WILDCAT
RESOURCES

TABBA TABBA PROJECT

Part IV *Environmental Protection Act 1986* Referral Supporting Document

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	J. Dornan	Wildcat	Project Director	05/06/26	
	AJ Saverimutto	Wildcat	Managing Director	11/06/2026	

Revisions

Version	Date	Prepared by	Description of revision
0.1	09/09/2026	SLR Consulting Australia Pty Ltd	Original version prepared to support the referral of the Tabba Tabba Project under Part IV EP Act.

Executive Summary

Wildcat (Tabba) Pty Ltd (Wildcat, the Proponent) proposes to develop the Tabba Tabba Project (the Proposal) located in the Pilbara region of Western Australia, to mine spodumene, tantalum, and petalite. The Proposal is located within the Nyamal Native Title Determination Area and is approximately 50km southeast of Port Hedland.

Background and Context

This Referral Supporting Document (RSD) has been prepared to support a referral and an assessment of the Proposal under Part IV of the *Environmental Protection Act 1986 (WA)* (EP Act). It has been prepared in accordance with *Environmental Impact Assessment Practice Guide Assessment of Proposals in Western Australia under Part IV of the Environmental Protection Act 1986* (EPA, 2025a) and relevant associated instructions.

This document addresses all stages of the Proposal's implementation. It provides a summary and analysis of the environmental investigations undertaken for the Proposal, describing potential impacts on environmental factors, mitigation measures and predicted environmental outcomes.

Proposal Overview

The general proposal content description is summarised in **Table E-1**.

Table E-1: General Proposal Description

Item	Description
Proposal title	Tabba Tabba Project
Proponent name	Wildcat (Tabba) Pty Ltd
Short description	The Proposal is to construct and operate a spodumene, tantalum, and petalite mine. The Proposal includes: • Open pit and underground mining of lithium and tantalum ores from the proposed deposit over a life of mine of 20 years (inclusive of construction, operations and closure). • The construction and operation of a 4.5Mtpa spodumene, 1.0Mtpa petalite, and 0.5Mtpa tantalum processing facility. • Run of mine (ROM) pad for ore storage and management. • Waste rock landforms (WRLs) for storage of waste material from the mining process. • Tailings storage facility (TSF) designed as an integrated waste landform (IWL) for safe disposal of process tailings. • Water supply system, including bore fields and pipelines. • Pit dewatering system to manage groundwater levels intersected from year one of mining. • Accommodation village, including a wastewater treatment plant (WWTP) and spray field for treated effluent disposal. • Hybrid power station, consisting of thermal (gas turbines), solar, and battery energy storage system (BESS). • Other supporting infrastructure (workshops, offices, warehousing, explosives). • Borrow pits to source construction materials for road and infrastructure development.

Summary of Predicted Impacts, Proposed Mitigation, and Outcomes

A summary of the predicted impacted, proposed mitigation and environmental outcomes for each of the preliminary key environmental factors is presented in **Table E-2**.

Table E-2: Summary of Potential Impacts, Proposed Mitigation, and Outcomes

Aspect	Discussion
Inland Waters	
Proposed Mitigation	Avoid: • Place major infrastructure within the upper catchment where the areas draining to the principal mine and processing components are relatively small, rather than in lower parts of the catchment where flood flows would be larger and more difficult to manage. • Avoid unnecessary groundwater abstraction by aligning dewatering and water supply requirements with operational demand. • Avoid uncontrolled discharge of mine water, runoff or wastewater to natural drainage lines, including Tabba Tabba Creek. • Avoid, where practicable, disturbance to riparian and drainage-line vegetation associated with Tabba Tabba Creek and other local drainage features. Minimise: • Divert clean surface water around or through the site, where required, to maintain flows in waterways and preserve local drainage function. • Capture and manage contact water, washdown water and sediment-laden runoff for reuse or controlled management, where practicable. • Staged pit dewatering and optimisation of bore field abstraction to reduce inflow rates and drawdown extent. • Integration of dewatering water into the site water balance to meet operational demand, noting that no discharge is proposed. • Consultation with the pastoralist regarding potential drawdown effects on pastoral bore/s and implementation of a management response, including deepening or replacement of bores if required, to maintain stock water supply. • Implementation of adaptive management if monitoring indicates greater-than-predicted change in groundwater levels, groundwater quality, aquatic habitat condition, creekline water quality, or vegetation response. Rehabilitate - Detailed rehabilitation objectives, completion criteria and monitoring will be defined in a Mine Closure Plan (MCP) approved by the Department of Mines, Petroleum and Exploration. Rehabilitation may include, but is not limited to: • Progressive rehabilitation of disturbed areas to reduce erosion, sediment generation and uncontrolled runoff. • Stabilisation of landforms and drainage surfaces to support appropriate post-mining drainage behaviour. • Closure design for IWLTSF and other mine landforms to reduce long-term seepage and water quality risks.

Predicted Impacts	• The following residual impacts are potentially significant:
	  ○ Groundwater drawdown from mine dewatering and abstraction
	  ○ Impacts on groundwater dependent vegetation (GDV) and potential GDV
	• The following residual impacts are not considered significant:
	  ○ Alteration of local surface water flow paths and flood behaviour
	  ○ Erosion and sediment transport to drainage lines

Aspect	Discussion
	○ Surface water quality impacts on Tabba Tabba Creek ○ Groundwater quality impacts ○ Impacts on aquatic ecology in Tabba Tabba Creek ○ Pit lake and closure-related changes to groundwater regime ○ Reduction in groundwater availability to nearby users • Cumulative impacts are not considered significant
Outcomes	• Hydrological regimes of groundwater and surface water are maintained to the extent that environmental values are protected. • Local hydrology within Tabba Tabba Creek and its associated tributaries is managed to ensure the Proposal does not cause significant adverse impacts on drainage function, flood behaviour, or seasonal aquatic habitat availability. • Mine dewatering and groundwater abstraction are managed to ensure operational water demand is met without causing significant adverse impacts on groundwater regimes, nearby users, or groundwater-supported ecological values, with alternative management measures implemented where required. • Groundwater aquifers and surface water quality are protected from significant degradation caused by mine development, operation and closure. • Aquatic habitats and aquatic fauna communities within Tabba Tabba Creek, and any downstream receiving environments potentially influenced by the Proposal, are protected from significant adverse impacts resulting from altered flow regimes, sedimentation or contamination. • Mine water, contact water, runoff, wastewater and hazardous materials are managed to prevent significant contamination of Inland Waters. • Monitoring and adaptive management are implemented to identify early changes in groundwater levels, groundwater quality, hydrology and potential groundwater-dependent receptors, and to take corrective action where required. • Closure of landforms and the final pit lake are managed to minimise long-term risks to Inland Waters.
Flora and Vegetation	
Proposed Mitigation	<u>Avoid</u>: • No clearing to occur outside the proposed development envelope. • Avoid uncontrolled releases of runoff from disturbed areas to riparian vegetation areas. • Employ underground mining techniques, where feasible, to avoid extensive clearing. <u>Minimise</u>: • Clearing is to be limited to the minimum area necessary. • Total area of vegetation proposed to be cleared will not exceed 2,180ha. • Develop and implement procedures for weed hygiene and control. • Develop and implement procedures to control vegetation and ground disturbance.

Aspect	Discussion
	Rehabilitate – Detailed rehabilitation objectives, completion criteria and monitoring will be defined a MCP approved by DMPE. Rehabilitation may include, but is not limited to: • Topsoil to be stripped from disturbed areas and stockpiled, to preserve soil seed bank and for use in rehabilitation. • Revegetation of rehabilitated areas to use suitable species of local provenance, where available. • Rehabilitate landforms as per the Mine Closure Plan at closure.

Predicted impacts	• The following residual impacts are potentially significant:
	  o Degradation of groundwater dependent vegetation due to groundwater drawdown.
	• The following residual impacts are not considered significant:
	  o Habitat loss, degradation and fragmentation due to clearing.
	  o Loss of conservation significant flora.
	  o Introduction of new weed species or spread of existing weed species.
	  o Degradation of vegetation from dust deposition and potential change to fire regimes.
	• Cumulative impacts are not considered significant

Outcomes	• Direct disturbance to be limited to 2,180 ha. • Direct disturbance to be limited to within the defined development envelope. • No direct disturbance to currently listed threatened ecological communities (TECs) or priority ecological communities (PECs). • No detectable increase in the population of environmental weeds within the flora study area, compared to baseline. • Negligible impact to priority species.
Terrestrial Fauna	
Mitigation	Avoid: • Avoid the use of barbed wire fencing, unless required by legislation or safety requirements. • Avoid clearing of active Grey Falcon nests within critical habitat. Minimise: • Use previously disturbed areas to the maximum extent possible. • Limit disturbance to Major River habitat to 13ha. • Limit disturbance to Rocky Outcrop habitat to 1ha. • Limit total disturbance to 2,180ha. • Pre-clearance surveys in Major River and Rocky Outcrop habitat considered critical habitat for Northern Quoll, Pilbara Olive Python and Grey Falcon in accordance with approved Conservation Significant Species Management Plan (CSSMP). • Spotter catcher present during clearing of Major River and Rocky Outcrop habitat for Northern Quoll, Pilbara Olive Python and Grey Falcon. • Implementation of ground disturbance permit system.

Aspect	Discussion
	• Implementation of speed limits across the development envelope. Rehabilitate – Detailed rehabilitation objectives, completion criteria and monitoring will be defined a MCP approved by DMPE. Rehabilitation may include, but is not limited to: • Progressive rehabilitation of disturbed areas • Reestablishing natural landforms • Restoration of potential terrestrial fauna habitat.
Potential Impacts	• The following residual impacts are potentially significant: o Clearing of 13ha of Major River habitat considered critical to the survival or recovery of Threatened species including Pilbara Olive Python and Grey Falcon. o Clearing of 1ha of Rocky Outcrop habitat considered critical to the survival or recovery of Northern Quoll and Pilbara Olive Python. • The following residual impacts are not considered significant: o Habitat loss impacting fauna populations o Fauna injury or deaths from vehicle and machinery interactions. o Fauna injury or deaths from collision with powerlines and/or fences. o Loss of possible short-range endemic (SRE) invertebrate habitat. o Habitat degradation associated with construction and operational activities, including introduction and spread of weeds, dust and altered fire regimes. o Disturbance from noise, light and vibration. • Cumulative impacts are not considered significant
Outcomes	• Utilise already cleared areas wherever possible. • Limit clearing to no more than 2,180ha within a development envelope of 4,840ha. • Limit clearing to no more than 1ha of Rocky Outcrop habitat. • Limit clearing to no more than 13ha of Major River habitat. • No clearing of active Grey Falcon nests. • Avoid clearing of location of confirmed SRE invertebrate species - *Antichiropus forcipatus*.

Aspect	Discussion
Subterranean Fauna	
Mitigation	Avoid: • Avoid disturbance to known habitat for restricted troglofauna species' *Tyrannochthonius* `BPS619'. • Avoid unnecessary removal of stygofauna habitat by aligning dewatering and water supply requirements with operational demand. Minimise: • Reduce disturbance to trogofauna habitat by using underground mining methods, where feasible. • Reduce inundation of the subsurface zone under the TSF by optimising collection and reuse of water from tailings, and collection of seepage. • Optimise groundwater abstraction across the mine pits and bore fields, to reduce the magnitude of water table depression. • Minimise WRL footprints by increasing height up to the maximum natural elevation of the local area. Rehabilitate – Detailed rehabilitation objectives, completion criteria and monitoring will be defined a MCP approved by DMPE. Rehabilitation may include, but is not limited to: • Closure design for IWLTSF and other mine landforms to reduce long-term seepage and water quality risks. • Following the end of mining operations, dewatering will cease to enable groundwater levels to return to their natural levels.

Potential Impacts	• There are no residual impacts that are considered potentially significant.
	• The following residual impacts are not considered significant:
	  ○ Removal of troglofauna habitat (which extends beyond the pit boundary).
	  ○ Reduction in available stygofauna habitat.
	  ○ Reduction in troglofauna habitat from potential mounding of groundwater at the site of the IWLTSF.
	  ○ Reduction in groundwater quality from seepage or contamination.
	• Cumulative impacts are not considered significant.

Outcomes	• Mine dewatering and groundwater abstraction are managed to ensure operational water demand is met without causing significant adverse impacts on groundwater regimes, nearby users, or groundwater-supported ecological values, with alternative management measures implemented where required. • Groundwater is protected from significant degradation caused by mine development, operation and closure. • Monitoring and adaptive management are implemented to identify early changes in groundwater levels, groundwater quality, and to take corrective action where required. • Closure of landforms and the final pit lake are managed to minimise long-term risks to Inland Waters.

Aspect	Discussion
Greenhouse Gas Emissions	
Mitigation	Avoid: • Scope 1: o Integration of renewable energy (solar photovoltaic (PV)) and BESS to reduce reliance on liquefied natural gas (LNG)-fuelled power generation. o Installation of a staged hybrid renewable energy power system is anticipated. Stage 1 is expected to comprise 29.0MWp of solar PV capacity, a 13.69MW / 27.38MWh BESS, and 20.4MW of LNG-fired gas generation. Stage 2 is likely to include potential expansion to approximately 45.6 MWp of solar PV capacity together with additional BESS and renewable energy generation capacity, subject to ongoing engineering, commercial and operational optimisation. Increased utilisation of renewable energy and reduced reliance on LNG-fuelled power generation over the life of the Proposal. o Design of the power system is expected to prioritise renewable energy generation where feasible, with diesel generation likely limited to black start and backup power requirements (e.g. K-series Turbocharged Aftercooled (KTA) 50 gensets). o Mine plan optimisation, including site layout, haul road distance, fleet size and pit sequencing, is expected to assist in reducing mobile plant emissions associated with unnecessary fuel combustion. • Scope 2: o Not applicable – there are currently no plans to connect the Proposal to the electricity grid. All electricity required for operations to be generated on site, using a combination of LNG-fuelled thermal generation and renewable sources. • Scope 3: o Procurement and logistics planning is expected to consider embodied emissions in materials of contraction and consumables, as well as supplier proximity and transport requirements to avoid transport-related emissions where feasible. Minimise: • Scope 1: o Selection of LNG-powered engines for the thermal power plant which has approximately 25% lower GHG emissions intensity compared to diesel generators. o Fuel efficiency will be improved through consideration of autonomous haulage, idle hours reduction. o The sizing and specifications of stationary plant will be optimised to maximise energy efficiency. o Blast design will be optimised to reduce explosive consumption. o Clearing of native vegetation will be minimised through mine planning optimisation. o All machinery will be maintained in good working order, to manufacturers' requirements. o Energy management and monitoring systems will be implemented to improve operational efficiency. o The use of energy-efficient technology will be used wherever practicable. • Scope 3:

Aspect	Discussion
	○ Freight and export potential pathways have been identified, with final selection to consider operational efficiency and associated emissions, where practicable. ○ Transport-related emissions are expected to be further refined as detailed logistics data becomes available.
Potential Impacts	• There are no residual impacts that are considered potentially significant. • The following residual impacts are not considered significant: ○ Contribution to increased atmospheric GHG concentrations at the state, national, and global levels. Cumulative impacts are not considered significant.
Outcomes	• Estimated annual average Scope 1 GHG emissions over the Proposal's operational phase is approximately 110,000tCO_2-e. • The Proposal's impact on State and National emissions is minor, contributing less than 0.13% to total State energy sector emissions and under 0.03% to total National emissions. • GHG emissions will be regulated under the Safeguard Mechanism in the year emissions exceed 100,000tCO_2-e.
Social Surroundings	
Mitigation	<u>Avoid</u>: • Establishment of exclusion zones to protect identified Aboriginal cultural heritage values in consultation with Nyamal Aboriginal Corporation (NAC), informed by heritage surveys and the Native Title Agreement. • Iterative design of the site access road alignment to avoid Aboriginal cultural heritage sites and maintain separation from areas of cultural sensitivity, while also reducing potential dust. • Commitment to no ground disturbance in unsurveyed areas, supported by a ground disturbance permit system and ongoing heritage surveys. • The Environmental Noise Assessment (SLR, 2026b) demonstrates that predicted noise levels at external receptors comply with the *Environmental Protection (Noise) Regulations 1997*. • Iterative refinement of infrastructure layout, informed by the Environmental Noise Assessment (SLR, 2026b), including relocation of the accommodation village further north and away from the access road to avoid higher noise exposure areas identified in noise contours. • Avoid impacts to external sensitive receptors for dust, total suspended particulates (TSP), particulate matter <10µm (PM_{10}) and particulate matter <2.5µm ($PM_{2.5}$) as demonstrated through the Air Quality Assessment (SLR, 2026a). <u>Minimise</u>: • Ongoing engagement with the NAC. • Implementation of Heritage Monitoring Zones, agreed with the NAC, to manage ground disturbance activities in areas of cultural sensitivity. • Incorporation of heritage survey outcomes into project design to minimise disturbance. • Implementation of heritage clearance processes and ground disturbance permits prior to any disturbance activities.

Aspect	Discussion
	• Consideration of surrounding topography and elevation to inform landform design. Mine landforms (including the TSF and WRLs) have been designed with reference to the local elevation range; the highest point in the surrounding area is at 176m Australian Height Datum (mAHD), with the plains at 100-110mAHD. Proposed landform heights (approximately 70-80m) are consistent with, and do not exceed, the vertical scale of the surrounding landscape. • Access agreements for exploration and mining activities with both pastoral leaseholders will manage impacts to existing pastoral activities. This includes measures to mitigate any impacts to bores affected by the Proposal. • Consultation between Wildcat and the affected pastoral leaseholder regarding the proposed closure of a section of Wallareenya Road. The Proposal provides alternative property access via the proposed new site access road. • Accommodation village layout optimisation, including internal buffering to further reduce noise exposure. • Operational controls, including equipment selection, maintenance, and management of vehicle movements to reduce noise emissions at source. • Management of blasting activities to comply with applicable noise and air blast criteria. • Mine landforms (including the TSF and WRLs) have been designed to integrate with the existing landform profile, minimising visual prominence. • Progressive shaping and contouring of WRLs to create naturalistic landforms and reduce visual contrast. • Implementation of industry-standard dust suppression measures (e.g. water carts, progressive rehabilitation, and management of exposed surfaces), such that dust emissions remain localised to the Proposal and do not affect external sensitive receptors, consistent with modelling results. <u>Rehabilitate</u> - Detailed rehabilitation objectives, completion criteria and monitoring will be defined a MCP approved by DMPE. Rehabilitation may include, but is not limited to: • Progressive rehabilitation of disturbed areas during operations to reduce the duration and extent of visual and dust impacts. • Recontouring and profiling of mine landforms (including the TSF and WRLs) to achieve stable, non-erodible and naturalistic landforms that integrate with the surrounding topography. • Surface treatment and revegetation, where appropriate, to stabilise landforms and reduce visual contrast with the surrounding landscape. • Decommissioning and removal of infrastructure that is no longer required at closure. • Implementation of closure measures to achieve safe, stable, non-polluting and sustainable landforms, consistent with the agreed post-mining land use with key stakeholders.
Predicted Impacts	• There are no residual impacts that are considered potentially significant. • The following residual impacts are not considered significant: o Disturbance to Aboriginal cultural heritage values in accordance with consultation with NAC and approved under appropriate legislation.

Aspect	Discussion
	○ Noise emissions affecting amenity at nearby receptors. ○ Visual amenity impacts from mine infrastructure and landforms (including TSF and WRLs). ○ Dust emissions affecting amenity. • Cumulative impacts are not considered significant.
Outcomes	• No disturbance to Aboriginal cultural heritage sites in the development envelope, unless disturbance is authorised under the *Aboriginal Heritage Act 1972* (WA), in accordance with the Native Title Mining Agreement and informed by consultation with the Nyamal People. • Exclusion zones are established and maintained to protect identified Aboriginal cultural heritage values and areas of cultural sensitivity. • Heritage Monitoring Zones, agreed with the NAC, are implemented to manage ground disturbance activities in areas of cultural sensitivity. • Ongoing access to land for traditional use and custom by the native title party is maintained, subject to reasonable health and safety requirements. • Adverse impacts to Aboriginal cultural heritage are avoided where practicable and otherwise minimised through project design, including the development envelope and indicative disturbance footprint. • Consultation and engagement with the NAC are ongoing for the life of the Proposal to support the protection and management of Aboriginal cultural heritage values.

CONTENTS

Figures

Tables

Plates

Glossary

Term	Definition
ACCU	Australian carbon credit unit
ACN	Australian company number
AEP	Average exceedance period
AH Act	Aboriginal Heritage Act 1972
AHIS	Aboriginal Heritage Inquiry System
ANCOLD	Australian National Committee on Large Dams
ANZECC	Australian and New Zealand Environment and Conservation Council
ANZG	Australian and New Zealand guidelines
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
BAM Act	Biosecurity and Agriculture Management Act 2007
BC Act	Biodiversity Conservation Act 2016
BESS	Battery energy storage system
BSA	Bench stack angle
CCSMP	Conservation significant species management plan
CER	Clean Energy Regulator
CIA	Cumulative impact assessment
DBCA	Department of Biodiversity, Conservation and Attractions
DE	Development envelope
DLPH	Department of Planning, Lands and Heritage
DMP	Department of Mines and Petroleum
DMPE	Department of Mines, Petroleum and Exploration
DMS	Dense media separation
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
EIA	Environmental impact assessment
EP Act	Environment Protection Act 1986
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
ERC	Emissions reduction contribution
GDE	Groundwater dependent ecosystem
GDV	Groundwater dependent vegetation
GHG	Greenhouse gas
GL	Gigalitres
HDPE	High density polyethylene
HPA	Heritage protection agreement
IBRA	Interim Biogeographic Regionalisation for Australia
IDF	Indicative disturbance footprint
IWL	Integrated waste landform
IWLTSF	Integrated waste landform tailings storage facility
KTA	K-series turbocharged aftercooled (genset generator)
LHS	Long hole open stoping

Term	Definition
LIA	Local impact area
LNG	Liquified natural gas
mAHD	Meters Australian height datum
Mbgl	Meters below ground level
MCP	Mine closure plan
MDCP	Mining development and closure proposal
MNES	Matters of National Environmental Significance
MRF	Mining Rehabilitation Fund
MSA	Mine services area
MW	Megawatt
NAC	Nyamal Aboriginal Corporation
NAF	Non-acid forming
NELC	Nyamal Engagement and Liaison Committee
NGER Act	National Greenhouse Emissions Reporting Act 2007 (Commonwealth)
NTA	Native title agreement
NVCP	Native vegetation clearing permit
PEC	Priority ecological community
PEOF	Pilbara Environmental Offset Fund
PM10	Particulate matter >10 µm diameter
PM2.5	Particulate matter >2.5 µm diameter
PMP	Probable maximum precipitation
POW	Program of Works
PV	Photovoltaic
RIA	Regional impact area
RiWI Act	Rights in Water and Irrigation Act 1914
ROM	Run of mine
RSD	Referral supporting document
SMC	Safeguard mechanism credit
SPRAT	Species Profile and Threats (database)
SRE	Short range endemic
TDS	Total dissolved solids
TEC	Threatened ecological community
TSF	Tailings storage facility
TSP	Total suspended particulates
VT	Vegetation type
WRL	Waste rock landform
WWTP	Waste water treatment plant

1 Introduction

Wildcat (Tabba) Pty Ltd (Wildcat, the Proponent), a wholly owned subsidiary of Wildcat Resources Ltd proposes to develop the Tabba Tabba Project (the Proposal) located in the Pilbara region of Western Australia, to mine spodumene, tantalum and petalite. The Proposal is located within the Nyamal Native Title Determination Area and is approximately 50km southeast of Port Hedland (**Figure 1.**).

1.1 Purpose and Scope

This document has been prepared to support a referral and provide the necessary information for an assessment of the Proposal under Part IV of the *Environmental Protection Act 1986* (EP Act). It has been prepared in accordance with the Environmental Impact Assessment Practice Guide Assessment of Proposals in Western Australia under Part IV of the Environmental Protection Act 1986 (EPA, 2025a) and relevant associated instructions.

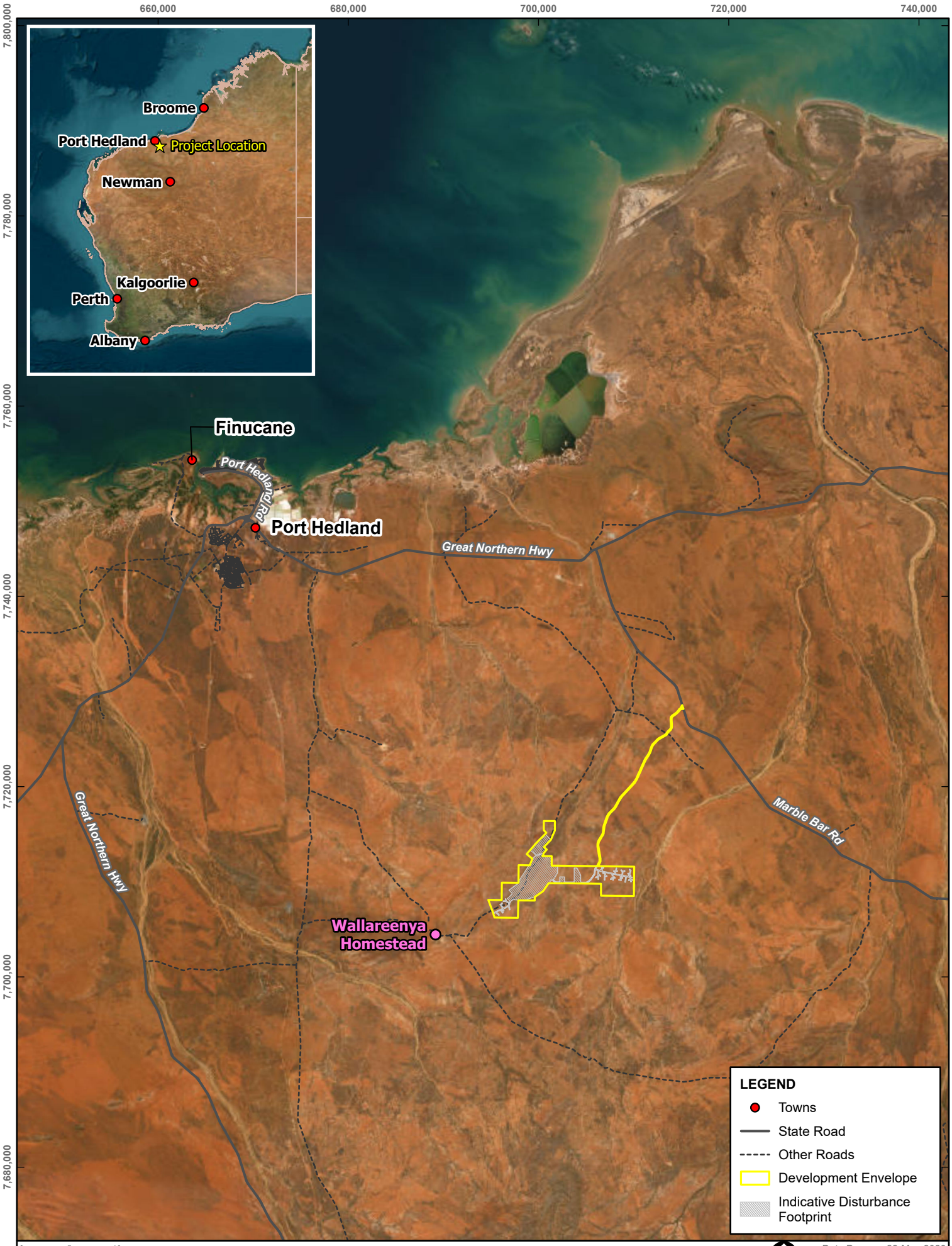
This document addresses all stages of the Proposal's implementation, including construction, commissioning, operation, and closure. It provides a summary and analysis of the environmental investigations undertaken for the Proposal, describing potential impacts on environmental factors, mitigation measures and predicted environmental outcomes. Supporting technical reports are included as appendices.

1.2 Proponent Details

Wildcat a wholly owned subsidiary of Wildcat Resources Limited, is the Proponent of this Proposal. Proponent details are provided in **Table 1-1**.

Table 1-1 Proponent Details

Proponent	Wildcat (Tabba) Pty Ltd
ACN	684 827 432
Address	Suite 3, Ground Floor, 16 Ord Street, West Perth, WA, 6005
Contact	Erin Lee, Principal – Environment and Approvals Ph: +61 8 6169 1433 Email: erinlee@wildcatresources.com.au



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Earthstar Geographics
Drawn by: JWP

TABBA TABBA PROJECT
ENVIRONMENTAL REVIEW DOCUMENT

PROPOSAL LOCATION

FIGURE 1-1

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 1-1_Proposal Location

2 The Proposal

2.1 Proposal Content

The key characteristics of the Proposal are provided in **Table 2-1** with a detailed description of the Proposal elements provided in **Section 2.2**. The development envelope, indicative disturbance footprint, and key elements are shown in **Figure 2.1**.

