GLENCORE

Aurukun Bauxite Project

Environmental Impact Statement

July 2023

Executive Summary

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Introduction

Figure 1 Location Plan

Aurukun Bauxite Management Pty Ltd has prepared this Environmental Impact Statement (EIS) for the Aurukun Bauxite Project (the project). The EIS has been prepared under the *Environmental Protection Act 1994* (Qld) (EP Act) and will be used in support of applications for required approvals, including an Environmental Authority (EA), Mining Leases (MLs) and approval under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

This Executive Summary provides a high level overview of the project, the environmental impact assessment process, and the key findings of the EIS.

Project Overview

The project involves the construction and operation of an open cut bauxite mine and associated infrastructure on a greenfield site in western Cape York, Queensland (Figure 1). The project site (the area where the proposed project would take place and which would be subject to a tenure application[1]) is remote, being located approximately 600 km north-west of Cairns. The closest township is Aurukun, approximately 23 km (by direct line) to the south-west. The mine would produce up to 15 million tonnes (Mt) per annum of run of mine (ROM) bauxite ore, which equates to up to eight million dry tonnes per annum of product bauxite. Bauxite ore would be mined using open cut mining methods. The ore would be washed in an on-site Beneficiation Plant. The product bauxite would then be transported by road train to a Coastal Loading Facility (CLF) located approximately 15 km to the west of the Mine Site. Transhipping arrangements would be used to load the product bauxite to Ocean Going Vessels (OGVs).

1 The exact boundaries of the tenure application areas are still being defined.

The project site (i.e. the area over which tenure would be sought) comprises approximately 23,100 ha and includes the following component areas, which are shown in Figure 2:

- The 'Mine Site', which is located within Mineral Development Licence (MDL) 2001; and
- The 'Product Bauxite Transport Corridor', which includes the CLF and the haul road that would be used for transporting product bauxite to the CLF. The Product Bauxite Transport Corridor is located to the west of MDL 2001.

The project would have a mine life of approximately 22 years. This EIS refers to Project Years, rather than calendar years. The construction phase would last for two years (Project Year -2 and Project Year -1) and the first year of mining is Project Year 1.

The Proponent

The project proponent is the Aurukun Bauxite Project Joint Venture, an unincorporated joint venture between Glencore Bauxite Resources Pty Ltd, a wholly owned subsidiary of Glencore plc (Glencore) and MDP Bauxite Pty Ltd, a wholly owned subsidiary of Mitsubishi Corporation (Mitsubishi).

Glencore is one of the world's largest globally diversified natural resource companies and has been operating in Australia for nearly 20 years. Glencore holds significant interests in a range of commodities across all mainland states and the Northern Territory. Glencore is a major Australian employer, with about 18,000 people working across industries that include coal, copper, nickel, oil, zinc, cotton, grain, and oilseed.

Mitsubishi is an integrated business with a global network of 1,400 group companies and a presence in 90 countries and regions. Having first established itself in the resources value chain in Australia in 1968, Mitsubishi is, through its joint venture with BHP in the BHP Mitsubishi Alliance, now the largest exporter of seaborne steelmaking coal in the world.

The Manager of the Aurukun Bauxite Project Joint Venture, on behalf of the joint venture participants, is Aurukun Bauxite Management Pty Ltd, a wholly owned subsidiary of Glencore.

Project Need

Australia is one of the world's largest producers of bauxite. Bauxite ore is the basic raw material for primary aluminium production. Global aluminium demand is predicted to increase by almost 40% by 2030, driven in particular by the transport, construction, packaging and electrical sectors[2]. This growth in demand reflects the role that aluminium can play in the implementation of global decarbonisation policies as a material that is strong, lightweight and infinitely recyclable. It is a critical building block for everything from electric vehicles and energy-efficient buildings to renewable power generation, particularly solar power.

There are substantial undeveloped bauxite resources within the project site and the project would allow these to be extracted in a safe and efficient manner. Development of the project would provide significant economic benefits, particularly to Aurukun township. With respect to the Aurukun community, the project has the potential to support increased economic opportunities through training, employment and the engagement of local business as well as contribution to community benefits as part of the proponent's agreement with Traditional Owners.

The project would also provide substantial economic benefits to the region, Queensland and Australia. During the construction phase, the project is forecast to create approximately 250 direct jobs and during operations it would create approximately 350 direct jobs. Indirect job creation has been estimated to be in the order of 500 jobs during construction and 800 jobs during operations. The proponent anticipates that 10% of the construction workforce and 15% of the operations workforce would be sourced from the Aurukun Shire Local Government Area (LGA). The project would contribute up to $400 million annually to the Western Cape economy during the operations phase, and a further $80 million annually to the Cairns region. The project would also contribute substantial Queensland and Australian government revenue through royalties (approximately $415 million present value over the life of the mine) and government taxes.

2 Opportunities For Aluminium In A Post-Covid Economy - International Aluminium Institute (international-aluminium.org)

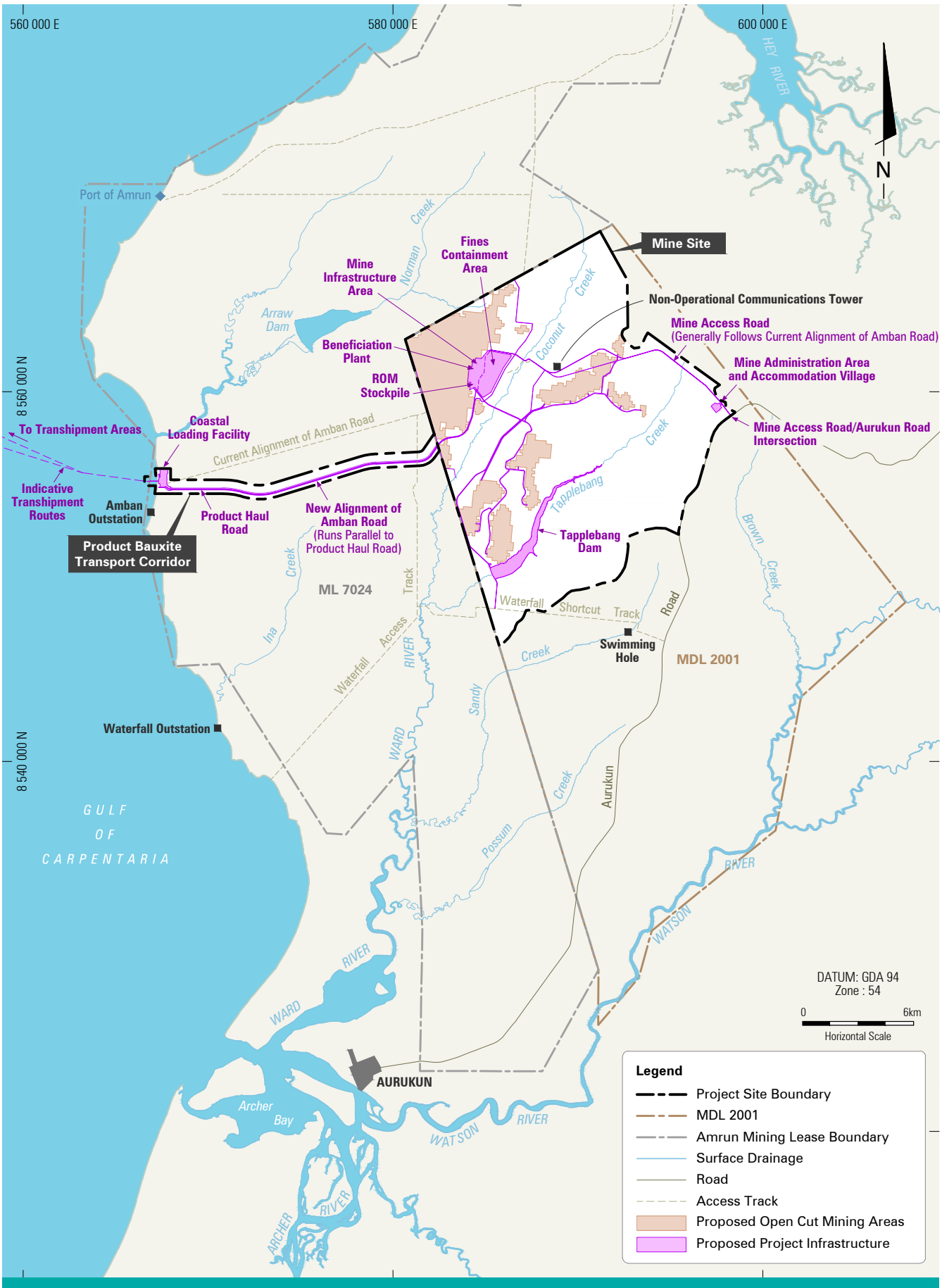


Figure 2 Conceptual Project Layout

Regulatory Framework

Key Project Approvals

The key approvals required for the project are summarised in Table 1. These approvals are required prior to the commencement of construction of the project.

Approval under the EPBC Act

On 25 February 2020, the proponent referred the project to the DCCEEW (previously known as the Department of Agriculture, Water and the Environment) under the EPBC Act and on 11 June 2020 it was determined to be a Controlled Action (EPBC 2020/8624). The controlling provisions are:

- Listed threatened species and communities (Section 18 and 18A);
- Listed migratory species (Section 20 and 20A); and
- The Commonwealth marine area (Section 23 and 24A).

On 17 January 2022, DCCEEW accepted a variation request to the original proposed action which realigned the proposed Product Bauxite Transport Corridor to reflect adjacent land holder feedback. The EIS process that is being used for the project (under the EP Act) is an accredited assessment process under Part 8 of the EPBC Act. The process for obtaining EPBC Act approval is discussed below.

Project Tenure

The MR Act provides for the issuing of prospecting permits, mining claims, mineral development licences and mining leases. The MR Act includes provisions specifically related to this project. Chapter 6, Part 2 of the MR Act applies only for the granting of, and in relation to, a mining lease for an "Aurukun project". This includes mining leases under Section 234 and Section 316 of the MR Act.

An Aurukun project includes the "*construction and operation of works, including, for example, mining equipment, electricity generation plants and related distribution infrastructure, pipelines, telecommunications infrastructure, water storage and distribution infrastructure, buildings, conveyors, roads or railways on land near Aurukun and Weipa*".

The project will require the following forms of tenure under the MR Act:

- A mining lease for the Mine Site, under Section 234(1)(a) of the MR Act, to mine specified minerals;
- A mining lease for the Product Haul Road, under Section 316 of the MR Act, for the "*transportation of something through, over or under the land by a pipeline, aerial ropeway, conveyor apparatus, transmission line or similar method of transport, or road*" (termed a "transportation" mining lease); and
- A mining lease for the CLF, under Section 234(1)(b) of the MR Act, for such purposes, other than mining, as are specified in the mining lease and that are associated with, arising from or promoting the activity of mining (termed a "specific purpose mining lease").

As indicated in Figure 3, the Product Bauxite Transport Corridor (including the Product Haul Road and CLF) is located on land within ML 7024, held by RTA Weipa Pty Ltd (Rio Tinto) under the *Commonwealth Aluminium Corporation Pty. Limited Agreement Act 1957* (Qld) (Comalco Act). ML 7024 is the mining lease for the Amrun Mine as well as much of Rio Tinto's Weipa mining operations. ML 7024 is a lease of Crown land for mining purposes.

Where an application for a transportation mining lease includes an area of a mining lease held by another party, consent of that lease holder is required under Section 316(5) of the MR Act, subject to operation of Section 271AB which provides for circumstances where consent is not obtained.

Table 1 Key Project Approvals

Approval	Legislation	Administering Authority
Approval under the EPBC Act	EPBC Act	Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW)
Project Tenure	*Mineral Resources Act 1989* (Qld) (MR Act)	Queensland Department of Resources (DoR)
EA	EP Act	Queensland Department of Environment and Science (DES)

Where an application for a specific purpose mining lease includes an area of a mining lease held by another party, written consent of that existing lease holder is required under Section 248(2) of the MR Act. Rio Tinto and the proponent are engaged in discussions regarding the development of an agreement to establish the basis for the required consent.

Environmental Authority

An EA is required to be obtained for the project. The EA will impose environmental management conditions and performance standards on project activities undertaken on a mining lease. Failure to comply with the EA conditions is a breach of the EP Act and there are various compliance enforcement actions available to the DES under the EP Act. As noted above, mining leases are proposed to be obtained for the Mine Site, Product Haul Road and the CLF and consequently these activities will be regulated via a single EA that will be obtained for the project, prior to construction commencing.

EIS Process

This EIS has been prepared for the project using the environmental assessment process under the EP Act. The EIS assessment process will culminate in an EIS Assessment Report being issued by the DES. The key approvals for the project under the EPBC Act, MR Act and EP Act, as shown in Table 1 and discussed above, can then be obtained.

Figure 4 shows the main steps in obtaining approval for the project (including the EIS preparation and approval process) and these steps are described below:

- **Preliminary Planning.** Background investigations, including mine planning and the assessment of alternatives, were undertaken following grant of initial tenure in January 2018. During the project planning stage, preliminary investigations into cultural heritage, ecology (terrestrial, aquatic and marine), fish passage, water (surface water, groundwater and mine water management), mine waste sampling, air and noise were undertaken. The results of these studies guided project design.
- **Application to Prepare a Voluntary EIS.** An application to prepare a voluntary EIS for the project was submitted and approved by the DES on 21 February 2020. The application was supported by an Initial Advice Statement (IAS).
- **EPBC Act Referral.** The EPBC Act is the Commonwealth government's principal piece of environmental legislation. It is designed to protect national environmental assets, known as Matters of National Environmental Significance (MNES). The project was declared a Controlled Action (EPBC 2020/8624) under the EPBC Act. The EIS process that is being used for the project (under the EP Act) is an accredited assessment process under Part 8 of the EPBC Act.
- **Terms of Reference.** Draft Terms of Reference (TOR) for the EIS were prepared and placed on public exhibition between 6 July 2020 and 17 August 2020. The EIS TOR were then finalised and the final EIS TOR were issued by the DES on 20 October 2020.
- **EIS Preparation.** The EIS was prepared following the completion of baseline studies, environmental input into project planning, and consideration of potential impacts and mitigation measures. The EIS studies were conducted by a team of multi-disciplinary technical specialists. The EIS was prepared in accordance with the requirements of the EP Act and the EIS TOR and also considers issues and feedback from the stakeholder consultation program undertaken as part of the EIS process.
- **Lodgement and Public Exhibition of EIS.** The EIS was first submitted to the DES on 18 December 2020. The DES reviewed the EIS against the TOR and provided comments to the proponent on 29 January 2021. The EIS was revised in response to these comments (as well as to reflect amendments to the project design including realignment of the Product Bauxite Transport Corridor) with a replacement EIS submitted to

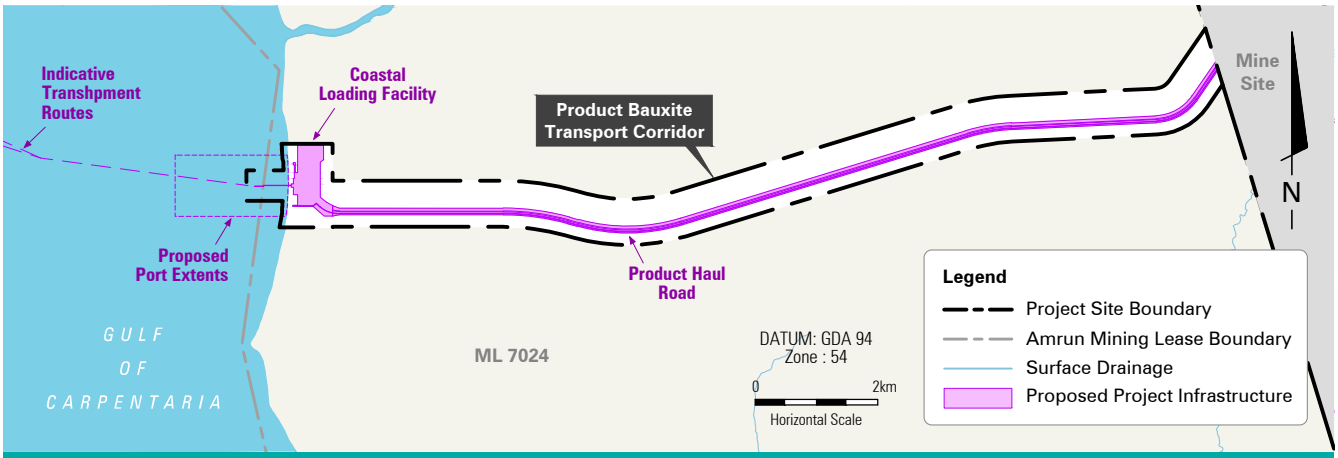


Figure 3 Product Haul Road and Coastal Loading Facility

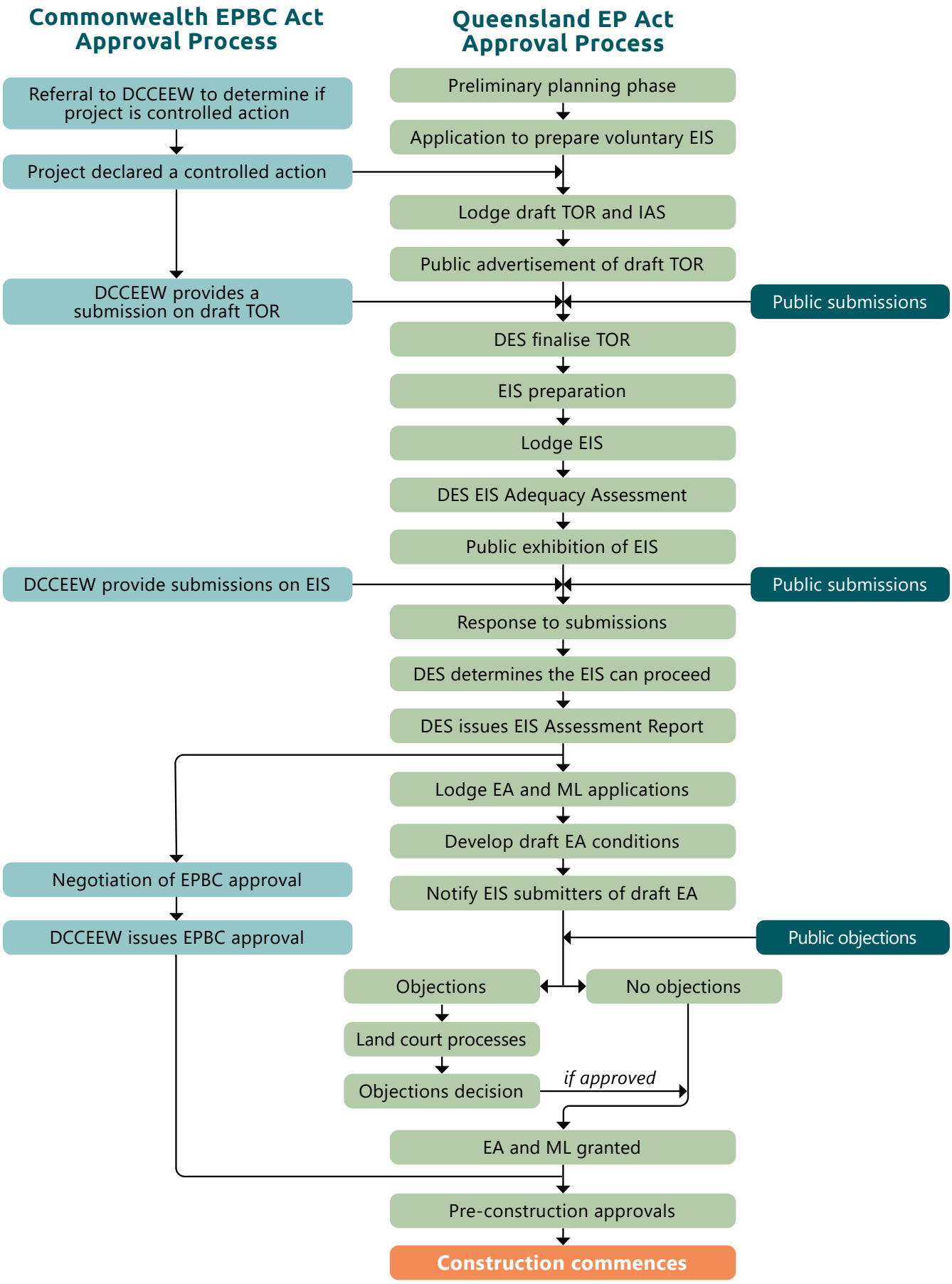


Figure 4 Project Approval Process

DES on 30 November 2021. Additional comments were received with an amended EIS submitted to DES on 4 April 2022. Notwithstanding these amendments, further information was sought by DES in order for the EIS to be allowed to proceed. As a result, this EIS has been submitted in accordance with Section 49A of the EP Act. Following approval by the DES to proceed, the EIS will be placed on public exhibition. During this period, government agencies and the public are invited to make submissions to the DES. EIS comments and submissions must be made in writing and sent to the DES within the public exhibition period, as advertised in the EIS public notice.

