emissions.

9.2 Rail

In managing potential air quality impacts and implementation to various control measures in the reduction of dust emissions associated with the operation phase of the proposed rail easement, Waratah will meet air quality objectives by:

- providing a cover to the top of the wagons. It is intended these covers will be made of fibreglass
- use tippler wagons (gondola) rather than the more traditional bottom dump coal wagon to eliminate or reduce to negligible levels coal hang-up
- managing locomotive speed and train performance requirements along the rail easement (operational efficiencies reduce fuel emissions)
- implementation of control measures for dust load such as coal loading systems designed to minimise exposed areas and coal spillage
- continue ongoing consultation with the community.
- The short term dust emissions associated with construction are to be effectively managed through a dust management plan for construction
- instigating cleaning and monitoring programs for coal wagons of spilled coal and dustiness of coal being transported;

In minimising the amount of Greenhouse Gases (GHG) generated by rail easement, Waratah Coal commits to:

- developing ongoing processes for minimising energy consumption and GHG emissions within the Project, by investigating the use of renewable energy sources in the operation of the proposed rail easement
- measure and report GHG emissions in compliance with the National Greenhouse and Energy Reporting System
- working with government on developing measures to address GHG emissions.

10 NOISE AND VIBRATION

10.1 Mine

To manage potential impacts of noise and vibration during construction and operation of the mine, Waratah Coal will develop and implement construction noise and vibration management plans that address potential impacts. Specifically, Waratah Coal commits to undertaking the following:

- investigate techniques to attenuate noise from crushers and modify proposed earthworks where required and where practicable to enable design planning noise levels to be met
- in locations where noise attenuation, vibration and air blast modifications are impractical, Waratah Coal will consult with the affected property owner with a view to potentially using the dwelling(s) for a purpose other than residential use or with the possibility of acquiring the property

- ongoing monitoring of noise and vibration will occur during the construction of the operation of the mine and associated facilities to ensure compliance with the EMP
- the Project will investigate all noise and vibration related complaints
- corrective actions resulting from complaints investigations will be implemented.

10.2 Rail

To manage potential impacts of noise and vibration during construction, Waratah Coal will implement the following:

- using the Construction Noise Management Plan recommended to be prepared and implemented, potential noise impacts during construction (including blasting, if required) will be minimised at noise sensitive locations
- with respect to the noise of train passbys during operations along the rail corridor, the following mitigation measures will be considered for implementation at suitable locations
- upgrading of the residential buildings to ensure that the internal sleep disturbance criterion is achieved. This may include upgrade of the bedroom facades (particularly the windows) along with the installation of some form of mechanical ventilation to ensure that the ventilation requirements could be achieved with external windows and doors closed
- relocation of the residence or another form of change of use for the residences so they would no longer be noise-sensitive locations, or
- attenuation of the rail noise through the use of noise barriers adjacent to the rail. Heights and their locations would be determined during the detailed design of the rail.

11 WASTE

11.1 Mine

Waratah Coal will meet waste management objectives through:

11.1.1 NON-MINERAL WASTE

- a non-mineral waste management plan (NMWMP) will be prepared that will address the management of all wastestreams from the mine, with the exception of mineral wastes (i.e., waste rock, topsoil and tailings), dust, combustible emissions, and stormwater runoff, as these will be addressed within other management plans for the project
- the NMWMP will describe the waste anticipated for the site and measures for the management, reduction, segregation, and removal of waste (regulated and non-regulated waste) from the site. This process will include negotiations and collaboration with local government and relevant stakeholders on appropriate waste infrastructure
- developing and implementing a detailed waste management guideline utilising the principles of the waste management hierarchy
- working with local councils to determine the current landfill capacities and accepted waste types and will work with councils to assist with the planning of expansion and upgrade of landfills to ensure wastes generated from the mine can be accommodated if required
- establishing contracts with companies encouraging sustainable waste management practices
- encouraging the procurement of pre-fabricated materials where practicable
- encouraging local businesses to take advantage of opportunities for re-use and recycling, if available, or through initiating recycling opportunities
- regularly reviewing the waste management plan including the marketability of wastes and the results of waste audits to improve waste management

- a register of all chemicals stored on the mine site will be maintained
- the storage and handling of flammable and combustible liquids will be in accordance with AS 1940 – Storage and Handling of Flammable and Combustible Liquids
- all regulated waste will be appropriately disposed of to a facility licensed to receive such wastes and, where required, be tracked
- as part of the staff awareness and induction program, re-use and recycling will be encouraged.