Table 2-1 Proposal Content Elements

Proposal Element	Location / Description	Maximum Extent, Capacity or Range
Physical Elements		
Mine Elements including: • Open pits • Underground mining • Haul roads • Waste Rock Landforms (WRLs) • Low-grade ore stockpiles • Topsoil stockpiles	**Figure 2.1**	Up to 2,180ha of disturbance inside a development envelope of 4,840ha.
Mine dewatering infrastructure including: • Abstraction bore fields • Pipelines • Inpit dewatering system • Water management ponds		
Processing elements including: • Run of Mine (ROM) pad and ore stockpiles • Processing plants (including spodumene, tantalum and petalite). • Tailings storage facility (TSF) • Tailings and return pipelines • Process water ponds.		
Power generating elements including: • Gas turbine generator • Solar farm • Battery energy storage systems (BESS) • Associated power infrastructure		
Support infrastructure including: • Access roads • Accommodation village • Wastewater treatment plants (WWTPs) and sprayfields • Pipelines • Surface water management infrastructure • Workshops • Offices • Warehouses • Laydown areas • Explosives magazines • Borrow pits • Other ancillary infrastructure		

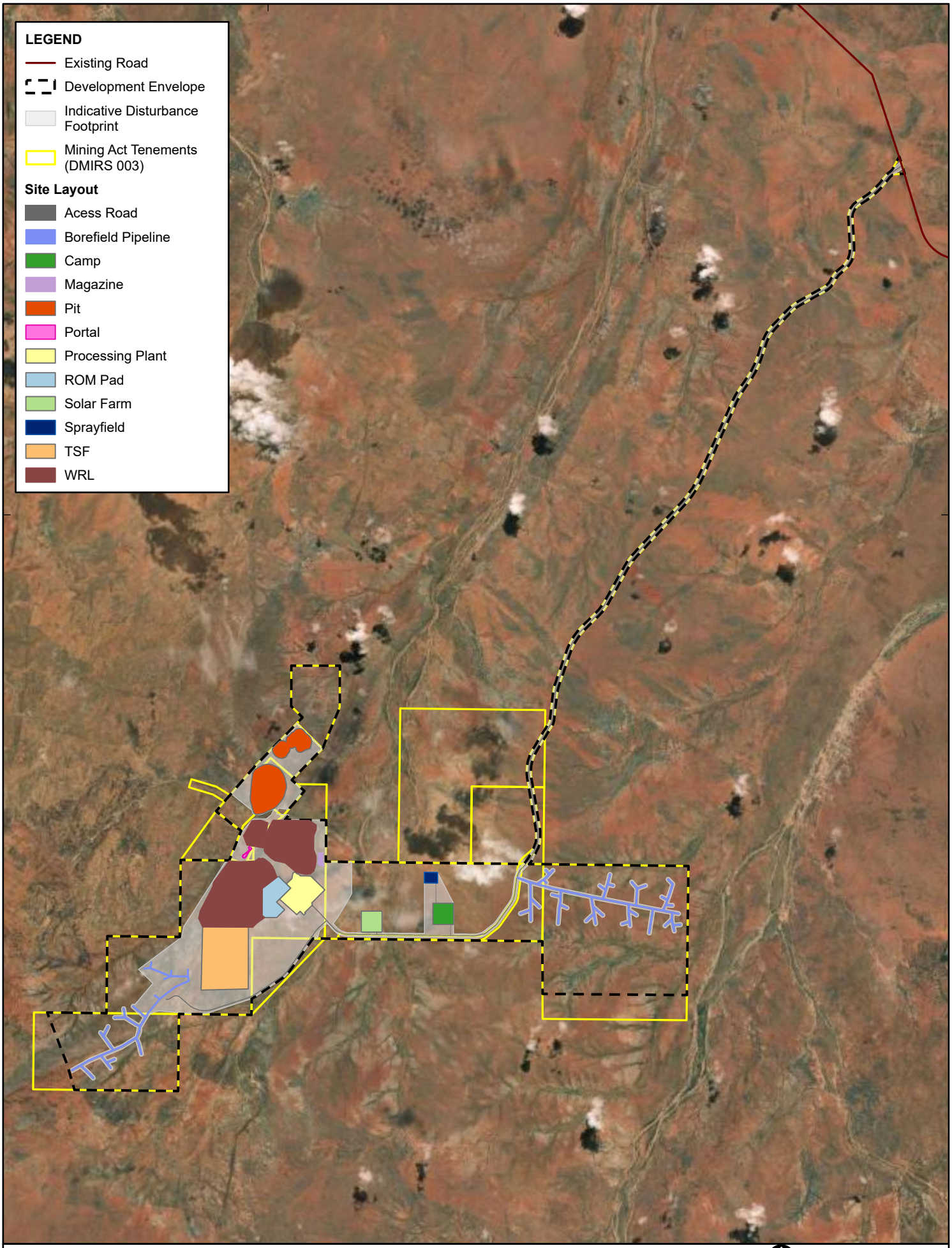
Proposal Element		Location / Description	Maximum Extent, Capacity or Range
Operational Elements			
Mine dewatering and groundwater abstraction		**Figure 2.1**	Up to 6 GL/year
Mineral processing			Up to 4.5 million tonnes per annum (Mtpa) spodumene Up to 1.0 Mtpa petalite Up to 0.5 Mtpa tantalum
Waste tonnes mined			Approx 290 million tonnes
Tailings deposition			Up to 74.1 Mt
Greenhouse Gas Emissions			
Estimate total scope 1 emissions		1,808,310 CO_2-e	
Estimate total scope 2 emissions		0 CO_2-e	
Estimate total scope 3 emissions		3,452,867 CO_2-e	
Commissioning			
Commissioning of the processing facility to be undertaken subject to operational limits described above and in accordance with the Environmental Licence conditions approved under Part V EP Act.			
Rehabilitation and Closure			
Initial closure considerations have been included as part of site layout planning and materials characterisation. A detailed Mining Development and Closure Proposal will be completed as part of the secondary approvals process.			
Other Elements			
Life of Mine	Maximum		20 years
	Construction Phase		1.5 years
	Operational Phase		17 years
	Closure Phase		1.5 years

Excluded activities

The following activities are excluded from the scope of this Proposal:

- Existing, ongoing and future exploration activities and support infrastructure;
- Resource definition drilling;
- Feasibility-related studies including but not limited to ongoing test work, geotechnical and geophysical assessments, water monitoring and management trials/activities;
- Heritage and environmental surveys; and
- Any associated rehabilitation.

Pastoral activities undertaken by the Wallereenya Pastoral Leaseholder will continue to occur in the area.



Scale: 1:115,528 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 09-Jun-2026
Project Number: 620.V00796

SLR

Earthstar Geographics
Drawn by: JWP

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PROPOSED DEVELOPMENT ENVELOPE AND INDICATIVE SITE LAYOUT

FIGURE 2-1

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 2-1_Proposed Development Envelope and Indicative Site Layout

2.2 Proposal Description

2.2.1 Mining Tenure

The Proponent has obtained tenure under the *Mining Act 1978* (WA) (Mining Act) for the Proposal, as listed in **Table 2-2**, and illustrated in **Figure 2.2**.

Table 2-2 Relevant Mining Act tenure

Mining Leases	Miscellaneous Licences		General Purpose Lease
M 45/354	L45/323	L45/911	G 45/360
M 45/375	L45/845	L45/912	
M 45/376	L45/846	L45/913	
M 45/377	L45/847	L45/914	
	L45/848	L45/915	
	L45/863	L45/916	
	L45/868		

2.2.2 Existing on-site activities

Development of a tantalum mining operation commenced in 2014; however, it was suspended in 2015, and the site was rehabilitated over the next 3 years. Wildcat acquired the Project in 2023 and continued exploration activities. Currently, infrastructure is limited to an 80-person camp, core yard, and site offices used to support exploration and project development activities.

0 2.5 5 km

Scale: 1:125,000 at A4
Coordinate System: GDA2020

Date Drawn: 22-May-2026
Project Number: 620.V00796

SLR

Earthstar Geographics
Drawn by: KM

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MINING ACT TENEMENTS

FIGURE 2-2

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 2-2_Relevant Mining Act Tenements and Proposed Development Envelope

2.2.3 Mining Operations

Wildcat proposes to mine spodumene, petalite, and tantalum from six ore bodies being Leia, Luke, Tabba Tabba, Chewy, Han, and Hutt. Mining will be conducted in both open pit and underground operations through conventional drill and blast methods.

The Leia Pit is proposed to mine parts of the Leia orebody, Tabba Tabba and Chewy orebodies with Han and Hutt orebodies to be mined through their own smaller open pits. A geotechnical study was conducted of the pit locations with recommended design parameters provided in **Table 2-3**. Further geotechnical studies will be conducted to confirm these design parameters prior to construction.

Table 2-3 Open Pit Recommended Design Parameters

Material	Maximum Bench Face Angle (°)	Maximum Bench Height (m)	Minimum Berm Width (m)	Inter-ramp Angle (Bench Stack Angle (BSA)) (°)
Weathered	60	10	6.5	39.2
Fresh Rock	80	20	8.5	55.3

Underground mining is proposed for the remainder of the Leia orebody (north and south) and for the Luke orebody.

For the area of the proposed open pits, any topsoil and subsoil present will be removed using scrapers or other suitable machinery and stockpiled for use in mine rehabilitation. Overburden and ore will be drilled, charged with explosives and blasted in benches. The blasted ore material will be transported to the ROM pad for processing or stockpiled in low-grade stockpiles. Waste overburden will be crushed and used onsite as construction material, transported offsite to third-parties as construction aggregate, or to WRLs.

Underground mining is proposed to be undertaken using a longhole open stoping (LHS) method with backfill. Underground access for Luke will be developed from a surface portal while Leia underground will be accessed by in-pit portals. Ore will be extracted in stages, and stopes will be progressively backfilled primarily using cemented rock fill or waste rock fill, to enhance ground stability, maximise ore recovery and minimise subsidence risk.

2.2.4 Mine dewatering and water supply

The Proposal will involve mining below the groundwater table and will require dewatering. A detailed hydrogeological model has been developed to predict mine inflows, groundwater abstraction requirements, drawdown and final void behaviour ().

The final groundwater modelling indicates that mine inflow is expected to peak in approximately 2030 at about 0.6GL/year. Total extracted groundwater, including mine inflow and abstraction from supply bores, is predicted to be about 5.5GL/year over the first six years of mining, then progressively decreasing to about 3 GL/year by the end of mining. These results indicate that groundwater abstraction from supply bores will be required to supplement mine inflow and meet operational water demand.

Water recovered through dewatering is proposed to contribute to the operational water supply. Additional groundwater abstraction from supply bores is required to meet the Proposal water demand of up to 6GL/year (see **Figure 5.4** for bore field locations). Predicted annual dewatering and abstraction volumes, and operational water requirements are illustrated in **Chart 2-1**.

Given the difference between mine inflow volumes and operational water demand, groundwater abstraction is required in addition to dewatering supply. Under the current mine water strategy, abstracted groundwater, including dewatering water, is expected to be used on site, and no discharge of mine water to the environment is proposed. Further information on groundwater and potential impacts from the Proposal is provided in **Section 5.5**.

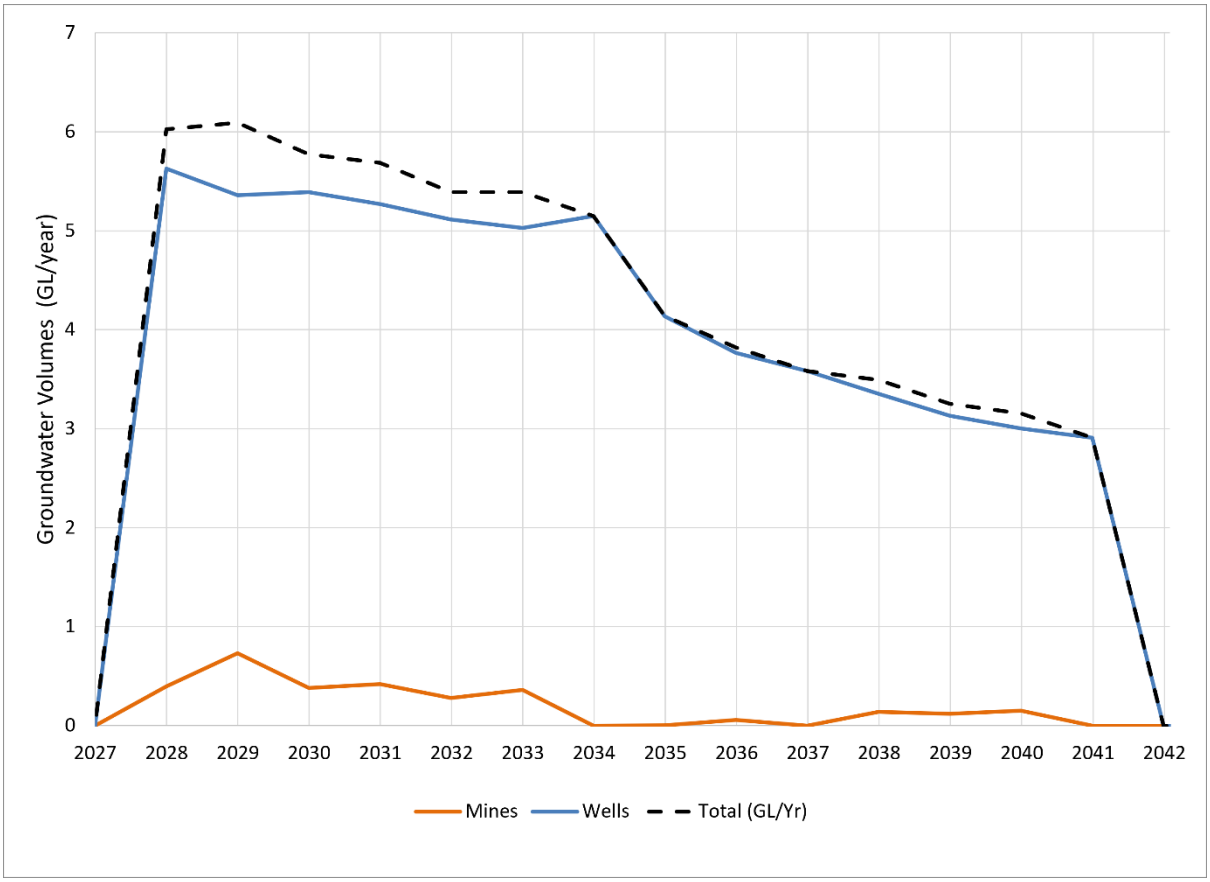


Chart 2-1: Predicted annual dewatering and abstraction volumes, and water requirements for the operational life of the Proposal

2.2.5 Waste Rock Landforms

Benign overburden, or mine waste, is proposed to be used as a construction material where reasonably practicable. An on-site crushing plant will produce material for use in:

- TSF embankments
- Hard stands
- ROM pad
- Road base
- Safety and abandonment bunds; and
- Other construction activities, as required.

Excess waste rock is proposed to be deposited in WRLs up to 80 m high, relative to the surrounding landscape.

Waste characterisation studies have been conducted to identify and quantify rock that poses a potential risk of acid or metalliferous drainage. These studies have identified that the majority

of the waste rock is inert and does not pose an acid or metalliferous drainage risk. Details of measure to manage potentially acid forming material are provided in **Appendix B-2: Other Environmental Factors (Terrestrial Environmental Quality)**.

2.2.6 Ore Processing

Wildcat proposes to develop and operate a spodumene beneficiation concentrator designed to process up to 4.5 million tonnes/year of lithium bearing ore aiming to produce up to approximately 595,000 tonnes/year of spodumene concentrate. Smaller capacity tantalum and petalite process lines are also proposed.

Processing would be exclusively based on physical beneficiation methods, with no chemical leaching or downstream refining undertaken on-site.

Spodumene Process Plant

A generalised process diagram is provided in **Figure 2.**. The processing circuits are designed to upgrade the ore into saleable spodumene concentrate.

From the ROM pad, ore would be fed through a primary crushing circuit that reduces the ore to a suitable size for further treatment. The crushed material then undergoes additional screening and grinding to achieve the particle size distribution required for efficient mineral separation. During this stage, desliming is undertaken to remove clay and fine silt fractions that could otherwise interfere with separation processes such as flotation.

Following size classification, magnetic separation units remove magnetic impurities, including iron-bearing minerals. The remaining non-magnetic material proceeds to a flotation circuit, where spodumene is separated from unwanted minerals. The resulting spodumene-rich concentrate is then thickened and dewatered.

The dewatered concentrate will be transferred to the concentrate storage and load-out facilities. The final product is an odourless, granular material that would be transported from the site by road for export likely from Port Hedland.

Waste material expected from the processing circuits includes:

- Desliming fines,
- Magnetic rejects, and
- Flotation tailings

These are proposed to be deposited in a purpose-designed TSF. Process water is recovered and reused where possible, reducing demand for additional abstraction from the onsite bore field, which provides the primary water supply for the concentrator.

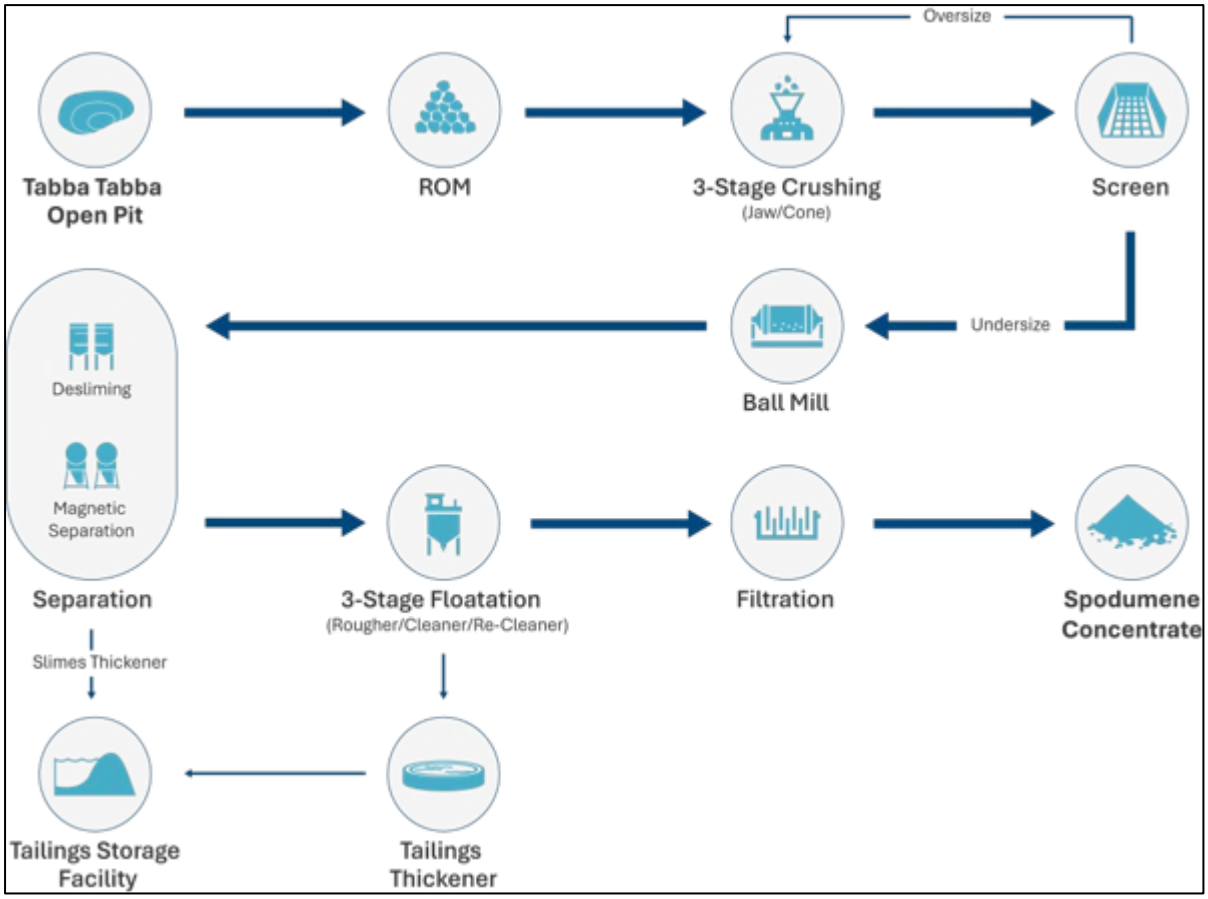


Figure 2.3 Generalised spodumene process flow diagram

Petalite Process Plant

The proposed processing methodology for the Petalite Process Plant varies from the processing methodology for the Spodumene Process Plant, which uses a whole of ore flotation methodology. The processing methodology is proposed to consist of two stages of Dense Media Separation (DMS) to separate the petalite from the spodumene at two separate particle sizes (**Figure 2.4**).

The Petalite Concentrate will be stockpiled for subsequent transport from site, while the spodumene concentrate stream will be pumped to the Spodumene Process Plant for further processing.

The tailings stream from the Petalite Process Plant is proposed to be pumped to the Spodumene Process Plant, where it will be combined with the tailings stream from the Spodumene Process Plant.

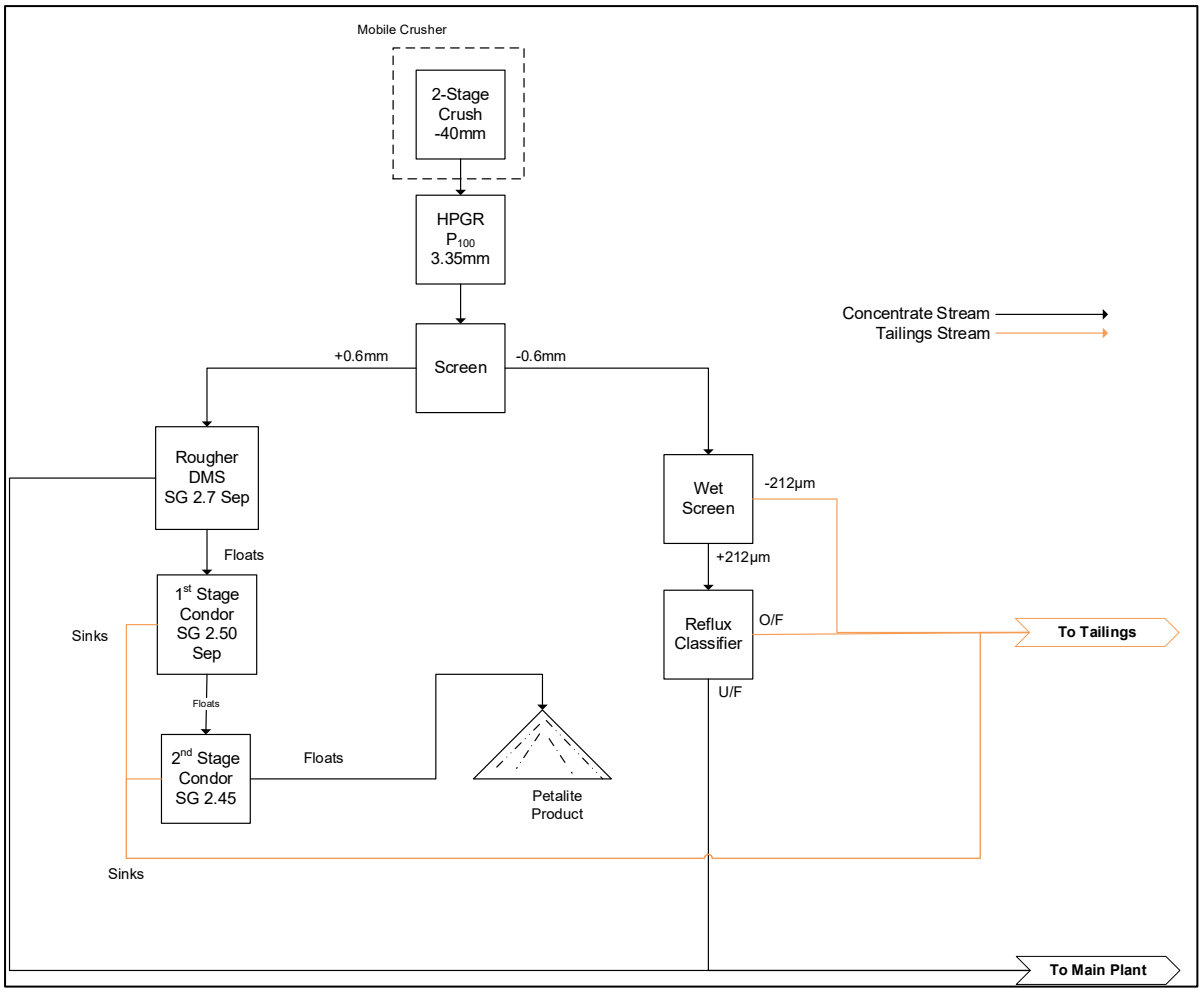


Figure 2.4 Petalite Process Plant Process Flow Block Diagram

Tantalum Process Plant

The Tabba Tabba tantalum resource sits in the hanging wall of the petalite resources which itself is located in the hanging wall of the spodumene resources. The tantalum resource is proposed to be processed by a standalone process plant using the methodology identified in **Figure 2.5**.

The tailings stream from the Tantalum Process Plant is proposed to be pumped to the TSF for disposal.

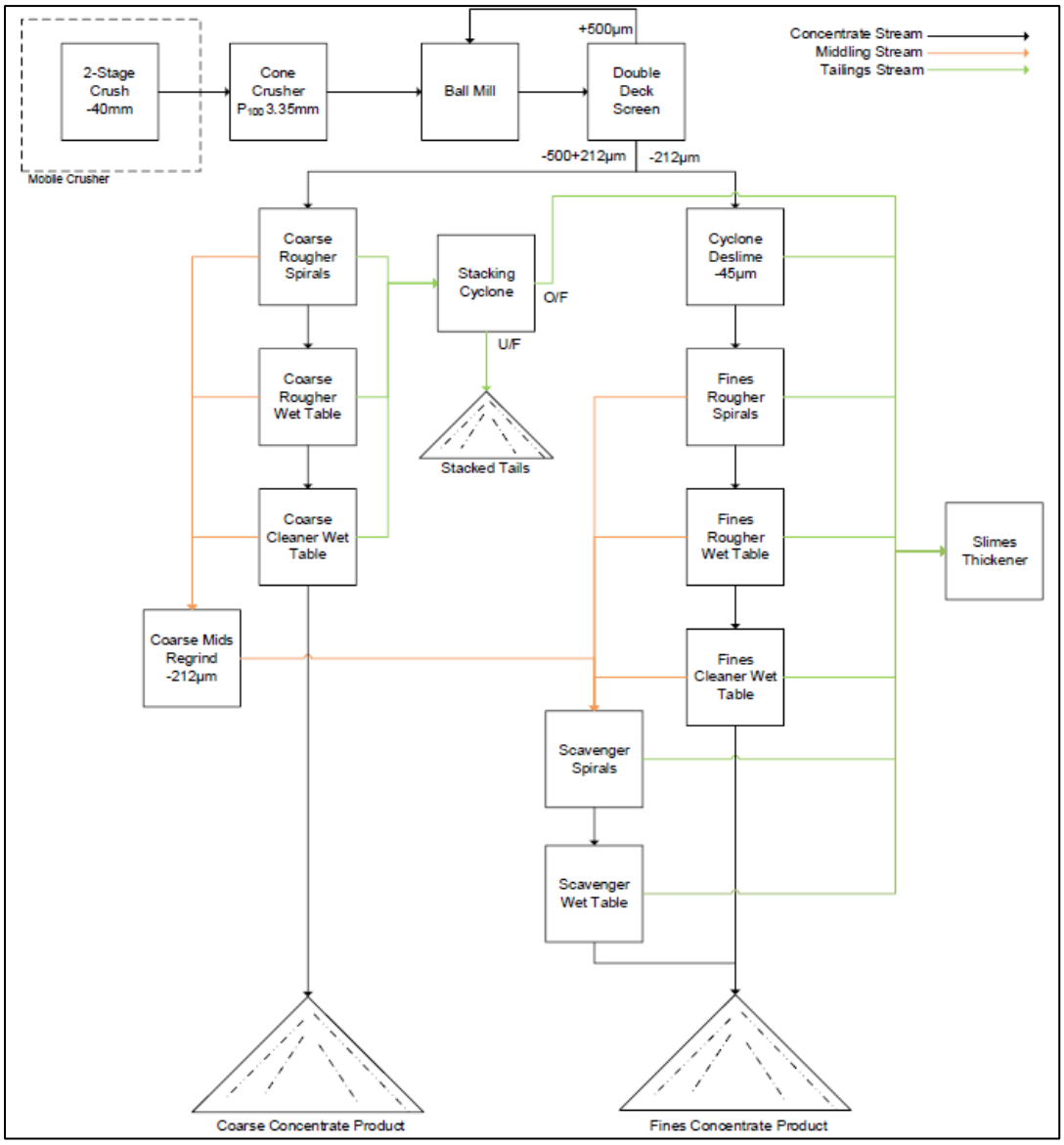


Figure 2.5 Tantalum Process Plant Process Flow Block Diagram

2.2.7 Tailings Storage

The Proposal will manage tailings within an Integrated Waste Landform Tailings Storage Facility (IWLTSF). Preliminary designs for the IWLTSF consist of two engineered cells which provide a total storage capacity of approximately 74.1 million tonnes of tailings over the expected 17-year operational mine life. An indicative design of the TSF embankment is provided in **Figure 2.6**.

The IWLTSF is proposed to be constructed in staged lifts predominantly from mine waste generated during pit development, with the maximum height of the IWLTSF embankment expected to be around 25 m above ground level. Construction of each lift will alternate between the two cells, with one cell under construction while the other is operational. The facility is sized to accommodate an annual deposition rate of approximately 3.8–4.1 Mt of thickened tailings.

Tailings would be deposited as a sub aerial slurry thickened to approximately 55% solids prior to pumping into the facility. Deposition would occur in thin, controlled layers to enhance drying and density. The central decant system will consist of slotted concrete pipes surrounded by filter rock and equipped with a pump to recover supernatant water for return to the processing plant. This arrangement maintains the pond around the central decant and away from the perimeter embankments, to promote stability and compliance with minimum freeboard requirements.

The tailings are non-acid-forming (NAF), have very low sulphur content (<0.01 wt%) and negative NAPP, generate circum-neutral leachate with low dissolved constituent concentrations, present low NORM potential and no fibrous mineral risk, and have physical characteristics consistent with stable hard-rock tailings suitable for conventional storage. See **Appendix B-2: Other Environmental Factors (Terrestrial Environmental Quality)** for further details on tailings characteristics.

Preliminary IWLTSF design includes seepage, stability, and dam break modelling undertaken in accordance with ANCOLD (2019). and Department of Mines and Petroleum (DMP) (2013; 2015) guidelines. The facility is designed to safely contain a 1:100 average exceedance probability (AEP), 72-hour storm event, and the probable maximum precipitation (PMP) using additional temporary storage capacity.

Detailed design of the IWLTSF is currently in progress and is considering various combinations of high-density polyethylene (HDPE) liner extent and under-drainage, to maintain embankment stability, optimise water recovery and manage seepage. Liner options being considered include:

- Lining the decant pond area and embankments;
- Lining the pond area only; and
- No liner.

Final selections and designs will comply with applicable guidelines and performance requirements. Water recovered from the decant and under drainage system will be directed to the site water management system for reuse or controlled management.

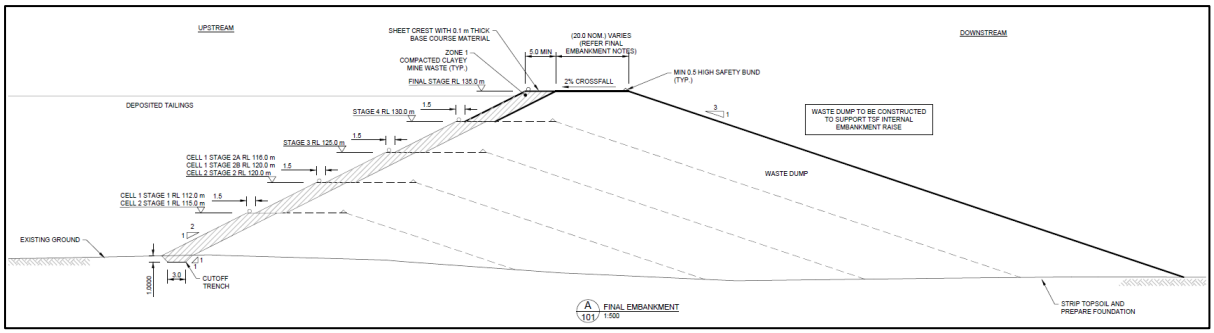


Figure 2.6 Indicative TSF Embankment Design

2.2.8 Surface water management

To minimise surface water runoff flowing to the open pit, a diversion channel and flood protection bund has been included in the site design, to direct clean runoff around the site. The proposed channel and flood bund are designed to manage a 1-in-100-year peak flow for the relevant upstream subcatchment.