- **Proponent Response.** The DES will issue a copy of all accepted submissions to the proponent. The proponent will summarise and respond to submissions and provide the DES with any amendments to the EIS arising from the responses.
- **Assessment under the EP Act.** The DES will assess the EIS, any submissions received in response to the public exhibition of the EIS, and the proponent's response to submissions. Following its assessment, the DES will issue a notice indicating that the EIS may proceed (assuming that it is determined that the EIS is suitable to proceed). The DES will then issue an EIS Assessment Report.
- **Draft EA and ML Application.** The proponent needs to lodge applications for mining leases and an EA with a draft EA to be issued by the DES. The draft EA and ML application will be advertised and stakeholders who made submissions on the EIS may lodge objections to the draft EA. Members of the public may also lodge objections to the ML application.
- **EA and ML Decision.** Any unresolved objections to the ML application and/or draft EA will be referred to the Land Court for a recommendation. If there are no unresolved objections to the draft EA, the proponent will be issued an EA. If a Land Court process is required, it will conclude with an objections decision and a recommendation on whether the MLs should be granted. If after the Land Court process, the EA is approved, the proponent will be issued the EA. If the application is refused, the proponent will be provided with a refusal notice.
- **Assessment under the EPBC Act.** The DES will provide the EIS Assessment Report to the DCCEEW for its consideration of issues related to the EPBC Act. The Federal Minister for the Environment will make a decision on approval and will impose conditions on the approval to protect MNES.
- **Pre-construction Approvals.** Prior to the commencement of construction, the proponent will develop any necessary environmental management plans and will obtain any necessary pre-construction approvals.

Secondary Approvals

Overview

The project requires approvals related to the management of the site and the environment, in addition to the key approvals listed in Table 1. These secondary approvals are listed in Table 2. Approvals related to the declaration of a port are discussed in the Port Declaration Section, after Table 2.

Port Declaration

The proponent is in discussions with the DTMR and Maritime Safety Queensland (MSQ) (a branch of DTMR) regarding the relevant regulatory requirements for the maritime components of the project (i.e. construction and operation of the Load-out Jetty and transhipping activities). A port will be declared for the project, and discussions have included consideration of whether the facility would be privately operated (i.e. by the proponent) or fall under the designation of a government owned corporation port authority. The proponent has accepted DTMR's preference for a government owned port authority to be designated.

Based on its discussions, the proponent expects port limits to extend 1 nautical mile (NM) to sea from the high-water mark and 500 m from either side of the Load-out Jetty. Figure 3 shows the proposed port boundaries. A port authority would be nominated by the DTMR to provide regulatory oversight of activities at the CLF.

The proponent would need to enter appropriate arrangements with the designated port authority which could potentially include:

- A grant of tenure to the port authority (from the proponent) to enable performance of the regulatory functions of the port authority; and/or
- A port services agreement to enable the proponent to utilise the CLF for the intended export of product bauxite and to provide for the performance of services by the port authority within the scope of its regulatory functions.

Table 2 Secondary Approvals

Approval	Legislation	Approval Body	Timing
Approval of Progressive Rehabilitation and Closure Plan	EP Act	DES	Prior to project commencement.
Approval of Estimated Rehabilitation Cost (ERC) and payment of ERC	*Mineral and Energy Resources (Financial Provisioning) Act 2018* (Qld)	DES	Prior to project commencement.
Notification of exercise of underground water rights	MR Act	DES	Immediately after the proponent starts exercising its underground water rights (i.e. starts taking or interfering with groundwater).
Underground Water Impact Report (UWIR) and Baseline Assessment Plan	*Water Act 2000* (Qld) (Water Act)	DES	UWIR and Baseline Assessment Plan are to be provided to the DES for approval prior to taking or interfering with groundwater.
Regulator acceptance of the failure impact assessment report for the construction of Tapplebang Dam	*Water Supply (Safety and Reliability) Act 2008* (Qld)	Queensland Department of Regional Development, Manufacturing and Water (DRDMW)	Prior to construction of Tapplebang Dam.
Water entitlement (licence) for taking water or interfering with water in a watercourse, lake or spring	• Water Act • *Water Plan (Cape York) 2019* (Qld) • *Cape York Water Management Protocol* (Department of Natural Resources, Mines and Energy [DNRME], 2019)	DRDMW	Prior to construction of Tapplebang Dam.
Water Permit for temporary surface water take	Water Act	DRDMW	Prior to the take of surface water for construction water supply.
Environmental offsets	• *Environmental Offsets Act 2014* (Qld) (EO Act) • *Environmental Offsets Regulation 2014* (Qld) (EO Regulation) • EPBC Act	• DES (in relation to offsets under the EO Act and EO Regulation) • DCCEEW (in relation to offsets under the EPBC Act)	Any applicable offsets will be conditioned as part of the EA and the EPBC Act approval and these approvals will specify timing.
Species Management Program	*Nature Conservation (Animals) Regulation 2020* (Qld) (NC Animals Regulation)	DES	Approval of a Species Management Program is required prior to tampering with animal breeding places.
Rehabilitation Permit	NC Animals Regulation	DES	Prior to clearing animal breeding places or places where threatened or near threatened species are likely to be present.
Damage Mitigation Permit	NC Animals Regulation	DES	Prior to removing fauna posing a threat to human health or wellbeing.
Protected Plant Clearing Permit	*Nature Conservation (Plants) Regulation 2020* (Qld)	DES	Prior to clearing an Endangered, Vulnerable or Near Threatened flora species listed under the NC Act.
Approval to close a road temporarily	• *Transport Operations (Road Use Management) Act 1995* (Qld) • *Transport Operations (Road Use Management – Mass, Dimensions and Loading) Regulation 2005* (Qld)	Department of Transport and Main Roads (DTMR)	Prior to any road closures.
Cultural Heritage Management Plan (unless cultural heritage is addressed in an existing agreement or a Native Title agreement)	*Aboriginal Cultural Heritage Act 2003* (Qld) (ACH Act)	Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships	Prior to commencement of construction.

Consultation

A comprehensive stakeholder consultation program was undertaken as an integral part of the EIS process. It included consultation with the government stakeholders, Traditional Owners and Traditional Owner representatives, the local Aurukun community, local and regional service and facility providers, business owners and representatives, and neighbouring landowners and tenement holders. The EIS consultation program involved the following stages:

- **Planning.** This stage involved identifying the objectives, processes, and activities for the EIS consultation program. The planning phase also included identifying project stakeholders to ensure their early involvement in the consultation process.
- **Issue Scoping.** This stage involved providing stakeholders with information on the project to enable them to identify issues in relation to the project.
- **Issue Response.** This stage involved responding to issues raised by stakeholders throughout the EIS process and identifying potential solutions and strategies to manage project impacts.
- **EIS Feedback Consultation.** This stage will involve providing feedback on the results of the EIS specialist studies to stakeholders. This stage will be undertaken during the EIS public exhibition period.

Consultation methods used as part of EIS consultation included briefing sessions and presentations, face-to-face interviews and telephone interviews, video meetings and site visits. Consultation tools included project information sheets, mining schematics, montages, maps, a photo timeline and a series of issue response videos. Issues identified during consultation have been addressed in the project design and in the EIS.

A tailored Social Impact Assessment (SIA) consultation program was also conducted as part of the EIS consultation program and it assisted in the assessment of socio-economic impacts.

The EIS consultation program was part of a broader consultation program, which included:

- **Aurukun community consultation** – Proponent representatives undertook regular consultation with the Aurukun community to enhance stakeholder relationships and to support community investment and contribution activities.
- **Traditional Owner Agreement making consultation program** – The proponent is seeking the consent of the directly affected Traditional Owners for the development of the project through an Agreement making process that involves the directly affected Traditional Owners and Ngan Aak Kunch Aboriginal Corporation (NAK). There is an ongoing tailored consultation process as part of the Agreement making process.
- **Cultural Heritage Assessment consultation program** – There is an ongoing consultation program underway in relation to the management of Aboriginal cultural heritage. This program is being facilitated by the proponent and its cultural heritage consultant.

Project Description

Project Setting

Overview

The Mine Site is located within the Aurukun Shire LGA (Aurukun LGA), whereas the Product Bauxite Transport Corridor is located in the Cook Shire LGA.

The project site is located on a broad tertiary plateau of gently undulating plains with occasional shallow drainage depressions. The elevation within the project site ranges from 9 m Australian Height Datum (AHD) near the coast to 91 m AHD in the eastern portion of the Mine Site. The Mine Site is traversed by Tapplebang Creek and Coconut Creek (Figure 2), with waters flowing south-west to join the Ward River, ultimately flowing into the Gulf of Carpentaria near Aurukun township. The majority of vegetation within the project site is remnant vegetation, comprising mostly eucalypt tall woodlands with scrubby woodland to open forest fringing the watercourses that drain the plateau.

A portion of the project site extends westward to the Gulf of Carpentaria and includes the stretch of coastline in the vicinity of the proposed CLF. The primary landform at the location of the CLF is a stretch of exposed lateritic plateau that forms a low headland on the landward boundary of a sandy beach.

Land Ownership and Native Title

NAK is the holder, on behalf of the Wik and Wik Waya People, of Aboriginal freehold title for the land within the Mine Site. The Wik and Wik Waya people also hold the Native Title rights over the majority of the Mine Site.

The land within the Product Bauxite Transport Corridor is subject to a lease of Crown land, held by Rio Tinto. The Product Bauxite Transport Corridor is also subject to the Native Title rights of the Wik and Wik Waya people, although there is no Aboriginal freehold title held over this land.

Prior to the grant of MLs for the project, the proponent would seek an Agreement with the Native Title Holders of the land within the project site, in accordance with the requirements of the *Native Title Act 1993* (Cth) (NT Act). The proponent would also seek a compensation agreement with the land holders in accordance with the MR Act.

Land Use

The project site is used occasionally by Traditional Owners for recreational activities and for collecting resources, including roots and bulbs for pigments used for painting, leaves for weaving, wood for carving and plants for medicine. The stretch of beach within the project site, and associated coastal waters, are used intermittently by Traditional Owners for

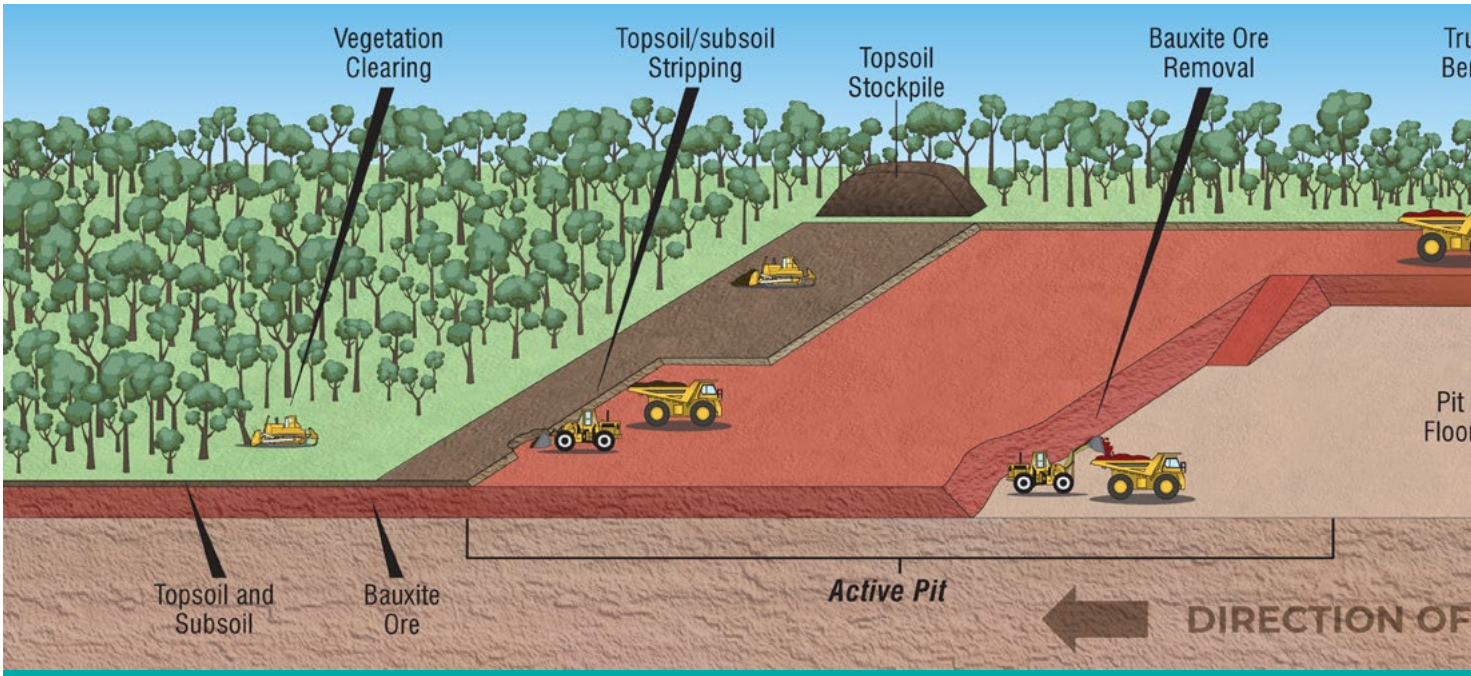


Figure 5 Open Cut Mining Operations Schematic

a range of activities including recreational fishing, hunting, walking, and collecting marine turtle eggs. Non-Indigenous visitors to the area also use the beach and marine waters for recreational activities, particularly fishing. The marine waters in the vicinity of the project site are utilised by commercial and recreational fisherman, and charter boat fishing operators. Built infrastructure within the project site is restricted to unsealed landowner/community roads, and a non-operational communications tower.

Amban Outstation is the nearest sensitive receptor to the project site and is located along the coastline, 2 km to the south of the proposed CLF (Figure 2). It comprises a small residential building and some shelter structures that are used intermittently by Traditional Owners for overnight camping and recreation. Waterfall Outstation is used intermittently by Traditional Owners for overnight camping and recreation, and is located on the coastline, approximately 13 km to the south of the proposed CLF (Figure 2).

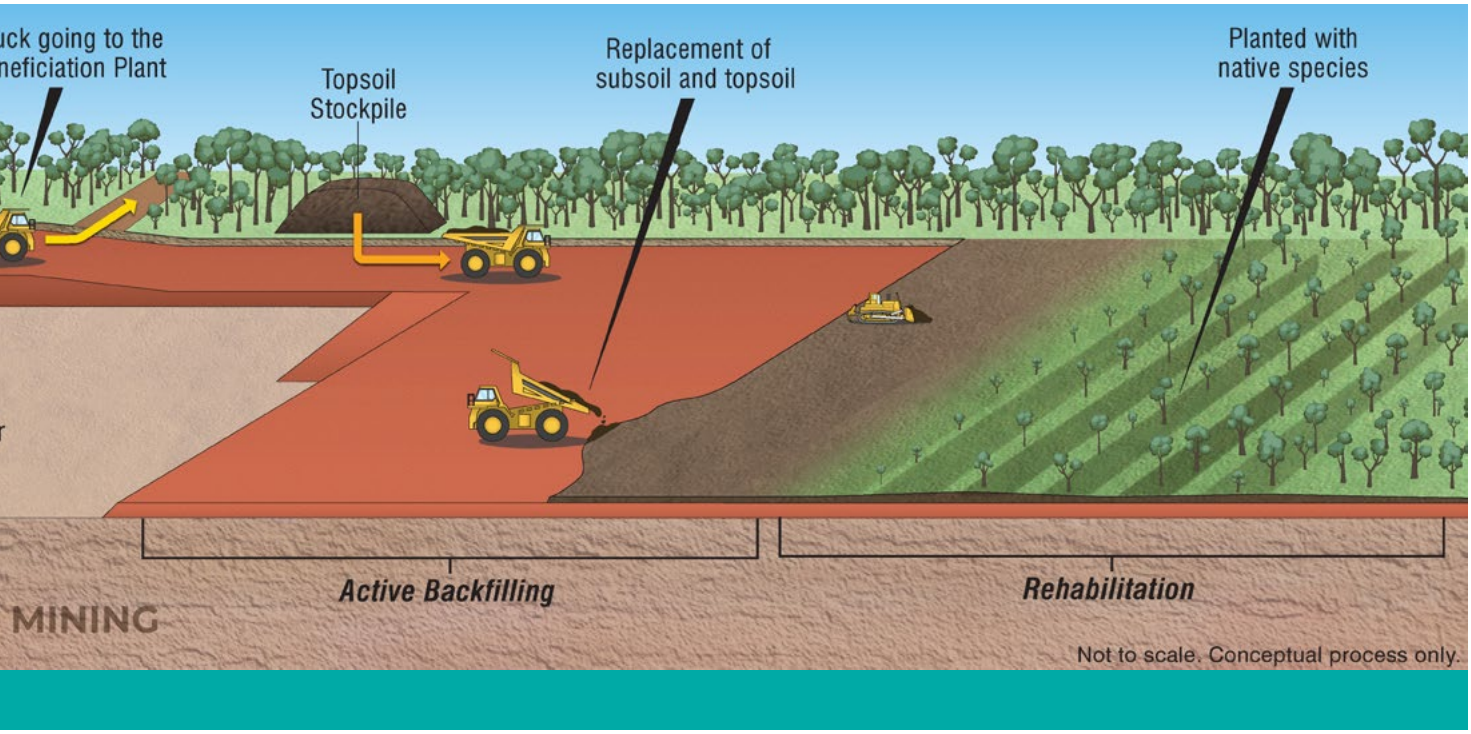
ML 7024, held by Rio Tinto, is located adjacent to the proposed Mine Site, and the Product Bauxite Transport Corridor is within ML 7024 (Figure 2). The section of ML 7024 within the vicinity of the project site is subject to approved plans for future mining as part of the Amrun Mine but is not currently being mined.