11.1.2 MINING WASTE

- all spoil will be placed at angle of repose for geotechnical stability and will be further flattened prior to final rehabilitation. Containment cells will have geotechnically stable batters of 1 (vertical) on 3 (horizontal) and will be lined with impervious clay blankets
- dried coarse rejects and filter pressed tailings will be trucked to containment cells, dumped and track compacted in layers by dozer. All containment cells will be capped with impervious clay, prior to topsoiling and seeding
- the tailings solids will be monitored to determine pH, electrical conductivity, sulphur species and acid neutralizing capacity initially on a monthly basis until geochemical trends have been established. Monitoring will then continue on an annual basis
- to monitor for the unlikely event of any seepage from containment cells, pit water downdip of the cells will be initially monitored on a monthly basis and tested for pH, electricity conductivity and total dissolved solids. Testing for major anions, cations and trace elements will be initially completed every three months and then annually
- groundwater level and quality will be monitored for the duration of tailings disposal operation as well as after the closure of the mine and infrastructure, as part of an on-going closure plan. Groundwater monitoring bores will be installed and strategically positioned adjacent to disposal areas
- embankment monitoring instrumentation will be installed within the tailings containment embankments to monitor performance. This will ensure stability of the embankments during operations and embankment raising. Piezometers will be installed to check groundwater levels
- survey monuments will be installed along each embankment. These monuments would be surveyed on a regular basis to detect any embankment movements. The information derived from both piezometers and monuments will be used to assess the overall stability of the embankments
- a meteorological station will be installed near the containment cells to monitor and record rainfall and evaporation data
- during rehabilitation of spoil piles, all slopes will be flattened to be geotechnically stable and erosion resistant. All spoil surfaces will then be topsoiled and seeded with appropriate vegetation cover. Vegetation growth will be monitored and if necessary, re-seeding will be carried out.

11.1.3 SEWERAGE

- For sewerage, a detailed site assessment, including of site opportunities and constraints, soils and local climatic conditions will be coupled with MEDLI mass balance modelling to determine sustainable irrigation loads for the site, coupled with a suitably sized wet weather storage and buffer storage systems to manage variable loads and low irrigation demands during wet periods. A management system will be developed (as a Site Based Management Plan (SBMP) or similar) to manage the treatment system and infrastructure, irrigation and required monitoring program to ensure the scheme remains sustainable over the long term.

11.2 Rail

To manage potential impacts associated with the creation and management of waste associated with the rail, Waratah Coal will implement the following commitments:

- undertaking actions that will reduce potential impacts through a proactive rather than reactive approach to waste generation and minimisation
- preparing a project specific Waste Management Plan to be incorporated into the rail Environmental Management Plan. The EMP will be prepared in accordance with legislative requirements and any conditions imposed by the Coordinator-General
- where practicable and possible, have materials prefabricated to reduce waste streams from the construction of the Project
- carrying out waste management in a manner that will have the most benefit to the local community. This includes:
 - throughout the life of the rail Waratah will work with the regional councils and other relevant groups to determine existing capacities and accepted waste types of their landfills and where required assist with the planning of expansion and upgrade of landfills to ensure wastes generated from the Project can be accommodated
 - when sourcing waste contractors preference will be given to local businesses employing sustainable waste management practices
 - work with local businesses so that they can take advantage of opportunities for re-use and recycling.

12 TRAFFIC AND TRANSPORT

12.1 Mine

The following commitments are made in relation to traffic for the Project:

- road works identified in the control strategies will be implemented to mitigate the traffic impacts of the Project
- a privately-operated transport service will transport the workforce between the accommodation village and the mine
- continue to work with DTMR to ensure a practical solution to intersection upgrades
- promote safe driving over long distances (fatigue management) in consultation with the local road action group.

Further to the EIS Waratah Coal makes the following commitments to develop the following documents:

- Road Impact Assessment Report
- Road Use Management Plan
- Traffic Management Plans
- Traffic Control Plans.

These plans will cover key safety and logistical issues such as:

- signage and traffic control requirements, including requirements for bypasses if necessary
- development of temporary access routes and intersections to the Department of Transport and Main Roads (DTMR) standards
- heavy vehicle movements and operating requirements, including appropriate routes, hours of operation, vehicle wash-down and operational restriction

- mitigation works and monetary contributions to be made to road authorities to provide a safe and efficient road network
- relevant contacts within the project
- issue identification and responses
- planning and permit requirements including those needed for over-dimensional vehicles and transport of dangerous goods
- processes for community information and responses.