Additional smaller diversion bunds and drains are proposed to direct clean surface water runoff around the IWLTSF, WRLs, processing areas, and supporting infrastructure.

Stormwater runoff generated from disturbed areas will be contained on site by bunds and drains and stored in dams for use in e.g. dust suppression. Once disturbed areas have been rehabilitated and stabilised, stormwater management infrastructure may be removed to allow overland flow to undisturbed areas.

Further details on surface water and proposed management measures are provided in **Section 1.**

2.2.9 Power Supply

Power is to be generated through a combination of gas fired generation, solar energy, and battery storage. Up to eleven gas generator units and a 40 MW solar farm are proposed. Both systems would be constructed in 2 stages as demand grows. Energy storage will be provided through a battery energy storage system (BESS). Liquefied natural gas (LNG) will be the primary fuel source for the gas generators, and will be transported to site by road train.

Provisions are also included for three small diesel generators to support "black start" capability, ensuring power can be restored safely in the event of a complete outage.

Electricity would be distributed across the Proposal through a 22 kV overhead transmission network. These lines feed into prefabricated high voltage/low voltage substations to provide low voltage power to the mine and accommodation village.

2.2.10 Accommodation Village

The Proposal includes the development of an onsite accommodation village designed to support up to 750 personnel during construction and operations. The village will comprise accommodation rooms, supported by communal and operational facilities to provide safe, functional and comfortable living conditions for the workforce.

Facilities will include laundries, a central kitchen and dining facility, a wet mess, administration offices, a maintenance shed, and designated vehicle parking areas. Recreational amenities will be provided through outdoor sports facilities and an onsite gymnasium to support worker wellbeing.

A water treatment facility is proposed to be constructed at the camp to supply potable water. This will require only filtering and ultra-violet light treatment of bore field water. No chemical treatment is proposed.

A wastewater treatment plant and spray field is proposed to treat sewage and wastewater from the accommodation village.

2.2.11 Other Infrastructure

A Mine Services Area (MSA) will be developed for both the open pit and underground mining operations. The MSA will include:

- Refuelling facilities for both light and heavy vehicles;
- Mechanical workshops for plant and equipment, service and repair;
- Offices;
- Crib room;
- Ablutions and change houses;
- Tyre bay;
- Vehicle washdown bay;
- Warehousing, stores and laydown areas; and
- Core shed.

2.2.12 Mine Closure

The Tabba Tabba Conceptual Mine Closure Plan (MCP) provides an overview of the rehabilitation and closure approach proposed for the site (**Appendix F**).

The Proponent will submit a Mining Development and Closure Proposal (MDCP) to the Department of Mines, Petroleum and Exploration (DMPE) for approval, prior to commencement of mining activities. This plan will detail closure plans for the mine and be updated and refined regularly over the life of the mine, in accordance with Mining Act requirements.

2.3 Proposal Alternatives

Justification for the Proposal

The Proposal is positioned to help meet the growing global demand for lithium, a critical component in the production of batteries for electric vehicles and the storage of energy from renewable sources. The scale and quality of the resource help provide economic viability to the Proposal. Tantalum has been identified by the Australian Government as being a critical mineral, defined as "vital for the well-being of the world's economies, yet whose supply may be at risk of disruption. Tantalum is essential for advanced technology" (Champion, 2019).

The Pilbara region of WA is a prime location for mining these critical minerals, both due to the high-quality of the deposits and the existing infrastructure to support mining operations and export. By utilising existing transport infrastructure, it reduces the cumulative impact of the operation and further increases the Proposal viability.

Proposal Location

Generally, the location of a proposed mining development is dictated by the geology of the orebody. While the locations of the open pit and underground workings are fixed, opportunities to minimise disturbance and environmental impacts have been considered in the design of the Proposal, as outlined in the following subsection.

Site Layout

The site layout has been designed to, as much as practicable, avoid areas of significance including Aboriginal cultural heritage, waterways, and critical habitat for Threatened species.

Siting and footprint of the WRLs have been designed to avoid ephemeral drainage lines that traverse the proposal area. Siting of supporting infrastructure has also been amended to avoid areas where threatened species have been recorded and where critical habitat is present. Detailed information on critical habitat is provided in **Section 1.**

The acquisition of additional tenure has enabled a more efficient site layout, with the WRL and TSF now placed closer to the pit to reduce haul distance and fuel usage.

Inclusion of Underground Mining Method

Initially, feasibility studies considered only open pit mining. During these studies it was determined that underground mining was a viable option to access ore beyond the limits of the optimised open pit. As a result, the mine plan has been expanded to include both open pit and underground mining.

The addition of underground mining increases the expected production from the mine by approximately 25% compared to open pit alone, increasing the economic and environmental efficiency of resource extraction.

Employing an underground mining strategy, instead of all open pit, also reduces the surface disturbance of the Proposal. This avoids direct and indirect impacts to inland waters, flora and vegetation, terrestrial fauna and landforms.

Underground mining also enables the potential use of electric vehicles, which may lower the Proposal's greenhouse gas emissions; however, use of this is still under investigation by the Proponent and will be dependent on market availability.

Additional Processing Plant Lines

The preliminary feasibility of the Proposal is based on the extraction and processing of ore to produce a spodument concentrate only. The Proponent has subsequently investigated the opportunity to include additional smaller processing lines to produce tantalum concentrate and petalite concentrate. The addition of these processing lines will result in material previously considered waste being converted to a product, leading to more efficient use of resources and reducing the amount of waste rock initially expected from the Proposal.

Power Supply

The proposed long-term power supply plan is a dedicated solar farm and a BESS. This is to be supported by LNG generators, especially during solar farm installation.

This system is preferred for the Proposal over a diesel-powered station, because it significantly reduces greenhouse gas emissions and takes advantage of the region's high solar irradiance. The solar/BESS component lowers fuel consumption and operating costs, while LNG generators provide reliable baseload and backup power with lower emissions and cleaner combustion than diesel.

Site Access Road

The existing, publicly accessible Wallareenya Road is currently used to access the exploration activities associated with the Proposal from Marble Bar Road. The existing road was determined during feasibility studies to be unsuitable for mine access due to multiple creek crossings prone to wet-season flooding and public safety concerns.

A new site access road is proposed to be constructed parallel to Wallareenya Road approximately 5km east (**Figure 2.1**). The proposed access road is located higher in the landscape to avoid multiple creek crossings, which will help to maintain access during significant rainfall events. By avoiding the need to upgrade multiple creek crossings, the proposed new access road minimises direct impacts to creek line vegetation and habitat, and reduces the potential risk of sediment laden water discharges from the road during construction and operations.

Workforce Accommodation

An alternative to the proposed on-site accommodation village is to house the significant workforce in Port Hedland and transport personnel to and from the Proposal site daily. This option was not progressed as it would result in higher environmental, safety and social risks compared to on-site accommodation.

Daily long-distance commuting would increase traffic volumes on regional roads, elevating the risk of fatigue related traffic incidents. Increased vehicle movements would also lead to higher greenhouse gas emissions, dust generation and potential fauna impacts along transport corridors.

Accommodating the workforce on site eliminates the need for daily commuting. This in turn reduces traffic related risks and emissions associated with vehicle movements. On site accommodation also supports more effective fatigue management and worker wellbeing.

2.4 Local and Regional Context

The Proposal is located within the Chichester subregion (PIL1) of the Pilbara region of Western Australia, as defined in the Interim Biogeographic Regionalisation for Australia (IBRA) Version 7.1 (DCCEEW, 2025b). Covering approximately 9,044,560 hectares, the Chichester subregion features significant basaltic ranges amidst undulating Archaean granite and basalt plains. These plains support a shrub-steppe predominantly comprising *Acacia inaequilatera* and hummock grasslands. *Eucalyptus leucophloia* tree steppes are found on the ranges.

The region is drained by several rivers that flow northward, including the De Grey, Oakover, Nullagine, Shaw, Yule, and Sherlock Rivers (CALM, 2003). The dominant land uses in the Chichester subregion include grazing, Aboriginal lands and reserves, unallocated Crown land, Crown reserves, conservation areas, and mining leases (CALM, 2003).

The Proposal is primarily located on the Wallareenya pastoral station, with the site access road extending into the Strelley pastoral station.

Two major lithium mines are located in the vicinity of the Proposal, the Pilgangoora Lithium-Tantalum Project (owned by Pilbara Minerals Ltd) and Wodgina Lithium Mine (owned by Mineral Resources Ltd), approximately 47km and 87km away respectively. Additional mining operations in the region included major iron ore mines operated by BHP, Rio Tinto and Fortescue Metals Group, and gold projects such as Calidus Resources' Warrawoona Project.

The climate in the region is characterised by low average rainfall, 315 mm per year mainly falling in January to March, and high temperatures, with monthly average maximums

exceeding 35°C in five months of the year. The majority of the site consists of stony plains dominated by spinifex grass, with rocky outcrops and ephemeral creeks (**Plate 2-1**).

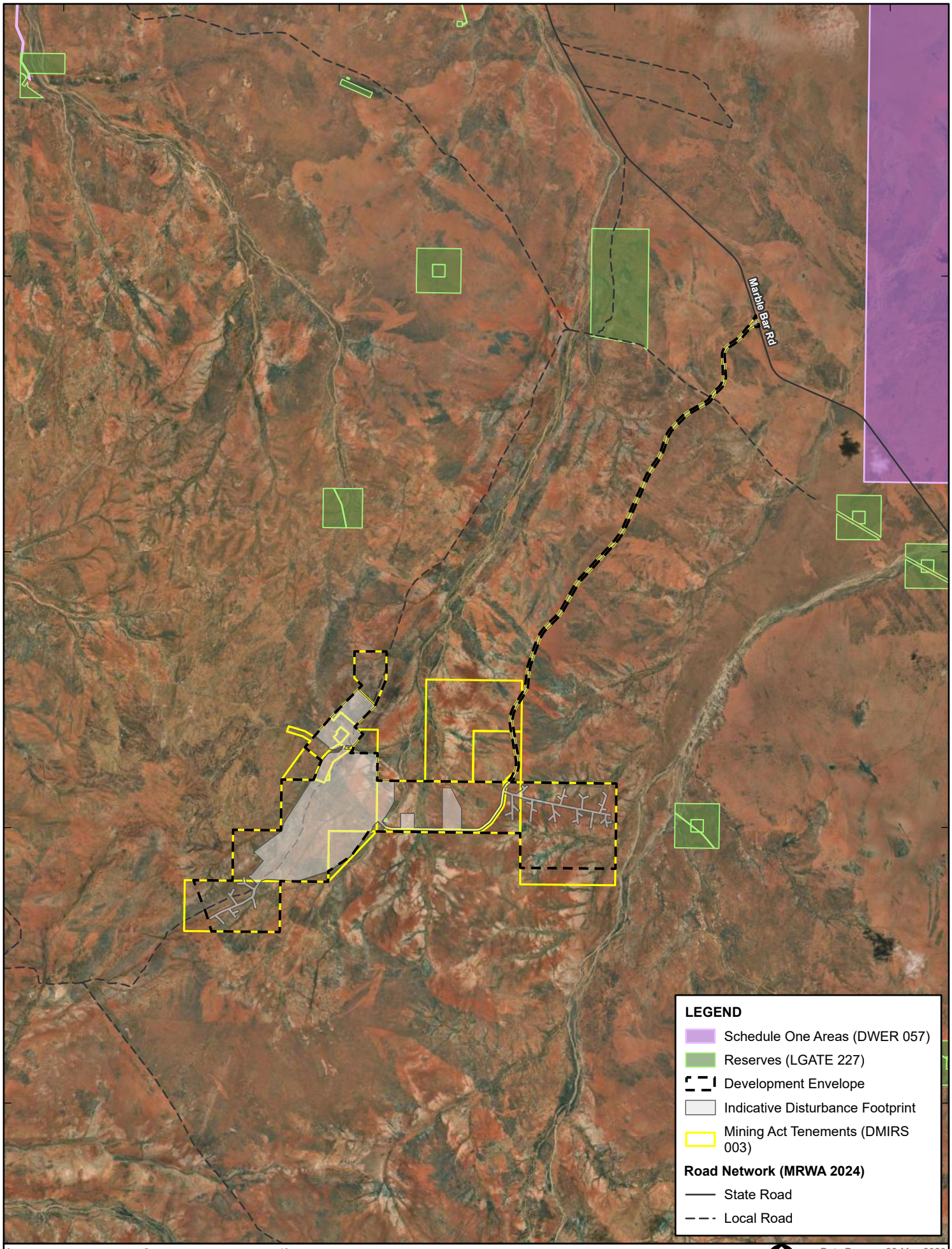
There are a number of Crown Reserves in the local region. Reserves within 50km of the Proposal are listed in **Table 2-4** and illustrated in **Figure 2.7**.

(source: Ecoscape Tabba Tabba Lithium Project Flora and Vegetation Assessments (2026))

Plate 2-1 Vegetation Typical of the Proposal's Development Envelope

Table 2-4 Surrounding Reserves and Other Protected Areas

Reserve Number	Current Purpose	Responsible Authority	Distance from Proposal (km)
10167	Water	Water Corporation	4.5
12512	Water Act 57 Vic No 20	Water Corporation	26.0
12738	Water	Water Corporation	14.0
12739	Water	Water Corporation	13.2
12740	Water	Water Corporation	14.8
12741	Water	Water Corporation	6.0
12742	Water	Water Corporation	17.0
12743	Water	Water Corporation	14.4
12746	Water	Water Corporation	33.0
13185	Water	Water Corporation	27.6
13610	Timber	Department of Planning, Lands and Heritage	14.0
13611	Timber	Department of Planning, Lands and Heritage	13.2
13612	Timber	Department of Planning, Lands and Heritage	14.8
13614	Timber	Department of Planning, Lands and Heritage	6.0
13615	Timber	Department of Planning, Lands and Heritage	14.4
13616	Timber	Department of Planning, Lands and Heritage	17.0
13617	Timber	Department of Planning, Lands and Heritage	33.0
29266	Gravel	Main Roads of Western Australia	25.3
34041	Gravel - Department of Transport	Department of Planning, Lands and Heritage	21.2
36523	Mining Purposes	Department of Mines, Industry Regulation and Safety	12.8
377	Water	Water Corporation	23.5



SLR

Earthstar Geographics
Drawn by: JWP

TABBA TABBA PROJECT
ENVIRONMENTAL REVIEW DOCUMENT

RESERVES AND OTHER PROTECTED AREAS

FIGURE 2-7

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 2-5_Reserves and Other Protected Areas

3 Stakeholder Engagement

Effective stakeholder engagement is a crucial part of the Proponent's strategy for developing the Proposal. Wildcat's general approach to stakeholder engagement has included:

- Identifying stakeholders associated with the Proposal.
- Developing a communication and engagement plan for stakeholders.
- Integrating stakeholder feedback into Proposal planning.

Stakeholder engagement will continue throughout the proposed development, operation and closure of the Tabba Tabba Proposal.

3.1 Key Stakeholders

Wildcat has identified key stakeholders with statutory, land management, cultural, or local community interests in the Proposal. Stakeholder identification has considered groups and individuals who may influence, have an interest in, or be directly or indirectly affected by the Proposal. Key stakeholders identified to date are listed in **Table 3-1**.

Table 3-1 Key Stakeholders

Sector	Stakeholder	Key Proposal Interests
Commonwealth Government	Department of Climate Change, Energy, the Environment and Water (DCCEEW)	• Administration of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). • Referral and assessment of Actions with potential impacts on matters of national environmental significance.
State Government	Department of Water and Environmental Regulation (DWER)	• Administration of the EP Act. • Supports the EPA in conducting environmental impact assessments under Part IV of the EP Act. • Conducts environmental impact assessments under Part V of the EP Act (Works Approvals and Licensing). • Water regulation under the Rights in Water and Irrigation Act 1914 (RIWI Act).
	Environmental Protection Authority (EPA)	• Responsible for conducting an environmental impact assessment of the Proposal under Part IV of the EP Act and provide advice to the Minister for Environment.
	Department of Mines, Petroleum and Exploration (DMPE)	• Administration of the Mining Act. • Grant of tenure. • Assessment of Mine Development and Closure Proposals and Programs of Work (POW) under the Mining Act. • Mining Rehabilitation Fund (MRF). • Closure and rehabilitation. • Safety.
	Department of Biodiversity, Conservation and Attractions (DBCA)	• Administration of the Biodiversity Conservation Act 2016 (BC Act) and

Sector	Stakeholder	Key Proposal Interests
		Conservation and Land Management Act 1984. • Flora, fauna, ecological communities and habitat conservation.
	Department of Planning, Lands and Heritage (DPLH)	• Proposed de-gazettal of public road. • Aboriginal cultural heritage under the Aboriginal Heritage Act 1972 (AH Act).
Local Government	• Town Of Port Hedland • Shire of East Pilbara	• Employment and business opportunities. • Potential impacts to local roads.
Traditional owners and Native Title Holders	Nyamal Aboriginal Corporation (NAC) (ICN 8770)	• Administration of the Native Title Determination #1 on behalf of the Nyamal people. • Aboriginal heritage protection. • Employment and business opportunities.
Pastoral Lease Holders	Wallareenya Station and Strelley Station	• Land access arrangements. • Potential disruption to pastoral operations, and local roads/property access.

3.2 Stakeholder Engagement Process

Wildcat has implemented a structured and ongoing engagement program to ensure the Proposal is developed transparently, responsively, and aligns with environmental and social expectations. The engagement approach is guided by the principles of communication, transparency, collaboration, inclusiveness, and integrity.

Key elements of the engagement process include:

- **Communication and Engagement Planning:** Tailoring engagement methods to the needs of individual stakeholder groups, ensuring clear, accessible, and culturally appropriate communication.
- **Two-way Consultation:** Providing accurate and timely project information and enabling informed feedback on environmental, operational, heritage, and access matters.
- **Integration of Feedback:** Incorporating local knowledge, cultural values, and stakeholder concerns into Proposal design, environmental management measures, and land access arrangements.
- **Ongoing Relationship Management:** Maintaining regular communication through Native Title and heritage agreements, pastoral access agreements, and government liaison processes.

The engagement program aims to ensure stakeholders understand the Proposal, are able to meaningfully participate in consultation, and can raise issues early so they can be addressed through mitigation, design refinement, or agreement frameworks.

3.3 Stakeholder Consultation Outcomes

Wildcat maintains a stakeholder engagement and consultation register to document all interactions, issues raised and agreed actions. A summary of consultation activities and feedback is provided in **C-16**.

3.3.1 Nyamal Aboriginal Corporation

The Proposal is located within Nyamal Country. Wildcat and the Nyamal Aboriginal Corporation (NAC) have established a Native Title Agreement (NTA) that formalises ongoing consultation, cultural heritage management processes, and measures to minimise impacts on Nyamal lands and cultural values. The NTA also ensures safe access to Country, supports employment and contracting opportunities, and provides benefit-sharing arrangements.

The NTA establishes the Nyamal Engagement and Liaison Committee (NELC), to be known as the Tabba Tabba NELC Forum, outlining the membership from Wildcat, the Nyamal People of the Project Area and NAC. The NELC will meet on a regular basis to oversee the implementation of the NTA, discuss the Project activities and relationships, and the obligations of each party under the agreement.

A Heritage Protection Agreement (HPA) accompanies the NTA and sets out survey requirements, monitoring procedures, compliance with the AH Act, timeframes, administrative arrangements, and cultural heritage management obligations.

The Proposal design has been developed considering sites of cultural significance to the Nyamal people. Defined exclusion and monitoring zones have been incorporated to ensure these areas are protected throughout all Proposal activities.

3.3.2 Pastoral Leaseholders

Engagement with pastoral leaseholders has been regular throughout exploration activities, enabling drilling programs to be conducted with minimal disruption to pastoral operations. Pastoral access agreements are in progress with all affected leaseholders, outlining communication protocols, access procedures, and compensation arrangements.

Wildcat has met with the Wallareenya Pastoral Leaseholder to discuss the Project activities and the location of the proposed infrastructure. Wildcat is working collaboratively to identify suitable areas to relocate an affected bore used for stock watering.

3.3.3 Government Stakeholders

The Proponent has met with Commonwealth and State Government stakeholders during the planning phase of the Proposal, to provide updates on the Proposal development and discuss stakeholder requirements and expectations. These meetings include:

- EPA Services and the EPA Green Energy Branch (5 Nov 2025) to provide a briefing of the Proposal, discuss environmental studies completed and in progress, and environmental impact assessment requirements.
- EPA Services (21 Apr 2026) to provide an updated on the development of the Proposal and overview of the initial outcomes of the environmental impact assessment and seek feedback on the approach taken.
- DCCEEW (25 Mar 2026) to discuss EPBC assessment approach.

4 Environmental Factor Assessment

The following sections present the assessment of environmental factors relevant to the Proposal, prepared in accordance with the EPA's Statement of Environmental Principles, Factors, Objectives and Aims of EIA (EPA, 2023b) and associated environmental factor guidelines.

Potential key environmental factors have been identified, based on baseline environmental investigations, the nature and extent of the Proposal, and the potential for significant impacts. If the EPA determines that the Proposal should be assessed, the EPA will confirm the key environmental factors in the assessment decision.

The relevance of environmental factors to this Proposal is summarised in **Table 4-1**. Potential key environmental factors are assessed in the following sub-sections. Assessments of other relevant environmental factors are provided in **Appendix B**.

Due to the Proposal's inland location, with negligible hydrological or ecological connection to marine environments, environmental factors related to the Sea theme are not considered relevant. They have not been assessed and are not discussed further in this document.

Table 4-1 Relevance of Environmental Factors to the Proposal

Theme	Factor	Relevance to the proposal
Sea	Benthic communities and habitats	Not applicable
	Coastal processes	Not applicable
	Marine environmental quality	Not applicable
	Marine fauna	Not applicable
Water	**Inland waters**	**Potential key factor – refer to Section 5**
Land	**Flora and vegetation**	**Potential key factor – refer to Section 6**
	Terrestrial fauna	**Potential key factor – refer to Section 7**
	Subterranean fauna	**Potential key factor – refer to section 8**
	Landforms	Other factor – refer to **Appendix B-1**
	Terrestrial environmental quality	Other factor – refer to **Appendix B-2**
Air	**Greenhouse gas emissions**	**Potential key factor – refer to Section 9**
	Air quality	Other factor – refer to **Appendix B-3**
People	**Social surroundings**	**Potential key factor – refer to Section 10**
	Human health	Not applicable

5 Potential Key Environmental Factor - Inland Waters

5.1 EPA Environmental Factor and Objective

The EPA objective for Inland Waters is "to maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected" (EPA, 2018).

5.2 Relevant Policy and Guidance

Table 5-1 outlines the relevant policies and guidance for Inland Waters and explains how they have been incorporated into the Proposal.

Table 5-1 Relevant Policy and Guidance for Inland Waters

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Environmental Protection Authority	
Environmental Factor Guideline: Inland Waters (EPA, 2018)	The guideline has informed the scope of baseline hydrological and hydrogeological studies, impact assessment and the development of mitigation, monitoring and adaptive measures.
Environmental Outcomes and Outcomes-based Conditions: Interim Guidance (EPA, 2022)	This guideline has informed the framing of Inland Waters environmental outcomes and the approach to defining the environmental performance to be achieved by the Proposal.
Other State or Commonwealth	
Pilbara Water in Mining Guideline (DoW, 2009b)	This guideline has informed the assessment of water sourcing, mine dewatering and water management in the Pilbara context.
Western Australian Water in Mining Guidelines (DoW, 2013)	These guidelines provide principles for managing groundwater abstraction, protecting surface water and groundwater values, and understanding Proposal-related water management strategy, including pit dewatering and mine water supply.
Use of Mine Dewatering Surplus (DWER, 2020a)	This guidance has been considered in relation to contingency management of dewatering water. Under the current Proposal assumption, abstracted water would be used on-site, and no discharge is proposed. If this assumption changes, the guidance would inform the assessment and management of any surplus dewatering water.
Operational Policy 5.12 – Hydrogeological reporting associated with a groundwater licence (DoW, 2009a)	Where required, hydrogeological reporting will support groundwater licensing and document the basis for abstraction, monitoring and adaptive management.
Use of operating strategies in the water licensing process (DWER, 2020b)	This guidance is relevant to the preparation of groundwater operating strategies and associated monitoring and management measures for abstraction and dewatering.
National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018)	These guidelines have informed the assessment of baseline surface water quality, identification of environmental values, and development of water quality objectives for the Proposal. Australian and New Zealand Guidelines (ANZG) trigger values and the National Water Quality Management Strategy were used to evaluate potential impacts from changes in water quality and will inform the design of an appropriate surface water and groundwater monitoring program.

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Australian and New Zealand Environment and Conservation Council (ANZECC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (ANZECC & ARMCANZ (2000)) water quality monitoring guidelines	These guidelines have informed the design of water quality monitoring programs and the assessment of monitoring requirements to protect environmental values.

5.3 Receiving Environment

5.3.1 Surveys and Studies

The studies and surveys relating to Inland Waters that have been undertaken for the Proposal are described in **Table 5-2**.

Table 5-2 Studies and Surveys Relevant to Inland Waters

Survey/Study	Details
Hydrogeology Assessment (SLR, 2026c)	The study addressed the regional and local hydrogeological setting, including aquifer occurrence, groundwater flow, groundwater levels, groundwater quality, mine dewatering considerations and potential groundwater-related impacts.
Flora and Vegetation Assessment (Ecoscape, 2026)	A detailed flora and vegetation assessment was undertaken by Ecoscape in 2026, including a desktop review of potential groundwater-dependent ecosystems (GDEs) and a field-based assessment of groundwater-dependent vegetation (GDV) within the survey area. The study has informed the identification of groundwater-supported vegetation values associated with Tabba Tabba Creek.
Aquatic Fauna Desktop Assessment and Reconnaissance Survey (SLR, 2025)	An aquatic ecology assessment was undertaken in 2025 to characterise the aquatic habitats and aquatic fauna values associated with Tabba Tabba Creek and nearby comparative drainage systems. The study included a desktop review and a reconnaissance field survey of aquatic habitat, surface water quality, sediment quality, phytoplankton, microinvertebrates, macroinvertebrates, fish and waterbirds, and has informed the characterisation of aquatic ecological values within the development envelope.
Hydro-Meteorological and Surface Water Assessment (Carrick, 2025)	A hydro-meteorological and surface water assessment was undertaken to characterise the regional and local hydrological setting of the Proposal. The study addressed climatic influences on water availability, catchment context, drainage characteristics, ephemeral flow behaviour, and preliminary flood risk and drainage management requirements across the development envelope.

5.3.2 Hydrology

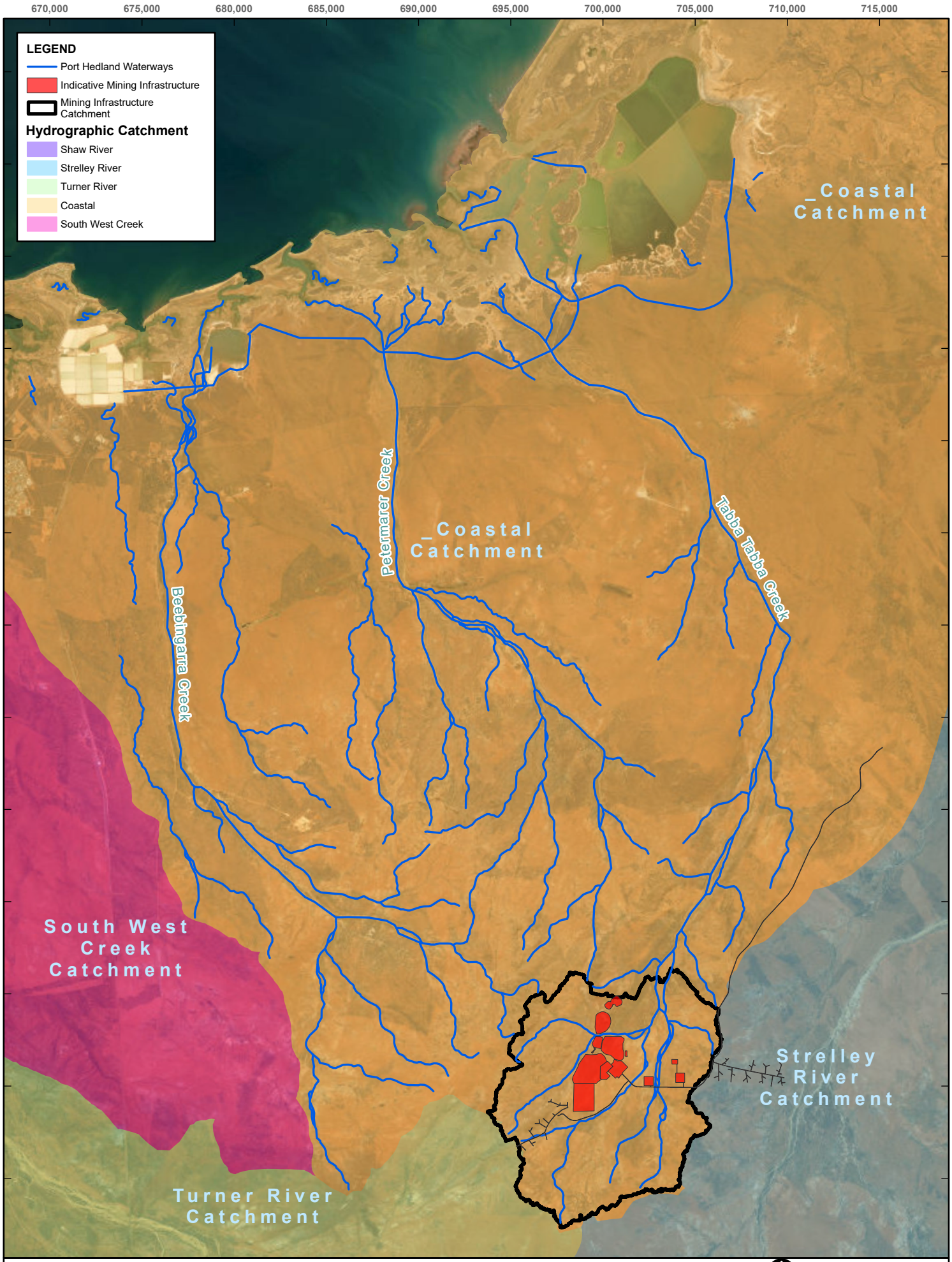
5.3.2.1 Regional Hydrology

The Proposal is located in the southern headwaters of Tabba Tabba Creek, within the broader Port Hedland Coast Basin. The Tabba Tabba Creek catchment has an area of approximately 440km² and is bounded by the Strelley/Shaw River catchment to the east and the Turner River catchment to the west. (**Figure 5.**).