Project Activities

Mining

Figure 2 shows the proposed open cut mining areas. The bauxite ore body is relatively shallow, typically exposed less than 1-2 m below ground level, and generally 2 m to 13 m thick. Mining pits are generally no deeper than 14 m. The general sequence of mining operations is shown in Figure 5 and would be as follows:

- Clearing of vegetation using bulldozers.
- Stripping topsoil – Topsoil would be stripped using bulldozers, before being picked up by front end loaders and placed into haul trucks. The topsoil would then either be placed directly on areas that are ready for rehabilitation or stockpiled in designated areas for later use.
- Removing subsoil – Subsoil would be excavated using front end loaders, in order to gain access to the ore. Subsoil would be placed directly on previously mined areas or temporarily stockpiled.
- Mining ore – The ore would be mined using front end loaders. The proposed mining activities do not require blasting (i.e. the use of explosives). Front end loaders would load the ore onto haul trucks that would transport the ore to the ROM stockpile areas.
- From Project Year 4, backfilling with fines in mined areas that have been designated as in-pit fines emplacement areas. Some other areas would be backfilled with subsoil.
- Re-shaping – Once mining and any backfilling with fines has been completed, mined areas would be shaped to final profiles using dozers and available subsoil. The majority of the final landform would have gentle slopes that are comparable to natural undulations in the landscape. Mining generally results in shallow lowering of the ground surface by up to 5 m (and rarely up to 9 m). The final landform will be profiled to promote free drainage and prevent erosion. Note that Figure 5 shows an example of a pit backfilled with subsoil, rather than with fines.



- Replacing topsoil – Topsoil would be spread over re-shaped areas and ripped.
- Revegetation – Topsoiled areas would be revegetated using native species to achieve the agreed post-mining land use. Rehabilitation will be undertaken progressively over the life of the mine as areas become available for rehabilitation.

Ore Transport and Processing

Figure 6 is a conceptual process flow sheet showing the mining and processing of ore and transport of product bauxite.

A fleet of mine haul trucks would be used to transport bauxite ore to ROM stockpile areas. The bauxite ore would then be subject to a beneficiation process, that involves washing and screening the bauxite in the Beneficiation Plant. This process produces rejects and fines, in addition to product bauxite. Rejects would be used as road base or disposed in pit or, if suitable, mixed with bauxite ore and reprocessed. The management of fines material is discussed in the following section.

Fines Material

Fines are a fine-grained waste material with a particle size less than 2 mm. A total of approximately 95 Mt of fines would be produced over the life of the project. A geochemistry assessment was undertaken as part of the EIS and indicated that the fines are expected to be geochemically stable and non-acid forming and would generate runoff and seepage that is slightly acidic to pH neutral and non-saline, with low concentrations of metals.

Fines would be emplaced in a Fines Containment Area (FCA) for the first three years of operations, and then emplaced in-pit in subsequent years. The FCA would be a 'turkey's nest' dam, located to the east of the Mine Infrastructure Area (MIA) (Figure 2). During mining operations, fines would be pumped as a slurry from the Beneficiation Plant to the FCA, via a pipeline. Fines would settle out of the slurry and consolidate on the fines beaches. Fines consolidation may be enhanced (and capacity of the FCA maximised) by accelerated mechanical consolidation methods (i.e. use of an Amphirol). The FCA would be decommissioned after Project Year 3 and rehabilitated at mine closure.

From Project Year 4 onwards, fines would be emplaced within pits where mining has been completed. Fines would be pumped as a slurry from the Beneficiation Plant to the in-pit fines emplacement areas, via a pipeline. The fines deposition strategy would involve sequencing fines deposition to enable the development of fines beaches in layers whilst maintaining sufficient surface area for fines to settle, consolidate and dry prior to emplacement of successive fines layers. The in-pit fines emplacement areas would be rehabilitated progressively over the life of the mine.

A detailed fines deposition strategy would be developed as part of a Fines Management Plan, which would be prepared prior to construction of the FCA.

Product Transport

The product bauxite would be transported from the Mine Site to the CLF via the Product Haul Road (Figure 2). Road trains would be used to haul the product bauxite. Road trains would unload product bauxite into a hopper and conveyor system at the CLF. If the Transhipment Vessel (TSV) is moored at the Load-out Jetty, the product bauxite would be transported directly to the TSV via a load-out conveyor. If there is no TSV moored at the Load-out Jetty, the product bauxite would be stockpiled before being transferred to the TSV via the load-out conveyor on the Load-out Jetty.

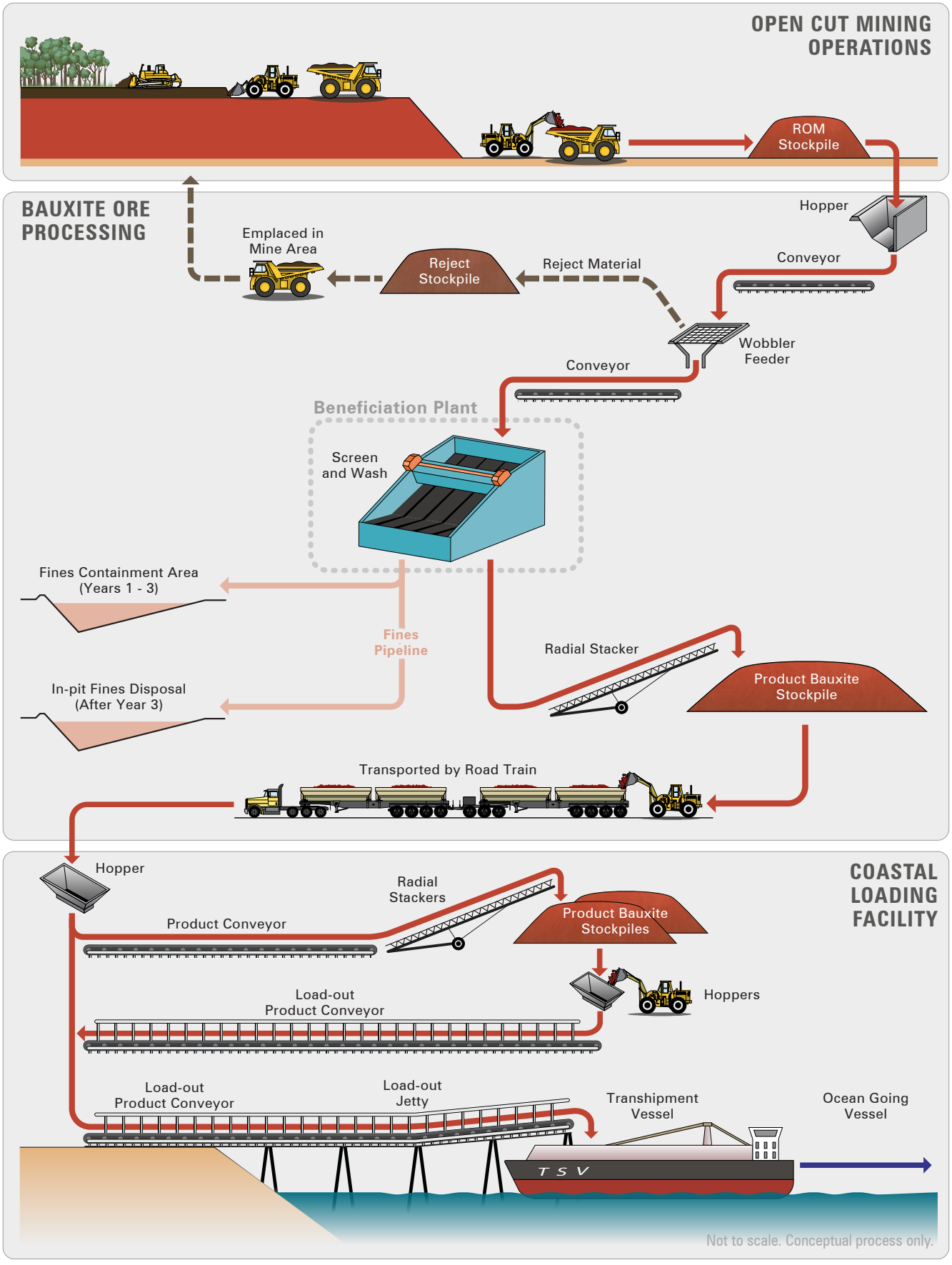


Figure 6 Bauxite Transport and Processing

Infrastructure proposed to be located at the CLF is shown in Figure 7 and includes stockpiles, conveyors, reclaim hoppers, Load-out Jetty, workshops and washpad, administration area, and infrastructure associated with power generation, water management and communication. With the exception of the Load-out Jetty, all CLF infrastructure would be set back from the coastline on a low headland situated at 12 m AHD.

The Load-out Jetty would provide for the transfer of product bauxite from the stockpiles at the CLF to the cargo hold of a dedicated TSV. The Load-out Jetty would extend out from the bauxite scarp, above the beach, with the footings for the supporting piles being the only infrastructure constructed on the beach. The Load-out Jetty would be of sufficient length, and the TSV of sufficiently shallow draft, to prevent the need for dredging or bed levelling in the jetty mooring and approach areas.

A single TSV is proposed to be used to transfer product bauxite from the Load-out Jetty to OGVs via the indicative transhipment routes shown in Figure 8. The TSV would be designed to be self-propelled and have high manoeuvrability, meaning that tug boats would not be required.

The TSV would operate 24 hours per day and would take approximately 12 hours to complete a cycle, including loading time at the Load-out Jetty, travel time and loading the OGV in the transhipment area. The TSV would make 2 return trips per day and operate for approximately 320 days per year. There are forecast to be approximately 612 return TSV movements per annum. It would take the TSV approximately 12 trips (i.e. 6 days) to load an OGV and there would be approximately 51 OGVs over the course of a year.

The OGVs would be Panamax vessels and/or Capesize vessels and would anchor in the transhipment areas, approximately 18 km (10 NM) offshore (Figure 8), while being loaded by the TSV or waiting to be loaded. No infrastructure is proposed to be constructed in the transhipment areas; these are simply the locations at which the OGVs would be anchored. The transhipment areas were selected based on the results of the marine surveys and these areas are low risk from an environmental perspective due to the absence of significant sensitive features such as marine plants or corals and the dominance of sandy seafloor materials.

The loaded OGVs would then transport the product bauxite to international ports in Asia. OGVs would follow global trade routes which run from Cape York to the west of Papua New Guinea and east of Indonesia. The shipping route to international ports is to the north and would not traverse the Great Barrier Reef.

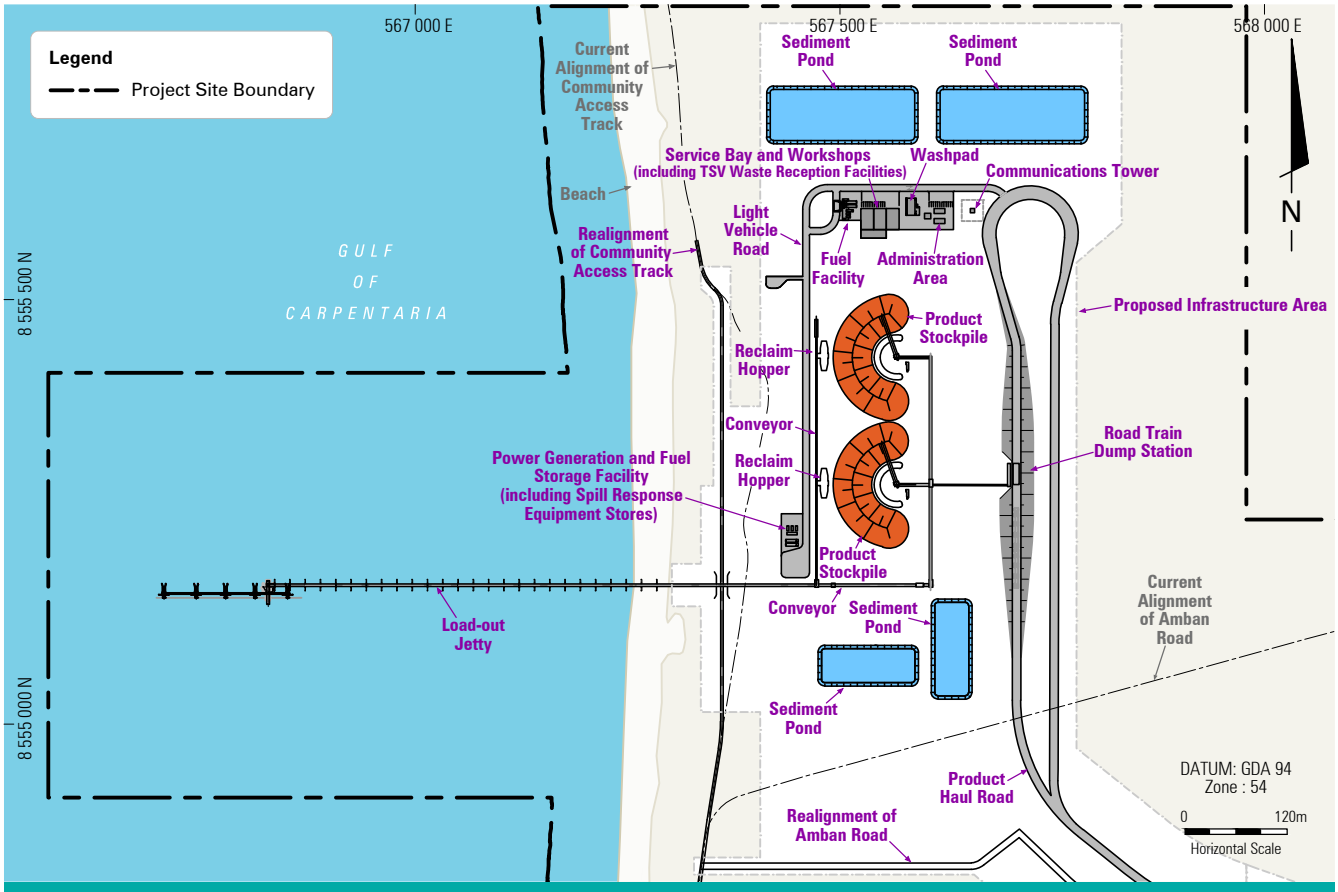


Figure 7 Coastal Loading Facility

Mine Site Infrastructure

Infrastructure proposed to be constructed within the Mine Site, includes the following (Figure 2):

- Infrastructure directly associated with open cut mining, including stockpiles (topsoil and subsoil) and haul roads to provide access to the mining areas. A haul road crossing of Coconut Creek would be required. The location of haul roads and stockpiles would change over time as mining progresses.
- The MIA, which would be adjacent to the FCA, to the north of Coconut Creek. A ROM stockpile area would be located adjacent and to the south-west of the MIA and another ROM stockpile area would be located to the north-east of the MIA. The MIA would include conveyors, stockpiles, workshops, warehouses, administration buildings, vehicle servicing, refuelling and wash down facilities, fuel storage facilities, power supply infrastructure, and an incinerator.
- Water supply and management infrastructure, including a dam on Tapplebang Creek.
- A Mine Access Road, which would include a crossing of Tapplebang Creek and Coconut Creek.
- An Accommodation Village near the Mine Access Road/Aurukun Road to house the project workforce.

Water Supply and Project Utilities

The mining operations have an annual water demand of approximately 10 giga litres per annum (GLpa). The primary water supply for the mining operations is a proposed water supply dam on Tapplebang Creek (Figure 2). The temporary water supply for the construction phase would be from direct abstraction from Coconut Creek and Tapplebang Creek.

There is no fixed or permanent electricity supply to the project site and all power would be produced using diesel generators. Diesel generators would be located at the CLF, MIA, Accommodation Village, Tapplebang Dam and FCA. The proponent intends to consider the use of a hybrid solar power generation solution that could utilise existing disturbed areas (e.g. the decommissioned FCA) after year 4 of operations.

Two sewage treatment plants are proposed to be constructed on the project site, one at the Accommodation Village and another at the MIA. Treated effluent from the sewage treatment process would be pumped to tanks and treated effluent would be used for dust suppression or returned to the Process Water Pond (PWP) for reuse in the Beneficiation Plant in accordance with relevant regulatory requirements.