12.2 Rail

To manage potential impacts to traffic and transport associated with the construction and operation of rail, Waratah Coal will implement the following commitments:

- during the detailed design phase, the increased safety risk of this level crossing, as well as all level crossings, will be assessed for both the construction phase and operation phase. Waratah Coal intend to use the Australian Level Crossing Assessment Model (ALCAM) to carry out this safety assessment
- locations where grade separation is not warranted (as conflict between trains and vehicles will be very infrequent) will have a detailed field assessment to determine if suitable sight distance is achievable. If not, measures such as clearance of obstructions and providing amended road alignments will be considered before resorting to signals and boom gates
- as suppliers for materials and equipment which require over-dimension transport to the site are identified, further route assessment and application for appropriate permits will be undertaken. This shall include a review of the DTMR Conditions of Operation Database, which provides an updated source of restrictions for OD vehicles, including around temporary roadwork.

Waratah Coal will make the following commitments to develop the following documents:

- Road Impact Assessment Report
- Road Use Management Plan
- Traffic Management Plans
- Traffic Control Plans.

These plans will cover key safety and logistical issues such as:

- signage and traffic control requirements, including requirements for bypasses if necessary
- development of temporary access routes and intersections to DTMR standards
- heavy vehicle movements and operating requirements, including appropriate routes, hours of operation, vehicle wash-down and operational restriction
- mitigation works and monetary contributions to be made to road authorities to provide a safe and efficient road network
- relevant contacts within the project
- issue identification and responses
- planning and permit requirements including those needed for over-dimensional vehicles and transport of dangerous goods
- processes for community information and responses.

13 INDIGENOUS CULTURAL HERITAGE

13.1 Mine

The following commitments are made in relation to the preservation of Aboriginal cultural heritage and non-Indigenous heritage values associated with the Project area:

- Waratah Coal commits to continued engagement and negotiations with endorsed Aboriginal Parties; and, to developing (where not already developed) and implementing approved Cultural Heritage Management Plans (CHMP)
- Waratah Coal commits to notifying the Coordinator-General of the completion and registration of any Cultural Heritage Management Plans that are being finalised after the Coordinator-General's Evaluation Report has been issued
- control strategies in the EIS will be implemented to manage known and potential cultural heritage sites and values located within the Project site
- conduct regular cultural heritage education sessions/trainings to employees
- Waratah Coal commits to appointing an Indigenous Liaison Officer during construction and for this position to continue once the mine becomes operational and for the life of the mine.

13.2 Rail

To manage potential impacts to Indigenous and non-Indigenous cultural heritage, Waratah Coal will implement the following commitments:

- Waratah Coal commits to continued engagement and negotiations with endorsed Aboriginal Parties; and, to developing (where not already developed) and implementing approved Cultural Heritage Management Plans (CHMP).
- Waratah Coal commits to notifying the Coordinator-General of the completion and registration of any Cultural Heritage Management Plans that are being finalised after the Coordinator-General's Evaluation Report has been issued.

14 NON-INDIGENOUS CULTURAL HERITAGE

Waratah Coal commits to implementing procedures during site activities that aim to identify, assess and record undetected non-Indigenous heritage sites, including appropriate induction of relevant project personnel

- control strategies in the EIS will be implemented to manage known and potential cultural heritage sites and values located within the Project site
- implement procedures during site activities that aim to identify, assess and record undetected non-Indigenous heritage sites, including appropriate induction of relevant project personnel.

14.1 Mine

This will include undertaking the relevant commitments with respect to the Monklands homestead complex within the mine area and at the other potential areas identified within the proposed rail corridor. Ongoing negotiations will be undertaken with the owner of Monklands homestead and other identified Non-Indigenous cultural heritage sites to ensure appropriate cultural heritage material is recorded/salvaged prior to disturbance.

14.2 Rail

For the rail this will involve facilitating the further examination and formal reporting of the Mountain Creek changing station and the Bowen Downs road to DEHP in accordance with the *Queensland Heritage Act 1992* (QH Act) requirements.