The region is characterised by a semi-arid to arid climate, with highly variable rainfall and high evaporation. Mean annual rainfall recorded at nearby stations is generally 305 to 325 mm, while estimated mean annual pan evaporation at Tabba Tabba is approximately 3,305 mm. Rainfall is strongly seasonal and influenced by tropical cyclones and tropical low-pressure systems, which can generate intense short-duration rainfall and flood events.

Regional surface water systems are dominated by episodic runoff, with flow events concentrated in the wet season, particularly between December and March. The Carrick assessment indicates that annual and monthly flows in nearby catchments are highly variable, with more than three-quarters of annual streamflow typically occurring between January and March, and creek systems usually drying by July or August. Median annual runoff yields are generally less than 10%.

Within this regional context, the Proposal is situated in the headwaters of Tabba Tabba Creek, which defines the broader hydrological setting of the development envelope. The surface water environment is characterised by ephemeral drainage lines and tributaries that convey runoff following significant rainfall events and support temporary aquatic habitats where water ponds for short periods, depending on local topography and seasonal conditions.



SLR

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CATCHMENTS

FIGURE 5-1

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5.3.2.2 Local Hydrology

Local hydrology within the development envelope is dominated by Tabba Tabba Creek and its associated minor tributaries. Tabba Tabba Creek is the primary surface water feature relevant to the Proposal and traverses the local landscape as an ephemeral creek system that conveys runoff during significant rainfall events. Smaller unnamed tributaries and local flow paths also occur within the development envelope and contribute runoff to the Tabba Tabba Creek system.

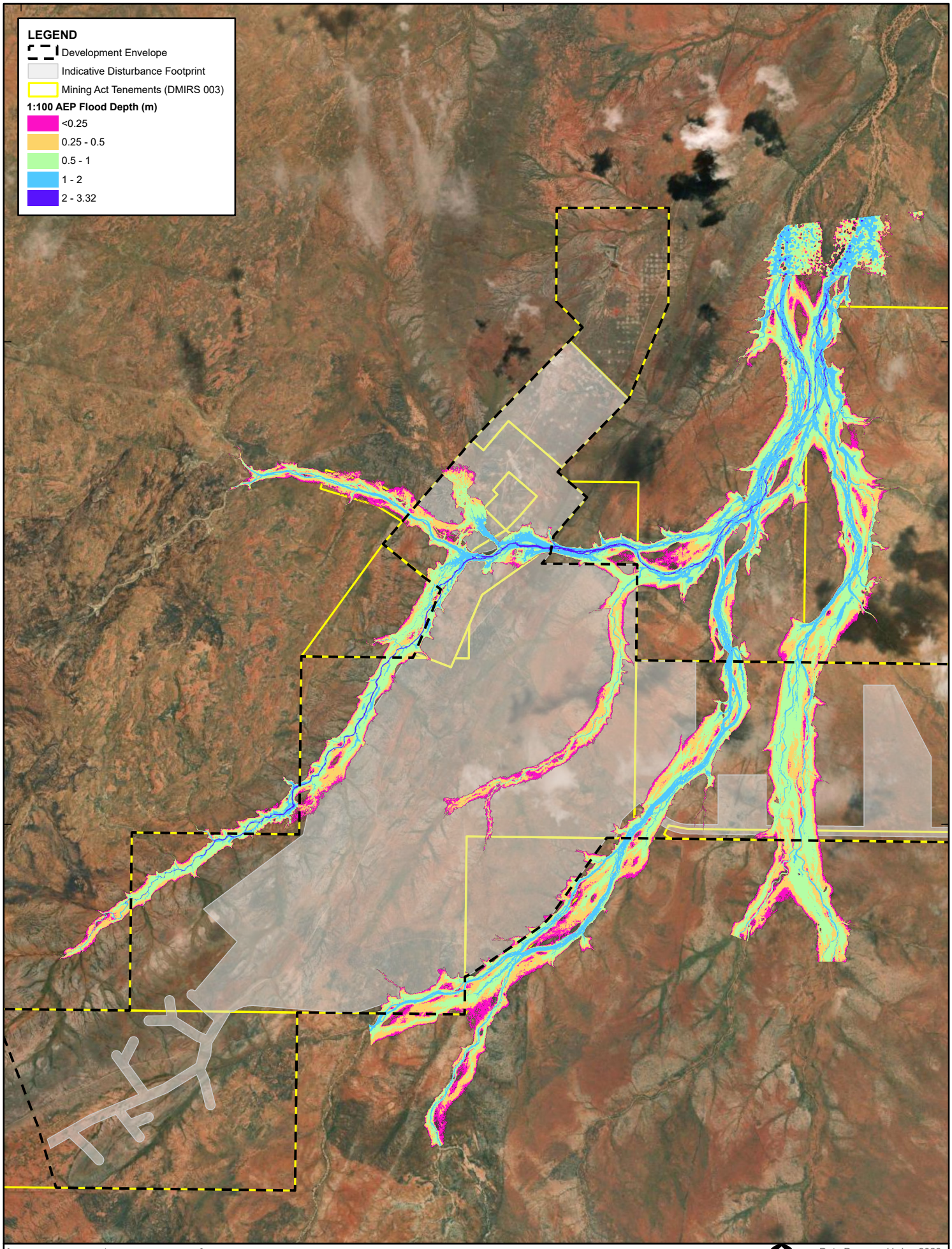
The Carrick hydrological assessment states that all on-site creeks and drainage lines are ephemeral, with flows occurring periodically during the wet season, particularly between December and March.

The local hydrological regime is therefore characterised by:

- Short-duration runoff events following intense rainfall.
- Ephemeral flow along Tabba Tabba Creek and associated tributaries.
- Localised ponding and temporary pool formation within creeklines after rainfall.
- Progressive contraction and drying of surface water following the wet season.

Flood behaviour within the development envelope has been assessed through hydrological modelling. The 1% AEP event has been used as the principal basis for describing baseline flood behaviour and proposal-relevant interaction between existing drainage lines and proposed infrastructure, as it provides an appropriate design-event representation of inundation extent within the development envelope (**Figure 5.2**).

The modelled 1% AEP flood extent indicates that inundation follows the existing ephemeral drainage network associated with Tabba Tabba Creek and intersects parts of the development envelope, including areas adjacent to the pit, WRLs, the processing plant, the ROM pad, and some access roads. As the Proposal is located at the head of the catchment, the areas contributing runoff to the principal mine and processing components are relatively limited compared with the lower parts of the catchment. This headwater setting influences the scale of local flood interactions relevant to the Proposal.



Scale: 1:50,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 11-Jun-2026
Project Number: 620.V00796

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MODELLED 1% AEP FLOOD EXTENT WITHIN THE DEVELOPMENT ENVELOPE

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FIGURE 5-2

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5.3.2.3 Water Quality

Surface water quality relevant to the Proposal is primarily associated with ephemeral pools and creekline habitats within Tabba Tabba Creek. The locations of aquatic survey sampling sites, including those within Tabba Tabba Creek, are shown in **Figure 5.**, and photographs of representative sampling sites are provided in **Table 5-3**. While the aquatic ecology survey also sampled the Strelley and Turner rivers to characterise downstream and comparative receiving environments, the most relevant baseline for the Proposal area is the sites on Tabba Tabba Creek.

Water quality in Tabba Tabba Creek is characteristic of an ephemeral Pilbara system, where it is strongly influenced by seasonal pool contraction, sediment disturbance, organic matter accumulation, and evapoconcentration as flows recede. The aquatic ecology assessment found that water quality parameters at sampled sites exceeded the default ANZG guideline values for conductivity, pH, and dissolved oxygen at some locations. However, the report notes that the conductivity guideline is highly conservative for Pilbara waters, and no site exceeded the point of ecological stress.

For Tabba Tabba Creek specifically, total phosphorus exceeded the ANZG default guideline value at TTR2 and TTPE2, which was interpreted as likely reflecting stock access, sediment disturbance, soiling of water and evapoconcentration in receding pools.

Dissolved metals in surface water were generally below guideline values across the study area, with the only reported exceedance being aluminium at TTPE3. No sediment metal exceedances were identified.

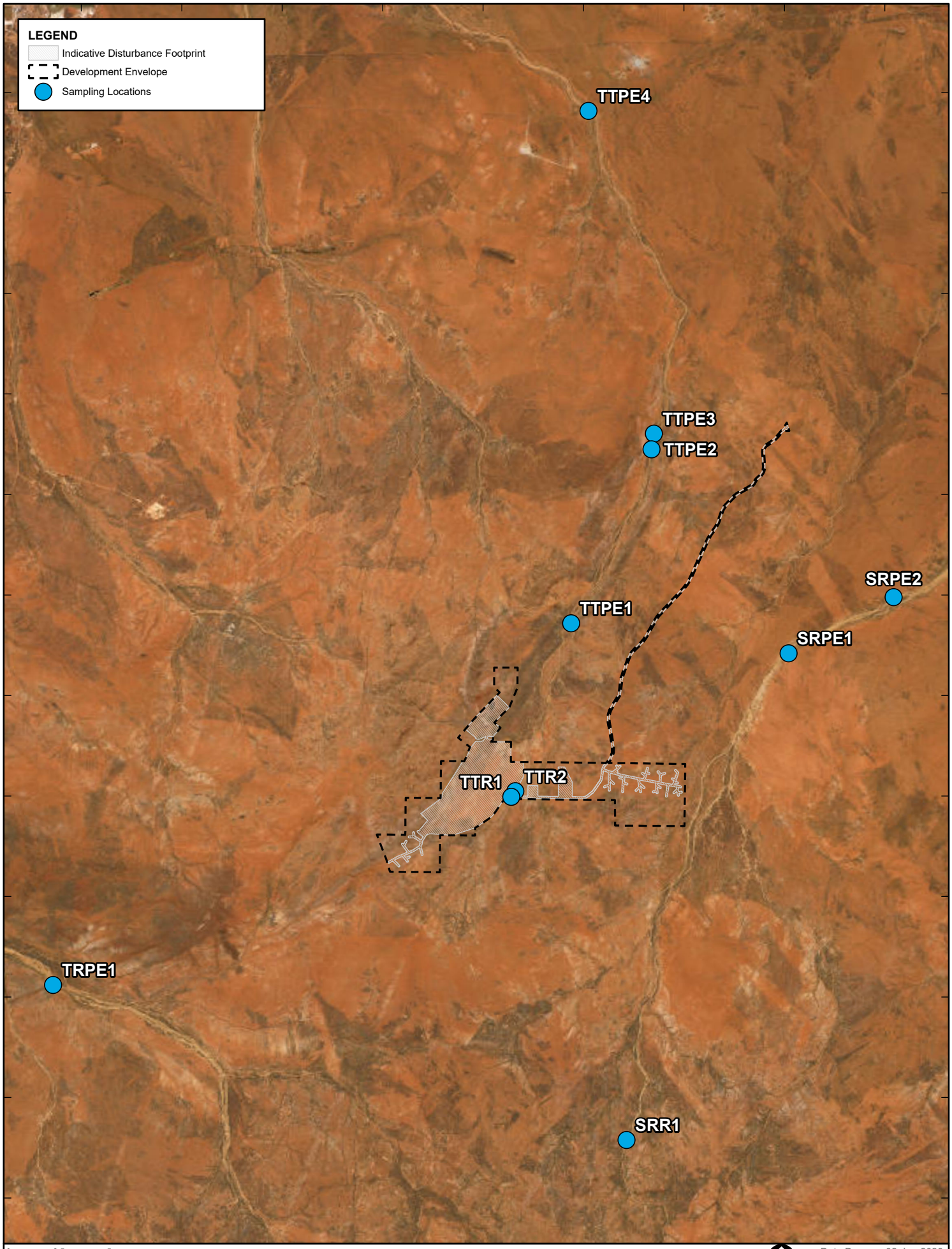
Overall, water quality within Tabba Tabba Creek is naturally variable, seasonal and pool-dependent, with episodic nutrient enrichment and fluctuating dissolved oxygen conditions typical of ephemeral inland waters in the Pilbara.

5.3.2.4 Aquatic Ecology

The aquatic ecology assessment found that Tabba Tabba Creek within the Proposal area comprises small remnant pools holding water around meanders and tree root systems. These pools persist for short periods following significant wet-season rainfall and therefore function as temporary aquatic habitats rather than permanent refuges.

Within Tabba Tabba Creek, the aquatic fauna assemblage was dominated by common and widespread taxa typical of ephemeral tropical and subtropical inland waters. No aquatic fauna recorded from the creekline habitats were listed as conservation species. However, one Pilbara endemic aquatic beetle, *Laccobius billi*, was recorded at three sites along Tabba Tabba Creek.

The aquatic ecology assessment also found that habitat within Tabba Tabba Creek was generally dominated by open mineral substrates, particularly sand, with limited substrate and in-stream habitat diversity at most sites. The ecological value of Tabba Tabba Creek lies in its role as an ephemeral aquatic habitat that supports seasonal productivity, aquatic invertebrates and transient fish assemblages following rainfall events.



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AQUATIC SURVEY SAMPLING LOCATIONS

FIGURE 5-3

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Table 5-3 Aquatic Survey Sampling Sites Photographs

Inside Development Envelope	
TTR1	**TTR2**
	
Outside Development Envelope	
TTPE1	**TTPE2**
	
TTPE3	
	

5.3.3 Hydrogeology

5.3.3.1 Regional Hydrogeology

The Proposal is situated within a fractured rock groundwater system in which groundwater occurrence and movement are controlled by topography, lithology and structural geology. The groundwater modelling report describes the hydrogeological setting as comprising limited unconsolidated sediments and regolith overlying fractured metamorphic rocks and deeper granite basement, with groundwater flow influenced by the Tabba Tabba Shear Zone and a dolerite dyke. Groundwater flow is interpreted to broadly follow topography and structural geology from south-west to north-east.

Recharge is episodic and primarily associated with rainfall infiltration during the wet season, particularly between January and March, with enhanced recharge conceptualised along drainage lines and structural features. Evapotranspiration is the dominant mechanism of regional groundwater discharge. The groundwater modelling report indicates that long-term calibrated recharge is low overall but is higher in creek zones and the shear zone than in the rest of the model domain.

5.3.3.2 Local Hydrogeology

Local hydrogeology within the development envelope is characterised by a generally dry regolith profile overlying a fractured-rock groundwater system, with groundwater occurrence and movement controlled by lithology, depth of weathering, fracture density, and major structural features. The groundwater modelling report identifies the shallow fractured rock aquifer as the principal aquifer relevant to the Proposal, with deeper fractured rock forming a secondary aquifer system. The Tabba Tabba Shear Zone and a dolerite dyke are interpreted as important hydrogeological controls that may enhance groundwater movement relative to the surrounding bedrock.

Near-surface alluvium and other unconsolidated sediments are limited and generally confined to drainage lines, while the regolith is relatively thin and of comparatively low permeability. Groundwater is therefore not expected to be stored in significant quantities within superficial materials, but principally within the underlying fractured rock system. The upper fractured rock forms the main groundwater-bearing unit relevant to the Proposal and is relatively shallow and more transmissive, while the middle fractured rock also contributes to groundwater movement. The lower fractured rock is deeper and generally less permeable, forming a secondary aquifer system. At greater depth, groundwater occurs within lower-permeability granite basement units.

In the groundwater model, the subsurface is represented by nine layers comprising unconsolidated sediments, weathered rock, fractured rock and granite basement. Layers 1 and 2 represent the shallow unconsolidated sediments and weathered rock; Layers 3 to 5 represent the fractured rock system; and Layers 6 to 9 represent the deeper granite basement. Hydrogeological zones are used within these layers to distinguish units with different hydraulic characteristics and spatial extent. Within the fractured rock sequence, the model differentiates between the Tabba Tabba Shear Zone and the surrounding fractured rock, with the shear zone conceptualised as more permeable and conductive than adjacent bedrock. The dolerite dyke is represented as a distinct hydrogeological unit spanning Layers 3 to 7.

The principal hydrogeological units relevant to the development envelope and their representation in the groundwater model are summarised in **Table 5-4**.

Table 5-4 Summary of Hydrogeological Units and Model Representation

Hydrogeological Unit	Description	Model Representation	Hydrogeological Relevance
Unconsolidated sediments	Thin near-surface unconsolidated sediments. Layer 1 is fully extensive across the model, represents the base of unconsolidated sediments from the site geological model and the first 1 m of depth to regolith outside the site model domain, and has an average thickness of about 0.8 m.	Layer 1, Zone 1	Minor shallow unit with limited storage potential; not considered a principal aquifer.
Weathered rock / regolith	Weathered bedrock beneath the superficial sediments. Layer 2 is only present where regolith occurs, is not laterally continuous across the full model domain, represents the base of weathering from the site geological model and remaining depth to regolith outside the site model domain, and has an average thickness of about 6.6 m.	Layer 2, Zone 2	Generally lower-permeability weathered unit; mostly not the principal groundwater-bearing zone but may provide limited storage and hydraulic connection to the underlying fractured rock.
Tabba Tabba Shear Zone – upper	Upper part of the Tabba Tabba Shear Zone within the fractured rock sequence. The shear zone is modelled as an approximately 1.5km wide structural corridor associated with mapped long faults and pegmatite zones to about 150 m depth and is assumed to be more permeable and conductive than surrounding fractured rock.	Layer 3, Zone 3	Important structural control on groundwater flow; likely to enhance transmissivity, recharge and drawdown propagation.
Tabba Tabba Shear Zone – middle	Middle part of the Tabba Tabba Shear Zone within the fractured rock sequence. The corresponding fractured rock layer is interpreted to have relatively high transmissivity compared with other fractured rock layers. Average thickness of the host model layer is about 30 m.	Layer 4, Zone 4	Important transmissive structural unit that may facilitate groundwater movement and drawdown propagation.
Tabba Tabba Shear Zone – lower	Lower part of the Tabba Tabba Shear Zone within the deeper fractured rock sequence. The deeper fractured rock units are generally less permeable with depth. Average thickness of the host model layer is about 70 m.	Layer 5, Zone 5	Deeper structurally controlled groundwater pathway; relevant to deeper groundwater movement and drawdown behaviour.
Fractured rock – upper	Upper fractured rock outside the Tabba Tabba Shear Zone. Layer 3 is relatively shallow and	Layer 3, Zone 6	Principal groundwater-bearing unit outside the shear zone and the main

Hydrogeological Unit	Description	Model Representation	Hydrogeological Relevance
	more transmissive, allowing greater groundwater flow. Average thickness of the host model layer is about 45.3 m.		aquifer relevant to the Proposal.
Fractured rock – middle	Intermediate fractured rock outside the Tabba Tabba Shear Zone. Layer 4 is interpreted to have relatively higher transmissivity than the other fractured rock layers. Average thickness of the host model layer is about 30 m.	Layer 4, Zone 7	Part of the main local aquifer system, contributing to groundwater movement and abstraction response.
Fractured rock – lower	Deeper fractured rock outside the Tabba Tabba Shear Zone. Permeability is interpreted to decrease with depth. Average thickness of the host model layer is about 70 m.	Layer 5, Zone 8	Secondary aquifer unit relevant to deeper groundwater flow, storage and drawdown response.
Granite – upper	Upper basement granite beneath the fractured rock sequence. The granite was subdivided to better represent the underground mine. Average thickness of this layer is about 150 m.	Layer 6, Zone 9	Lower-permeability basement unit underlying the fractured rock aquifer.
Granite – middle	Middle granite basement unit. Average thickness of this layer is about 180 m.	Layer 7, Zone 10	Deeper basement unit with low transmissivity; relevant to deeper groundwater system behaviour.
Granite – lower	Lower granite basement unit. Average thickness of this layer is about 200 m.	Layer 8, Zone 11	Deep, low-permeability basement unit with limited influence on near-surface groundwater behaviour.
Granite – lower (basement)	Deepest granite basement unit. Average thickness of this layer is about 200 m.	Layer 9, Zone 11	Deepest basement representation in the model; included to complete the vertical groundwater framework and underground mine representation.
Dolerite dyke	Distinct lithological and structural unit represented as a single zone spanning multiple model layers from the fractured rock into the upper granite sequence.	Zone 12 across Layers 3, 4, 5, 6 and 7	A hydrogeologically important feature that may influence groundwater flow and drawdown behaviour; also identified as a target for water supply bores.

5.3.3.3 Groundwater Levels and Flow Direction

Groundwater flow is interpreted to broadly follow topography and structural geology from south-west to north-east. This interpretation is consistent with the conceptual hydrogeological model and the calibrated groundwater model, both of which indicate that groundwater movement is influenced by landform and key structural features, particularly the Tabba Tabba Shear Zone and the dolerite dyke. The groundwater modelling report also notes that responses

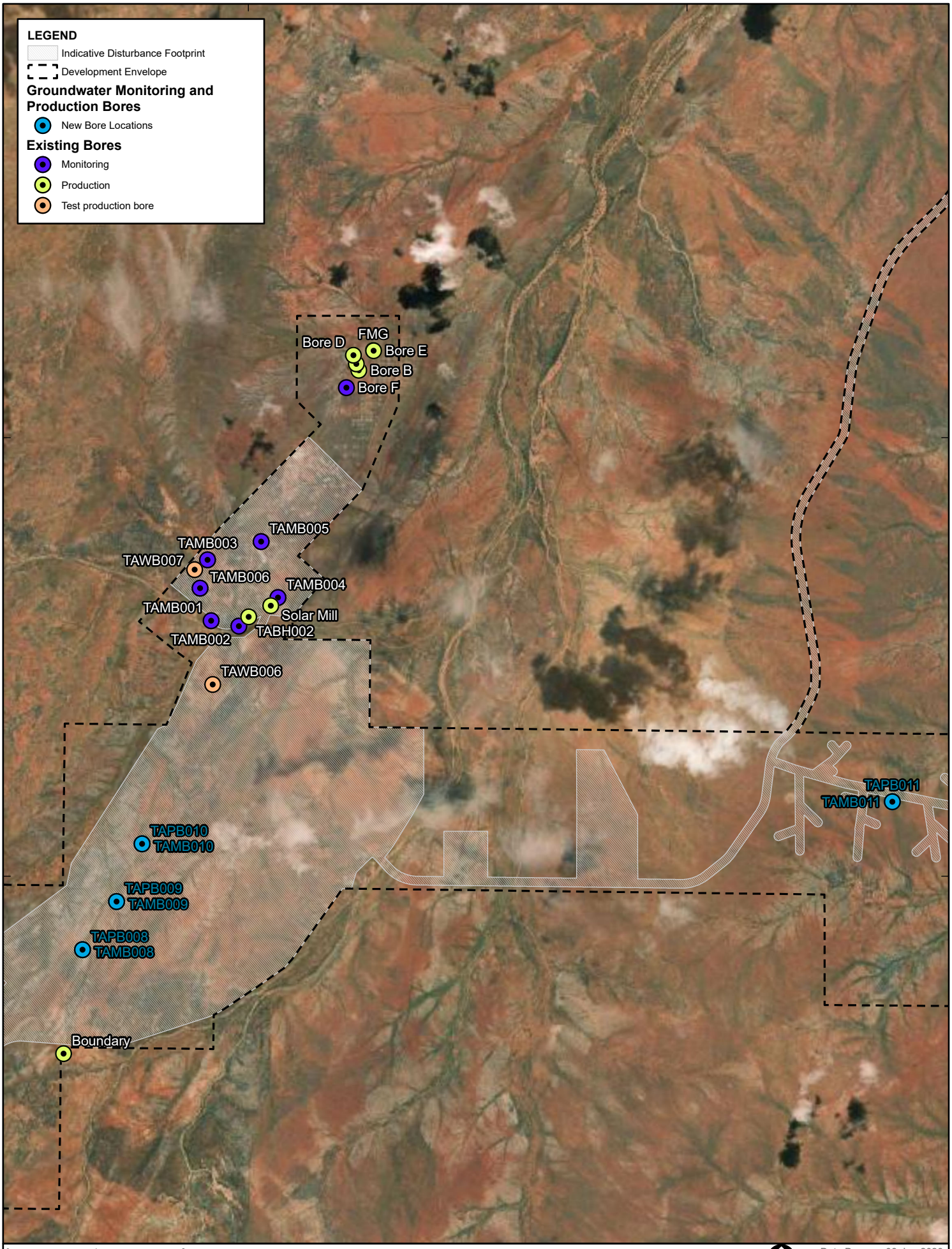
to pumping vary between bores, suggesting some degree of compartmentalisation within the aquifer system.

Groundwater level monitoring data indicate that groundwater within the pit area is generally shallow, but spatially variable across the monitoring network. The distribution of groundwater monitoring and production bores relevant to the assessment is shown in **Figure 5.**. Groundwater levels in the available monitoring dataset range from May 2014 to February 2026, with most data available for the 2025–2026 period. The groundwater modelling report notes that most bores monitor the upper fractured rock aquifer, while a smaller number of deeper bores provide information on deeper hydrostratigraphic units.

Standing water levels commonly occur at depths of about 7 to 19mbgl, with the majority of bores near the pit area measuring at approximately 9 to 12mbgl. Bores in different hydrogeological positions, including TAMB004 and TAMB005, record consistently deeper groundwater levels of about 17 to 19mbgl. This indicates spatial variability in groundwater levels across the local aquifer system, consistent with differences in topographic position, lithology, structural control and hydraulic connectivity. The conceptual model similarly indicates an overall groundwater depth of about 14mbgl.

Groundwater levels fluctuate over time within individual bores, although the magnitude of these fluctuations varies across the monitoring network. Some bores, including TAMB001, TAMB002, TAMB003, and TAMB006, show relatively narrow ranges over the monitoring period, whereas deeper bores, such as TAWB006 and TAWB007, show greater variability. This suggests that some parts of the aquifer system may respond more strongly to recharge, structural connectivity, or local bore conditions than others. The groundwater modelling report also notes that pumping responses differ between bores, with a strong response at Bore FMG and a limited response at TABH002, further supporting the interpretation of a heterogeneous and partially compartmentalised fractured-rock aquifer system.

Overall, groundwater levels and flow direction within the development envelope are consistent with a structurally controlled fractured-rock groundwater system in which groundwater generally moves to the north-east, but local groundwater conditions vary with depth, geology and structural setting.



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GROUNDWATER MONITORING AND PRODUCTION BORES

FIGURE 5-4

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5.3.3.4 Recharge and Discharge

Groundwater recharge within the development envelope is low and episodic, reflecting the semi-arid climate, low annual rainfall and high evaporation. Recharge is interpreted to occur primarily through rainfall infiltration, with enhanced recharge along drainage lines and structural features, particularly the Tabba Tabba Shear Zone. This is consistent with the conceptual hydrogeological model and the calibrated groundwater model, which applied recharge zones for the shear zone, creek systems and the broader model domain.

The calibrated groundwater model indicates that recharge is greater in creek zones and the shear zone than across the rest of the model domain. In the best-calibrated model, recharge was approximately 7.1% of rainfall in creek zones, 6.1% in the shear zone, and 1.3% across the rest of the model domain, with an overall calibrated recharge rate of about 1.7% of rainfall. These results support the interpretation that recharge is spatially variable and focused in areas of enhanced permeability rather than being distributed uniformly across the landscape.

Groundwater discharge is dominated by evapotranspiration, which the groundwater model identifies as the principal outflow mechanism under both steady-state and transient calibration conditions. In the steady-state water balance, most groundwater leaves the model via evapotranspiration, accounting for about 84% of total outflow. The remainder represents regional groundwater flow across the model boundary. This indicates that, at the model scale, groundwater is lost mainly to the atmosphere rather than flowing out through creeklines or other surface-water features.

No groundwater discharge to drainage lines was simulated in the steady-state calibration, indicating that groundwater levels are generally too deep to support direct discharge to creek beds at the regional model scale. This suggests that permanent groundwater-supported baseflow is not a defining feature of local drainage systems, and that creekline water expression is more likely to reflect rainfall runoff, short-term ponding, and the persistence of temporary pools following flow events. Overall, recharge and discharge processes within the development envelope are consistent with an episodically recharged, evapotranspiration-dominated fractured-rock groundwater system.

5.3.3.5 Surface and Groundwater Interaction

Surface water–groundwater interaction within the modelled domain is understood conceptually and is strongly influenced by the ephemeral nature of local drainage systems. Surface drainage within the development envelope is dominated by Tabba Tabba Creek and its associated tributaries, which flow during significant rainfall events and then contract to isolated pools or dry beds as surface water recedes. In the groundwater model, these surface water features are represented as highly ephemeral systems, with the river stage set to zero so that creek cells act only as drains where groundwater levels rise above the riverbed elevation.

Within the Proposal area, alluvium in drainage lines is generally thin and is not considered to host significant groundwater reserves. Interaction between surface water and groundwater is therefore expected to occur mainly through episodic recharge to shallow alluvium and underlying fractured bedrock following rainfall and runoff events, rather than through sustained groundwater discharge to creeklines. This interpretation is consistent with the calibrated groundwater model, which did not simulate groundwater discharge to drainage lines under steady-state conditions, indicating that the water table is generally too deep to support permanent groundwater-fed baseflow. As a result, surface water expression within Tabba Tabba Creek is expected to depend primarily on rainfall runoff, short-term ponding and temporary pool persistence, rather than ongoing groundwater support at the regional model scale.

5.3.3.6 Groundwater Users

Groundwater in the area is used by the Project, through Wildcat's groundwater supply system operating under the relevant groundwater licence, and by the pastoral leaseholder for stock watering purposes.

Based on current understanding, groundwater drawdown associated with the Proposal may affect one or more pastoral stock water bores. Wildcat and the pastoralist have agreed that any pastoral bore, or bores, affected by the Proposal will be deepened or replaced, if required, to maintain the pastoral water supply.

5.3.3.7 Groundwater Quality

Groundwater quality monitoring indicates that groundwater within the development envelope is generally near-neutral to slightly alkaline and ranges from fresh to brackish, with marked spatial variability between bores. The location of groundwater monitoring and production bores used to characterise groundwater quality is shown in Figure 5.4.

The available water quality dataset indicates that pH is generally within a relatively narrow range, commonly around 7.8 to 8.4, confirming that groundwater is typically near-neutral to slightly alkaline. Salinity varies more substantially between bores, as reflected by differences in electrical conductivity and total dissolved solids (TDS). Groundwater from several bores within the pit area is brackish, while some bores in other hydrogeological positions are appreciably fresher. This indicates variability in local groundwater quality within the fractured rock system.