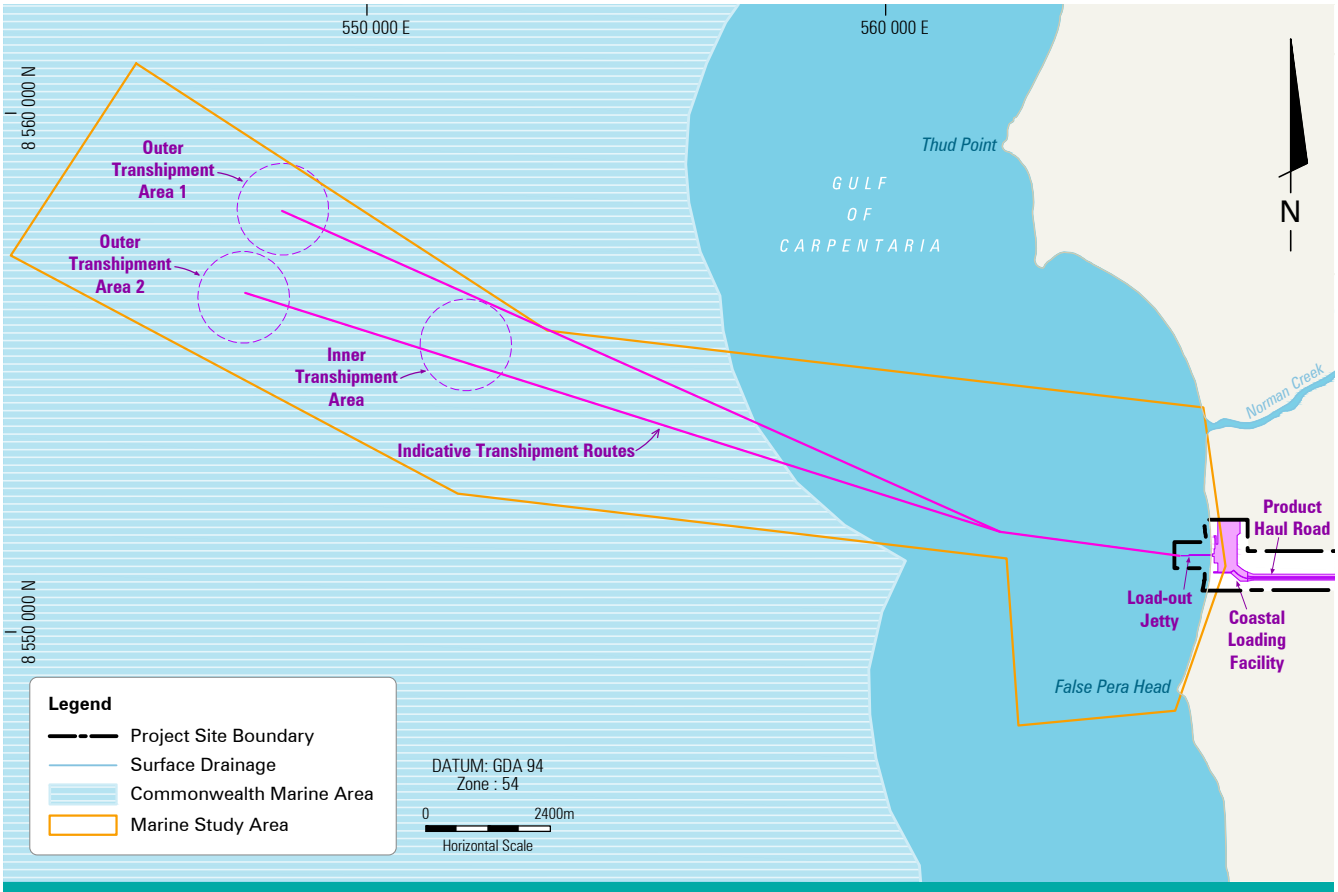
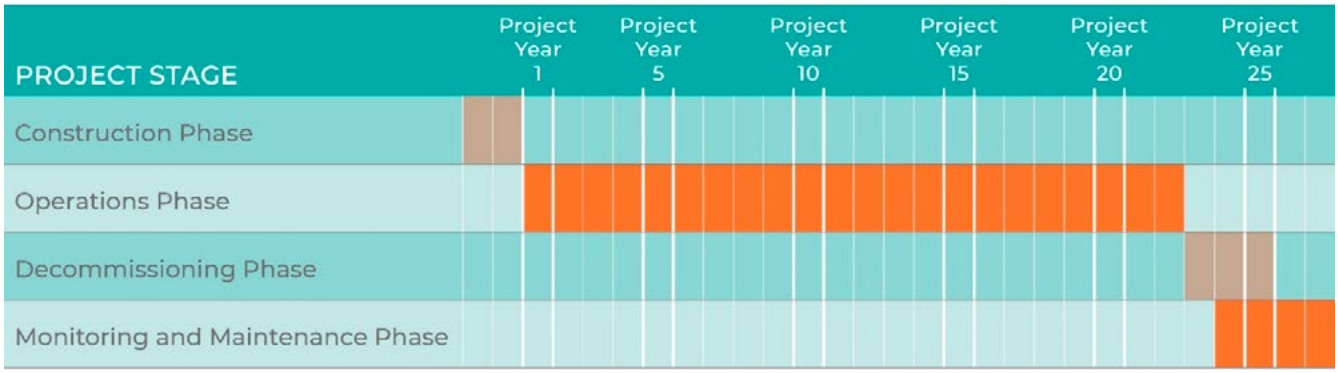


Figure 8 Transhipment

Diagram 1 Indicative Project Schedule



Project Schedule

Diagram 1 shows the proposed timing for the key project phases. This timing is subject to change given that project development may be influenced by factors such as global commodity prices and weather. The timing of the commencement of construction is subject to the receipt of environmental approvals and tenure, and agreements with the Native Title holders and landowners. The construction phase would last for two years (Project Year -2 and Project Year -1) and the first year of mining is Project Year 1. The operations phase (i.e. the phase in which mining occurs and product bauxite is exported) would be approximately 22 years (i.e. Project Year 1 to Project Year 22).

Decommissioning would be undertaken from Project Year 23 to Project Year 25, with an active monitoring and maintenance phase commencing halfway through decommissioning (Project Year 24) and extending until Project Year 27.

Project Workforce

The project workforce would vary over the life of the project, as follows:

- **Constructions Phase** – The construction workforce is expected to comprise an average of 210 Full Time Equivalent (FTE) workers during Project Year -2 and 250 FTE workers during Project Year -1.
- **Operations Phase** – The operations phase mine workforce would vary over the 22 year life of the mine, reflecting the changes in the mining activities. The operations phase workforce is estimated to vary from 350 to 406 FTE workers. Approximately 255 FTE workers would be on site at any one time.
- **Decommissioning** – The peak decommissioning workforce would be 170 FTE in Project Year 23, decreasing to 16 FTE by Project Year 25.
- **Monitoring and maintenance** – The monitoring and maintenance workforce would consist of up to eight FTE workers annually.

Project Alternatives and Justification

Project Alternatives

The key aspects of the project where alternatives were considered during project planning include:

- **Alternative Resources.** Significant exploration work has been undertaken in the project site to date and has shown it to be the most prospective area for mining within MDL 2001. Other parts of MDL 2001 have been investigated in relation to mining and at this stage are not economic, with a particular constraint being the distance between these parts of the MDL and suitable transhipping locations.
- **Alternative Management of Fines.** Fines are proposed to be emplaced in an FCA for the first three years of operations and thereafter emplaced in pits where mining has been completed. Alternative fines disposal strategies were considered as part of project planning, including storing all fines produced over the life of the mine within a larger FCA (or multiple FCAs). However, this would necessitate large out of pit emplacements, which would be challenging to rehabilitate and increase the closure risk of the project. The option of dewatering the fines before emplacing them in an FCA or in-pit emplacements was also considered. However, this option was not progressed because of the high operating costs and operational management challenges of dewatering the fines.
- **Alternative Water Supply.** The proponent has considered a range of water supply options. These include the preferred option of building a dam on Tapplebang Creek, seasonal pumping of water into an off-stream storage, building an in-stream dam elsewhere (e.g. Coconut Creek), using groundwater (Great Artesian Basin or shallow groundwater), abstracting water from the Watson River, or constructing a desalination plant to enable the use of seawater. The proponent applied an assessment framework that considered technical viability, environmental and social impacts as well as operating and economic viability as part of the proponent's review of options. Based on this assessment, the proponent undertook a more detailed comparison between the proposed dam on Tapplebang Creek and an off-stream storage option which involved consideration of environmental and socio-cultural impacts as well as economic viability and operating risk. This comparison identified a proposed dam on Tapplebang Creek as the only feasible option for water supply for the project. Additional detail on the options is provided in the EIS.
- **Alternatives in Relation to Marine Facilities.** The proposed location for the transhipping operations (transhipment route and transhipment areas) has been selected to avoid sensitive environmental features. The ability to undertake transhipping in a manner that avoids significant environmental impacts was a key factor in siting the transhipping operations and associated CLF. Other factors included project economics and logistics (e.g. haulage distance from the Mine Site). The proponent undertook an options analysis, which considered alternative locations for the CLF, alternative methods for transporting product (e.g. constructing a facility to enable direct-loading of OGVs, rather than transhipping) and use of existing facilities. The EIS discusses the alternatives that were considered and explains why none were found to be viable.
- **Alternatives in Relation to Power Supply.** There is no fixed or permanent electricity supply in the vicinity of the project site hence diesel generated power is proposed to be used to meet the project's power requirements. The proponent considered various alternatives incorporating energy storage options, solar power generation, other renewable energy sources and various combinations. In particular, the proponent considered design requirements for solar power generation combined with battery energy storage and diesel generation. The establishment of a sufficient scale of solar generation from the commencement of the project would require additional disturbance (approximately 30 ha) in proximity to the Beneficiation Plant and MIA which is not available given the location of the resource area and the proximity to Coconut Creek. The proponent considers that there is potential to incorporate a hybrid solar power generation solution in future that could avoid additional clearing of vegetation by utilising existing disturbance areas (e.g. the decommissioned FCA after year 4 of operations). The development of this option would be considered further closer to that time.

Project Justification

The proponent's justification for the project is:

- It involves a responsible mine plan that considers environmental constraints, and incorporates appropriate control measures to limit any adverse environmental and social impacts to an acceptable level;
- It maximises the responsible utilisation of the bauxite resource; and
- It has the potential to support positive social and economic change for Indigenous residents of the Aurukun LGA and result in significant economic benefits for western Cape York and Queensland. It would also provide substantial royalty and tax payments to the Queensland Government.

Rehabilitation and Mine Closure

Rehabilitation and Mine Closure

The EP Act includes a requirement for a Proposed Progressive Rehabilitation and Closure Plan (Proposed PRC Plan) to be developed and submitted as part of a site-specific application for a new mining activity. The Proposed PRC Plan is prepared for the purpose of maximising the progressive rehabilitation of the land and specifying the condition to which the land must be rehabilitated prior to surrender of the EA and tenement. The proponent has prepared a Draft Proposed PRC Plan, which is included as part of the EIS.

Mining pits and in-pit fines emplacement areas will be progressively rehabilitated over the life of the mine, with any remaining areas rehabilitated following the cessation of mining activities. Methods for rehabilitating mining pits and in-pit fines emplacement areas are described in the Project Description Section of this Executive Summary.

At the end of the mine life, infrastructure will be decommissioned, as follows:

- The external slopes of the FCA will be shaped to ensure long-term stability, and the top surface of the FCA will be shaped to form a landform that would shed water.
- All buildings and infrastructure will be dismantled and removed from site, and infrastructure areas will be inspected for contamination and remediated, as necessary.
- Tapplebang Dam will be decommissioned, in accordance with a detailed dam decommissioning strategy and closure design, which will be developed following a dam safety commissioning assessment. Tapplebang Dam (including the associated spillway and fishway) will be decommissioned so that the embankment cannot store water behind it, and an unrestricted free flowing channel (up to the 0.1% annual exceedance probability [AEP] [i.e. 1 in 1,000] flood event) will be reinstated on Tapplebang Creek.

Decommissioned areas will be topsoiled and revegetated. Revegetation species will include a mixture of grasses, trees and shrubs, with species selected in accordance with the revegetation objectives described in the Draft Proposed PRC Plan.

The Draft Proposed PRC Plan indicates that there will be two post-mining land uses (PMLUs), namely native vegetation and roads. The native vegetation PMLU is relevant for the majority of disturbed areas on the project site. The vegetation in this PMLU will be dominated by framework species that characterise the pre-existing regional ecosystems present on the project site. The roads PMLU relates to landowner/community roads within the project site, which will be left in place beyond mine closure. The Draft Proposed PRC Plan describes rehabilitation objectives for the PMLUs and includes a detailed description of rehabilitation and decommissioning activities that will be adopted to achieve these objectives.

Geochemistry

A geochemical assessment was completed. It assessed bauxite ore, fines generated from on-site processing of bauxite ore, and pit (wall and floor) materials that may be exposed during mining. Additional geochemical assessment was also undertaken in order to assess the potential quality of in-pit fines emplacement water using a representative sample of fines material generated by a pilot plant together with a representative water sample from Tapplebang Creek.

The geochemical assessment concluded that:

- All materials (i.e. bauxite ore, pit wall and floor, and fines material) are non-acid forming and barren of sulphur, with a high factor of safety with respect to potential for generating acidic drainage.
- All materials contain low concentrations of soluble metals, with many below the laboratory level of reporting.
- All materials will generate non-saline seepage and runoff, typically low in metals, with similar pH to local surface water and groundwater. Hence, runoff and seepage from these materials is not expected to adversely impact surface water or groundwater quality.
- The materials tested comprise non-sodic sand and gravel that is unlikely to be susceptible to dispersion and erosion.

Soils and Land Suitability

A comprehensive soils and land suitability assessment was undertaken, covering the full extent of the project site. Ten soil mapping units were identified within the project site. The assessment concluded that the majority of the project site is unsuitable for grazing, but suitable (with minor limitations) for maize and sorghum cultivation. None of the land within the project site is currently used for grazing or cropping.

The depth of available topsoil resources varies from 0.15 m to 0.4 m across the project site. There is sufficient available topsoil for it to be placed on rehabilitated areas at an average thickness of approximately 0.25 m. The EIS describes measures to be adopted during topsoil stripping, stockpiling and respreading to ensure that soil resources are conserved and appropriately managed.

An Acid Sulfate Soils Management Plan would be prepared for the construction of the CLF and coastal infrastructure. The plan would provide a framework to ensure that the potential impacts from disturbance of potential acid sulfate soil during the project construction activities are monitored, managed and, if necessary, mitigated.

Groundwater

A groundwater assessment was undertaken for the EIS which included a field investigation, the installation of monitoring bores, and the development of a 3D numerical groundwater model to predict the changes in groundwater levels due to the project, and the associated impacts on the groundwater regime and the surrounding environment.

Groundwater Setting

Cross sections showing the local geology within the project site is shown in Figure 9. The bauxite and weathered Bulimba Formation form a shallow aquifer.

The fresh Bulimba Formation acts as an aquitard. The aquitard is approximately 1 km thick at the Mine Site and confines and hydraulically separates the shallow aquifer from any deeper aquifers.

The local groundwater regime is characterised by significant seasonal variations in groundwater table depth. The groundwater table fluctuates by up to approximately 10 m over an average annual seasonal cycle. The groundwater table is generally deeper in elevated areas and shallower in the vicinity of creeks and tributaries.

The groundwater regime is typically recharged by rainfall that occurs during the wet season. The groundwater table rises in response to wet season rainfall and is typically at its highest (i.e. closest to ground level) a few weeks after the end of the wet season. The groundwater table intersects the ground surface in the creek beds and in the headwaters of the creek tributaries. Locally, groundwater flows towards rivers and creeks where it seeps through the bed and high banks and provides baseflow.

As the dry season progresses, the groundwater table becomes progressively deeper. Towards the end of the dry season the groundwater table is at its deepest. The groundwater table typically continues to intersect some sections of the creek beds throughout the dry season. Groundwater also discharges at the coastline, and is lost as a result of evaporation from the shallow aquifer and transpiration from woodland vegetation that is present across the majority of the project site and its surrounds.

Groundwater is slightly acidic and non-saline with low concentrations of metals and metalloids. No water supply bores are known to target the shallow aquifer. A water supply borefield associated with the Amrun Mine targets the deeper aquifers below the fresh Bulimba Formation approximately 6 km west of the Mine Site.

Groundwater Modelling and Impact Assessment

Groundwater modelling was undertaken to assess the effects of mining on groundwater levels, and the associated impacts to groundwater users and the surrounding environment.

Groundwater modelling indicated that localised drawdown and mounding is predicted in the shallow aquifer around the proposed open cut mining areas and mine infrastructure. Drawdown is predicted to be greatest in the open cut mining areas, where the open cut mining activities are expected to intersect the groundwater table following the wet season recharge, when the groundwater table it is at its shallowest. Mounding is predicted to be greatest in the open cut mining areas, in-pit fines emplacement

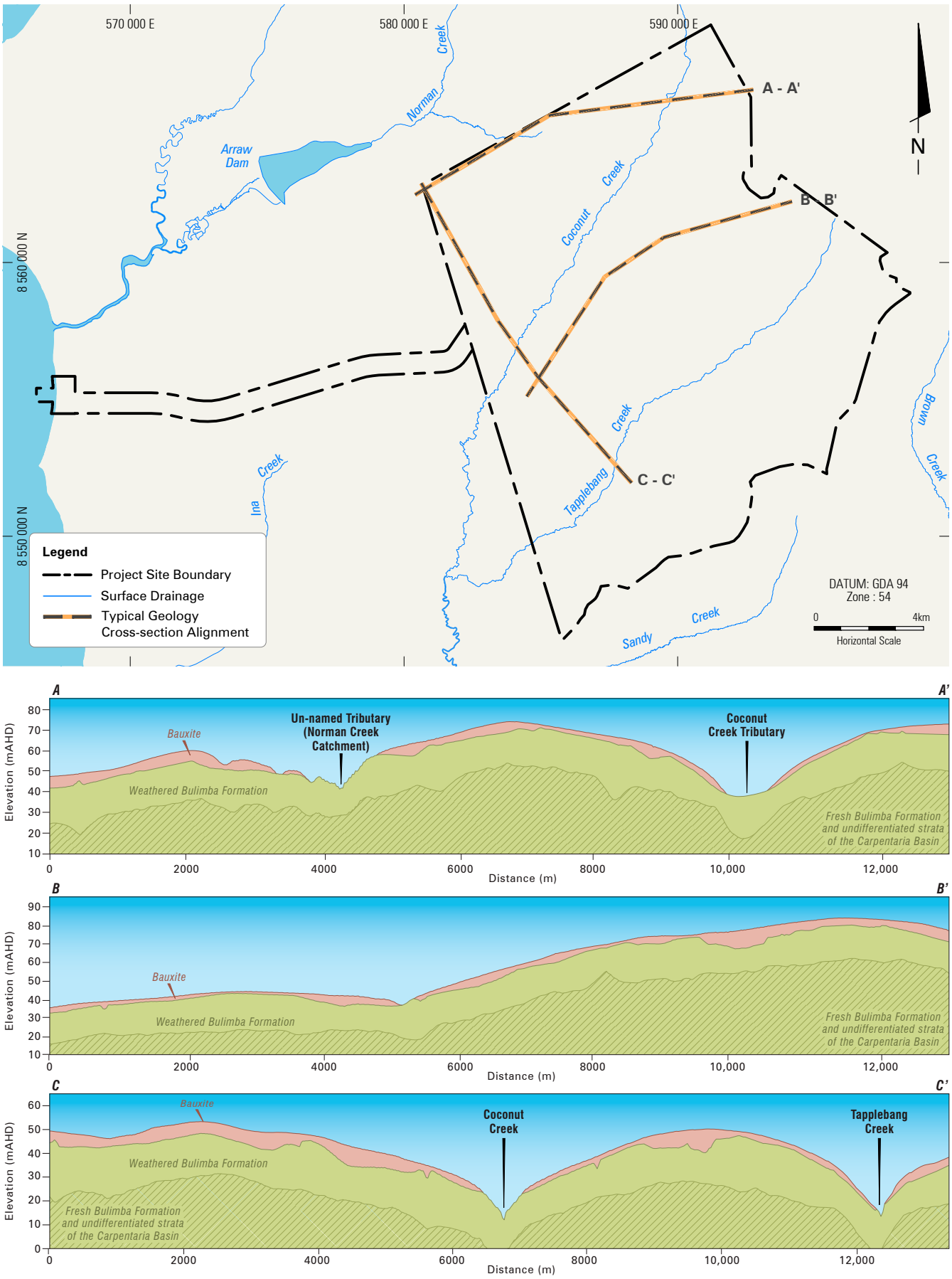


Figure 9 Typical Geological Cross Sections

areas, FCA and adjacent to the Tapplebang Dam embankment. Mounding is more prevalent following the dry season when the groundwater table is at its deepest. The drawdown and mounding extents generally remain localised within the Mine Site.