15 SOCIAL

Waratah Coal has made a number of commitments to help maximise positive social impacts and help minimise negative social impacts arising from the Galilee Coal Project. Waratah Coal will:

- minimise impacts on property owners as much as possible, ensure fair compensation when impacts cannot be avoided, provide opportunities to property owners to benefit from the project when available, and encourage productive engagement with property owners
- provide the services of a farm management consultant, if requested, to assist property owners plan for changes as a result of mine and/or rail infrastructure (eg. modifications to fencing, stockyards, watering points and access roads)
- base at least 50 mine employees in Alpha and all port and rail employees in the Bowen area
- Provide housing for mine employees in Alpha that fits within the character of Alpha and provides an appropriate standard befitting of senior managers and other employees who wish to reside in Alpha with their families on a long-term basis
- provide all mine employees with the opportunity to reside in the Alpha area
- provide incentives for mine employees to relocate to Alpha with their families, for example:
 - financial assistance for employees opting to reside in Alpha to purchase a house in Alpha (with similar assistance for employees to buy a house in Bowen)
 - a one-off bonus for any employee that relocates with their family to Alpha and stays for at least a year
- encourage contractors to establish facilities and base staff in Alpha and Bowen by giving preference to businesses and contractors that have locally-based staff
- participate in the Galilee Basin CSIA Roundtable and provide financial support, as recommended by the Roundtable, for public infrastructure in Alpha, including affordable housing and health and emergency services
- participate in a roundtable (or equivalent) for Abbot Point proponents, and provide financial support to improve public infrastructure in Bowen, including affordable housing and health and emergency services
- if Bowen is not included in a roundtable (or equivalent), Waratah will hold discussions with the WRC in regard to possible financial contributions towards public infrastructure and/or services in Bowen
- establish an arrangement with an established emergency service/retrieval provider for the provision of aeromedical and retrieval services for the project
- invite local emergency service providers (police, ambulance, fire & rescue and SES) to participate in the preparation and practicing of emergency procedures
- give employment preference, in order, to workers from the local area, the local region, the rest of Queensland and the rest of Australia before overseas
- promote healthy lifestyle choices among the workforce
- provide induction training to all staff, contractors and sub-contractors to ensure they are familiar with project facilities, local Indigenous cultures and values, occupational health and safety including emergency response strategies, fatigue management policies, employment conditions and entitlements, Waratah's contributions to the local community and the grievance mechanism
- implement a Code of Conduct, applicable to all employees, contractors and sub-contractors, which aims to enhance relationships between employees and contractors and the local community and minimise adverse social impacts
- participate in government-led initiatives to recruit workers from areas in Queensland that have relatively high levels of unemployment

- promote female employment
- promote Indigenous employment
- provide support for DIDO and FIFO workers, including suitable accommodation and recreation facilities, bus services between the mine site and any nearby regional centre that contains a sufficient number of employees, and promote available support networks
- provide support and encouragement for employees living in Alpha to integrate within the local community
- engage 20 new apprentices each year (and aim to recruit 50% of these from Central Queensland and the Whitsunday, Isaac and Mackay Regions)
- fund an additional 5 apprentices each year (with 4 year funding commitments subject to satisfactory performance), to be engaged and managed by businesses based and operating in the project area
- provide support to local schools, including mine tours, workplace training, classroom presentations and other interactions with the aim of strengthening linkages between schools and the mining industry (and increasing female and Indigenous participation)
- aim to establish a long-term link with local training organisations (including TAFE centres) to provide guest lectures by skilled trainers (who work for the project) and accommodate workplace training for apprentices and other trainees
- implement Indigenous engagement and participation strategies, to help communicate effectively with Indigenous groups, and promote Indigenous employment and contracting opportunities
- for any overseas workers, provide culturally appropriate facilities at the mine site and provide appropriate food and food-handling procedures, show flexibility, as far as possible, in terms of meeting religious and cultural requirements (eg. for worship), and provide cultural awareness for overseas workers during the induction training, and include awareness on their cultures in induction training provided to other workers
- give procurement preference, in order, to suppliers from the local area, the local region, the rest of Queensland and the rest of Australia before overseas
 - advertise procurement and contracting opportunities locally
 - package contracts to help local businesses and contractors submit competitive bids
 - hold briefing sessions in the project area for local businesses and contractors
 - provide support to local organisations to increase their capacity to submit a competitive bid
- ensure all contractors and sub-contractors incorporate strategies (at least the equivalent as outlined above) to give preference to local recruitment, local suppliers, promote a healthy lifestyle, promote female employment, promote Indigenous employment and provide training
- participate in discussions to help develop strategies to address the loss of agricultural workers to the mining industry
- provide information to, and communicate with, stakeholders through a variety of mechanisms, including but not limited to:
 - quarterly newsletters
 - maintenance of an information hotline and project website
 - participation in various consultative committees, including the Galilee Basin CSIA Roundtable
 - maintenance of a grievance mechanism
 - appointment of a Project Liaison Officer and Indigenous Liaison Officer

- report on social impacts and social impact management annually, and make the reports publically available
- fund an external and independent review of the project’s social impacts and social impact management strategies, every two years, and make the reports publically available.