Within the pit-area monitoring network, groundwater quality in bores such as TAMB001, TAMB002, TAMB004, TAMB005 and TAMB006 is generally moderately saline to brackish, with TDS commonly ranging from about 1,000 to 2,800mg/L. TAMB003 is notably more saline than the other pit-area bores, with recorded TDS of up to about 7,740mg/L in the earlier dataset (2024) and still elevated salinity in the later monitoring dataset (2025-2026), indicating a localised occurrence of more saline groundwater. By comparison, bores such as FMG and Bore B are relatively fresher. Overall, the data indicates that groundwater quality varies spatially across the local aquifer system, consistent with differences in lithology, structural setting, residence time and hydraulic connectivity.

The monitoring data also indicates that groundwater chemistry is relatively stable through time in some bores and more variable in others. Repeated sampling from bores such as FMG and TABH002 (Leia) shows broadly comparable pH and salinity ranges across sampling rounds, whereas some pit-area bores show changes in salinity and major-ion concentrations between the 2024 and 2025–2026 datasets. Overall, groundwater quality within the development envelope is characterised by generally near-neutral to slightly alkaline pH, variable salinity ranging from fresh to brackish, and localised areas of more saline groundwater within the fractured rock aquifer system.

5.3.3.8 Groundwater Dependent Vegetation and Ecosystems

GDEs are ecosystems that rely wholly or partially on groundwater to maintain their composition, structure and ecological function. For the Proposal, GDEs are relevant because groundwater abstraction and dewatering may alter groundwater availability in riparian and drainage-line environments.

The flora and vegetation assessment completed by Ecoscape in 2025 included a desktop review of the Bureau of Meteorology Groundwater Dependent Ecosystems Atlas. That review indicates that most of the survey area is not mapped as having potential for GDEs, with the remainder mapped as having low potential.

Field-based vegetation assessment identified two vegetation types considered to represent groundwater-dependent vegetation (GDV) or potential GDV within the survey area. Vegetation type EcAtrTe, which occurs along sections of Tabba Tabba Creek, is considered representative of GDV due to the presence of *Eucalyptus camaldulensis* subsp. *refulgens* and *Melaleuca argentea* as dominant and characteristic species. *Melaleuca argentea* is considered an obligate phreatophyte, while *Eucalyptus camaldulensis* is regarded as a facultative phreatophyte that can depend on groundwater for part of its lifecycle and/or during drought conditions. Vegetation type EvAtuTe, associated with mid-order drainage lines and dominated by *Eucalyptus victrix*, is considered representative of potential GDV. Although *Eucalyptus victrix* may function as a facultative phreatophyte, its groundwater dependence is uncertain and may vary depending on local conditions, including depth to groundwater. On this basis, EcAtrTe is treated as GDV and EvAtuTe is treated as potential GDV for the purposes of this assessment.

5.4 Proposed Mitigation

The Proposal has been designed to avoid and minimise impacts to Inland Waters through application of the mitigation hierarchy. Mitigation measures focus on maintaining local hydrological function within Tabba Tabba Creek, protecting groundwater regimes and quality, and avoiding significant impacts to aquatic ecological values, groundwater-supported vegetation and nearby groundwater users.

Avoid

The following measures will be implemented during construction and operation to minimise impacts to inland waters:

- Place major infrastructure within the upper catchment where the areas draining to the principal mine and processing components are relatively small, rather than in lower parts of the catchment where flood flows would be larger and more difficult to manage. This reduces the scale of external runoff that can interact with proposed infrastructure and limits the extent of flood protection measures required.
- Avoid unnecessary groundwater abstraction by aligning dewatering and water supply requirements with operational demand.
- Avoid uncontrolled discharge of mine water, runoff or wastewater to natural drainage lines, including Tabba Tabba Creek.
- Avoid where practicable, disturbance to riparian and drainage-line vegetation associated with Tabba Tabba Creek and other local drainage features.

Minimise

Where impacts cannot be avoided, the Proposal will minimise impacts through design and operational controls, including:

- Diverting clean surface water around or through the site, where required, to maintain flows in waterways and preserve local drainage function.
- Capture and management of contact water, washdown water and sediment-laden runoff for reuse or controlled management, where practicable.
- Staged pit dewatering and optimisation of borefield abstraction to reduce inflow rates and drawdown extent.
- Integration of dewatering water into the site water balance to meet operational demand, noting that no discharge is proposed.

- Consultation with the pastoralist regarding potential drawdown effects on pastoral bore/s and implementation of a management response, including deepening or replacement of bores if required, to maintain stock water supply.

Rehabilitate

Proposed rehabilitation measures are outlined in the Conceptual Mine Closure Plan (**Appendix F**). Rehabilitation and mine closure will be planned, implemented and verified in accordance with the requirements of the Mining Act, throughout the life of mine.

Typical rehabilitation measures relevant to inland waters include:

- Progressive rehabilitation of disturbed areas to reduce erosion, sediment generation and uncontrolled runoff.
- Stabilisation of landforms and drainage surfaces to support appropriate post-mining drainage behaviour.
- Closure design for IWLTSF and other mine landforms to reduce long-term seepage and water quality risks.

5.5 Potential Environmental Impacts

5.5.1 Identified Environmental Impacts

Potential impacts to inland waters have been assessed in accordance with the EPA's definition of the factor and informed by baseline studies and modelling. Identified impacts and their relevance to the Proposal are detailed in **Table 5-5**.

Table 5-5 Identified Environmental Impacts

Identified Potential Impacts	Relevant to this Proposal	Rationale
Alteration of local surface water flow paths and flood behaviour	Yes	The Proposal intersects ephemeral tributaries of Tabba Tabba Creek and includes pits, roads and associated infrastructure that may alter local runoff routing, flood conveyance and inundation behaviour within the development envelope. Hydrological assessment indicates that local flow interactions will be managed through diversion channels, bunding, floodway crossings and associated drainage controls.
Surface water quality impacts on Tabba Tabba Creek	Yes	Disturbed-area runoff, sediment transport, contact water, spills or seepage may affect ephemeral creeklines and seasonal aquatic habitat within Tabba Tabba Creek if not appropriately managed.
Groundwater drawdown from mine dewatering and abstraction	Yes	Mine dewatering and groundwater abstraction for the Proposal water supply may lower groundwater levels and extend the drawdown within the local aquifer system.
Reduction in groundwater availability to nearby users	Yes	One or more pastoral bores used for stock watering are likely to be affected by the drawdown associated with the Proposal.
Groundwater quality impacts	Yes	Groundwater quality may be affected by seepage, contact water, spills, wastewater, or other contamination pathways associated with mine development, operation and closure.

Identified Potential Impacts	Relevant to this Proposal	Rationale
Impacts on GDV and potential GDV	Yes	Drawdown may affect GDV and potential GDV associated with drainage lines where hydraulic connectivity exists.
Impacts on aquatic ecology in Tabba Tabba Creek	Yes	Changes in runoff, pool persistence, sediment load, and water quality may affect ephemeral aquatic habitats and aquatic fauna within Tabba Tabba Creek.
Pit lake and closure-related changes to groundwater regime	Yes	Closure will result in a final pit lake, creating a long-term hydrogeological change relevant to residual inland waters.

5.5.2 Predicted Environmental Impacts

Predicted impacts on inland waters have been assessed for those identified as relevant to the Proposal. A summary of predicted impacts is provided in **Table 5-6**, with further detail on predicted impacts provided in the subsequent pages of this section.

Table 5-6 Predicted Environmental Impacts

Identified Impact	Predicted Impact of the Proposal	Data Certainty
Direct		
Alteration of local surface water flow paths and flood behaviour	Direct modification of local runoff pathways may occur where pits, roads, diversion structures and crossings intersect with ephemeral tributaries of Tabba Tabba Creek. Localised changes to inundation extent, flood storage, reflux, erosion risk, and flow concentration may occur in adjoining drainage lines, although clean surface water will be diverted around or through the site, where required, to maintain flow pathways.	Moderate
Surface water quality impacts on Tabba Tabba Creek	Direct impacts to surface water quality may occur where sediment-laden runoff, contact water or contaminants enter ephemeral creekline habitats within the development envelope.	High
Groundwater drawdown from mine dewatering and abstraction	Direct groundwater level decline is expected around the pit and abstraction bores as mine dewatering and groundwater abstraction are undertaken to support mining and Proposal water supply.	Moderate
Groundwater quality impacts	Potential direct impacts to groundwater quality are expected to be confined to areas affected by seepage from TSF, hydrocarbon spills or hydrocarbon contamination of contact water.	High
Pit lake and closure-related changes to groundwater regime	Following closure, the final pit lake is predicted to form and function as a permanent groundwater sink, representing a localised long-term change in the post-mining groundwater regime. Potential impacts may include localised changes to groundwater gradients, water quality and evaporation-driven concentration of solutes.	Moderate
Indirect		
Reduction in groundwater availability to nearby users	Drawdown may reduce groundwater availability to pastoral stock water bores within the area of drawdown influence.	Moderate

Identified Impact	Predicted Impact of the Proposal	Data Certainty
Impacts on GDV and potential GDV	Drawdown may reduce groundwater availability to GDV and potential GDV associated with drainage lines.	Low to moderate
Impacts on aquatic ecology in Tabba Tabba Creek	Changes to the flow paths and direction, sediment load and water quality may affect ephemeral aquatic habitats in Tabba Tabba Creek.	High

5.5.2.1 Alteration of local surface water flow paths and flood behaviour

The 1% AEP flood modelling indicates that the Proposal may locally interact with existing surface water flow paths where infrastructure intersects ephemeral drainage lines associated with Tabba Tabba Creek. Potential impacts include localised modifications to runoff routing, concentration of flow around infrastructure, and changes to inundation patterns in the vicinity of pits, WRLs, plant areas, and access roads.

However, because the Proposal is located at the head of the catchment, these interactions are expected to be associated primarily with local runoff pathways rather than larger regional flood inflows. Clean surface water will be diverted around or through the site, where required, to maintain flows in waterways and preserve local drainage function. With the implementation of surface water management infrastructure, residual impacts to local hydrological function are expected to be low, localised and not significant.

5.5.2.2 Groundwater Drawdown from Mine Dewatering and Groundwater Abstraction

A key Inland Waters impact pathway for the Proposal is the alteration of groundwater regimes through mine dewatering and groundwater abstraction. These activities are required to support pit development and to meet operational water demand during the life of mine. Mining is expected to intersect the water table during operations, requiring dewatering to maintain dry and safe mining conditions. In addition to mine inflow, groundwater abstraction from supply bores will be required to supplement operational water demand. Under the current mine water strategy, abstracted groundwater, including dewatering water, is expected to be used on site, and no discharge is proposed.

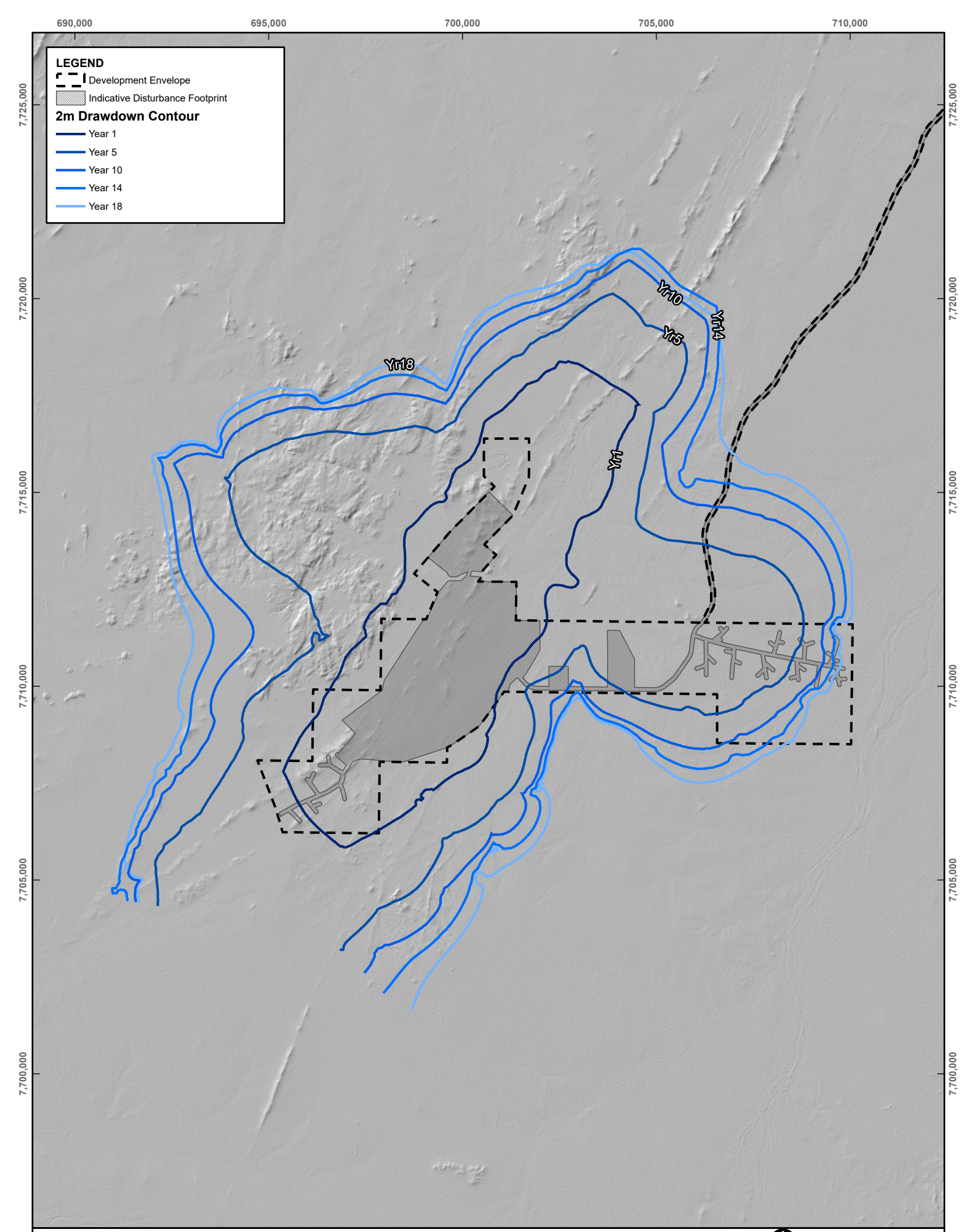
The groundwater modelling indicates that mine inflow peaks in approximately 2030 at about 0.6GL/year, while total extracted groundwater is predicted to be about 5.5GL/year for the first six years of mining, before progressively decreasing to about 3GL/year by the end of mining. These results indicate that groundwater abstraction for operational supply will be a major component of total groundwater take over the life of mine.

Mine dewatering and groundwater abstraction may alter hydrogeological conditions by lowering groundwater levels around pits and abstraction bores, forming drawdown cones within the fractured rock aquifer, and changing local groundwater gradients and flow directions. These changes may reduce groundwater availability to nearby users, GDV, and potential GDV where hydraulic connectivity exists. Drawdown may also preferentially propagate along structurally controlled pathways, particularly the Tabba Tabba Shear Zone, which is interpreted to be more permeable and conductive than the surrounding fractured rock, and along the dolerite dyke.

The groundwater modelling assessed maximum, transient and residual drawdown. At the broader model scale, the maximum 1m drawdown contour extends more than 20km along the alignment of Tabba Tabba Creek and about 19km along the dyke. Transient drawdown results indicate that by year 1, the drawdown develops first around the mine and southern borefields; by year 5, it is close to maximum; and then, from year 5 to the end of mining (year

14), drawdown only expands marginally along the dyke and the Tabba Tabba Shear Zone. **Figure 5.** illustrates the progressive development of the 2 m drawdown contour at Years 1, 5, 10, 14 and 18. The 1m residual water table drawdown contour extends for about 18km along the alignment of Tabba Tabba Creek and about 8km along the dyke. Drawdown greater than 50m is limited to the main final void, and the residual drawdown contour reduces to less than 10m approximately 2km from the main final void.

Post-mining, pit lakes are predicted to form and act as long-term groundwater sinks, resulting in a long-term modification of the post-mining groundwater regime. The groundwater modelling indicates that final void equilibrium lake levels remain below spill level, although final void modelling is indicative only.



0 2.5 5 km

Scale: 1:120,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 02-Jun-2026
Project Number: 620.V00796

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PREDICTED GROUNDWATER DRAWDOWN

FIGURE 5-5

Drawn by: KM

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 5-6_Predicted Groundwater Drawdown

5.5.2.3 Potential Effects on Groundwater Receptors

Groundwater receptors relevant to the Proposal include pastoral stock water bores, GDV and potential GDV associated with drainage-line environments. These receptors are linked to the local groundwater system to varying degrees and may respond differently to groundwater drawdown associated with mine dewatering and groundwater abstraction. The groundwater modelling indicates that Proposal-related drawdown may extend well beyond the immediate mining footprint and preferentially propagate along structurally controlled pathways, particularly the Tabba Tabba Shear Zone, which is interpreted to be more permeable and conductive than the surrounding fractured rock, and along the dolerite dyke.

Based on current understanding, Proposal-related drawdown has the potential to affect one or more pastoral stock water bores within the broader area of groundwater influence. Wildcat and the pastoralist have agreed that any pastoral bore or bores materially affected by the Proposal will be deepened or replaced, if required, to maintain the pastoral water supply.

Groundwater drawdown may also reduce groundwater availability for GDV and potential GDV where hydraulic connectivity exists between the fractured-rock aquifer and drainage-line vegetation. The groundwater model indicates that no groundwater discharge to drainage lines occurs at the regional model scale under steady-state conditions, suggesting that permanent groundwater-fed baseflow is not a defining feature of local creek systems. However, the model also indicates enhanced recharge along creek zones and structural features, and the flora assessment has identified vegetation types treated as representative of GDV and potential GDV along Tabba Tabba Creek and mid-order drainage lines. On that basis, groundwater-supported vegetation remains a relevant receptor where local hydraulic connectivity occurs.

5.6 Assessment of Significance of Residual Impacts

5.6.1 Proposal

The assessment of significance of residual impacts to inland waters following the implementation of mitigation measures is presented in **Table 5-7**.

Table 5-7 Assessment of Residual Impacts to Inland Waters

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Direct		
Alteration of local surface water flow paths and flood behaviour	• Place major infrastructure within upper catchment areas where runoff to key mine components is relatively limited. • Construct diversion channels, flood protection bunds, culverted floodway crossings and associated drainage controls. • Divert clean surface water around or through the site, where required, to maintain flows in waterways and preserve local drainage function. • Refine final infrastructure layout and drainage design with reference to flood modelling outcomes.	**Residual impact is not significant:** Localised changes to runoff pathways, inundation behaviour and flood conveyance may occur where infrastructure intersects ephemeral tributaries of Tabba Tabba Creek. With the implementation of drainage and flood protection measures, including diversion channels, floodway crossings, and the diversion of clean water around or through the site where required to maintain flows in waterways, residual impacts are expected to be low, localised, and manageable, with no significant adverse effect on broader local hydrological function.
Surface water quality impacts on Tabba Tabba Creek	• Separate clean runoff from disturbed and operational water. • Capture and manage contact water, washdown water and sediment-laden runoff within the IDF. • Avoid uncontrolled discharge to natural drainage lines.	**Residual impact is not significant:** Short-term deterioration in water quality may occur locally if runoff mobilises sediment or contaminants into ephemeral creekline habitats following rainfall events. Under the current mine water strategy, with no planned discharge and implementation of water management controls, residual impacts to surface water quality are expected to be low and localised.
Groundwater drawdown from mine dewatering and abstraction	• Stage pit dewatering and optimise abstraction to reduce inflow rates and drawdown extent.	**Residual impact is potentially significant:** Groundwater levels are expected to decline around pits and abstraction areas during operations, with drawdown extending beyond the immediate mining footprint in the fractured-rock aquifer. With staged dewatering and optimisation of abstraction, residual impacts are expected to be manageable. However, the residual impact may remain significant where drawdown overlaps sensitive groundwater receptors.

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Groundwater quality impacts	• Manage fuels, reagents, wastewater and contact water to avoid seepage and spills. • Maintain containment and water management systems, including operational management of TSF deposition and active management of TSF supernatant pond size and position to reduce localised seepage potential.	**Residual impact is not significant:** Potential direct impacts to groundwater quality are expected to remain confined to operational areas if management systems perform as designed. Residual impacts to groundwater quality are expected to be low, with no significant off-site effect anticipated under normal operating conditions.
Pit lake and closure-related changes to groundwater regime	• Incorporate closure design measures to reduce long-term seepage and water quality risks. • Define detailed closure measures in the MCP.	**Residual impact is not significant:** A final pit lake is predicted to form and function as a permanent groundwater sink, representing a localised, long-term change in the post-mining groundwater regime. With closure design and post-closure monitoring, the residual impact is expected to remain manageable.
Indirect		
Reduction in groundwater availability to nearby users	• Consult with the pastoralist regarding potential drawdown effects on pastoral bore/s. • Deepen or replace affected pastoral bore/s, if required, in accordance with the agreement between Wildcat and the pastoralist.	**Residual impact is not significant:** Drawdown may reduce groundwater availability at one or more pastoral stock water bores. Wildcat and the pastoralist have an agreement in place to deepen or replace affected bores if required, therefore the residual impact on pastoral water supply is considered to be low and manageable.
Impacts on GDV and potential GDV	• Stage pit dewatering and optimise abstraction to reduce inflow rates and drawdown extent.	**Residual impact is potentially significant:** Where hydraulic connectivity exists, drawdown is expected to reduce groundwater availability to GDV and potential GDV associated with drainage lines. This residual impact is potentially significant where drawdown overlaps with hydraulically connected GDV and potential GDV, but is expected to be manageable through monitoring and adaptive management where required.

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Impacts on aquatic ecology in Tabba Tabba Creek	• Manage runoff, sediment and water quality through drainage and water management controls. • Avoid uncontrolled discharge to Tabba Tabba Creek.	**Residual impact is not significant:** Changes to runoff, pool persistence, sediment condition and water quality may affect temporary aquatic habitats in Tabba Tabba Creek. Given the ephemeral nature of the creekline habitats, the absence of proposed discharge, and implementation of management controls, residual impacts to aquatic ecology are expected to be low and localised.

5.6.2 Cumulative Impacts

Potential cumulative impacts for Inland Waters primarily relate to the overlap of Proposal-related groundwater drawdown with nearby groundwater users, groundwater-supported vegetation, and any hydrologically connected drainage-line environments, as well as cumulative alterations to local drainage and water quality when multiple disturbances occur within the same catchment. The groundwater modelling indicates that the Proposal-related drawdown may extend beyond the immediate mining area and preferentially propagate along structural features, particularly the Tabba Tabba Shear Zone and dolerite dyke. At the broader model scale, the maximum 1m drawdown contour extends 20km along the alignment of Tabba Tabba Creek and about 19km along the dyke. Based on current understanding, there are no other known projects within this distance that overlap with the drawdown extension; therefore, cumulative drawdown effects from other developments are not currently expected within the modelled area of influence.

Potential cumulative impacts to third-party groundwater use are currently considered limited. Based on current understanding, one or more pastoral stock water bores may be affected by Proposal-related drawdown. As Wildcat has agreed to deepen or replace any pastoral bore or bores materially affected by the Proposal, cumulative impacts to existing groundwater users are expected to remain low.

Cumulative impacts to aquatic ecology within Tabba Tabba Creek are expected to be limited, as no other users have been identified to impact the creekline habitats in the vicinity of the development envelope. Overall, cumulative impacts to Inland Waters are expected to be low to moderate and manageable.

5.7 Environmental Outcomes

Considering the proposed mitigation measures and likely residual impacts associated with the Proposal, the predicted environmental outcomes and objectives that apply to Inland Waters are:

- Hydrological regimes of groundwater and surface water are maintained to the extent that environmental values are protected.
- Local hydrology within Tabba Tabba Creek and its associated tributaries is managed to ensure the Proposal does not cause significant adverse impacts on drainage function, flood behaviour, or seasonal aquatic habitat availability.
- Mine dewatering and groundwater abstraction are managed to ensure operational water demand is met without causing significant adverse impacts on groundwater regimes, nearby users, or potential groundwater-supported ecological values, with alternative management measures implemented where required.
- Groundwater and surface water quality are protected from significant degradation caused by mine development, operation and closure.
- Aquatic habitats and aquatic fauna communities within Tabba Tabba Creek, and any downstream receiving environments potentially influenced by the Proposal, are protected from significant adverse impacts resulting from altered flow regimes, sedimentation or contamination.
- Mine water, contact water, runoff, wastewater and hazardous materials are managed to prevent significant contamination of Inland Waters.
- Closure of landforms and the final pit lake are managed to minimise long-term risks to Inland Waters.

There is a high level of confidence in achieving surface water outcomes, due to the highly ephemeral nature of the local hydrology and use of industry standard surface water management measures.

Confidence in achieving groundwater outcomes is moderate. Calibration of the groundwater model during operations will assist in increasing confidence in the predicted drawdown extent.

Potential statutory decision-making processes available regulate potential impacts are detailed in **Appendix A-2**.

6 Potential Key Environmental Factor – Flora & Vegetation

6.1 EPA Objective

The EPA objective for flora and vegetation is "to protect flora and vegetation so that biological diversity and ecological integrity are maintained" (EPA, 2016b).

6.2 Relevant Policy and Guidance

Table 6-1 outlines the relevant policies and guidance for flora and vegetation and explains how they have been incorporated into the Proposal.

Table 6-1 Relevant Policy and Guidance for Flora and Vegetation

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Environmental Protection Authority	
Environmental Factor Guideline: Flora and Vegetation (EPA, 2016b)	Informed the assessment of vegetation condition, flora values, ecological significance and the application of the mitigation hierarchy.
EPA Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016d)	Survey methods, timing, sampling intensity, and reporting for the Tabba Tabba baseline flora and vegetation surveys were undertaken in accordance with this Technical Guidance.
EPA Guideline for Cumulative Impact Assessment (EPA, 2026)	Provides the basis for a consistent approach to cumulative impact assessment (CIA) to be applied by proponents, across the majority of environmental factors and across the different regions of WA.
Other State or Commonwealth	
Cumulative Environmental Impacts of Development in the Pilbara Region – Advice of the EPA to the Minister for Environment under Section 16(e) (EPA, 2014)	This advice informed the assessment of cumulative impacts and the justification for mitigation and offsets.
WA Environmental Offsets Policy (Government of Western Australia, 2011)	Considered in the impact assessment and offset strategy for flora and vegetation.
WA Environmental Offsets Guidelines (Government of Western Australia, 2014)	
Biodiversity Conservation Regulations 2018	Relevant to the protection and handling of threatened flora, including permitting requirements for collection or disturbance during surveys or works.

6.3 Receiving Environment

6.3.1 Surveys and Studies

The studies and surveys relating to flora and vegetation that have been undertaken for the Proposal are described in **Table 6-2**.

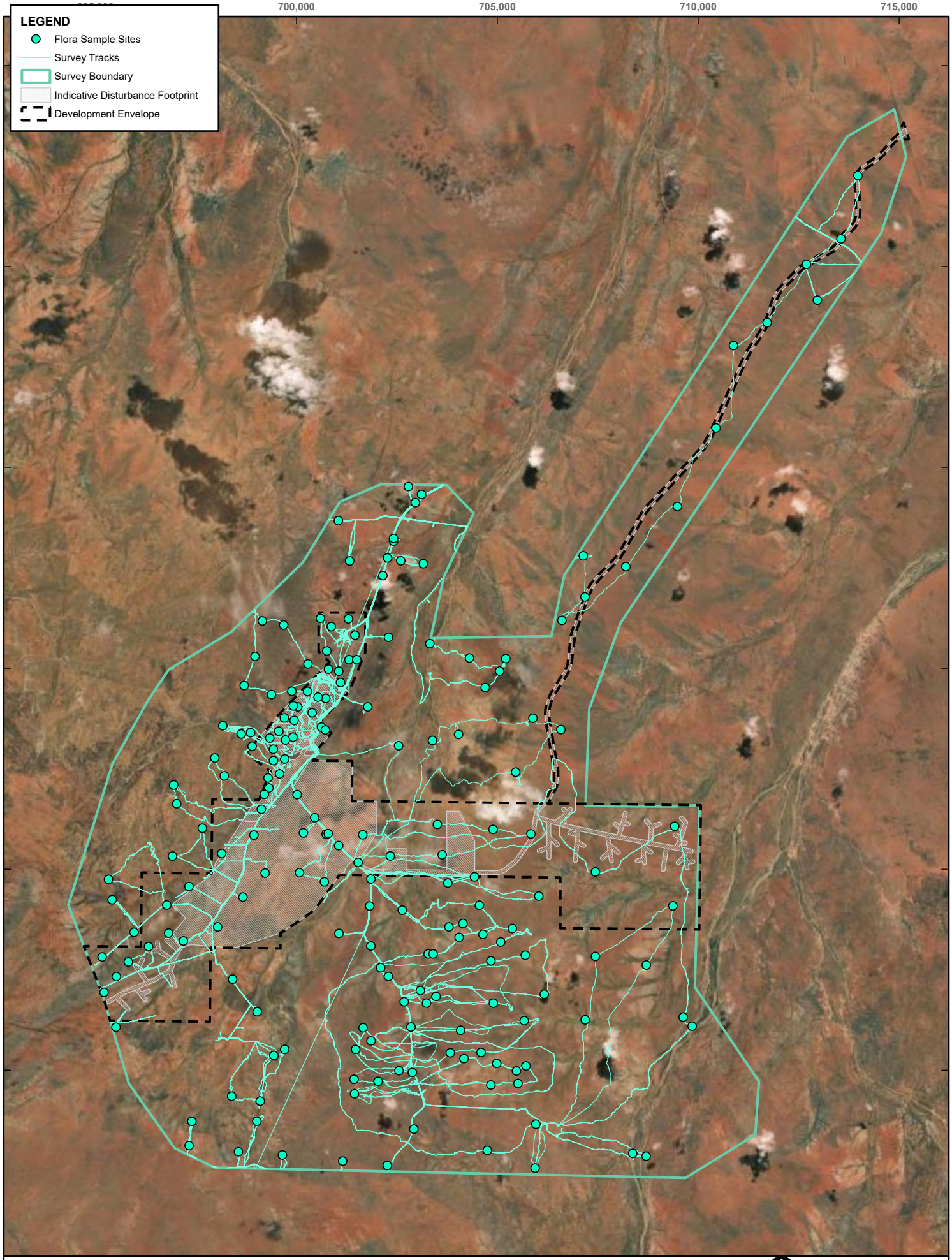
Table 6-2 Studies and Surveys Relevant to Flora and Vegetation

Survey/Study	Details	Link
Flora and Vegetation Assessment (Ecoscape, 2026)	A detailed flora and vegetation assessment was undertaken by Ecoscape in 2026, including a desktop review of conservation significant species and ecological communities likely to occur in the survey area. Field surveys were conducted between March and June 2024, and April to June 2025 in accordance with EPA technical guidance (EPA, 2016d). The survey area covered 22,670ha (**Figure 6.**).	**Appendix C-4**

6.3.2 Vegetation Communities

A total of 23 Vegetation Types (VTs) were mapped across the survey area. These vegetation types are detailed in **Table 6-3** and their distribution is illustrated in **Figure 6.**. The vegetation types were recorded across three main landform types:

- Plains: AaTe, AaTl, AiTe1, AiTe2, AiTl, AoTe, AstTe, AsyTe, ChAaTl, ChAiTc, ChAiTe, TeTs, Tsc, Tse, Tw.
- Low hills and outcrops: AoTw, AtuTe, ChTe, TcAtTe, Te.
- Drainage lines: ChAtuTe, EcAtrTe, EvAtuTe.