Drawdown and mounding do not extend to the deeper layers of the fresh Bulimba Formation due to the shallow depth of mining activities and the low permeability of these sediments. The deeper formations of the Carpentaria Basin are not predicted to be affected by the project due to the overlying Bulimba Formation aquitard (that is up to approximately 1 km thick).

Potential impacts on groundwater seepage to baseflow in watercourses and drainage features were assessed in the EIS. The predicted changes in baseflow to Tapplebang Creek during mining average an additional 10.5 ML/day in the dry season and a reduction of 6.1 ML/day in the wet season, or a change of 3.7% and -4.1% respectively. Predicted changes in baseflow to Coconut Creek average an additional 13.2 ML/day in the dry season and an additional 6.7 ML/day in the wet season, or a change of 6.1% and 5.6% respectively The overall small increase in total baseflow from groundwater seepage is predicted to dissipate following the cessation of mining operations. A minor reduction in baseflow to creeks is predicted in the long term post mining, after the groundwater system has reached equilibrium. The minor reduction does not represent a significant change in groundwater seepage to baseflow during the post mining phase. The predicted reduction in baseflow is not expected to have a measurable effect on the natural surface flow regime in these creeks and is expected to be indistinguishable within the context of the significant natural year-to-year variations in surface water flow.

No impacts on groundwater users are predicted. This is because the nearest water supply bores are located more than 4 km from the Mine Site boundary and groundwater effects from the project are not predicted to extend to these bores. In addition, the Amrun Mine water supply borefield targets the deeper aquifers which are not predicted to be affected by the project.

There are no wetlands or other surface water features (that are not directly associated with creeks) located within the maximum predicted extents of groundwater drawdown and mounding. Hence, no impacts on wetlands or other surface water features are predicted.

The potential impacts of the Amrun Mine on the groundwater regime in the region were considered in relation to the potential for cumulative impacts with the project. The EIS concludes that the groundwater effects of the project and the Amrun Mine do not overlap, and there is no potential for the project to contribute to cumulative effects on groundwater levels or cumulative impacts on groundwater users and sensitive environmental features.

Potential impacts on groundwater dependent ecosystems (GDEs) were assessed. GDEs are ecosystems that require access to groundwater to meet all or some of their water requirements to maintain the communities of plants and animals, ecological processes they support, and ecosystem services they provide.

A GDE assessment was undertaken, which concluded that:

- The riparian vegetation communities and aquatic habitats in the Mine Site are likely to be aquatic GDEs. However, changes to the groundwater regime due to the project are not predicted to give rise to any measurable effect on the natural flow regime in watercourses, and hence no adverse impacts on aquatic GDEs are anticipated.
- Most of the vegetation in the Mine Site is likely to be a GDE and use groundwater seasonally during the times of the year when groundwater is within the rooting depth of the vegetation. Following the completion of mining, the post-wet season groundwater table is predicted to remain within the rooting depth of the vegetation within the Mine Site, across the majority of the area. There would be some small, highly localised areas where groundwater would be below the rooting depth of the vegetation, post-mining. However, the vegetation within the Mine Site is well adapted to surviving extended periods with no rainfall and no access to the groundwater table. The minor and highly localised changes to groundwater depth are therefore not expected to result in significant adverse impacts to the condition of the vegetation.

The key potential sources of groundwater contamination from the project were assessed in the EIS including seepage of water from the FCA and in-pit fines emplacement areas. The assessment concludes that the project is unlikely to result in a significant change to surrounding groundwater quality or impact groundwater users or sensitive environmental features. This is supported by results of geochemical assessment that indicate that the quality of water that may seep to groundwater through the FCA and/or in-pit fines emplacement areas would be within the recorded range of natural variability in baseline groundwater quality. The diluting effects of fresh rainfall are also expected to be significant during the wet season, further reducing the potential for seepage to adversely impact groundwater quality. The EIS describes the measures that will be adopted to prevent any impacts on groundwater quality and also describes the ongoing groundwater monitoring program for the project.

Stygofauna are aquatic animals (generally invertebrates such as crustaceans) that live in groundwater. A stygofauna assessment was undertaken for the EIS and included a desktop study and multi-season stygofauna sampling program. The only fauna detected were collembola and nematodes. These are fauna that are commonly found in soil, aquatic sediments and on the surface of water bodies. They are consequently not groundwater-dependent stygofauna (i.e. stygobites). The lack of stygobites is consistent with the observation that groundwater levels within the project site naturally exhibit significant and rapid changes. This creates unfavourable conditions for the presence of significant groundwater-dependent stygofauna assemblages. Furthermore, the project is not predicted to give rise to changes to the groundwater regime that would adversely impact groundwater dependent stygofauna (if any were to occur in the project site).

Surface Water

Baseline Surface Water Setting

The project site is in the upper catchments of the Ward River and Norman Creek and local coastal catchments that drain to the Gulf of Carpentaria. A geomorphological study and water quality monitoring program were undertaken as part of the EIS to characterise the watercourses in the project site. These watercourses are shown in Figure 10 and include Tapplebang Creek, Coconut Creek and a minor tributary of Norman Creek.

The surface water resources in the vicinity of the project site currently support a range of environmental values including aquatic ecosystems and human uses. The existing environmental values relevant to the surface water setting were identified from a review of local and downstream land uses, stakeholder consultation and published information. The surface water values relevant to the project include aquatic ecosystems associated with high ecological value (HEV) waters, recreational use (swimming and aesthetic values), human consumption, cultural values, and approved future industrial use.

The baseline surface water quality reflects the catchment setting and underlying geology. Surface water is typically slightly acidic and non-saline. Metals are typically present at low concentrations, with the exception of aluminium and iron which are present at slightly higher concentrations due to the naturally enriched geology present within the catchment. Surface water is generally clear with low turbidity, although turbidity can increase rapidly in response to pulses of suspended sediment that occur during intermittent flows, as a result of natural erosion processes in the catchment. Nutrient concentrations are low and no petroleum hydrocarbons are present. Surface water quality in the Ward River becomes increasingly saline and turbid in the downstream reaches, due to increasing tidal influence.

Rio Tinto holds a licence to take water from the Ward River for mine water supply. A water supply dam (called Arraw Dam) has been constructed in the Norman Creek catchment as part of Rio Tinto's Amrun Mine operations.

Project Design for Surface Water Management

The project layout and design incorporate the following measures to mitigate the potential surface water impacts of the project:

- No mining activities are proposed within Tapplebang Creek or Coconut Creek, and mining activities have been designed to avoid interference with these watercourses. Hence, a watercourse diversion would not be required for the project.
- The open cut pits do not encroach on the 1 in 1,000 year flood extents associated with these watercourses. The 1 in 1,000 year flood is a very rare flood event that has an AEP of 0.1%. There is an extremely low probability (less than 0.1% in any year) that a larger flood, resulting in floodwater ingress to open cut pits, would occur during the operating life of the mine. The potential risks of flooding to people and the environment are therefore extremely low. No mine flood protection levees are therefore required to manage flood water or associated risks.
- Tapplebang Dam would behave like a weir, overflowing for extended periods during the wet season. The change in the flow regime of the Ward River due to the project, including the operation of Tapplebang Dam, is predicted to be negligible.
- The effects of the dam storage on downstream flows will therefore be largely limited to the beginning and end of the wet season, when the dam is below full storage level. Pumped environmental releases from the dam (up to 5 ML/d) are proposed during these periods to mitigate downstream flow effects, particularly limiting any increase in the frequency of dry periods having regard to the environmental flow objectives set out in the *Water Plan (Cape York) 2019* (Qld).
- The project's water management system utilises available water storage capacity in open cut pits and in-pit fines emplacement areas to minimise the potential for release of mine water to surface water.
- Road crossings of watercourses would span the low flow channel of the watercourse in order to allow unimpeded low flow.
- A free-draining final landform will be established, with no significant changes to the existing catchment boundaries of Tapplebang Creek, Coconut Creek or the Ward River. The final landform design will ensure that there is no long-term reduction in downstream catchment yield.

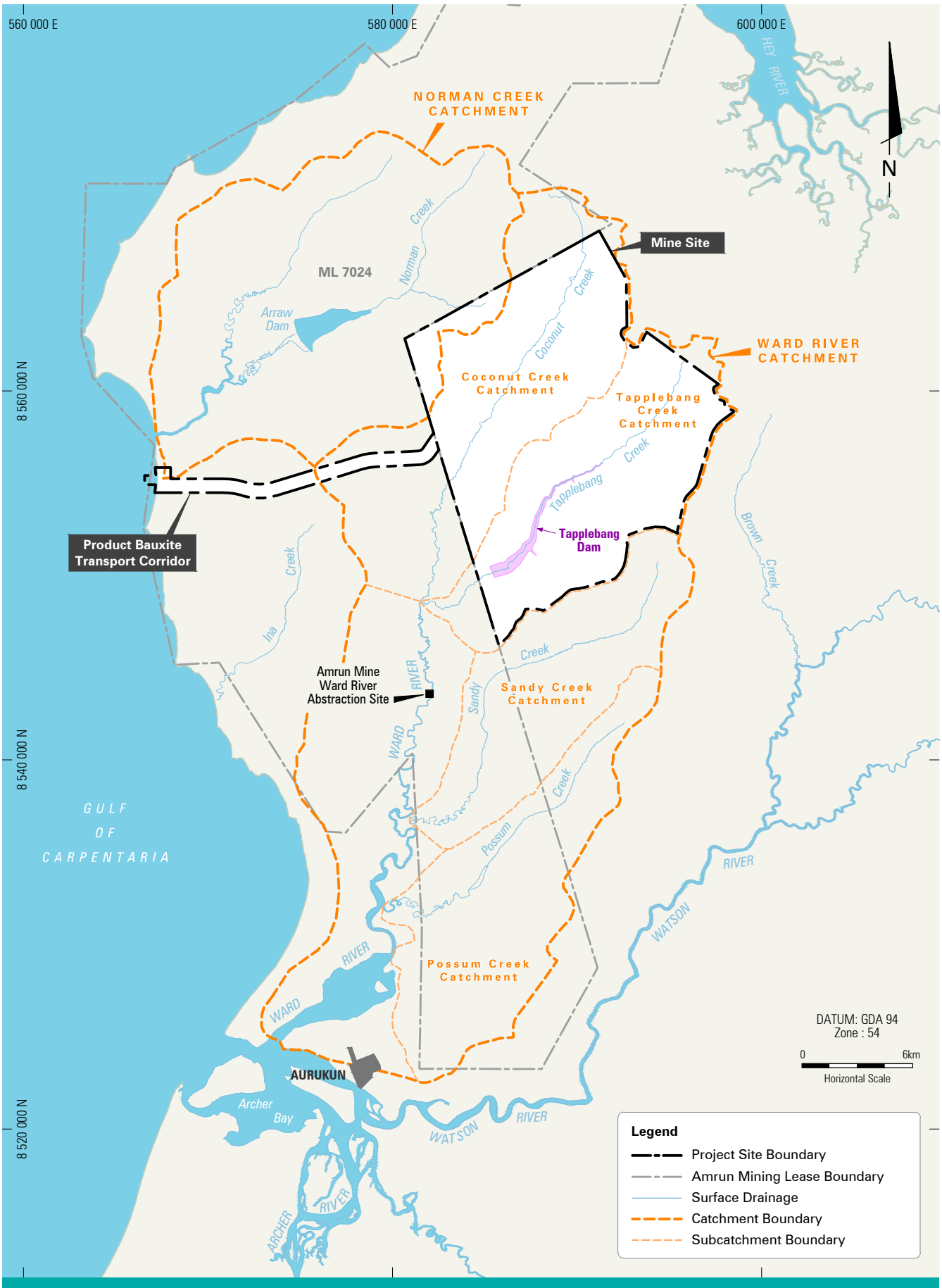


Figure 10 Regional Catchment Setting

Water Management Strategies

The project will require management of various types of water, including:

- 'Pit water' that accumulates in open cut pits as a result of incident rainfall and stormwater runoff from contributing catchments.
- 'FCA water' (i.e. runoff from the FCA catchment and water released from the fines) that is generated during the first three years of mining operations.
- 'In pit fines emplacement water' that accumulates within in-pit fines emplacement areas after the first three years of mining operations.
- 'Industrial water' which is water that may contain potential sources of hydrocarbons or other contaminant as a result of interaction with industrial areas (e.g. vehicle washdown, workshops, refuelling areas).
- 'Sediment affected water' which comprises runoff from disturbed areas and/or stockpiling areas that may contain elevated levels of suspended sediment.
- 'Clean water' that is runoff from areas that have been revegetated and rehabilitated or otherwise undisturbed.
- 'Treated water' generated through the project's Sewage Treatment Plant.

The EIS describes the proposed management strategy for each type of water generated by the project. The water management strategies proposed for the project have been developed with regard to the potential sources of contaminants that could affect water quality on the site. The key objectives include:

- Segregation of clean water from mine affected or sediment affected water;
- Containment of any "contaminated" water within industrial areas;
- Maximise the use of mine affected water for dust suppression or industrial purposes;
- Minimise the volume of mine affected water released from the site through the effective usage of available storage capacity on site;
- Appropriate treatment of sediment affected water to ensure suitability for release to the receiving environment; and
- Release of dam water to mitigate impacts on downstream low flow conditions (and avoid extended dry periods).

The project's water management system utilises available water storage capacity in open cut pits and in-pit fines emplacement areas to minimise the potential for release of mine water to surface water. However, where storage capacity is exceeded following periods of significant rainfall potential overflow release of pit water and/or in-pit fines emplacement water may occur. Such releases would only occur during the wet season and are expected to comprise a very small proportion of flow in the watercourses compared to flow from undisturbed catchment areas.

Based on the results of geochemical assessment of bauxite ore and fines, combined with the predicted volumes and circumstances of release during the wet season, any passive overflows of mine affected water would be expected to be within the limits of natural variation for baseline water quality at the point of release considering the dilutive effects of rainfall on mine affected water. On this basis, and with the addition of contributing catchment flows in the receiving environment, there is unlikely to be any detectable change in the receiving water quality and ecosystem values in the event of release of mine water from the site.

The EA will require the proponent to undertake water quality monitoring and will also incorporate receiving water HEV trigger levels derived from baseline water quality data gathered from the ongoing baseline surface water monitoring program. Monitoring results outside these trigger levels will require the proponent to complete an investigation to identify potential causes and implement management measures (where relevant) to meet the trigger values.

The EA will also contain release limits associated with the water quality at any authorised release point for mine affected water. If a release limit is exceeded, the proponent will be required to undertake sampling at specified monitoring points in the receiving waters in order to ensure the early identification of any potential contamination and allow the targeted application of corrective measures to minimise the potential for environmental harm to receiving waters.

The sedimentation management strategy involves the installation of sediment controls downstream of disturbed areas to collect any suspended sediment prior to stormwater drainage from the site. An Erosion and Sediment Control Plan will be developed prior to commencement of construction to address erosion and the control of suspended sediment in the waters generated by the project. The Erosion and Sediment Control Plan will be prepared in accordance with the *Best Practice Erosion and Sediment Control guidelines* (International Erosion Control Association, 2008).

As noted above, the existing surface water experiences rapid increases in turbidity in response to pulses of suspended sediment that occur during flow conditions. However, with the application of appropriate controls on runoff from disturbed areas and areas at increased risk of erosion, it is expected that the project will not result in any significant change in turbidity or suspended sediment levels in local surface waters.

Project Water Balance

Water balance modelling has been conducted to assess the reliability of the project water supply and estimate the frequency and volume of release of pit water and in-pit fines emplacement water (collectively 'mine affected water').

Tapplebang Dam would be the primary project water supply. During Project Years 1 to 3, FCA water would also be pumped from the FCA and reused for water supply. Treated sewage effluent will also be pumped to the PWP at the MIA for reuse in the beneficiation process or for dust suppression.

Modelling results show that during the first three years of the project when the FCA is operating, project water demands will be met by the water supply from Tapplebang Dam and the FCA return water. During subsequent years, the total project water demands can be met by the maximum authorised take of 10,000 Megalitres from Tapplebang Dam.

Based on the design and operation of the water management system, the water balance model predicts no release of process water, FCA water or industrial water. In respect of mine affected water, the results of the water balance modelling show that:

- No active (i.e. pumped) release of mine affected water is expected to be required given the available storage capacity, seepage rates and mining methodology employed.
- Overflow of mine affected water may occur at nominated release points following periods of significant rainfall where available storage capacity is exceeded.

Impact Assessment and Management

The EIS contains an overall summary of the potential surface water impacts of the project, including surface water flow effects due to the operation of Tapplebang Dam and associated effects on downstream flows, open cut mining effects on catchment yield and associated surface flows, and surface water quality effects due to mine water discharges and erosion and sedimentation.

No significant impacts are predicted. This is largely because the key areas of potential surface water impact have been avoided or mitigated by project design features, as described above. A number of management measures will be adopted in relation to surface water and an Erosion and Sediment Control Plan, a Water Management Plan and a Receiving Environment Monitoring Program will be prepared for the project. Ongoing surface water monitoring will also be undertaken and would detect any unexpected adverse impacts on downstream surface water.

Terrestrial Ecology

The EIS includes a detailed ecological assessment that involved multi-season terrestrial flora and fauna surveys. The study area for the terrestrial ecology assessment included the Mine Site, Product Haul Road and CLF, as well as adjacent and downstream areas.

The vegetation across the majority of the terrestrial ecology study area comprises remnant vegetation. The landscape within the study area is intact, providing regional connectivity with the surrounding landscape. Historically, there has been minimal clearing in the study area or region. Darwin Stringybark (*Eucalyptus tetrodonta*) woodlands are the dominant vegetation community in the study area. The region has experienced a history of frequent (i.e. typically yearly) and often intense fires. Fires often occur late in the dry season.

Eleven Regional Ecosystems (REs) occur within the study area, all listed as least concern. No threatened flora species or threatened ecological communities were recorded in the study area. Furthermore, the likelihood of occurrence assessment determined that none are expected to occur given the lack of suitable habitat in (or in proximity to) the terrestrial ecology study area, the location, extent and timing of targeted threatened flora surveys undertaken and/or the lack of nearby records.

The vegetation within the study area provides habitat for a range of fauna species and the following broad habitat types were identified:

- *Eucalyptus* and *Corymbia* woodland to tall woodland – This broad habitat type covers approximately 98.4% of the study area. It was found to be in moderate to good condition, although many areas are experiencing the effects of high intensity fires, exhibited by limited diversity of the shrub layer and sparse fallen timber. Abundant hollow-bearing trees were observed in most areas of this habitat type with tree hollow transects identifying a range of hollow types and sizes across the study area. However, the prevalence of mature trees was limited in areas that have been subjected to hot fires. This habitat type provides important foraging and breeding resources within defined distances of riparian corridors for threatened species.
- Swamp Box fringing forest – This habitat type comprises approximately 1.1% of the study area and occurs along watercourses and drainage features (i.e. Coconut and Tapplebang Creeks and their tributaries, as well as the tributary of Norman Creek). This is a dense, structurally diverse community, found generally to be in good condition with numerous large emergent trees and relatively closed understorey. This community forms important roosting and refuge habitat and dispersal corridors for threatened species.
- Paperbark woodlands and sedgelands – This habitat comprises approximately 0.1% of the study area and is characterised by various *Melaleuca* species of varying density. This habitat is located within a single small area immediately outside and downstream of the project site on a small tributary of Coconut Creek.
- Mixed foredune complex – This habitat comprises approximately 0.006% of the study area and occurs as a very narrow and highly fragmented low open forest, dominated by Brown Salwood (*Acacia crassicarpa*). This community is located at the far western end of the Product Bauxite Transport Corridor in the north-western corner of the CLF.