16 HAZARD AND RISK

To minimise the potential risk to the health and safety of onsite and offsite personnel as a result of construction and operational activities associated with the mine site, Waratah Coal will commit to:

- construction phase defaulting under a formal SHMS in accordance with all relevant legislative requirements
- undertaking the operations of the mine site under a formal SHMS in accordance with all relevant legislative requirements
- monitoring and implementing amendments to the SHMS where necessary and frequently ensuring its applicability and currency to be maintained throughout the life of the project
- frequently liaising with internal and external stakeholders with respects to safeguarding and improving the SHMS
- Waratah Coal will consult with the QFRS and QPS during the preparation of emergency response procedures
- Hazard and Risk Management plans will be prepared that ensure that the workers accommodation has the appropriate measures in place to provide a safe and conducive environment for the workers. This will include:
 - Buildings meeting the relevant building standards
 - Compliance with the local disaster management plans including mitigation and management of flooding
 - Establishment of links with the various Local Disaster Management Groups to allow relationships to be formed
 - Providing assistance to the Local and State Emergency Service Units (as required), in accordance with the Traffic Management Plan
- A hazard assessment for dams is to be also conducted as per Manual for Assessing Hazard Categories and Hydraulic Performance of Dams (February 2012). The assessment will be carried out based upon the structure dimensions, the usage of the land and the contaminant concentrations
- A Hazard and Risk Assessment will be undertaken identifying the final access routes for all explosives that are being brought to the mine site
- Waratah Coal is committed to undertaking hazard and risk identification workshops and assessments in cooperation with all its specialist sub-consultants and stakeholders
 - Following this process, a detailed hazard and risk assessment will be prepared, and the Emergency Management Plan will be finalised and a Health and Safety Plan will be developed
 - The hazard and risk assessment and an updated Traffic and Transport study will provide risk management and control measures for vehicle movements. It will also include the identification of the type and storage locations for Hazardous Chemicals/Materials this will be incorporated into the detailed design for the project. A Hazard and Risk workshop will be held, in which the issues surrounding the storage locations and transportation (including route options) of hazardous materials and chemicals will be analysed
- All current standards for construction camp dwellings and other buildings will be adhered to
- Detailed hazard and risk assessments, and the Emergency Management Plan, Health and Safety Plan will include management of impacts from potential isolation, and contacts/consultation with location disaster management groups. Regardless of this, the relevant personnel will establish contact with the relevant local disaster management groups

- Waratah Coal will consult with the State Emergency Service (and other relevant groups) and collaborate on the provision of road crash rescue services impacted by the proposed mine (note that this is only expected to be local to the mine and the Abbot Point SDA as the majority of the workforce is expected to be FIFO)
- Project managers will maintain open dialogue with the Mining Inspectors at DNRM concerning the Occupational Health and Safety and Major Hazardous Facility safety obligations
- The Emergency Management Plan and Health and Safety Plan will include the relevant legislative and regulatory responsibilities and the hazard and risk assessment process will include a wide consultation base to ensure the correct agencies and responsibilities are identified
- A site specific mosquito management plan will be developed which will be compliant with the Queensland Health “Guidelines to minimise mosquito and biting midge problems in new development areas.” The plan will incorporate all phases of the project, highlight any potential high risk areas and outline strategies for minimising the development of habitats for the proliferation of mosquitoes, midges and other biting insects
- An assessment of bushfire hazards will be undertaken to determine compliance with the SPP1/03 and control strategies will be developed for mitigation of bushfire risks. The revised Mine EM Plan and Rail EMP will incorporate mitigation measures to reduce the risk of bushfire hazards. The management and treatment of vegetative waste will be addressed in the non-mineral waste management plan (NMWMP). Vegetative waste will be used on site to provide fauna habitat, or chipped and mulched and used during progressive rehabilitation. Burning of vegetative waste will only occur as a last resort. The NMWMP will include a requirement that burning of vegetative waste does not occur unless a ‘Permit to Burn’ has been issued by the Rural Fire Brigade
- A Bushfire Management Plan (BMP) will be developed for the project as part of the overall plans and procedures for the project. The BMP will identify the areas of bushfire hazard and procedures for emergency services to access the project infrastructure / area throughout all stages of the project cycle.

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