Scale: 1:120,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 11-Jun-2026
Project Number: 620.V00796

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FLORA SURVEY COVERAGE

Earthstar Geographics
Drawn by: KM

FIGURE 6-1

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Flora Survey Coverage

Table 6-3 Vegetation Types Recorded in the Survey Area

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
AaTe	*Acacia ancistrocarpa* mid sparse shrubland over *Triodia epactia* low open hummock grassland		62	36	32
AaTl	*Acacia ancistrocarpa* mid open shrubland over low open *Triodia lanigera* hummock grassland		8,514	1,818	960

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
AiTe1	*Acacia inaequilatera* tall sparse shrubland over *Triodia epactia* low hummock grassland		368	124	74
AiTe2	*Acacia inaequilatera* mid sparse shrubland over *Triodia epactia* low hummock grassland		807	53	51

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
AiTl	*Acacia inaequilatera* mid sparse shrubland over *Triodia lanigera* and *Triodia epactia* low open hummock grassland		1,310	73	73
AoTe	*Acacia orthocarpa* mid sparse shrubland over *Triodia epactia* low hummock grassland		134	0	0

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
AoTw	*Acacia orthocarpa* mid sparse shrubland over *Triodia wiseana* low hummock grassland		500	259	131
AstTe	*Acacia stellaticeps* mid open shrubland over mixed *Triodia epactia* and *T. lanigera* low hummock grassland		1,291	13	4

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
AsyTe	*Acacia synchronicia* mid sparse shrubland over *Triodia epactia* low open hummock grassland		222	43	14
AtuTe	*Acacia tumida var. pilbarensis* mid sparse shrubland over *Triodia epactia* low open hummock grassland		498	125	2

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
ChAaTl	*Corymbia hamersleyana* low open woodland over *Acacia ancistrocarpa*, *A. inaequilatera* and *A. orthocarpa* mid sparse shrubland over *Triodia lanigera* and *Acacia spondylophylla* low hummock grassland/shrubland		30	0	0
ChAiTc	*Corymbia hamersleyana* low isolated trees over mixed *Acacia inaequilatera* and *Acacia orthocarpa* tall sparse shrubland over mixed *Triodia chichesterensis* and *Triodia epactia* low open hummock grassland		4,003	1,388	581

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
ChAiTe	*Corymbia hamersleyana* low scattered trees over *Acacia inaequilatera*, *A. bivenosa* and *A. ancistrocarpa* mid sparse shrubland over *Triodia epactia* low hummock grassland		534	263	99
ChAtuTe	*Corymbia hamersleyana* low open woodland over *Acacia tumida var. pilbarensis* mid open shrubland over low open *Triodia epactia* hummock grassland		622	133	21

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
ChTe	*Corymbia hamersleyana* low scattered trees over *Triodia epactia* low sparse hummock grassland		35	0	0
EcAtrTe	*Eucalyptus camaldulensis subsp. refulgens*, *Melaleuca argentea* and *Eucalyptus victrix* low open woodland over *Acacia trachycarpa* tall sparse shrubland over mixed *Triodia epactia* and *Eriachne benthamii* low sparse hummock and tussock grassland		352	0	0

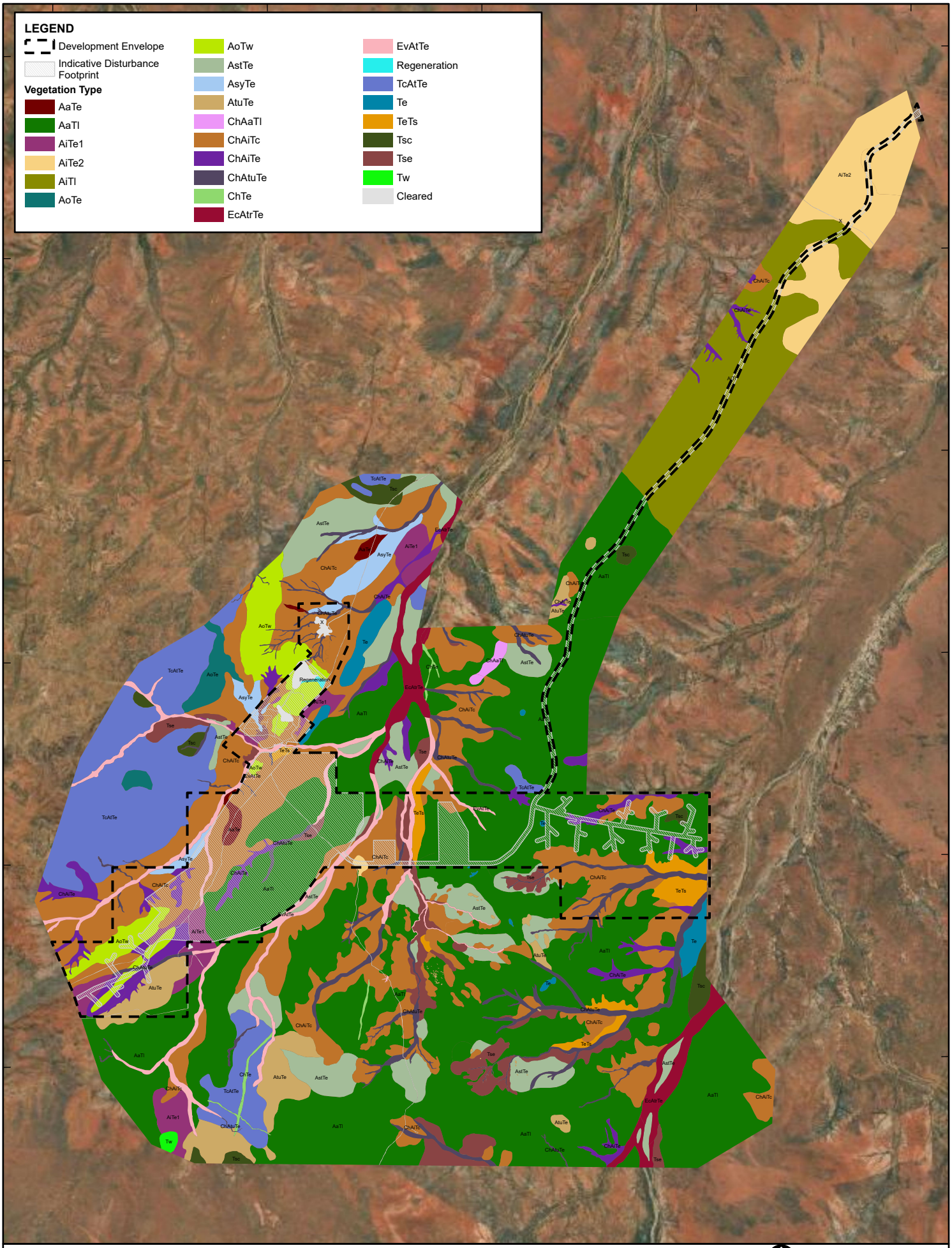
Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
EvAtuTe	*Eucalyptus victrix* low open woodland over *Acacia tumida* var. *pilbarensis* and *Acacia trachycarpa* tall sparse shrubland over *Triodia epactia* low open hummock grassland		483	145	36
TcAtTe	*Terminalia circumalata* low open woodland over *Acacia tumida* var. *pilbarensis* and *A. orthocarpa* mid open shrubland over *Triodia epactia* low open hummock grassland		1,644	10	0

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
Te	*Triodia epactia* low open hummock grassland		177	10	2
TeTse	*Triodia epactia* and *Triodia secunda* low hummock grassland		222	153	10

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
Tsc	*Triodia schinzii* low hummock grassland		204	14	1
Tse	*Triodia secunda* low hummock grassland		555	76	30

Mapping Unit	Vegetation Description	Photo	Mapped in Survey Area (ha)	Mapped in DE (ha)	Mapped in IDF (ha)
Tw	*Triodia wiseana* low open hummock grassland		17	0	0
Cleared			77	61	44
Revegetation			6	6	6
Unassigned[#]			NA	32	0
Total*			**22,670**	**4,840**	**2,180**

[#]A small portion of the development envelope has not yet been assigned a vegetation type; however, these unassigned areas are limited to very small sections located along the boundary of the development envelope. All vegetation within the indicative disturbance footprint has been assigned to a vegetation type.
** Totals are rounded to the next 10 ha.*



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Earthstar Geographics
Drawn by: KM

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VEGETATION TYPES

FIGURE 6-2

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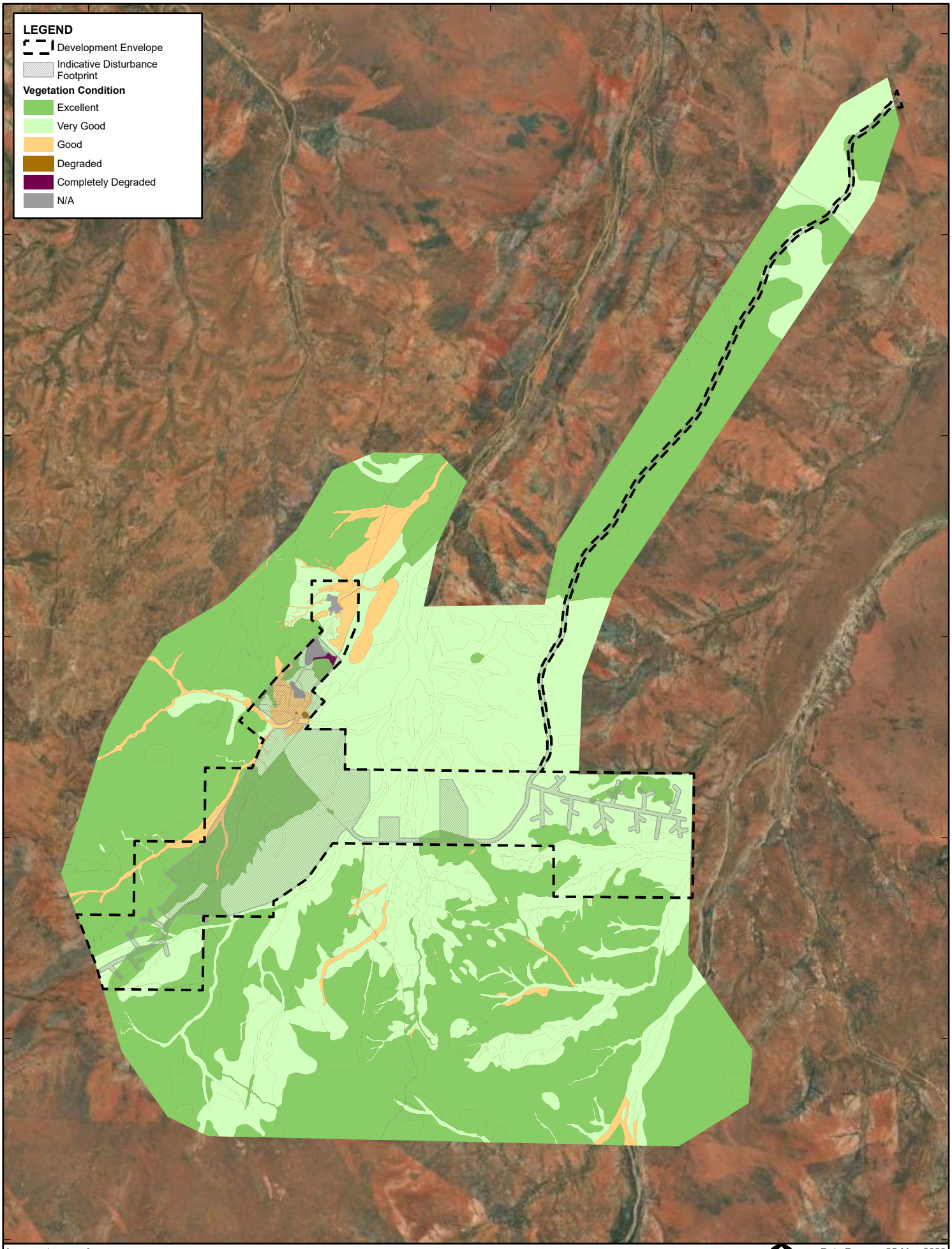
6.3.3 Vegetation Condition

The vegetation condition within the survey area ranged from Completely Degraded to Excellent condition, with the majority in Excellent or Very Good condition (approx. 96%). The main factors affecting vegetation condition were grazing, weeds and clearing. The extent of vegetation in each condition category is listed in **Table 6-4** and illustrated in **Figure 6..**

Table 6-4 Vegetation Condition

Vegetation Condition	Mapped in Study Area (ha)
Excellent	12,519
Very Good	9,296
Good	769
Poor	None identified
Degraded	2
Completely Degraded	6
Not Vegetated	77
Unassigned	NA

#A small portion of the development envelope and indicative disturbance footprint has not yet been assigned a vegetation condition; however, these unassigned areas are limited to small sections located along the boundary of the development envelope.



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Earthstar Geographics
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VEGETATION CONDITION

FIGURE 6-3

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6.3.4 Threatened and Priority Ecological Communities

No vegetation considered a Threatened Ecological Community (TEC) or Priority Ecological Community (PEC) was identified in the survey area.

6.3.5 Significant Flora Species

One Threatened flora species listed under the EPBC Act, and seven Priority flora species were identified in the study area:

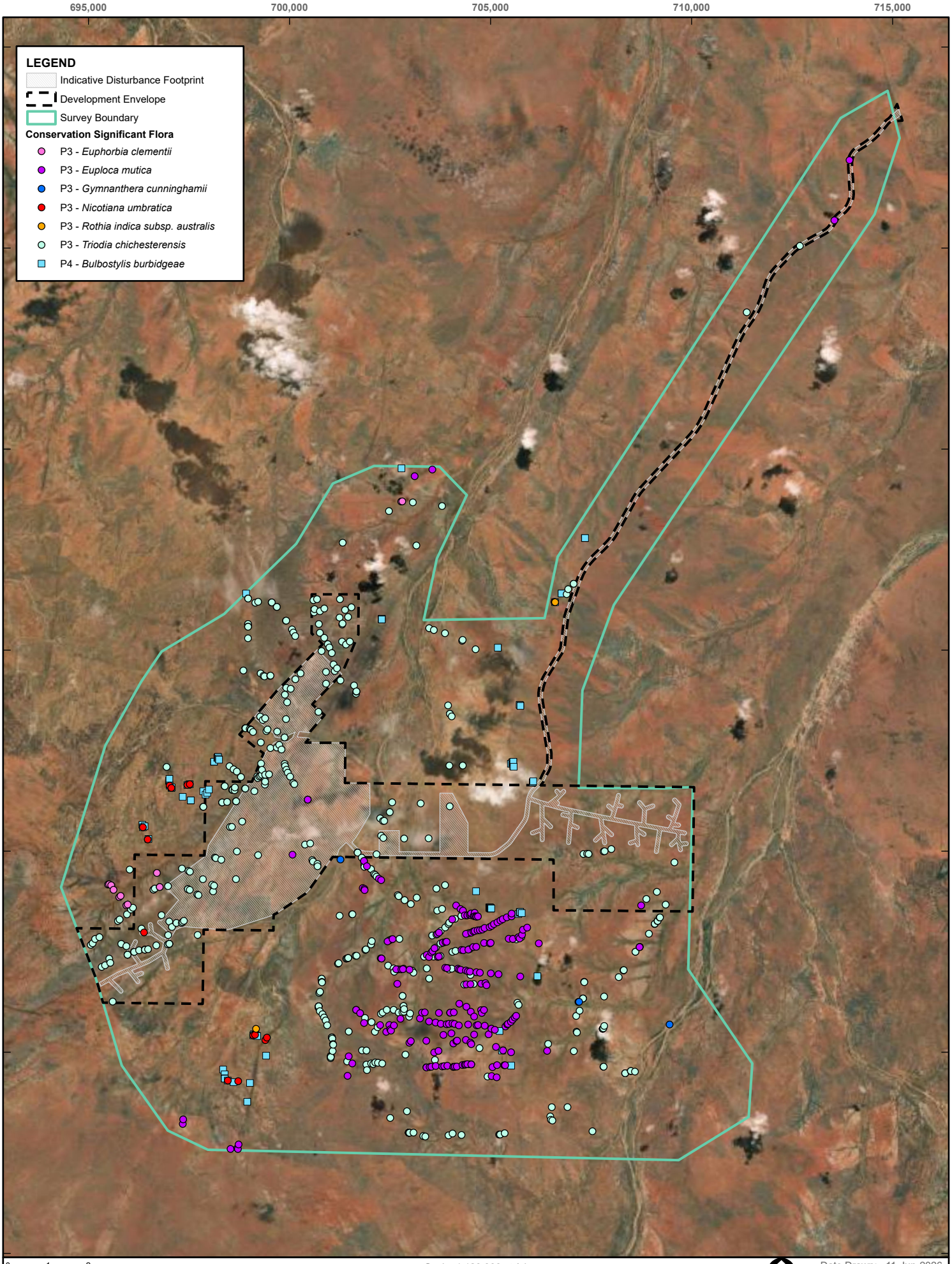
- *Seringia exastia* (Critically Endangered – EPBC Act only)
- *Euphorbia clementii* (P3)
- *Euploca mutica* (P3)
- *Gymnanthera cunninghamii* (P3)
- *Nicotiana umbratica* (P3)
- *Rothia indica subsp. australis* (P3)
- *Triodia chichesterensis* (P3)
- *Bulbostylis burbidgeae* (P4)

Records of conservation significant flora are shown in **Figure 6.4**.

Seringia exastia is currently listed as Critically Endangered under the EPBC Act, and was previously known as *Keraudrenia exastia*. The species was only known from a restricted area in the Kimberley region in Western Australia.

A recent taxonomic study that assessed genomic and morphological characters in several *Seringia* taxa concluded that *Seringia exastia* is identical to the widespread and common *Seringia elliptica* (Binks, Wilkins, Markey, Lyons, & Byrne, 2020). As a result of this finding, these two species were synonymised as *Seringia exastia* (the name that was published first, as per taxonomic convention). As *Seringa elliptica* is common and widespread throughout the Pilbara region, central WA, the Northern Territory and into South Australia, *Seringa exastia* is now also considered common and widespread. This means it no longer meets the criteria used to assign conservation status (Ecoscape, 2026).

Seringia exastia was subsequently delisted as a Threatened species under the WA BC Act on 30 September 2022 (Minister for Environment (WA), 2022) and is not considered further in this document. The species has also been nominated for delisting under the EPBC Act with a decision expected by October 2026.



SLR

Earthstar Geographics
Drawn by: KM

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CONSERVATION SIGNIFICANT FLORA

FIGURE 6-4

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Conservation Significant Flora

6.3.6 Vegetation Dominated by Conservation Listed Flora

The ChAiTc VT is dominated and characterised by *Triodia chichesterensis,* which is listed as a Priority 3 (P3) species. As such, this VT could be considered of significance for supporting conservation-listed flora. The surveys conducted by Ecoscape identified that this VT was widespread and extensive within the survey area (4,003 ha). Additionally, vegetation communities known to support *Trioda chichesterensis* were observed to be extensive beyond the survey boundary.

6.3.7 Groundwater Dependent Vegetation

The Bureau of Meteorology (BoM) Groundwater Dependent Ecosystem (GDE) Atlas indicates that the majority of the survey area is not mapped as having potential for GDEs, with the remainder mapped as having low potential.

Field-based vegetation assessment identified two vegetation types considered to represent groundwater-dependent vegetation (GDV) or potential GDV within the survey area. Vegetation type EcAtrTe, which occurs along sections of Tabba Tabba Creek, is considered to be GDV due to the presence of *Eucalyptus camaldulensis* subsp. *refulgens* and *Melaleuca argentea* as dominant and characteristic species. *Melaleuca argentea* is considered an obligate phreatophyte, while *Eucalyptus camaldulensis* is regarded as a facultative phreatophyte that can depend on groundwater for part of its lifecycle and/or during drought conditions. A total of 352ha of this vegetation type was identified within the survey area. Vegetation type EvAtuTe, associated with mid-order drainage lines and dominated by *Eucalyptus victrix*, is considered representative of potential GDV. Although *Eucalyptus victrix* may function as a facultative phreatophyte, its groundwater dependence is uncertain and may vary depending on local conditions, including depth to groundwater. A total of 483ha of this VT was mapped in the survey area.

6.3.8 Sheet Flow Dependent Vegetation

Mulga typically occurs in landscapes influenced by sheet flow, where it relies on episodic overland water movement for establishment and persistence. Consequently, mulga-dominated communities are widely regarded as indicators of sheet flow–dependent vegetation types. There were no species of mulga recorded within the survey area and therefore none of the VTs identified in the survey area are considered to be sheet flow dependent.

6.3.9 Introduced Flora

Thirteen introduced flora species were recorded during the field survey, including one Declared Pest Plant species, *Calotropis procera* (Caltrope). *Calotropis procera* was recorded at 92 locations (1,357 plants) within the survey area and was most prolific surrounding the artificial dam areas. Whilst *Calotropis procera* is a Declared Pest Plant under the *Biosecurity and Agriculture Management Act 2007*(BAM Act), it is in the 'exempt' category and there are no reporting or management actions required.

6.4 Proposed Mitigation

Mitigation measures for potential impacts to vegetation and flora and have been developed in accordance with the mitigation hierarchy of avoid, minimise and rehabilitate. Additional mitigation measures relating specifically to groundwater and relevant to GDV and potential GDVs are discussed in **Section 0**.

Avoid

The Proposal will avoid significant impacts to flora and vegetation where practicable by:

- Prohibiting clearing outside the proposed development envelope.
- Avoiding uncontrolled releases of surface water runoff from disturbed areas to riparian vegetation.

Minimise

The following measures will be implemented during construction and operation to minimise impacts to flora and vegetation:

- Limit clearing to the minimum area necessary to safely construct and operate the mine.
- Limit vegetation clearing to no more than 2,180 ha.
- Develop and implement procedures for weed hygiene and control.
- Develop and implement vegetation and ground disturbance procedures to minimise and control clearing activities.
- Employ underground mining techniques, where feasible, to reduce surface disturbance and clearing.

Rehabilitate

Proposed rehabilitation measures are outlined in the Conceptual Mine Closure Plan (**Appendix F**). Rehabilitation and mine closure will be planned, implemented and verified in accordance with the requirements of the Mining Act, regulated by DMPE throughout the life of mine.

Typical rehabilitation measures relevant to vegetation and flora include:

- Topsoil to be stripped from disturbed areas and stockpiled, to preserve soil seed bank and for use in rehabilitation.
- Revegetation of rehabilitated areas to use suitable species of local provenance, where available.
- Develop and implement a Mine Closure Plan, in accordance with the Guideline for Preparing Mine Closure Plan (DMPE, 2025).
- Rehabilitate landforms as per the Mine Closure Plan at closure.

6.5 Potential Environmental Impacts

6.5.1 Identified Environmental Impacts

Potential impacts to flora and vegetation have been assessed in accordance with the EPA's definition of the factor and informed by survey results. Identified impacts and their relevance to the Proposal are detailed in **Table 6-5**.

Table 6-5 Identified Environmental Impacts

Identified Potential Impacts	Relevant to this Proposal	Rationale
Habitat loss, degradation and fragmentation due to clearing.	Yes	Clearing activities have the potential to impact the local vegetation communities both by fragmentation and loss of habitat.
Loss of significant flora.	Yes	Clearing activities have the potential to impact threatened and priority species.
Mine water discharge impacting riparian vegetation, GDV, potential GDVs and/or the wet/dry cycle of the drainage channels.	No	Proposed mine dewatering is not predicted to generate excess water. No discharge of mine water is proposed.
Degradation of groundwater dependent vegetation due to groundwater drawdown.	Yes	Mine dewatering is proposed, plus additional abstraction to supplement water supply. Groundwater drawdown has the potential to impact groundwater-dependent species.
Introduction of new invasive plant species or spread of existing invasive species.	Yes	The introduction and spread of invasive species have the potential to degrade the condition of native vegetation communities.
Degradation of vegetation from dust deposition and potential change to fire regime.	Yes	Planned operations will generate increased levels of dust and have the potential to change local fire regimes.

6.5.2 Predicted Environmental Impacts

Predicted impacts on Flora and Vegetation have been assessed for those identified as relevant to the Proposal. A summary of predicted impacts is provided in **Table 6-6**, with further detail on predicted impacts provided subsequently.

Table 6-6 Predicted Environmental Impacts

Identified Impact	Predicted Impact of the Proposal	Data Certainty
Direct		
Habitat loss, degradation and fragmentation due to clearing	Clearing for the Proposal will result in the direct loss of native vegetation within the indicative disturbance footprint, with potential for localised degradation and fragmentation of retained vegetation adjacent to disturbance areas.	High
Loss of significant flora	The Proposal has the potential to directly impact Priority flora individuals located within the indicative disturbance footprint. No threatened flora, Priority 1 or Priority 2 flora are predicted to be impacted.	High
Indirect		
Degradation of groundwater-dependent vegetation due to groundwater drawdown	Groundwater drawdown associated with mine dewatering and groundwater abstraction may reduce groundwater availability to GDV or potential GDV where mapped vegetation overlaps the modelled drawdown zone. This could result in vegetation stress or changes in vegetation condition or composition.	Moderate
Introduction of new invasive plant species or spread of existing invasive species	Proposal activities may introduce or spread invasive species through vehicle, machinery and soil movement. This could reduce the condition of native vegetation if not effectively managed.	Moderate to High
Degradation of vegetation from dust deposition and potential change to fire regime	Dust generation, increased ignition sources and changes to fuel loads may affect vegetation health, recruitment or composition in areas near disturbance and operational activities. These impacts are expected to be localised with implementation of standard dust and fire management controls.	Moderate

6.5.2.1 Loss, Degradation and Fragmentation of Vegetation

A total of 25 VTs were recorded in the survey, including cleared vegetation and revegetation. Of these, 18 occur within the development envelope, and 17 within the indicative disturbance footprint. **Table 6-7** lists the recorded VTs and the extent of each VT in:

- The survey area (ha).
- The proposed development envelope (ha, and as a percentage of the total VT extent mapped in the survey area).
- The proposed disturbance footprint (ha, and as a percentage of the total VT extent mapped in the survey area).

Table 6-7 Vegetation Type Extent

Vegetation Type (VT)	Extent in survey area (ha)	Development Envelope		Indicative Disturbance Footprint	
		Extent in DE (ha)	% of total survey area	Extent (ha)	% of total survey area
AaTe	62	36	0.2%	32	0.1%
AaTl	8,514	1,818	8.0%	960	4.2%
AiTe1	368	124	0.5%	74	0.3%
AiTe2	807	53	0.2%	51	0.2%
AiTl	1,310	73	0.3%	73	0.3%
AoTe	134	0	0.0%	0	0.0%
AoTw	500	259	1.1%	131	0.6%
AstTe	1,291	13	0.1%	4	0.0%
AsyTe	222	43	0.2%	14	0.1%
AtuTe	498	125	0.6%	2	0.0%
ChAaTl	30	0	0.0%	0	0.0%
ChAiTc	4,003	1,388	6.1%	581	2.6%
ChAiTe	534	263	1.2%	99	0.4%
ChAtuTe	622	133	0.6%	21	0.1%
ChTe	35	0	0.0%	0	0.0%
EcAtrTe	352	0	0.0%	0	0.0%
EvAtTe	483	145	0.6%	36	0.2%
Revegetation	6	6	0.0%	6	0.0%
TcAtTe	1,644	10	0.0%	0	0.0%
Te	177	10	0.0%	2	0.0%
TeTs	222	153	0.7%	10	0.0%
Tsc	204	14	0.1%	1	0.0%
Tse	555	76	0.3%	30	0.1%
Tw	17	0	0.0%	0	0.0%
Cleared	77	61	0.3%	44	0.2%
Unallocated#	NA	32	NA	NA	NA
Total*	**22,670**	**4,840**	**21.3%**	**2,180**	**9.6%**

#A small portion of the development envelope has not yet been assigned a vegetation type. These unassigned areas are limited to small sections located along the boundary of the development envelope.
** Totals are rounded up to nearest 10ha.*

Table 6-8 shows the distribution of vegetation condition classes across the survey area and how these are represented within both the development envelope and the indicative disturbance footprint. Vegetation in Excellent condition makes up the largest proportion of the survey area (12,519 ha), with 13% of this occurring within the development envelope and 6% within the indicative disturbance footprint. Areas mapped as Degraded and Completely Degraded are very limited in extent across the survey area (2ha and 6ha respectively), however both fall entirely within the development envelope and indicative disturbance footprint. Cleared or non-vegetated land (77 ha) is also largely contained within the development envelope and indicative disturbance footprint).

Table 6-8 Extent of Vegetation Condition Classes

Vegetation condition	Extent in survey area (ha)	Development Envelope		Indicative Disturbance Footprint	
		Extent in DE (ha)	% of condition extent (in survey area) within the DE	Extent (ha)	% of condition extent (in survey area) within the IDF
Excellent	12,519	1,606	13%	801	6%
Very Good	9,296	2877	31%	1207	13%
Good	769	251	33%	109	14%
Degraded	2	2	100%	2	100%
Completely Degraded	6	6	100%	6	100%
Cleared/not vegetated	77	61	79%	44	57%
Unassigned#	NA	32	NA	2.6	NA
Total*	**22,670**	**4,840**	**21%**	**2,180**	**9%**

#A small portion of the development envelope and indicative disturbance footprint has not yet been assigned a vegetation condition.
** Totals are rounded up to nearest 10 ha.*

6.5.2.2 Significant Flora

Details of predicted impacts to the populations of priority flora recorded at Tabba Tabba are provided in **Table 6-9**. In summary:

- *Gymnathera cunninghamii* (P3), *Rothia indica ssp. australis* (P3) and *Bulbostylis burbidgeae* (P4) were recorded in the survey area but were not recorded in the proposed development envelope or indicative disturbance footprint and are therefore not expected to be directly impacted by the Proposal.
- *Euphorbia clementii* (P3) was recorded in the survey area and a small number were recorded in the proposed development envelope; however, none were recorded the indicative disturbance footprint.
- *Euploca mutica* (P3) and *Nicotiana umbractica* (P3) were recorded in the survey area and a small number of each were recorded in the proposed development envelope and the indicative disturbance footprint.