Fauna habitats throughout the study area were typically in moderate to good condition. However, habitats were observed to be influenced by a frequent and intensive fire regime and Feral Pigs (*Sus scrofa*) wallowing and rooting in drainage features and watercourses.

Table 3 lists the threatened species that were recorded during field surveys or assessed as having a high or moderate likelihood of occurrence. The species listed under the EPBC Act are termed MNES, whereas those listed under the NC Act are Matters of State

Table 3 Threatened Fauna Recorded from the Project Site or Expected to Occur

Species	EPBC Act Status	NC Act Status
Palm Cockatoo (Australian) (*Probosciger aterrimus macgillivrayi*)	Vulnerable	Vulnerable
Red Goshawk (*Erythrotriorchis radiatus*)	Endangered	Endangered
Black-footed Tree-rat (north Queensland) (*Mesembriomys gouldii rattoides*)	Vulnerable	Least Concern
White-throated Needletail (*Hirundapus caudacutus*)	Vulnerable, Migratory and Marine	Vulnerable
Masked Owl (northern) (*Tyto novaehollandiae Kimberli*)	Vulnerable	Vulnerable

Environmental Significance (MSES). In addition to the threatened species listed in Table 3, several species listed as Migratory under the EPBC Act were recorded or assessed as having a high or moderate potential to occur, and these species are also considered MNES.

The EIS includes an assessment of potential impacts on terrestrial ecology. The assessment considered direct impacts due to vegetation clearing for open cut mining and the construction of mine infrastructure. Figure 11 shows the clearing footprint within the Mine Site. Potential impacts from clearing include the loss of habitat features, edge effects and habitat fragmentation. Indirect impacts such as the effects of noise, lighting, vehicle strike, dust, changes to the fire regime, erosion, and the introduction of invasive species were considered in this assessment.

The EIS describes measures implemented to avoid impacts on terrestrial ecology through modification of the mine plan and realignment of infrastructure with a particular focus on providing habitat buffer zones along watercourses and the associated narrow section of riparian vegetation.

The terrestrial ecology assessment concluded that the project would give rise to potentially significant residual impacts on the Palm Cockatoo (Australian), Red Goshawk, Black-footed Tree-rat (north Queensland) and Masked Owl (northern). Offsets will be provided for this impact. The offsets will be in accordance with the requirements of the *EPBC Act Environmental Offsets Policy 2012* (Department of Sustainability, Environment, Water, Population and Communities [DSEWPaC], 2012a), given that these species are dual listed under the EPBC Act and NC Act. The EIS contains an Offset Management Strategy which describes the offsets that will be provided for impacts on these species.

Offsets for MSES were also considered and it was concluded that it will be necessary to provide offsets under Queensland legislation (i.e. the EO Act) for clearing regulated watercourse vegetation (i.e. remnant REs within certain distances of a relevant stream order).

It is proposed that at least 90% of the total offset requirement will be delivered as land-based offsets. The largest component of the project's offset requirements is the offsetting of the impact on habitat of threatened species under the EPBC Act. Within these habitats there will be areas supporting MSES values, including watercourse vegetation.

The proposed location of the land-based offset will be in the Cape York bioregion in an area known to support the relevant threatened species and will contain suitable habitats for each species impacted (including the ecosystem and species function to be impacted). The Offset Management Strategy describes the management actions proposed that will provide for habitat quality improvements to be gained over time and threats reduced including through implementation of appropriate fire management regimes, weed and feral animal management and monitoring programs for targeted species.

The EIS also describes a number of management measures that will be put in place to avoid and/or limit impacts of the project on terrestrial ecology. These include pre-clearance habitat inspections, use of a Species Management Program (prepared in accordance with the NC Animals Regulation), a Ground Disturbance Permit process and implementation of land management measures such as a Weed Management Plan, bushfire management and a feral animal control program.

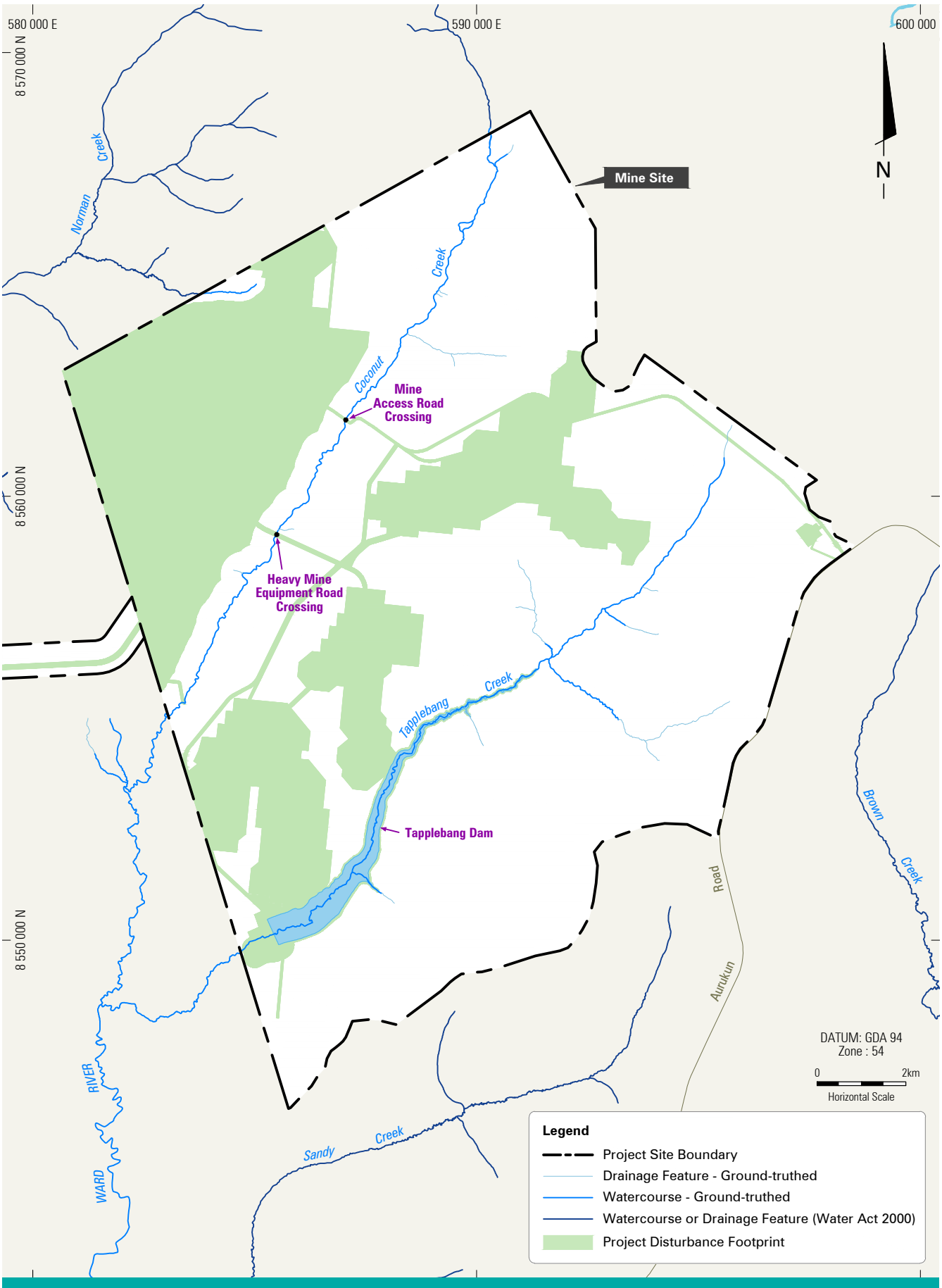


Figure 11 Project Disturbance Footprint

Aquatic Ecology

This EIS includes a detailed aquatic ecology assessment that involved multi-season aquatic ecology surveys. The study area for the aquatic ecology assessment included the full extent of the project site, as well as areas adjacent and downstream of the project site.

The project site is traversed by Coconut Creek and Tapplebang Creek and a minor intermittent tributary of Norman Creek crosses the northern part of the project site (Figure 10). Tapplebang Creek joins the larger Coconut Creek downstream of the project site and the confluence of these two creeks is the origin of the Ward River. Coconut Creek and Tapplebang Creek are intermittent waters and although flows exist for an extended period after the wet season, only remnant pools remain by the late dry season.

There are no wetlands within the project site, but there is a freshwater wetland associated with a tributary of Coconut Creek downstream of the project site. There are also numerous wetlands along the Ward River and the main channel of the Ward River and associated tidal/estuarine wetlands are mapped as a wetland of high ecological significance (termed a HES wetland), on the DES' map of referable wetlands.

The watercourses and wetlands within the project site are classed as High Ecological Value (HEV) waters under the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* (Qld) because the biological integrity of the water is effectively unmodified or highly valued.

Two threatened species were recorded or assessed as having a moderate possibility of being present in the freshwater reaches of the aquatic ecology study area.

The freshwater reaches of the aquatic ecology study area are most relevant to the assessment, given that the groundwater and surface water studies concluded that the project is not predicted to impact the downstream, estuarine reaches of the Ward River. The two threatened species are:

- Largetooth Sawfish (*Pristis pristis*) (listed as Vulnerable and Migratory under the EPBC Act and Least Concern under the NC Act). This MNES species was not recorded but was rated as having a moderate potential of presence within the Ward River. While the Largetooth Sawfish has the potential to utilise the freshwater reaches of the Ward River, it is not expected to occur within Coconut Creek and Tapplebang Creek. Because of the size of the watercourses, the types of habitats available and the quality of the water present.
- Estuarine Crocodile (*Crocodylus porosus*) (listed as Migratory and Marine under the EPBC Act and Vulnerable under the NC Act). This MNES and MSES species was recorded during field surveys and is present throughout the aquatic ecology study area.

The aquatic ecology impact assessment focused on elements of the project where potential impacts on surface water or groundwater (and hence aquatic ecology values) are predicted. These are the construction and operation of Tapplebang Dam, as well as potential impacts from the construction of two watercourse crossings on Coconut Creek. The location of Tapplebang Dam and the proposed watercourse crossings is shown in Figure 11.

The construction of Tapplebang Dam will lead to a physical disturbance of aquatic habitat by replacing a 10 km long stretch of fast flowing, narrow creek with a lake that has extended permanency of water. Although this may create new habitat for some native aquatic species, the dam lake would also provide ideal habitat for invasive weed and fish species and it will be necessary to adopt biosecurity measures to reduce the likelihood of such species establishing in the dam lake. Tapplebang Dam will also give rise to changes in downstream flows. However, due to the high wet season rainfall and the large upstream catchment area, Tapplebang Dam would behave like a weir, overflowing for extended periods during the wet season. The impact of the dam storage on downstream flows would therefore be largely limited to the beginning and end of the wet season, when the dam is below full storage level. Environmental releases are proposed during these periods to maintain downstream waterholes. The construction of Tapplebang Dam has the potential to impact on fish migration and consequently a fishway has been included as part of the design of the dam. A bypass fishway has been proposed, which will operate when the dam is overflowing. The fishway is designed to be functional for the flows found to be most important for movement of fish in the system.

Two road crossings of Coconut Creek are required, one as part of the Mine Access Road, and the other a haul road crossing to be used by heavy mine equipment (Figure 11) in later years of the mine life. Each watercourse crossing would be designed to allow unimpeded flows and current planning indicates that the crossings would be constructed with several culverts within the engineered embankment. The culverts will include design features to minimise habitat loss and erosion and allow for fish passage.

The aquatic ecology assessment included an assessment of potential impacts on MNES and MSES, based on relevant State and Commonwealth guidelines. It concluded that the project is not predicted to give rise to significant impacts on MNES. However, the project is predicted to give rise to a significant residual impact on a HEV watercourse. HEV watercourses are MSES. This impact relates to the reach of Tapplebang Creek within the dam lake, and offsets will be provided for the impact on this section of watercourse as described in the Offset Management Strategy.

As noted above, the largest component of the project's offset requirements is the offsetting of the impact on habitat of threatened species under the EPBC Act, however, within these habitats there will be areas supporting MSES values, including HEV waters.

The EIS describes several management plans and monitoring programs that will be developed in relation to aquatic ecology. These include a fishway management and monitoring program, monitoring of road crossings of watercourses, the preparation of a Receiving Environment Management Plan and programs to address biosecurity issues (weeds and feral animals).

Marine Ecology

This EIS includes a detailed marine assessment that involved multi-season marine ecology surveys. A wildlife lighting impact assessment was also undertaken. The marine study area consists of the full extent of the proposed CLF coastal infrastructure and an area extending approximately 3 km to the north and south of the CLF (from Norman Creek to False Pera Head), as well as the transhipment routes and transhipment areas (Figure 8).

The shoreline in the marine study area consists of sandy beaches, estuaries and dunes, and a rocky headland at False Pera Head. Eleven large coral reefs have been mapped in the marine study area, occurring from south of Norman Creek to False Pera Head (Figure 12). Within this ring of reefs there are also several minor features including some boulder fields. The largest gap between reefs is the intended transit path for the TSV and there is clear passage between the reefs, with the narrowest section being over 800 m wide (Figure 12). No seagrass was observed in the study area. Offshore marine habitats comprised unconsolidated soft sandy sediments.

The Load-out Jetty and part of the transhipment route would be located within Queensland waters, whilst the transhipment areas and remaining transhipment route would be located in the Commonwealth marine area (Figure 8).

The marine assessment characterised the coastal processes and dynamics of the study area, water and sediment quality, marine macroinvertebrates, fish and fisheries resources, birds, megafauna and conservation significant species. Numerous MNES and MSES were recorded or assessed as having a high or moderate potential to occur in the marine study area. These included marine turtles, migratory birds, the Estuarine Crocodile, Dugong (*Dugong dugon*) and various species of dolphin, ray and sawfish. In addition, the Commonwealth marine area is an MNES.

The marine assessment considered impacts from constructing the CLF and associated works (including pile driving), operational impacts from the use of the CLF, transhipping and impacts that would arise from any unplanned release of contaminants or introduction of marine pests. The impacts are not predicted to be significant, largely because the project has been sited and designed to avoid and minimise impacts.

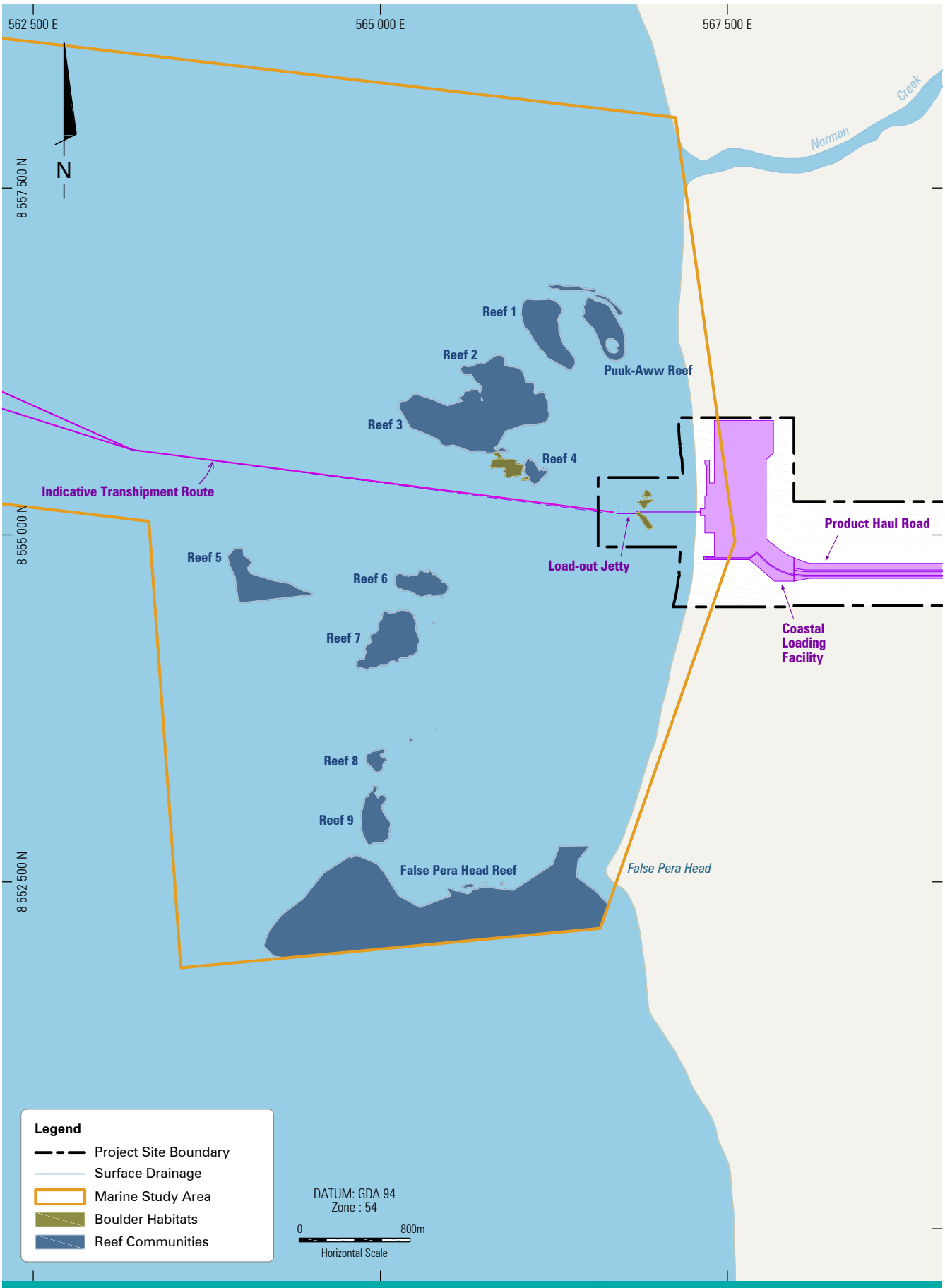


Figure 12 Reef Communities and Boulder Habitats

Key conclusions from the assessment are as follows:

- No significant impacts from direct habitat loss are predicted, given that the Load-out Jetty has been sited in an area where there are no significant marine habitats and the project has been designed to ensure that no dredging or bed levelling will be required.
- Vessel wash from the TSV is not predicted to increase Total Suspended Sediments beyond levels that would impact minimum light requirements for coral growth.
- No significant impacts from anchor drag in the transhipment areas are predicted. The anchorage areas have been selected because they have a sandy substrate containing sparse to zero epifauna cover and no marine plants, reefs or reef features.
- Several measures will be adopted to reduce the potential for the project to introduce marine pests. The TSV will operate as a dry bilge vessel, with no to limited requirement for ballast water. The OGVs will comply with standard mitigation measures specifically designed to reduce the potential for the translocation of introduced marine pests. In addition, regular monitoring of marine pests will be undertaken as part of the project.
- No significant impacts from marine pollution and debris are predicted, given that the design of the jetty loading facilities and TSV incorporates numerous measures to minimise the risk of bauxite spillage. Measures will also be adopted to prevent accidental spills (e.g. of hydrocarbons).
- Vessel strike of slow moving marine species is not expected to be a regular occurrence. This is because of the relatively small number of vessel movements, the fact that most vessel movements would be in deep waters that are not primary habitats for most surface-dwelling marine fauna species, and the speed limit on the TSV.