- *Triodia chichesterensis* (P3) was recorded in very large numbers in the survey area, with smaller percentages recorded within the proposed development envelope and the indicative disturbance footprint.

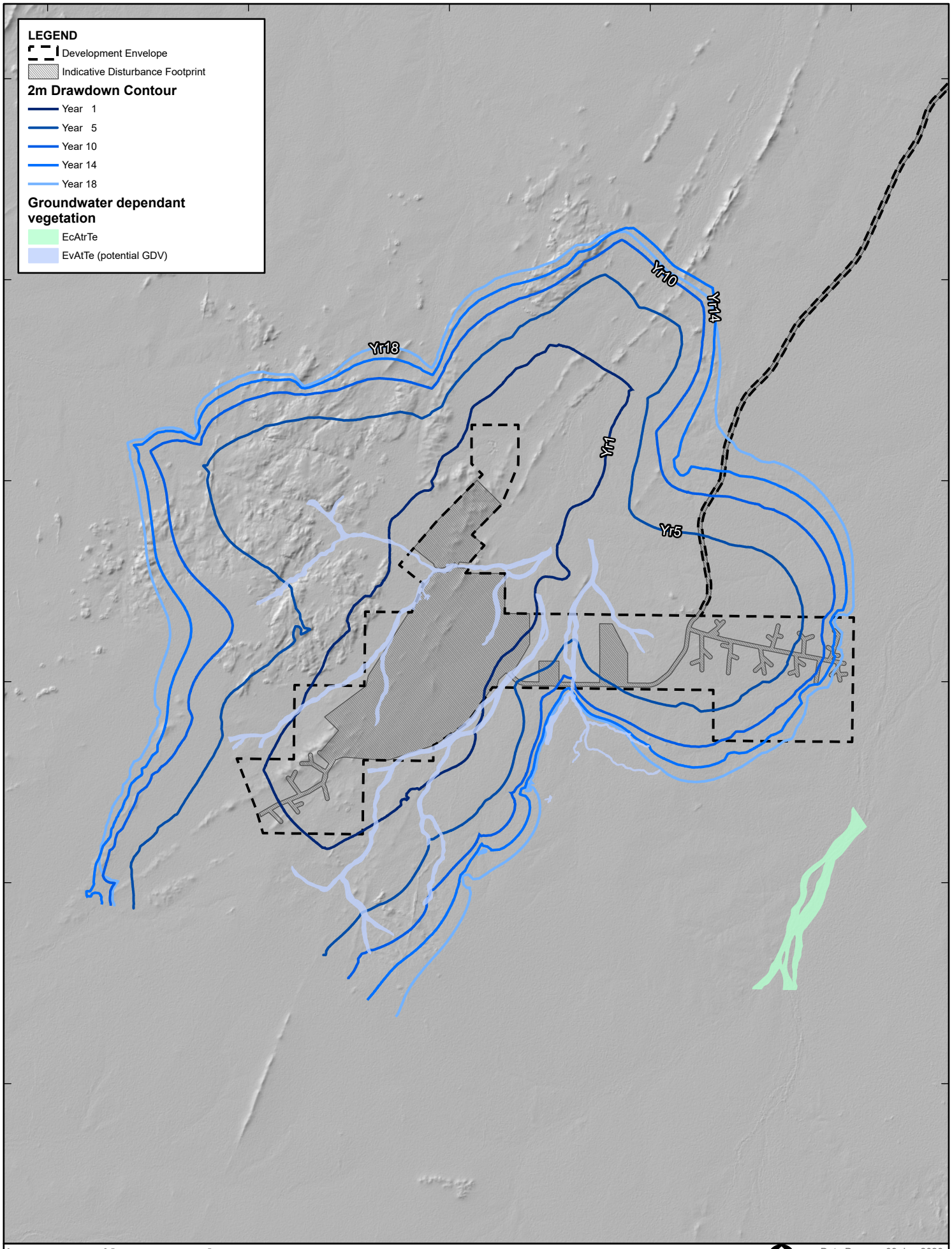
Table 6-9 Significant Flora Records

Species	Status	Number of records in survey area	Development Envelope		Indicative Disturbance Footprint	
			Number of records	% of species records (in survey area) within DE	Number of records	% of species records (in survey area) within IDF
Euphorbia clementii	P3	113	13	12%	0	0%
Euploca mutica	P3	3,392	9	< 1%	8	< 1%
Gymnanthera cunninghamii	P3	6	0	0%	0	0%
Nicotiana umbratica	P3	48	1	1%	1	2%
Rothia indica subsp. *australis*	P3	11	0	0%	0	0%
Triodia chichesterensis	P3	237,887	91,155	38%	39,628	17%
Bulbostylis burbidgeae	P4	5,266	0	0%	0	0%

6.5.2.3 Groundwater Dependent Vegetation

Impacts to GDV and potential GDV through clearing are described in **Section 6.5.2.1**. Groundwater dependent vegetation may also be impacted where the predicted groundwater drawdown area overlaps or encroaches into their range. In these areas, a lowering of the water table could reduce the availability of groundwater to dependent vegetation, potentially leading to stress, reduced health or long-term changes in species composition.

Figure 6.5 shows the modelled drawdown extent in relation to mapped GDV and potential GDV. The total length of the Tabba Tabba creek main channel is approximately 60km. A portion of the second and first order tributaries that flow into the Tabba Tabba Creek are within the modelled maximum 2m groundwater drawdown extent.



0 2.5 5 km

Scale: 1:120,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 09-Jun-2026
Project Number: 620.V00796

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GROUNDWATER DEPENDENT VEGETATION AND PREDICTED DRAWDOWN

FIGURE 6-5

Drawn by: KM

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 6-5_Groundwater dependent vegetation and predicted drawdown

6.5.2.4 Indirect impacts on vegetation and flora

Predicted indirect impacts on vegetation and flora may arise from the Proposal, particularly the introduction or spread of invasive plant species, dust deposition, and potential changes to the local fire regime.

The potential introduction of weed seeds from inadequately cleaned vehicles, and soil disturbance can facilitate weed establishment. Once established, invasive species can out-compete native flora, reduce habitat quality, and spread beyond the disturbance footprint.

Dust emissions generated during construction and operation have the potential to impact the health of vegetation in areas subject to dust deposition.

Proposal activities also have the potential to influence fire regimes by increasing ignition sources or changing fuel loads. Changes to fire frequency or intensity may affect vegetation recruitment and vegetation composition.

6.6 Assessment of Significance of Residual Impacts

6.6.1 Proposal

The assessment of significance of residual impacts to vegetation following the implementation of mitigation measures is presented in **Table 6-10**.

Table 6-10 Assessment of Residual Impacts to Flora and Vegetation

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Direct		
Habitat loss, degradation and fragmentation due to clearing.	• Limit clearing to the minimum required. • Use previously disturbed areas to the extent reasonably practicable. • Implementation of an internal clearing permit system to ensure clearing only in approved ground disturbance areas and within approved upper clearing limits. • Provide appropriate environmental training and/or awareness programs, including information on vegetation protection measures and disturbance procedures to employees and contractors. • Progressively rehabilitate disturbed areas, where feasible. • Strip and stockpile topsoil for subsequent rehabilitation to preserve seed bank. • Prepare and implement a Mine Closure Plan to plan, obtain approval for, and validate rehabilitation.	**Residual impact is not considered significant:** • Significant regional impact to vegetation habitat is highly unlikely as the habitats proposed to be cleared within the development envelope are widespread and extend beyond the development envelope. • Large areas of undisturbed vegetation habitat occur surrounding the proposal footprint.
Loss of significant flora.	• Limit clearing to the minimum required. • Using previously disturbed areas to the extent reasonably practicable. • Implement an internal clearing permit system to limit disturbance to known location of Priority species. • Prepare and implement a Mine Closure Plan consistent with the Guidelines for Mine Closure Plans (DMPE, 2025).	**Residual impact is not considered significant:** • Vegetation clearing will not impact PECs or TECs. • Vegetation clearing will not impact Threatened flora species. • Vegetation clearing will not impact Priority 1 or Priority 2 listed flora species. • Proposed impacts to Priority 3 and Priority 4 listed flora species are considered to not have a significant impact.

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Indirect		
Degradation of groundwater dependent vegetation due to groundwater drawdown.	• Stage pit dewatering and optimise abstraction to reduce inflow rates and drawdown extent. • Calibration of groundwater model against results during life of the Proposal in line with conditions of the 5C licence regulated by DWER – Water Branch.	**Residual impact is potentially significant:** • GDV and potential GDV occur within the modelled groundwater drawdown zone, meaning these communities may experience reduced access to groundwater, which can lead to physiological stress, declining health, or long-term shifts in species composition. • The groundwater dependence of VT EvAtTe is not certain. Given it occurs along ephemeral creek lines, it is likely that seasonal surface water flows provide the main water source for these vegetation types.
Introduction of new invasive plant species or spread of existing invasive species.	• Implementation of vehicle hygiene procedure. • Site inductions program to provide information on weed hygiene and identification. • Machinery washdown when moving between areas that contain invasive species and new areas. • Restrict vehicle movements to existing tracks, as far as practicable. • Weed control measures to be implemented across all phases of the Proposal.	**Residual impact is not considered significant:** Mitigation measures are expected to prevent the establishment of new invasive species and limit the spread of existing declared species in the proposed development envelope.
Degradation of vegetation from dust deposition and potential change to fire regime.	• Implement dust management procedures to prevent excessive dust generation during construction and operation. • Limit the total amount of disturbed land to reduce the amount of dust generating surfaces. • Limit clearing activities during increased fire risk ratings. • Implementation of hot works permit system. • Ensure all vehicles are equipped with fire extinguishers. • Enact effective vehicle maintenance systems. • Include fire awareness and protocols in site induction materials.	**Residual impact is not considered significant:** Any residual impacts to vegetation from dust deposition or potential changes to fire regime are expected to be minor and localised.

6.6.2 Cumulative Impacts

6.6.2.1 *Methodology*

Defining Local and Regional Impact Areas

A cumulative impact assessment on vegetation has been completed which considered known clearing impacts in:

- The 'local impact area' (LIA) - defined as an area within a 100km radius of the Proposal totalling 2,283,764ha; and
- The 'regional impact area' (RIA)- the Pilbara IBRA Bioregion, totalling 17,076,123 ha.

Areas within 10km of the coast were excluded given they were not considered representative of the habitats within the development envelope. The LIA and RIA boundaries are shown on **Figure 6.**.

Cumulative impacts for priority flora have also been assessed. All known records for relevant priority flora have been considered in this assessment.

Identifying Developments Contributing to Cumulative Impacts

Cumulative impacts were calculated from the following publicly available approved clearing footprints (or development envelopes where footprints were not available):

- Mining and exploration projects assessed under Part IV of the EP Act, with significant proposal areas excluded as they massively overstated any impacts (DWER 120);
- Native Vegetation Clearing Permits (NVCPs) issued under Part V of the EP Act, with revoked, surrendered and withdrawn NVCPs excluded (DWER 075,076,077); and
- Road and rail reserves (Department of Primary Industries and Regional Development (DPIRD) 018).

Review of these approvals identified a significant number of projects which were considered in the CIA, the footprints or envelopes of which are shown on **Figure 6.**. The closest major projects were:

- RBH Mining Pty Ltd – Sand Mining (14.71km).
- North West Quarries – Pippingarra Quarry (16.3km).
- Ell Gas Transmission Service WA – Petroleum production (18.32km).
- BHP Billiton Iron Ore Pty Ltd – Railway construction and/or maintenance (20.76km).
- Altura Mining Ltd – Pilgangoora Mine Site (21.06km).
- Fortescue Metals Group Ltd – Water/gas/cable/pipeline/powerline (22.7 km).
- Roy Hill Infrastructure Pty Ltd – Miscellaneous and geotechnical works (22.9km).
- PMR Quarries Pty Ltd – Mineral Production (26.03km).
- Dampier Salt Ltd – Salt Production (27.19km).
- Process Minerals International Pty Ltd – Poondano Project (27.33km).
- Northern Star Ltd – Hemi Gold Project (52km).
- Fortescue Metals Group Ltd – Iron Bridge Mine (60km).

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FLORA AND VEGETATION
CUMULATIVE IMPACT ASSESSMENT

FIGURE 6-6

Defining Vegetation and Flora to be considered for Cumulative Impact Assessment

Cumulative impacts on native vegetation have been considered with reference to Pre-European vegetation association 93, described as "*shrub-steppe, hummock grassland with scattered shrubs or Mallee*". Pre-European vegetation mapping indicates that two vegetation associations are modelled as present within the Proposal survey area; however vegetation association 93 dominated the survey area (covering 97%) and is the only vegetation association present within the proposed development envelope.

Three priority flora species listed under the BC Act have been recorded in the indicative disturbance footprint: *Triodia Chichesterensis*, *Nicotiana umbractia* and *Euploca mutica*. All of these species are categorised as Priority 3. A cumulative impact assessment was completed for each of these species.

6.6.2.2 Results

The current extent of vegetation association 93 in the Pilbara is more than 99% of the modelled original extent (Ecoscape, 2026). Cumulative impact to this vegetation association is summarised in **Table 6-11**.

These figures are likely to overestimate cumulative impact, given development envelopes have been used where disturbance footprints were not available.

Table 6-11 Cumulative Disturbance of Pre-European vegetation

Area	Current extent of Vegetation Association 93	Impact area – this Proposal	Impact area - cumulative
Local impact area	1.33 million ha	2,180 ha (0.14% of local extent)	125,607 ha (9.5 % pf local extent)
Regional impact area	3.03 million ha	2,180 ha (0.07% of regional extent)	125,525 ha (4.1 % of regional extent)

The cumulative impact assessment for priority flora is summarised in **Table 6-12**. The total number of species records used in this assessment has been calculated from:

- WA Herbarium records for each species;
- Records from the Proposal vegetation survey; and
- Publicly available priority flora data from other significant developments, including those listed in **Section 6.6.2.1**, plus the Turner River Solar Project and Wodgina Lithium Mine, which have relevant priority flora records. Publicly available data sources used include clearing permit decision reports available on the WA Clearing Permit System, and WA EP Act referral documentation on the EPA website.

Table 6-12 Cumulative Disturbance of Priority Flora

Species	Abundance				Numbers impacted	
	WA herbarium records	Proposal survey area records	Regional records	Total regional abundance	Number within Proposal IDF	Cumulative impact
Triodia chichesterensis	45	237,887	4,445,673	4,683,650	39,628 (0.85% of total abundance)	1,286,426 (27% of total abundance)
Nicotiana umbractia	44	48	209	301	1 (0.33% of total abundance)	1 (0.33% of total abundance)
Euploca mutica	84	3,392	3170	6,646	8 (0.12% of total abundance)	1,049 (16% of total abundance)

Cumulative impacts associated with groundwater drawdown are assessed in **Section 0**

6.6.2.3 Findings

The LIA has several significant developments including linear infrastructure corridors and resource projects, with the closest operating projects being sand mines and quarries. The area directly surrounding the Proposal is relatively undeveloped compared to other regions of the Pilbara, aside from significant linear infrastructure corridors to the west and southwest of the Proposal.

The RIA contains extensive areas of concentrated developments; a function of the Pilbara's mineral rich status. Large projects operated by BHP, Rio Tinto and Fortescue are located in the RIA and contribute to a large total impact in the area.

It is estimated that within the RIA, approximately 4.1% of the modelled distribution for vegetation association 93 is potentially affected by developments in the region, however the contribution from the Proposal is limited to less than 0.1%.

The cumulative impact assessment for priority flora indicates that for all three species considered, the proportion of known records likely to be affected by the proposal, and by regional development more broadly, remains relatively small when viewed against their total distribution.

Triodia chichesterensis shows the highest level of cumulative impact, with approximately 27% of all known records intersecting either the Proposal or other significant projects. However, the Proposal itself accounts for less than 1% of the species' total records, suggesting that while regional pressures are notable, the Proposal's incremental contribution negligible.

Nicotiana umbractia has only a single record affected across both the Proposal and cumulative projects, representing less than 1% of all records, indicating negligible risk at the population scale.

Euploca mutica shows a cumulative impact of 16%, though the Proposal contributes only 0.12%, again demonstrating that most pressure arises from broader regional development rather than this Proposal.

As a result, the cumulative impacts of the Proposal on vegetation and flora are not considered significant.

6.7 Environmental Outcomes

Environmental outcomes, in the context of this Proposal, refer to the predicted state of the environment after the Proposal is implemented. The outcomes for flora and vegetation seek to:

- Be specific and measurable, clearly describing quantifiable environmental conditions.
- Have a defined spatial and temporal extent.
- Aim to achieve the EPA's objectives for flora and vegetation.

Considering the proposed mitigation measures and likely residual impacts associated with the Proposal, the predicted environmental outcomes and objectives that apply to flora and vegetation are:

- Direct disturbance to be limited to 2,180 ha.
- Direct disturbance to be limited to within the defined development envelope.
- No direct disturbance to TECs or PECs (none were identified).
- No detectable increase in the population of environmental weeds within the flora study area, compared to baseline.
- Negligible impact to Priority species.

There is a high level of confidence in achieving these outcomes, supported by detailed vegetation survey and the use of a development envelope and indicative disturbance footprint which allows some flexibility to refine designs within clearly defined limits.

Potential statutory decision-making processes available regulate potential impacts are detailed in **Appendix A**.

7 Potential Key Environmental Factor – Terrestrial Fauna

7.1 EPA Objective

The EPA objective for Terrestrial Fauna is "to protect terrestrial fauna so that biological diversity and ecological integrity are maintained" (EPA, 2016c).

7.2 Policy and Guidance

Table 7-1 outlines the relevant policies and guidance for Terrestrial Fauna and explains how they have been incorporated into the Proposal.

Table 7-1 Relevant Policy and Guidance for Terrestrial Fauna

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Environmental Protection Authority	
Statement of Environmental Principles, Factors, Objectives and aims of EIA (EPA, 2023b)	The EPA objective for Terrestrial Fauna serves as the basis for this assessment. Survey design, impact assessment, and application of the mitigation hierarchy have been undertaken in accordance with the 2023 Statement.
Environmental Factor Guideline: Terrestrial Fauna (EPA, 2016c)	This guideline has been applied for the assessment of the Terrestrial Fauna.
Technical Guidance: Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020b)	Informed survey design, effort and methods for vertebrate fauna at Tabba Tabba.
Technical Guidance: Sampling of Short-Range Endemic Invertebrate Fauna (EPA, 2016e)	Survey design and reporting follow this Technical Guidance.
Instructions on How to Prepare an Environmental Review Document (EPA, 2025b)	The Terrestrial Fauna section is structured in accordance with the 2025 Instructions, including a description of the fauna values, threats, and proposed mitigation measures.
Instructions on how to prepare Environmental Protection Act 1986 Part IV Impact Reconciliation Procedures and Impact Reconciliation Reports (EPA, 2024b)	This will be applied to post-approval reporting, including the reconciliation of impacts to fauna habitats and the identification of any required management outcomes.
Other State or Commonwealth	
WA Environmental Offsets Policy (Government of Western Australia, 2011)	Applied to evaluate significant residual impacts and to develop an offset strategy for Terrestrial Fauna.
WA Environmental Offsets Guidelines (Government of Western Australia, 2014)	
EPBC Act Environmental Offsets Policy (DCCEEW, 2012)	
Matters of National Environmental Significance – Significant Impact Guidelines 1.1 (DoE, 2013)	Applied when determining whether impacts to any listed fauna or habitats may be significant and whether referral under the EPBC Act is triggered.
EPBC Act referral guideline for the endangered Northern Quoll (DoE, 2016)	The survey methods described in these guidelines have been considered in the fauna assessment.

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Guidelines for surveys to detect the presence of Bilbies and assess the importance of habitat in Western Australia (DBCA, 2017)	
Guidelines for determining the likely presence and habitat usage of night parrot (*Pezoporus occidentalis*) in Western Australia (DBCA, 2024)	
Survey guidelines for Australia's threatened bats (DEWHA, 2010a)	
Survey guidelines for Australia's threatened birds (DEWHA, 2010b)	
Survey guidelines for Australia's threatened mammals (DSEWPaC, 2011a)	
Survey guidelines for Australia's threatened reptiles (DSEWPaC, 2011b)	
Environmental Management Plan Guidelines (DCCEEW, 2024c)	This has been considered during the development of this document and CSSMP

7.3 Receiving Environment

7.3.1 Surveys and Studies

The studies and surveys relating to terrestrial fauna that have been undertaken for the Proposal are described in **Table 7-3.**

Table 7-2 Studies and Surveys Relevant to Terrestrial Fauna

Survey/Study	Details	Link
Detailed and Targeted Vertebrate Fauna Survey 2025 (Western Wildlife, 2026)	A two-phased detailed vertebrate fauna survey was conducted in accordance with the requirements of EPA Technical Guidance (EPA, 2020b). The survey comprised three field trips (11 – 24 April, 2 – 7 August and 1 – 12 September 2025) and included the following methods: • Habitat assessment at 175 sites. • Night Parrot habitat assessment using a combination of high-resolution aerial photography, historical aerial photography, fire scar mapping and habitat assessments. • Trapping at nine sites for seven nights, each with ten pitfall traps, ten funnel traps, ten Elliott traps and two cage traps. • Bird surveys at each trapping site and opportunistically. • Bat surveys with ultrasonic detectors. • Camera trap survey at 153 sites, particularly targeting Northern Quoll (*Dasyurus hallucatus*). • Nocturnal transects and searches. • Diurnal transects and searches, particularly targeting the Bilby (*Macrotis lagotis*).	**Appendix C-5**

Survey/Study	Details	Link
	• Opportunistic records of fauna. Additional on-site data were also available from a previous field survey in April 2024 by Ecoscape (2024).	
Dual Season Survey for Short Range Endemic Fauna for the Tabba Tabba Lithium Project, Northern Pilbara, Western Australia (Invertebrate Solutions, 2025)	A baseline short range endemic (SRE) invertebrate study was undertaken in 2024 and 2025, comprising a desktop assessment and a dual season baseline field survey. SRE invertebrate sampling was undertaken at 80 sample sites across the survey area in the combined 2024 and 2025 survey periods. A wide variety of collecting techniques were used including active searching, leaf litter sieving, leaf litter extracted in Tullgren funnels, bark peeling, and burrow excavation.	**Appendix C-6**
Aquatic Fauna Desktop Assessment and Reconnaissance Survey (SLR, 2025)	An aquatic ecology assessment was undertaken in 2025 to characterise the aquatic habitats and aquatic fauna values associated with Tabba Tabba Creek and nearby comparative drainage systems. The study included a desktop review and a reconnaissance field survey of aquatic habitat, surface water quality, sediment quality, phytoplankton, micro-invertebrates, macroinvertebrates, fish and waterbirds, and has informed the characterisation of aquatic ecological values within the development envelope.	**Appendix C-3**

7.3.2 Vertebrate Fauna

7.3.2.1 Habitat

A total of eight habitat types were identified across the survey area by Western Wildlife (2026) as detailed in **Table 7-3** and displayed in **Figure 7.1**.

The dominant habitat type across the survey area is Stony Plain which covers approximately 9,030ha (40% of the total mapped area). All habitat types are common and widespread in the region, except Rocky Outcrop habitat type which is uncommon and limited in extent within the survey area. A large proportion of the survey area has been burnt in the last 20years. Cleared areas were included in the habitat assessment, however they lack the suitability for permanent habitat for any terrestrial vertebrate fauna. The disturbance is a result of exploration activities, previous mine workings and pastoral activities. Two dams were recorded in the survey area, which provide permanent or semi-permanent water source for fauna, and may occasionally support very small number of migratory birds.

Table 7-3 Fauna Habitats in the Survey Area

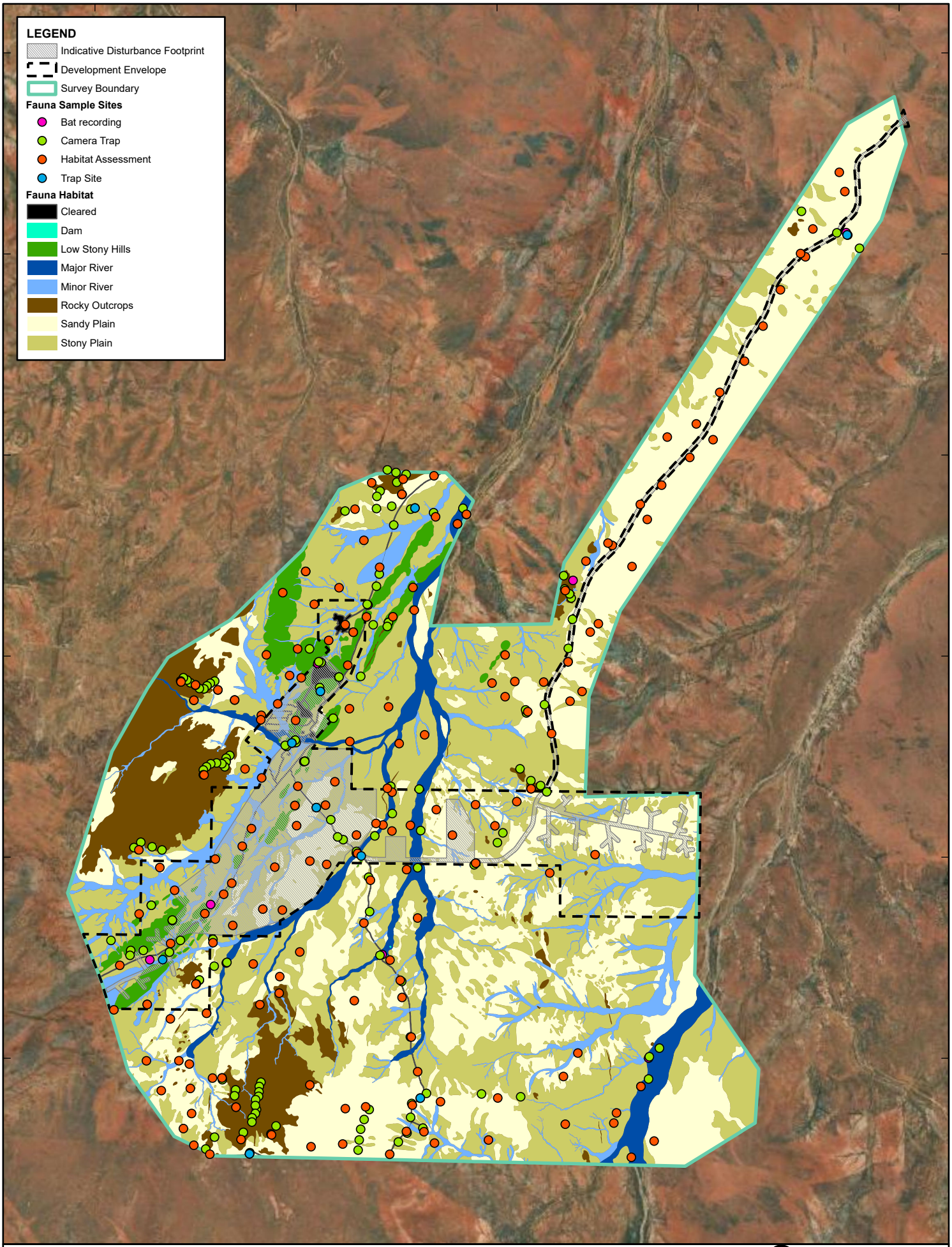
Habitat	Description	Photo	Significant Species	Survey area ha (%*)
Cleared	Includes access tracks and old mining disturbance.		Limited value	82 (0.36%)
Dam	Artificial water sources.		All	<1 (0%)
Low Stony Hills	Low stony hills, some with minor rock outcropping, support a grassland of Spinifex (*Triodia wiseana* and *Triodia epactica*), sometimes with Poverty Bush (*Acacia stellaticeps*) and scattered tall Acacia shrubs (e.g. *Acacia orthocarpa*). Some of this habitat was noted to be recently burnt. This habitat roughly corresponds to the Talga and Robe Land Systems.		• Western Pebble-mound Mouse (*Pseudomys chapmani*) • Long-tailed Dunnart (*Antechinomys longicaudata*)	819 (3.6%)
Major River	The Major River habitat supports an open woodland of River Red Gum (*Eucalyptus camaldulensis*), Little Ghost Gum (*Eucalyptus victrix*) and Silver Cadjuput (*Melaleuca argentea*) over Acacia shrubland (*Acacia trachycarpa*) over grasses and Spinifex. Contains considerable expanses of open stony or sandy riverbed. The study area includes several waterholes, although these were small and seemed unlikely to be		• Northern Quoll (*Dasyurus hallucatus*) • Grey Falcon (*Falco hypoleucos*) • Pilbara Olive Python (*Liasis olivaceous barroni*) • Common Sandpiper (*Actitis hypoleucos*) • Common Greenshank (*Tringa nebularia*)	872 (3.8%)

Habitat	Description	Photo	Significant Species	Survey area ha (%*)
	permanent. Small rocky outcrops, some with crevices that may shelter fauna, also occur on the riverbed and are too small to be mapped separately as the Rocky Outcrop habitat. This habitat roughly corresponds to the River Land System.		• Other shorebirds listed as Migratory	
Minor River	A complex network of minor rivers occurs due to the undulating terrain. These may have a small channel and are usually lined with *Corymbia hamersleyana* and a mix of *Acacia* species, or sometimes just *Acacia*, over spinifex, grasses and herbs. Some areas, particularly near wells, are highly impacted by cattle grazing and trampling, and include areas of buffel grass (**Cenchrus ciliaris*).		• Northern Quoll (*Dasyurus hallucatus*) • Grey Falcon (*Falco hypoleucos*)	1,720 (7.6%)
Rocky Outcrop	Much of this habitat occurs as large granite outcrops, with smaller areas of isolated granite outcrop and small linear rocky ridges. Small caves, boulders and rocky crevices provide shelter for fauna. This habitat roughly corresponds to parts of the Talga, Granite and Boolaloo Land Systems.		• Northern Quoll (*Dasyurus hallucatus*) • Ghost Bat (*Macroderma gigas*) • Pilbara Olive Python (*Liasis olivaceous barroni*) • Long-tailed Dunnart (*Antechinomys longicaudata*) • Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*)	1,856 (8.2%)
Sandy Plain	Sandy plains of varying depth, sometimes with small patches of stony plain, support an open spinifex hummock grassland sometimes with a low shrubland of Poverty Bush (*Acacia stellaticeps*), and a variable open shrubland of Acacia shrubs (e.g. *Acacia inaequilatra*, *Acacia trachycarpa*, *Acacia bivenosa* and/or *Acacia orthocarpa)*. Some areas include a sparse tree cover of *Corymbia hamersleyana*. Small areas of open claypan are likely to hold		• Bilby (*Macrotis lagotis*) • Spectacled Hare-wallaby (*Lagorchestes conspicillatus leichardtii*) • Brush-tailed Mulgara (*Dasycercus blythi*) • Claypans within this habitat may provide habitat for very small numbers of Migratory shorebirds.	8,279 (36.5%)

Habitat	Description	Photo	Significant Species	Survey area ha (%*)
	water after heavy rains. This habitat roughly corresponds to the Macroy and Uaroo Land Systems. Relatively large areas of this habitat were recently burnt at the time of survey.			
Stony Plain	Widespread and variable, often incorporating small patches of sandy plain. These plains supported an open spinifex hummock grassland, sometimes with a low shrubland of Poverty Bush (*Acacia stellaticeps*), and a variable open shrubland of Acacia (e.g. *Acacia inaequilatra, Acacia bivenosa* and/or *Acacia orthocarpa*). This habitat corresponds roughly with parts of the Macroy and Talga Land Systems. Relatively large areas of this habitat were recently burnt at the time of survey.		• Western Pebble-mound Mouse (*Pseudomys chapmani*)	9,030 (39.8%)
Total area#				**22,670**

* Area as a proportion of the total mapped area # Total rounded to the next 10 ha

Total rounded to the next 10 ha



SLR

Earthstar Geographics
Drawn by: KM

TABBA TABBA PROJECT
ENVIRONMENTAL REVIEW DOCUMENT

FAUNA HABITATS AND SURVEY AREA

FIGURE 7-1

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Fauna Habitats and Survey Area

7.3.2.2 Fauna Assemblage

The faunal assemblage in the survey area comprises predictions drawn from a literature review and Western Wildlife's survey recordings, and is as follows:

- Eight frog species predicted, four recorded.
- 111 reptile species predicted, 53 recorded.
- 157 bird species predicted, 86 recorded.
- 35 native mammal species predicted, 26 recorded.
- Eight introduced mammal species predicted, five recorded.