- With the incorporation of appropriate mitigation measures, lighting from the project is not predicted to have a significant impact on marine turtles, seabirds and shorebirds. This conclusion was the outcome of a detailed wildlife lighting impact assessment, which included light modelling. An Artificial Light Management Plan will be adopted for the project, and this plan includes numerous measures to reduce the impacts of project light. The proponent has also committed to a program of monitoring and adaptive management to ensure the effectiveness of the lighting mitigation measures.
- No significant acoustic impacts to marine fauna such as turtles, dolphins and shorebirds are predicted from Load-out Jetty piling operations, construction and operation of the CLF, and operation of the TSV and OGVs. In particular, the duration of piling activities is expected to be 4-5 months (for less than 30 minutes per day) resulting in short term and highly localised impacts that are not expected to affect habitat use.

The marine assessment also specifically considered potential impacts (related to marine ecology) on fisheries resources and potential impacts on MNES and MSES. Relevant State and Federal guidelines were considered, and it was concluded that no significant impacts are predicted.

The EIS describes a range of measures to avoid and mitigate marine impacts. These include implementation of a marine pest monitoring program, a reef benthic cover monitoring program and an artificial light monitoring program. These monitoring programs will be implemented during construction and over the life of the project.

Matters of National Environmental Significance

The EIS includes a stand-alone MNES Section describing potential impacts on MNES. This section draws on the specialist studies undertaken for the EIS, including studies related to groundwater, surface water and terrestrial, aquatic and marine ecology. The EIS concludes the following in relation to impacts on MNES:

- **Listed threatened species and communities.** Clearing required to be undertaken for the project is likely to give rise to a significant, residual impact on the Palm Cockatoo (Australian), Red Goshawk, Black-footed Tree-rat (north Queensland) and Masked Owl (northern), which are listed threatened species. Offsets will be provided for this impact in accordance with the requirements outlined in the *EPBC Act Environmental Offsets Policy 2012* (DSEWPaC, 2012a). The EIS includes an Offset Management Strategy.
- **Listed migratory species.** The project is not predicted to give rise to a significant impact on listed migratory species. Terrestrial, aquatic and marine migratory species were assessed.
- **The Commonwealth marine area.** The project is not predicted to give rise to a significant impact on the Commonwealth marine area

The MNES Section describes the methodology used for the impact assessment and presents impact assessments undertaken in accordance with relevant Commonwealth guidelines, including the Commonwealth *Matters of National Environmental Significance significant impact guidelines 1.1* (Department of the Environment, 2013).

As noted above, the largest component of the project's offset requirements is the offsetting of the impact on habitat of threatened species under the EPBC Act. The proposed location of the land-based offset will be in the Cape York bioregion in an area known to support the relevant threatened species and will contain suitable habitats for each species impacted (including the ecosystem and species function that was impacted).

The Offset Management Strategy describes the management actions proposed that will provide for habitat quality improvements to be gained over time and threats reduced including through implementation of appropriate fire management regimes, weed and feral animal management and monitoring programs for targeted species.

The MNES Section provides detailed mitigation measures for impacts on MNES, and performance criteria, monitoring, reporting and adaptive management measures are provided for each management measure.

Climate

Climatic data has been collected from the closest Bureau of Meteorology (BoM) weather station to the project site, being Weipa Aero (BoM weather station number 027045), located 40 km north-east of the project site. Temperature, rainfall, humidity and wind data was sourced from this station.

Cape York has a tropical climate characterised by a distinct wet season (generally around November to April) and dry season (generally around May to October). The active phases of the monsoon play a role in the seasons and climate of the region. The monsoon occurs during the wet season, resulting from a seasonal reversal of winds that occurs over parts of the tropics. The monsoon results in a zone of low pressure and rising air, bringing heavy rainfall to Cape York.

Temperatures are relatively warm year-round, with slightly cooler temperatures over the dry season. The highest mean daily maximum temperature at the Weipa Aero weather station is 35.8°C, and the lowest mean daily minimum temperature at the weather station is 18.7°C. The annual rainfall pattern illustrates the tropical climate of the Cape York region, with 97% of the annual rainfall occurring during November to April. Mean annual rainfall is 1,911 mm.

Relative humidity is generally higher in the morning compared to the afternoon. The highest monthly average relative humidity is recorded in February for both morning and afternoon values (86% and 76%, respectively). Winds are typically from the east to the south-east and are predominantly moderate in strength.

The EIS describes the projected changes in climate conditions and the predicted impacts to the project as a result of climate change. The EIS outlines management and mitigation measures that will be adopted to ensure that the project is able to adapt to climate change. These include designing the mine water management system to allow for extreme rain and flooding events. The proponent will work cooperatively with government and other industry sectors to address adaptation to climate change.

Air Quality

The EIS air quality assessment included a review of background air quality data, estimation of emission rates from project activities, and dispersion modelling to estimate air quality in the vicinity of the project site. A greenhouse gas assessment was also undertaken.

Air quality objectives for the project were obtained from the Queensland Government's *Environmental Protection (Air) Policy 2019* (Qld), and from the DES's *Model Mining Conditions* (DES, 2017a) (Model Mining Conditions) in the case of dust deposition.

The nearest sensitive receptor to the project site is Amban Outstation, which is located approximately 2 km to the south of the proposed CLF. The air quality assessment concluded that predicted dust, nitrogen dioxide and sulfur dioxide levels will be within applicable ambient air quality objectives at Amban Outstation and all other sensitive receptors.

Cumulative air quality impacts were also assessed and it was concluded that it is unlikely that potential cumulative impacts from the project and Amrun Mine will give rise to exceedances of air quality objectives. The EIS provides mitigation measures relevant to air quality and explains that a complaints handling procedure will be implemented.

An assessment of greenhouse gas emissions was undertaken and the EIS provides annual predicted greenhouse gas emissions for the project. Diesel powered generators will be used to supply power for the project and no off-site power supply options are proposed. Therefore, greenhouse gas emissions from the project will be predominantly due to the use of diesel for mobile equipment and generators. The EIS outlines a number of greenhouse mitigation strategies that are being evaluated for the project, and describes greenhouse gas reporting obligations.

Noise

A detailed noise assessment was undertaken and included assessment of predicted noise levels resulting from project construction and operations. Noise criteria and objectives were derived using the Model Mining Conditions and the *Environmental Protection (Noise) Policy 2019* (Qld). Amban Outstation is the most critical sensitive receptor for the noise assessment, given the significant distance between other sensitive receptors and the project site. The noise assessment included a baseline noise monitoring program at Amban Outstation and noise modelling. The noise assessment concluded that predicted noise levels will be below the relevant noise criteria at Amban Outstation and all other sensitive receptors. Cumulative noise impacts were also assessed, and it was concluded that potential cumulative impacts from the project and Amrun Mine are not predicted to give rise to exceedances of noise criteria. The EIS provides mitigation measures relevant to noise and explains that a complaints handling procedure will be implemented.

Visual Amenity

A visual impact assessment was undertaken to determine the impact of the project on the visual quality and character of the surrounding area.

The visual receptors for the visual assessment are Amban Outstation, Aurukun township, Waterfall Outstation and Aurukun Road (Figure 13). However, it was concluded that the project is not likely to be visible from Aurukun township or Waterfall Outstation because of the long-range viewing distances, screening vegetation and intervening topography. The visual assessment therefore focussed on Amban Outstation and Aurukun Road and lines of sight from these locations were prepared to evaluate the extent to which project elements would be visible.

The visual assessment concluded that, during the daytime, the CLF is not expected to be visible from the veranda at Amban Outstation or from outside the outstation. The CLF is expected to be barely visible at night from these locations. However, the CLF would be visible during the day and at night from the beach in front of Amban Outstation. The CLF would only comprise a small proportion of the view, due to the 2 km viewing distance, but it would present a strong visual contrast with the landscape. Amban Outstation is located on the traditional country of the Wik Waya people. The Wik and Wik Waya People are the holders of native title rights over the area of the project site under the NT Act. The potential visual impact of the project on the Amban Outstation will be addressed through the Agreement/s negotiated with, or on behalf of, Traditional Owners (including those that form part of various regulatory requirements including the NT Act and the MR Act).

The visual assessment concluded that some elements of the Accommodation Village and night lighting may be visible to passing motorists from Aurukun Road. However, views would be transient and lateral to the direction of travel and it is unlikely that road users would have clear views of the Accommodation Village given the topography and vegetation of the region.

The EIS provides a range of mitigation measures for visual impacts, including measures to reduce impacts from lighting.

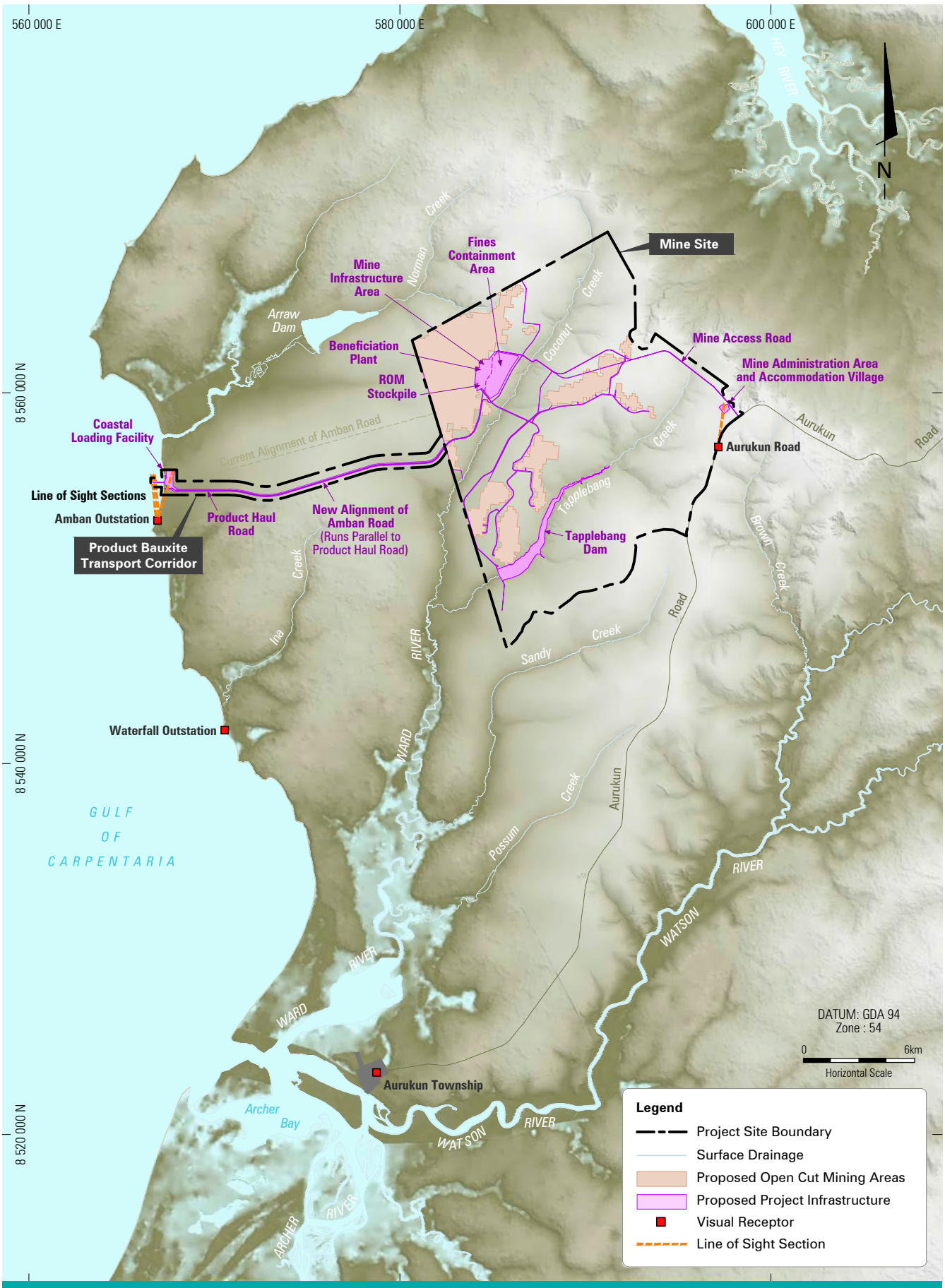


Figure 13 Visual Setting

Socio-economics

Social and economic assessments, integrated with a comprehensive stakeholder consultation program, were undertaken for the project. This enabled the identification of community and social issues associated with the project and the development of strategies to address these issues and maximise benefits from the project.

The SIA was undertaken in accordance with the *Social Impact Assessment Guideline* (Department of State Development, Manufacturing, Infrastructure, and Planning, 2018). The study area for the SIA included Aurukun township, towns in the broader region such as Weipa and Napranum, and an economic catchment extending to Cairns. The SIA presents a social profile of the study area based on literature review, quantitative data collection and analysis, and consultation with stakeholders.

Aurukun is the nearest town to the project site and is within the Aurukun LGA, which has an estimated resident population of 1,418 people (ABS, 2020). Aurukun township is home to the Wik and Wik Waya People. The Wik and Wik Waya People are united by a strong culture of kinship, ceremony and language. Despite a turbulent history of governance by others, land rights and social unrest, the Aurukun people show resilience and a love for Aurukun township. The socio-economic characteristics of Aurukun township are similar to other remote Indigenous communities and include high levels of welfare dependency, low levels of school attendance, overcrowding of houses, poor environmental health and endemic issues with substance abuse. Aurukun residents experience significant barriers to workforce participation and job retention, which has resulted in high levels of welfare dependency and a cycle of poverty in the Aurukun LGA. Although a wide range of government and non-government services and facilities are provided in Aurukun, facilities have variable and inconsistent opening days and hours, and service delivery is frequently impacted by labour availability, cultural requirements and community unrest.

The SIA considered a range of potential impacts and opportunities associated with the project, including those related to employment and economic development. The proponent's objective is to maximise employment opportunities for local people. Several specific strategies, including a Local Workforce Development Plan, will be implemented to facilitate local workforce participation. The Local Workforce Development Plan will consist of several programs with a focus on increasing community capabilities, work readiness, youth engagement, operational readiness, and mentoring. In addition, the project workforce recruitment hierarchy is designed to give priority to local Indigenous people.

The SIA assessed impacts at the local level, including impacts on Aurukun township. These included impacts on cultural identity, community safety, local employment and business development, community cohesion, use and enjoyment of Amban Outstation, and access to natural resources, social infrastructure and services. Regional impacts were also assessed, including impacts on regional public safety, housing and accommodation, employment, infrastructure, and business and industry (including impacts on the fishing industry).

The social impacts of the project will be managed and opportunities enhanced principally through the following three mechanisms:

- The Agreement/s that the proponent is negotiating with, or on behalf of, Traditional Owners, including Agreements/s that form part of various regulatory requirements including the NT Act and the MR Act. As part of the Agreement making process, the proponent is seeking the consent of the directly affected Traditional Owners for the development of the project. An Agreement would be the principal mechanism to offset the potential social impacts of the project on Wik Waya cultural identity and to ensure Traditional Owners and the Aurukun community benefit from the project over the long term.
- Management of Aboriginal cultural heritage in accordance with the ACH Act.
- Implementation of the Social Impact Management Plan (SIMP) which is included in the SIA. The SIMP includes the following five plans:
    - Community and Stakeholder Engagement Plan;
    - Workforce Management Plan;
    - Local Business and Industry Procurement Plan;
    - Health and Community Well-being Plan; and
    - Housing and Accommodation Plan.

An Economic Impact Assessment was also undertaken and estimated the economic impacts and opportunities of the project using a Regional Impact Analysis and a Cost Benefit Analysis. The Introduction Section of this Executive Summary describes the key economic benefits of the project.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Transport

Road Traffic

The key roads that would be used by project traffic are Aurukun Road and the Peninsula Developmental Road. A new Mine Access Road would connect the Mine Site to Aurukun Road (Figure 2). A detailed Traffic Impact Assessment (TIA) was completed which considered the impacts of traffic generated by the project on affected public roads and intersections.

The TIA considered the project's potential impact on the Aurukun Road/Peninsula Developmental Road intersection. It concluded that this intersection will continue to meet industry standard performance thresholds and will continue to provide an appropriate level of safety for the projected traffic volumes, including the project traffic demands. The TIA also considered the Mine Access Road/ Aurukun Road intersection that is proposed to be constructed as part of the project. It concluded that the provision of a short auxiliary left turn lane and a short channelised right turn lane on Aurukun Road at the Mine Access Road intersection will provide an appropriate level of safety and operational performance.

The TIA included a significance assessment to identify if the additional heavy vehicle movements generated during the project's construction phase and operations phase would have a significant impact on the State-controlled road network. In accordance with the DTMR's *Guide to Traffic Impact Assessment Practice Note: Pavement Impact Assessment* (2018), traffic impacts on sections of State-controlled roads are considered significant where a project is likely to result in an increase of 5% or more beyond existing pavement loadings, measured in Equivalent Standard Axles. The significance assessment identified that the project is anticipated to result in impacts greater than 5% on a section of the Peninsula Developmental Road and consequently the proponent will provide a development contribution to DTMR for pavement maintenance and rehabilitation works. The proponent will consult with local government in relation to project traffic impacts on Aurukun Road.

An assessment of historic crash data for the road network indicated that, with the planned turn lane treatment at the proposed Mine Access Road/ Aurukun Road intersection, the project is not anticipated to have any significant impact on the safety of the surrounding road network.

A Road-use Management Plan will be prepared for the project.

Marine Transport

Supply Barge

The existing barge service, which supplies Aurukun township, will be used to transport fuel and some supplies to Aurukun township, from where they will be transported via road to the Mine Site. The existing barge service comprises up to two vessels per week, and the service is operated by a commercial operator. The barge operator has confirmed that the existing service has capacity to meet the project's barging requirements. Barge transport can operate year-round and is largely unaffected by the wet season. Nevertheless, in preparation for the wet season, project supplies will be increased to full stock levels to account for any short windows of downtime that may occur due to inclement weather.

The barge operator is considering developing a fuel storage facility and laydown area in the industrial precinct in the Aurukun township that may be used for any project supplies delivered by barge. These facilities would be developed by the independent barge operator, which would also be responsible for obtaining the necessary development approvals. The construction and operation of these facilities do not form part of the project that is being assessed in the EIS.

Transhipment

The DTMR proposes to declare a port for the CLF under the *Transport Infrastructure Act 1994* (Qld). The proponent is in discussions with the DTMR and MSQ regarding the requirements for the port. Port limits are expected to extend 1 NM to sea from the high-water mark and 500 m from either side of the Load-out Jetty (Figure 3). A port authority would be nominated by the DTMR to provide regulatory oversight of activities at the CLF. However, the proponent would construct and operate the CLF and Load-out Jetty.

To ensure the safety of other maritime users, the following restrictions/recommended exclusions will apply in relation to transhipping operations:

- A pilotage area will be prescribed by the Regional Harbourmaster (approximately aligning with the port limits). Vessels greater than 50 m in length would only be allowed to operate in the pilotage area with a licensed marine pilot on board or with a valid exemption.
- An operational exclusion zone around the Load-out Jetty would be designated (approximately aligning with the port limits). Vessels would be excluded from the operational exclusion zone while the TSV is approaching and/or moored at the Load-out Jetty.
- An exclusion area would be nominated around the anchored OGVs, and vessels not involved in the transhipment operation would be advised to not enter this exclusion area while an OGV is at anchor. Current planning indicates that the exclusion area would be approximately 0.5 NM around an anchored OGV.

In accordance with the *Marine Order 30 (Prevention of Collisions Convention) 2016* (Cth), any fishing vessel located in marine waters proximate to the Load-out Jetty, transhipment route and anchorage areas, and with fishing lines already in the water, will have right of way. The TSV will therefore navigate around any fishing vessel with lines in the water.

Virtual aids to navigation (AtoN) are proposed to be used identify the path for the TSV. No physical AtoN will be required to support the operation of the TSV. The design and specifications for the virtual AtoN will be developed in consultation with the Regional Harbour Master, MSQ's Vessel Traffic Services and the port authority.

The arrangements for mitigating the effects of ship-sourced pollution on Queensland's marine and coastal environment are described in the *Queensland Coastal Contingency Action Plan* (MSQ, 2018) (QCCAP). As a supplement to the QCCAP, a First-Strike Oil Spill Response Plan will be prepared in consultation with MSQ and the appointed port authority and submitted to DTMR. The plan will be prepared in accordance with agreed arrangements of Australia's *National Plan for Maritime Environmental Emergencies* and the requirements of the *Transport Operations (Marine Pollution) Act 1995* (Qld).

The Australian Maritime Safety Authority (AMSA) is Australia's national agency responsible for maritime safety, protection of the marine environment, and maritime aviation search and rescue. AMSA will be responsible for the regulation of the design, operation and safety of the TSV. Throughout the design and construction process for the TSV, the proponent (and/or its vessel designer) will consult with AMSA (and the nominated class society for the vessel) regarding all aspects of the transhipping operation, including bulk carriage of bauxite, bauxite transfer within Australian waters and the TSV design and operation.

Air Traffic

Air traffic in and out of Aurukun township utilises the Aurukun Airport, which is owned and operated by the Aurukun Shire Council (ASC). The project is expected to require up to two flights into Aurukun per day. These flights would be charter flights from Cairns and Weipa and would typically be scheduled for weekdays during daylight hours. Charter flights from Weipa would only occur during the wet season at times when Aurukun township is inaccessible by road.

Consultation with both the ASC and existing providers of commercial passenger services to Aurukun township has confirmed that the existing airport has sufficient capacity available to accommodate the project's air transport requirements without any alteration to existing air transport facilities or upgrades to the airport. The project's flights will be scheduled to accommodate the existing requirements of commercial services. The use of charter flights and commercial flights, where practical, will therefore not significantly impact on the current air services being provided in Aurukun township.

Cultural Heritage

Aboriginal Heritage

An Aboriginal cultural heritage assessment of the project is being undertaken and has included the following:

- Extensive formal and informal consultation (including on country consultation) with representatives of the directly affected Traditional Owner families;
- Identification of geographic areas of potential cultural significance within the project site;
- An on-ground survey of the areas of potential cultural significance with the participation of nominated Traditional Owner representatives, to document the cultural values and significance of the project site; and
- Post survey verification of information with the wider Traditional Owner family group.

The proponent first undertook on-country cultural heritage work with Traditional Owners in 2017. Since that time, feedback from Traditional Owners has helped inform elements of mine design to avoid or mitigate potential impacts.

The cultural heritage assessment for the project is ongoing with the involvement of Traditional Owners.

On completion, the findings of the assessment will be documented in a report that will be provided to the relevant Aboriginal parties for endorsement in accordance with the ACH Act. The relevant Aboriginal party under the ACH Act is NAK, representing the Native Title Holders (Wik and Wik Waya People).

The proponent will address the management of Aboriginal cultural heritage in accordance with the requirements of the ACH Act (i.e. via a Cultural Heritage Management Plan or Native Title agreement), which will be finalised prior to grant of a mining lease for the project. The process of seeking agreement with the Traditional Owners is a holistic one that includes management of heritage as well as access to country, employment opportunities and community benefits. The scope and approach adopted has been established by and with the Traditional Owners through a Working Group process that has been underway for several years.

The Working Group involves nominated representatives of the Traditional Owners, NAK and the proponent. The Traditional Owners participating in this process are those families with primary cultural and spiritual responsibility for the land where the project site is located. The process is being overseen by an Independent Observer with regular updates on progress published both in the Aurukun community and online.

Non-Indigenous Heritage

Non-Indigenous heritage was assessed via desktop research and archaeological surveys. The only non-Indigenous heritage within the project site is associated with bauxite exploration undertaken from the 1950s onward. Several heritage places were recorded, and included a disused exploration camp from the 1960s, bulk sample pits, creek crossings and survey monuments. The heritage places were assessed as being of local significance only, and below the threshold for inclusion on the Queensland Heritage Register. The non-Indigenous heritage assessment concluded that the heritage places do not contribute significantly to an understanding of the wider pattern and evolution of Queensland's history and heritage. They are regionally common and mostly in a poor state of preservation.

The project would impact the majority of these heritage places. The non-Indigenous heritage assessment concluded that given the low significance of the places, and the fact that they have been comprehensively recorded as part of the assessment prepared for the EIS, no specific management measures are required to mitigate this impact. However, the proponent's Agreement making process with the Traditional Owners includes discussions about all potential impacts of the project, including impacts on the non-Indigenous heritage places. If the Traditional Owners require any specific mitigation measures for these heritage places, they will be addressed via the Agreement or in the Cultural Heritage Management Plan.

An Unanticipated Discovery Procedure will be adopted to mitigate impacts in the unlikely event that previously unrecorded places of non-Indigenous cultural heritage significance are located during ground disturbance associated with the project.

Land Use

Access Tracks

Several unsealed access tracks traverse the project site and provide Traditional Owners with access to areas beyond the project site, including the coast, Amban Outstation and Waterfall Outstation. The EIS confirms that these tracks (or a realignment of these tracks) will continue to provide access to areas beyond the project site during the life of the project and post-mining.

Access to Traditional Country

As noted above, the project will not restrict access to any areas of traditional country beyond the project site (e.g. the coast, Amban Outstation and Waterfall Outstation). There will, however, be access restrictions to parts of the project site (e.g. operational areas) during the life of the mine. The proponent has committed to several measures, which are currently being refined and further developed as part of the Agreement making process. These include minimising the area of land within the project site that Traditional Owners are excluded from accessing due to mining operations and associated safety reasons. In addition, opportunities are being sought to improve access to country for the Traditional Owners (e.g. improving road access to traditional country, providing support to Traditional Owners to enable access to a range of transport options, and providing Traditional Owners with support for outstation improvements and maintenance).

Fire Management

The proponent has developed a Bushfire Management Plan for the project to provide guidance on how to plan for and manage the bushfire risk to project infrastructure and human safety. The Bushfire Management Plan concentrates on areas in proximity to mining operations and infrastructure.

In addition to implementing this plan, the proponent will consult with the Traditional Owners in relation to land management activities, including fire management, for areas of the project site that are not part of the operational footprint. This will include consulting with the Traditional Owners about a fire management program within the non-operational parts of the project site. As part of the Agreement making process, the proponent is currently working with the Traditional Owners to support the development of a Traditional Owner land and sea management organisation that would be able to undertake land management activities, including fire management, on traditional land. The proponent would seek to involve this organisation in the implementation of the land management program within the project site.

Outstations

The EIS assessed potential impacts on Amban Outstation. As discussed in preceding sections, the project is not predicted to give rise to exceedances of the relevant criteria for air quality and noise at Amban Outstation. Visual impacts on the outstation itself are not predicted, although visual impacts on the beach in front of the outstation are expected to occur. The project may also change the sense of place of the outstation, given that the outstation is located in a setting that is currently very remote.

These issues are being discussed with the Traditional Owners as part of the Agreement making process, noting that the project cannot commence until this process has been concluded. There has been extensive consultation with the Traditional Owners over a period of approximately five years about potential impacts on Amban Outstation. This has included numerous site visits with key Traditional Owners and preparation of consultation materials to help convey the nature of the potential impacts. This consultation has been designed to ensure that the Traditional Owners are able to make an informed decision about the project. This decision will include balancing the nature of the project's impacts (including impacts on the outstation) against the potential benefits from the project, including benefits that would support the broader aspirations of the directly affected Traditional Owners.

The project is not predicted to give rise to impacts on Waterfall Outstation.

Adjacent Mining Operations

The Product Bauxite Transport Corridor (including the Product Haul Road and CLF) is within ML 7024, which is held by Rio Tinto and is the tenement for the Amrun Mine. The proponent has been in discussions with Rio Tinto for several years in relation to the access arrangements and future coexistence of the two mines. To facilitate the EIS and engineering studies, the proponent and Rio Tinto have entered into an Access Licence for the purpose of undertaking study activities within ML 7024. The baseline fieldwork for specialist studies such as cultural heritage, terrestrial ecology, aquatic ecology, surface water and noise, were undertaken in accordance with this Access Licence.

The Regulatory Framework Section of this Executive Summary describes tenure arrangements, and notes that a transportation mining lease and specific purpose mining lease are proposed to be obtained for the Product Haul Road and the CLF, respectively. The proponent and Rio Tinto are currently engaged in discussions regarding the development of an agreement to establish the basis for Rio Tinto's consent to these mining leases.

Commercial Fishing

The Transport Section of this Executive Summary describes the restrictions/recommended exclusions that will apply in relation to the transhipment operations. These have been designed to minimise impacts on other marine users as far as possible and only apply to relatively small areas and/or specific times. As noted in this section, the TSV will navigate around any fishing vessel with lines in the water. Given that the restrictions and recommended exclusions are very limited, the project is not expected to give rise to a significant impact on the economic output of the commercial fishing industry that operates in the vicinity of the transhipping operations.

Non-mining Waste

The main wastes anticipated to be generated by the project include:

- General and recyclable wastes;
- Green waste;
- Sewage;
- Scrap metal;
- Miscellaneous hydrocarbon wastes; and
- Batteries and tyres.

The proponent will develop and implement a waste management system for the project which will meet the *Waste Reduction and Recycling Act 2011* (Qld), the *Waste Reduction and Recycling Regulation 2011* (Qld), the *Environmental Protection (Waste Management) Regulation 2000* (Qld), the EP Act and the *Environmental Protection Regulation 2019* (Qld).

The waste management system will provide for the identification of waste types; commit to the use of licensed waste transport contractors; and outline the process for tracking of relevant regulated wastes. The principles of cleaner production will form an important component of the project's waste management system. The waste management system will include the use of an on-site incinerator for the disposal of non-regulated waste that cannot be reprocessed or recycled. Use of the Aurukun Landfill, operated by the Aurukun Shire Council, is also contemplated as a location of potential off-site disposal of general waste streams that would be within the authorised disposal limits of the facility.

The proponent will treat sewage using two on-site sewage treatment plants to a 'Class A' recycled water quality, as defined by the *Water Supply (Safety and Reliability) Act 2008* (Qld) and the *Public Health Regulation 2018* (Qld).

The proponent will conduct a contaminated land assessment prior to the commencement of construction and if any contaminated land is found, it will be appropriately managed. Activities that have been identified as having the potential to cause land contamination are called Notifiable Activities (NAs) and are defined under the EP Act. The project includes the following NAs:

- 7 Chemical Storage;
- 14 Engine Reconditioning;
- 24 Mine Wastes;
- 25 Mineral Processing;
- 29 Petroleum Product or Oil Storage; and
- 37 Waste Storage, Treatment or Disposal

The risk of land contamination from project activities, including NAs, will be reduced through appropriate design and construction of the facilities and post-mining rehabilitation.

Hazard and Safety

The introduction of a mine or industrial facility to an area carries potential hazards and risks.

A suite of legislation exists in relation to occupational health and safety (OHS) at mine sites. This legislation is supplemented by codes of practice issued under various regulations and Australian Standards that represent best practice for managing OHS risks.

The proponent will implement a Health and Safety Management System (referred to as the Health, Safety, Environment & Community [HSEC] Management System) which will meet the requirements of appropriate legislation and standards to address the construction, operations and decommissioning phases of the project. The HSEC Management System will be developed to ensure compliance with applicable legislation, guidelines and standards. The HSEC Management System will incorporate effective risk management principles to provide a standard and consistent approach to protecting the health, safety and welfare of persons who may be affected by the proponent's activities, and the surrounding environment. The proponent will develop, implement and maintain an Emergency Response Plan to minimise the consequences of potential emergencies. In addition, plans will be prepared and implemented to manage risks related to bushfires, cyclones and mosquitos.

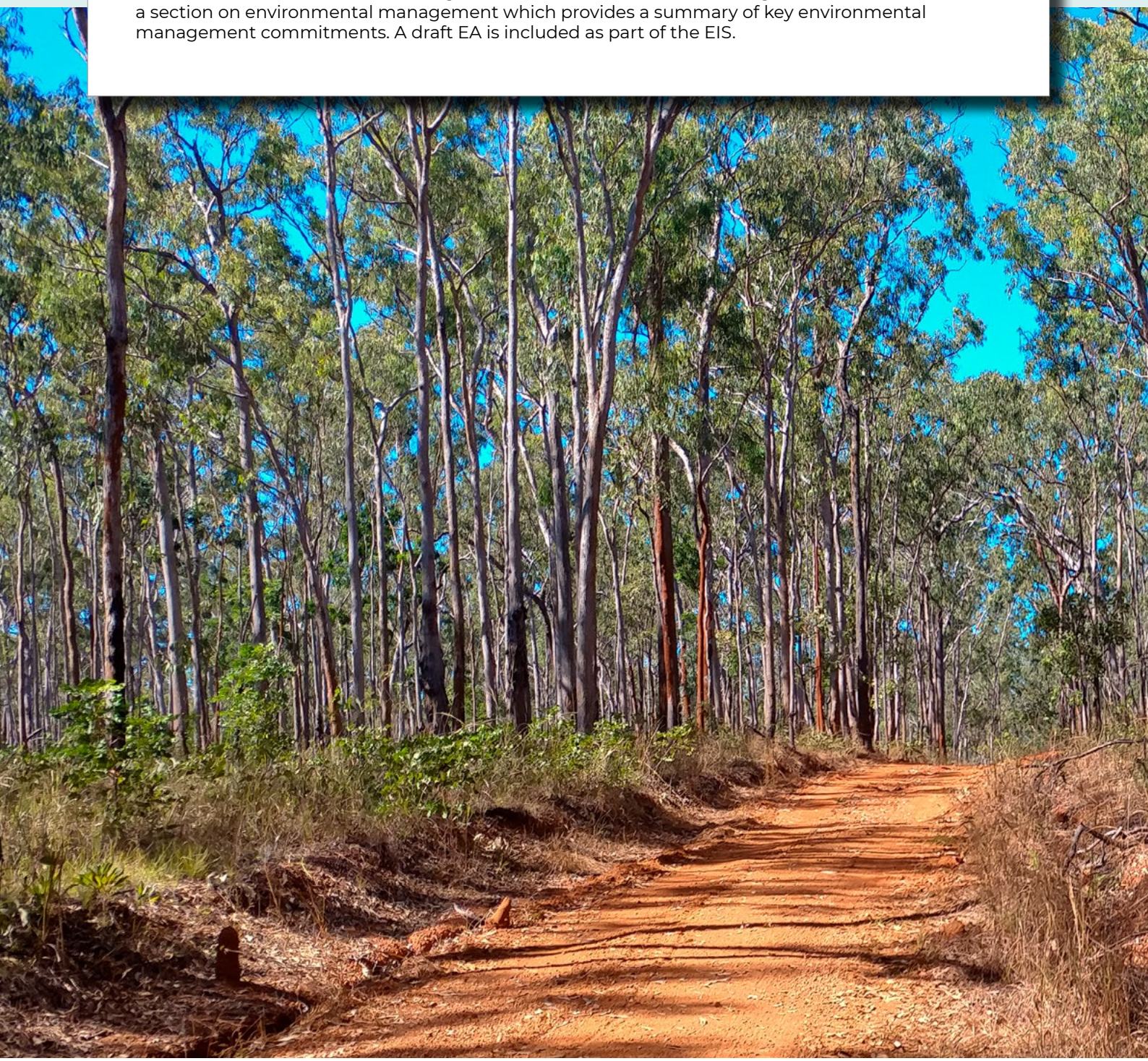
The proponent has undertaken a Preliminary Hazard Analysis (PHA) to identify and understand the risks that the project may pose to sensitive receptors and surrounding land uses. In identifying hazards associated with the project, consideration has been given to project activities and also natural and technological events. The highest risks derived under the PHA relate to road transportation, interaction with mobile equipment, fauna interaction, exposure to energy sources, loss of containment, cyclones, flooding, and bushfires. The overall risk profile for the project, based on the PHA, is low due to the controls that have been included within the project design, the HSEC Management System that will be adopted, and the remoteness of the site in relation to populated areas and built infrastructure.

Timely consultation with key stakeholders will be undertaken as part of the development of the HSEC Management System. This will include consultation with local and regional representatives from emergency service providers in relation to the management of hazard and risk. In addition, consultation with key stakeholders will be undertaken as part of the emergency preparedness and response planning, including consultation with local and regional representatives from the emergency services.

In the interests of ensuring that the emergency services are prepared should they be required to respond to an incident at the project site, the proponent will provide relevant information as it becomes available.

Environmental Management & Commitments

The EIS contains measurable and auditable commitments to environmental management practices for the project. The implementation of these commitments will ensure that the project is undertaken in accordance with a high standard of environmental management. The EIS contains a section on environmental management which provides a summary of key environmental management commitments. A draft EA is included as part of the EIS.



We pay our respects to the Wik and Wik Waya People and their Elders, both past and present, while also acknowledging their strong and lasting connection to their country and culture.

We would also like to acknowledge the Wik Waya Traditional Owners and their families, who have a deep connection to the country on which the Aurukun Bauxite Project is located. They have generously shared valuable insights, cultural knowledge, and made significant contributions to the fieldwork in the development of the EIS.

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