Introduced species likely or recorded from the study area include:

- European Cattle (*Bos taurus*) – recorded.
- Camel (*Camelus dromedarius*) – recorded.
- Dingo (*Canis familiaris dingo*) – recorded.
- Horse (*Equus caballus*) – recorded.
- Cat (*Felis catus*) – recorded.
- House Mouse (*Mus musculus*).
- Fox (*Vulpes vulpes*).
- Donkey (*Equus asinus*).

Species accumulation curves were calculated for frogs, reptiles, birds and mammals and for all habitats combined to determine if the recorded species where representative of the predicted faunal assemblage. Frogs and mammals were close to asymptote, reptiles were approaching asymptote and birds did not reach asymptote. Overall, a significant proportion of the fauna species able to be recorded through systematic methods, were recorded (**Table 7-4**).

Table 7-4 Summary of Vertebrate Fauna Predicted to Occur in the Study Area

Taxon	Total Species Predicted	Total Species Recorded	Conservation Significant Species				
			Threatened	Migratory	Specially Protected	DBCA Priority	Locally Significant
Frogs	8	4	-	-	-	-	-
Reptiles	111	53	1	-	-	2	-
Birds	157	86	4	10	1	-	1
Native mammals	35	26	4	-	-	6	1
Introduced mammals	8	5	-	-	-	-	-
Total	319	174	9	10	1	8	2

7.3.2.3 Conservation Significant Fauna

Twenty-eight conservation significant fauna, and two locally significant species have either been recorded or may occur in the study area, including nine Threatened, ten Migratory (of which two are also Threatened), one Specially Protected, eight Priority and two Locally Significant. The likelihood of occurrence of these species in the survey area is discussed in **Table 7-6**, and assessed using the criteria shown in **Table 7-5**.

Table 7-5 Criteria for Assessing Likelihood of Occurrence

Likelihood	Criteria
Unlikely	• The study area is outside the current known distribution presented in the literature. • No suitable habitat was identified as being present during the field survey. • For some species, individuals may occur occasionally as vagrants, especially if suitable habitat is located nearby, but the study area itself would not support the species. • May include species generally accepted as being locally extinct.
Possible	• The study area is within or just outside the current known distribution of the species, as presented in the literature. • Any habitat present is either limited in extent or of marginal quality at best. • No recent or nearby records of the species on databases. • The species is generally known to be less common in the vicinity of the study area (e.g., for inland sites, where the species usually occurs on the coast).
Potential	• The study area is within the current known distribution of the species, as presented in the literature. • Habitat of reasonable quality was identified as being present during the field survey. • There are some recent and/or nearby records of the species of databases.
Likely	• The study area is well within the current known distribution of the species, as presented in the literature. • Habitat of good quality was identified as being present during the field survey. • Many recent and nearby records of the species on databases.
Known to Occur	• The species was positively identified in the study area during this field survey or recorded as occurring in the study area on previous recent field surveys. • Note that for a species 'known to occur', the habitat may still be marginal and therefore the population may be small, or the species may visit the site irregularly.

Table 7-6 Summary of Conservation Significant Fauna

Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
Pezoporus occidentalis **Night Parrot**	Cr	Cr	-	-	Possible	Not recorded during the survey, and no records within 40km on DBCA's Threatened and Priority Fauna Database.	Known from very few records anywhere. It is possible that this species occurs in the region, although there are no nearby records. Habitats in the survey area are unlikely to comprise important habitat for the Night Parrot. Areas of spinifex have been regularly burnt for pastoralism, resulting in a lack of complex stands of mature spinifex. Examination of fire scar mapping and aerial photography undertaken by Western Wildlife (2026) failed to identify any stands of open spinifex over 20 years old. As mature spinifex is not present, and there is a lack of suitable adjacent wetlands, no suitable habitat is present for the Night Parrot and it is therefore unlikely to occur in this area. **Important habitat - not present**
Dasyurus hallucatus **Northern Quoll**	En	En	-	-	Known to occur	Recorded in the study area, April 2024 and April, August and September 2025. Many records within 40km on DBCA's Threatened and Priority Fauna Database.	Likely to be a common breeding resident of the Rocky Outcrop habitat. Dispersal and foraging habitat is likely to occur along Major River habitat and in habitats adjacent to breeding habitat. **Important habitat:** • **Rocky Outcrop - important breeding habitat.** • **Major River – foraging and dispersal.**
Tringa nebularia	En, Mi	En, Mi	-	-	Possible	Not recorded, only a few records of this species within 40km of the study area	Possible non-breeding summer visitor to dams or waterholes in Major River habitat.

Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
Common Greenshank						on DBCA's Threatened and Priority Fauna Database.	**Important habitat - not present**
Calidris acuminata **Sharp-tailed Sandpiper**	Vu, Mi	Vu, Mi	-	-	Possible	Not recorded, only a few records of this species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Possible non-breeding summer visitor to dams or waterholes in Major River habitat. **Important habitat - not present**
Macrotis lagotis **Greater Bilby**	Vu	Vu	-	-	Potential	Not recorded, 30 records of this species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Known to occur nearby. Potentially an uncommon resident or visitor to the Sandy Plain or Major River habitat. Although the Sandy Plains habitat would comprise important habitat for the Greater Bilby as defined in the Recovery Plan for the Greater Bilby (*Macrotis lagotis*) (DCCEEW, 2023b), Western Wildlife (2026) concluded that, based on the soil profile and vegetation in this habitat type, it is likely to be used for dispersal rather than burrowing, and is unlikely to be regularly occupied. **Important habitat - not present**
Rhinonicteris aurantia (Pilbara form) **Pilbara Leaf-nosed Bat**	Vu	Vu	-	-	Possible	Not recorded. Although there are 59 records of the Pilbara Leaf-nosed Bat within 40km of the study area on DBCA's Threatened and Priority Fauna Database, they are all 20km or more from the study area.	Possible foraging visitor on occasion but not recorded in the study area and no diurnal roosting habitat present. Potential foraging habitat was classified as limited importance. **Important habitat - not present**
Macroderma gigas **Ghost Bat**	Vu	Vu	-	-	Known to occur	Recorded via secondary evidence and dead specimens. There are 69 scattered records of the species within	Recorded in the study area in September 2025. Likely to be a regular foraging visitor in small numbers to all habitats.

Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
						40km of the study area on DBCA's Threatened and Priority Fauna Database.	No critical roosts in the study area. The cave with secondary evidence was determined to be a nocturnal refuge, which is not considered to be important habitat. All habitats within the survey area are considered foraging habitat for the Ghost Bat, but as this type of habitat is widespread it is unlikely to be important for the survival of the species. **Important habitat - not present**
Liasis olivaceus barroni **Pilbara Olive Python**	Vu	Vu	-	-	Potential	Not recorded, three records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Known to occur in the region, the species may be a foraging visitor and possible breeding resident of the Major River and Rocky Outcrop habitats. **Important habitat:** • **Major River – critical for survival** • **Rocky Outcrop – breeding habitat, critical for survival**
Falco hypoleucos **Grey Falcon**	Vu	Vu	-	-	Likely	Not recorded within the study area, although a pair was recorded opportunistically nearby in September 2025. There are eight scattered records of the species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species is likely to be a foraging visitor to open habitats and possible breeding resident of the Major River habitat. **Important habitat:** • **Major River – breeding habitat, nesting in tall trees**
Charadrius veredus **Oriental Plover**	Mi	Mi	-	-	Likely	Recorded opportunistically 5km from the survey area. Single record of the species within 40km of the study area	Likely to be an irregular non-breeding summer visitor to open plains and recently burnt areas, occurring in small numbers only. **Important habitat - not present**

Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
						on DBCA's Threatened and Priority Fauna Database.	
Actitis hypoleucos **Common Sandpiper**	Mi	Mi	-	-	Potential	Not recorded, six records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Possible non-breeding summer visitor to waterholes in Major River habitat, possibly also to claypans in the Sandy Plain habitat. **Important habitat - not present**
Calidris melanotos **Pectoral Sandpiper**	Mi	Mi	-	-	Possible	Not recorded, no records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Possible non-breeding summer visitor to dams or waterholes in Major River habitat. **Important habitat - not present**
Calidris ruficollis **Red-necked Stint**	Mi	Mi	-	-	Possible	Not recorded, seven records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Possible non-breeding summer visitor to dams or waterholes in Major River habitat. **Important habitat - not present**
Tringa glareola **Wood Sandpiper**	Mi	Mi	-	-	Possible	Not recorded, single record within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Possible non-breeding summer visitor to dams or waterholes in Major River habitat. **Important habitat - not present**
Tringa stagnatilis **Marsh Sandpiper**	Mi	Mi	-	-	Possible	Not recorded, five records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Possible non-breeding summer visitor to dams or waterholes in Major River habitat. **Important habitat - not present**
Apus pacificus **Fork-tailed Swift**	Mi	Mi	-	-	Likely	Not recorded, eight records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Although likely to occur on occasion, this species is largely aerial in Australia so the terrestrial habitats in the study area are unlikely to be of particular importance to the species. **Important habitat - not present**

Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
Glareola maldivarum **Oriental Pratincole**	Mi	Mi	-	-	Potential	Not recorded, 11 records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Non-breeding summer visitor to open plains or claypans in the Sandy Plain habitat. **Important habitat - not present**
Falco peregrinus **Peregrine Falcon**	-	OS	-	-	Known to occur	Recorded in the study area April and September 2025. Single record of the species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species potentially occurs as a foraging visitor but breeding habitat (cliffs, tall structures, coastal areas) is limited to hollows and abandoned nests in the study area. **Important habitat:** • **Major River - May nest in hollows or abandoned nests**
Ctenotus nigrilineatus **Pin-striped Finesnout Ctenotus**	-	-	P1	-	Possible	Not recorded. There are no records of this species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species is known from very few records, but the Sandy Plain and Major River habitats in the study area may be suitable. The study area is currently just outside the known range of this species, but as it is rarely recorded and its distribution is patchy, it possibly occurs. **Important habitat:** • **Sandy Plain** • **Major River**
Anilios ganei **Gane's Blind Snake**	-	-	P1	-	Possible	Not recorded, two records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species is known from very few records, however habitats in the study area may be suitable. **Important habitat:** • **All habitat types - May occur apart from Rocky Outcrop**

Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
Ozimops cobourgiana **Northern Coastal Free-tailed Bat**	-	-	P1	-	Possible	Not recorded. There are no records within 40km of the study area on DBCA's Threatened and Priority Fauna Database, however it was recorded ~50km west of the survey area in a separate survey undertaken by Western Wildlife.	Known to occur nearby. Likely to be a foraging visitor to most habitats, may roost in tree hollows in the Major River habitat. **Important habitat:** • **Major River – May roost in tree hollows**
Dasycercus blythi **Brush-tailed Mulgara**	-	-	P4	-	Known to occur	Recorded in the study area in April 2024 and April 2025. There are 104 records within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Likely to be a common resident of the Sandy Plain habitat. **Important habitat:** • **Sandy Plain – Common resident**
Lagorchestes conspicillatus **Spectacled Hare-wallaby**	-	-	P4	-	Known to occur	Recorded in the study area April 2024, April and September 2025. Several records of the species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species is known to occur in the region and suitable habitat is present in the Sandy Plain habitat. The central part of the study area is generally too recently burnt to currently support this species. **Important habitat:** • **Sandy Plain - Long-unburnt spinifex hummocks within the habitat**
Antechinomys longicaudata **Long-tailed Dunnart**	-	-	P4	-	Potential	Not recorded. There are no records of this species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species is known to occur in the region, and potentially suitable habitat is present in the Low Stony Hills and Rocky Outcrop. **Important habitat:** • **Low Stony Hills – possibly occurs** • **Rocky Outcrops – possibly occurs**

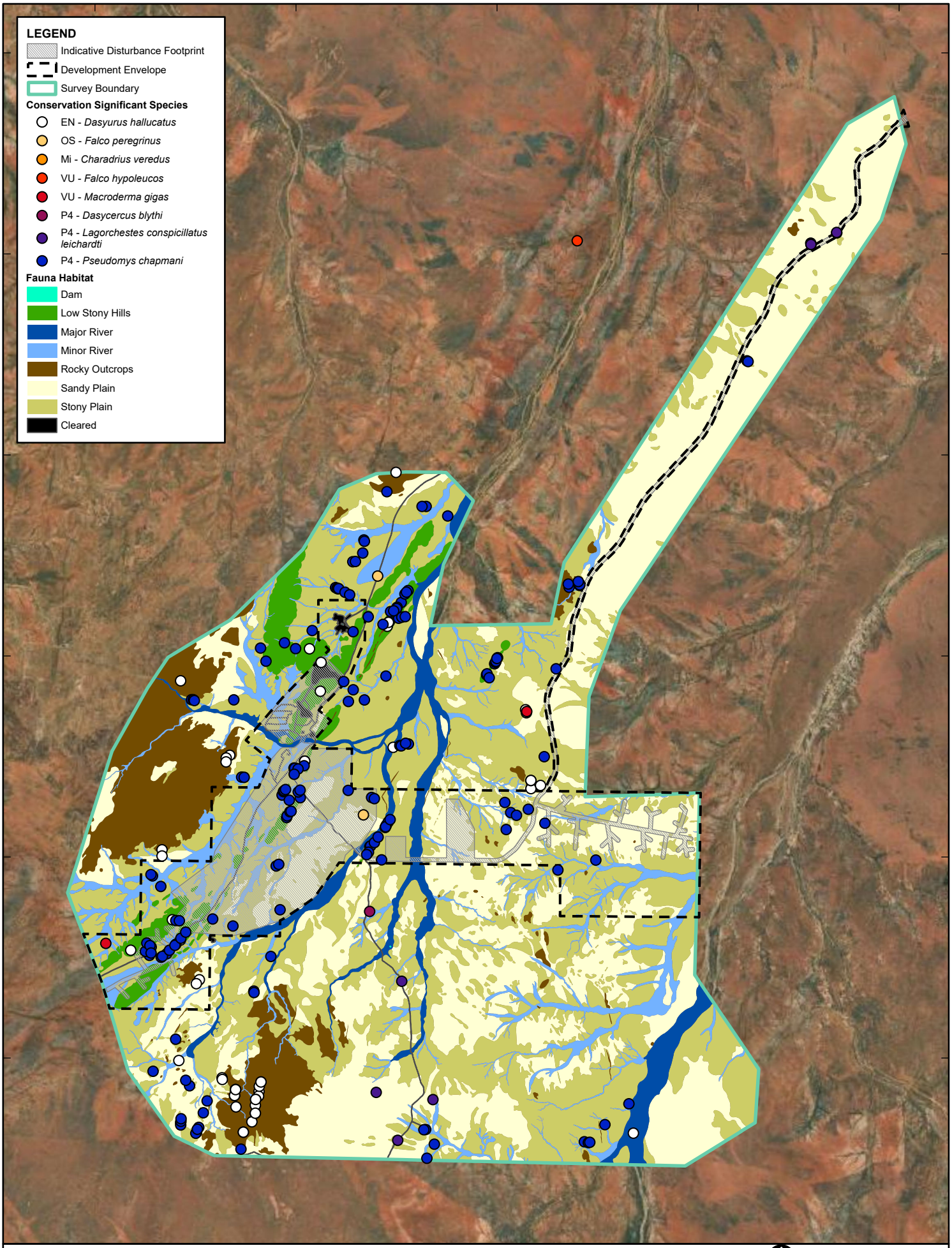
Species	Conservation status				Likelihood of Occurrence	Records	Notes
	EPBC Act	BC Act	DBCA Priority	Locally Significant			
Leggadina lakedownensis **Northern Short-tailed Mouse**	-	-	P4	-	Potential	Not recorded. There are no records of this species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	This species is known to occur in the region, and most habitats are potentially suitable. **Important habitat:** • **Minor River**
Pseudomys chapmani **Western Pebble-mound Mouse**	-	-	P4	-	Known to occur	Active mounds recorded in the study area April and September 2025. Many records of this species within 40km of the study area on DBCA's Threatened and Priority Fauna Database.	Active mounds recorded in the study area April and September 2025. Likely to be a common resident of the Stony Hills habitat. **Important habitat:** • **Low Stony Hills**
Stipiturus ruficeps **Rufous-crowned Emu-wren**	-	-	-	LS	Likely	Not recorded.	Likely to occur on Sandy or Stony Plains where mature spinifex is present. **Important habitat - not present**
Trichosurus vulpecula **Common Brushtail Possum**	-	-	-	LS	Known to occur	Recorded on a camera trap in April and September 2025.	Likely to be an uncommon resident of Major River and possibly Rocky Outcrop habitats. **Important habitat:** • **Major River**

Conservation status abbreviations:
Cr = Critically Endangered, En = Endangered, Vu = Vulnerable, Mi = Migratory, OS = Other Specially Protected Fauna
P1 = species known from few records, potentially at risk, P4 = species considered rare or near-threatened
LS = Locally Significant

Important habitat is present for four species listed under the BC Act; Northern Quoll, Pilbara Olive Python, Grey Falcon and Peregrine Falcon.

Migratory species may utilise dams, waterholes in the Major River habitat and inundated claypans in the Sandy Plain habitat. However, these species are only likely to be non-breeding summer visitors to the area, and these habitats are unlikely to support a nationally or internationally important population of the species and are therefore not considered to be important to the survival of each species according to the criteria in (DoEE, 2017).

Suitable habitat is present for all Priority Species identified with a likelihood to occur within the survey area.



SLR

Earthstar Geographics
Drawn by: KM

TABBA TABBA PROJECT
ENVIRONMENTAL REVIEW DOCUMENT

CONSERVATION SIGNIFICANT FAUNA SPECIES

FIGURE 7-2

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Conservation Significant Species Habitat and Records

7.3.3 Short Range Endemic Invertebrates

SRE invertebrates are species with restricted distributions, typically less than 10,000km^2 (Harvey, 2002). The majority of invertebrates are capable of dispersing vast distances, however some are susceptible to short range endism and are generally located in sheltered, relatively mesic environments. Taxa that commonly contain SRE representatives include onychophorans (velvet worms), crustaceans (Isopoda), arachnids (mygalomorph spiders, pseudoscorpions, opiliones, scorpions, schizomids), myriapods (millipedes and centipedes), molluscs (land snails) and insects (hemipterans, grasshoppers, butterflies).

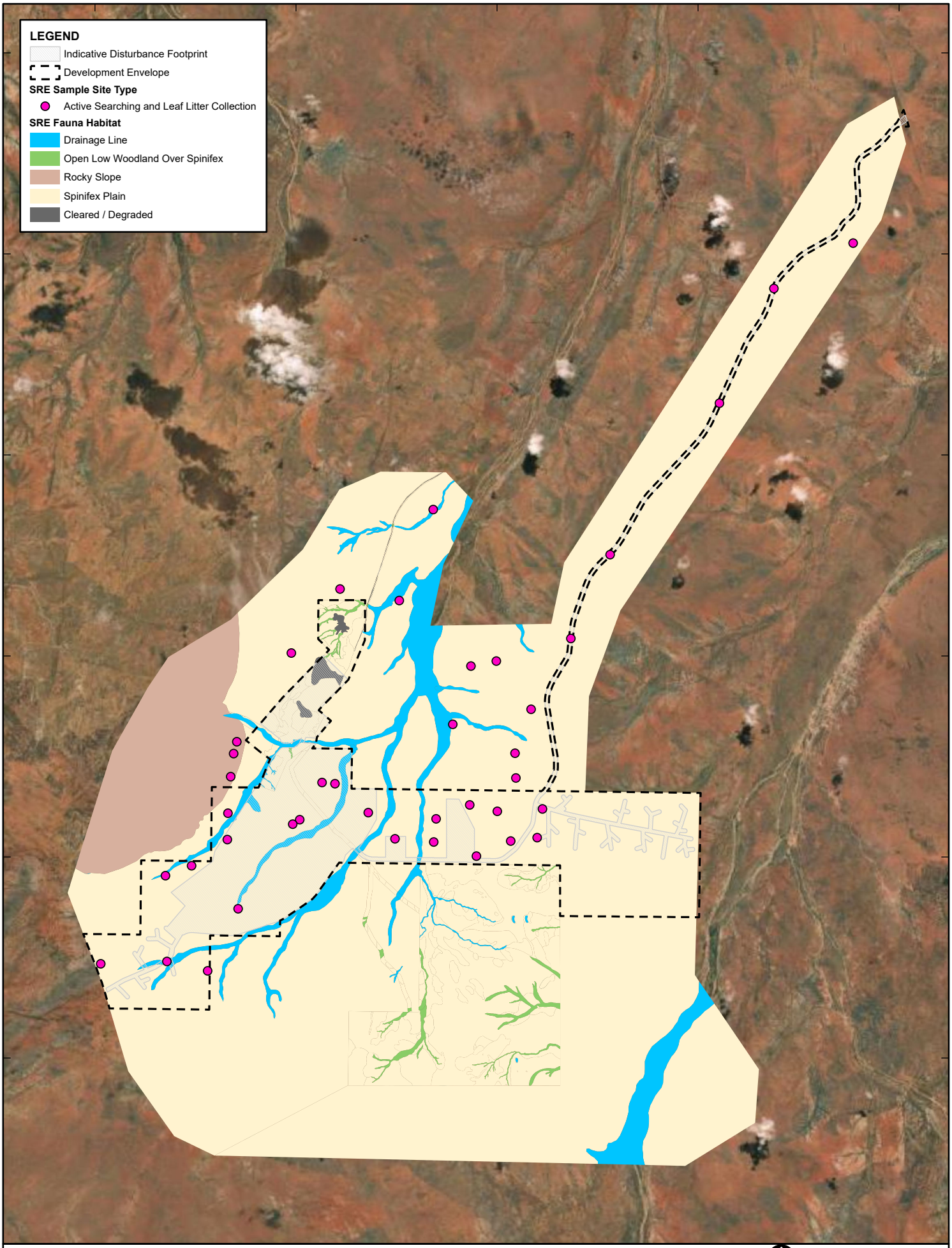
These species that are classified as SREs generally exhibit poor dispersal, low growth rates, low fecundity and are reliant on habitat that is discontinuous (Harvey, 2002). They have an increased susceptibility to becoming SRE if they reside in habitats that are surrounded by physical barriers such as islands, mountains, aquifers, lakes and caves.

7.3.3.1 SRE Habitat

Five potential SRE invertebrate habitats were identified across the survey area (**Table 7-7**) and have been aligned with vertebrate fauna habitat mapping presented in **Section 7.3.1**.

Table 7-7 SRE Invertebrate Habitats

Potential SRE Invertebrate Habitat	Description	Terrestrial Fauna Habitat	SRE Invertebrate Habitat Suitability
Open Low Woodland over spinifex	Open woodland of *Eucalyptus* and *Corymbia* over spinifex	Minor River	Low
Spinifex Plain	Flat plains dominated by spinifex clumps	Sandy Plain, Stony Plain	Low
Exposed granite within Spinifex Plain	Subset of Spinifex Plain	Rocky Outcrop	Moderate
Rocky Slope	Bare rock or largely bare rock amongst spinifex	Low Stony Hills	Moderate
Drainage Line	Minor to major drainage features often with larger trees and shrubs present	Major River	Moderate
Cleared/Degraded	Cleared or degraded land	Cleared	Nil



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Earthstar Geographics
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SRE INVERTEBRATE HABITATS AND SAMPLE LOCATIONS

FIGURE7-3

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_SRE Habitats and Sample Locations

7.3.3.2 SRE Records

The Phase 1 field survey recorded 24 individual specimens representing six invertebrate taxa that have the potential to include SRE invertebrate taxa. The Phase 2 field survey recorded 16 individual specimens representing eight taxa of invertebrates that have the potential to include SRE invertebrate taxa (**Table 7-8**). There was a single confirmed SRE invertebrate species, the millipede *Antichiropus forcipatus* at the location indicated on **Figure 7.4**. No conservation significant species were recorded in either survey phases.

Millipedes from the genus *Antichiropus* have limited dispersal and conservative ecological requirements. *Antichiropus forcipatus* is known from a series of records to the west of Marble Bar near Abydos where they have been recorded in gullies, gorges, and creeklines (Car, Harvey, Hillyer, & Huey, 2019). The current record represents a minor range extension from the known populations however the habitat has the same characteristics.

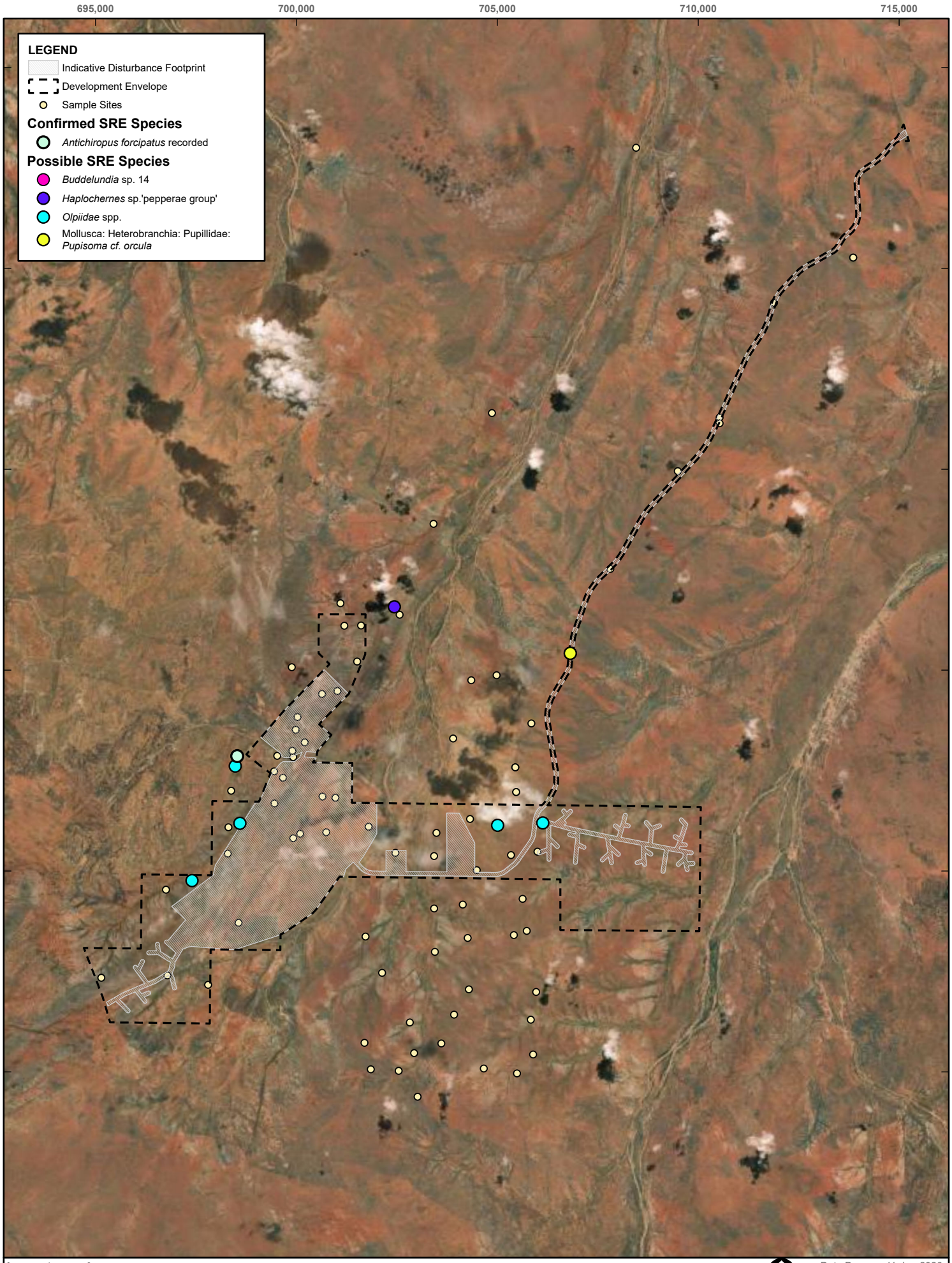
Table 7-8 presents the SRE invertebrate status of these species using the Western Australia Museum (WAM) classification system for SRE invertebrates, which recognises three categories:

1. Confirmed SRE invertebrate species have a known distribution range smaller than 10,000km^2. The taxonomy is well known, and the group well represented in collections and/or via comprehensive sampling.
2. Potential SRE invertebrate species belong to a group with knowledge gaps on its distribution, either because the group is not well represented in collections, taxonomic knowledge is incomplete, or the distribution is poorly understood due to insufficient sampling.
3. Widespread (not SRE) invertebrate species have a known distribution range larger than 10,000km^2. The taxonomy is well known, and the group well represented in collections via comprehensive sampling.

Table 7-8 Recorded Potential SRE Taxa

Higher Order	Genus and Species	Sites Recorded	SRE Invertebrate Status
Gastropda			
Camaenidae	*Rhagada richardsonii*	TABSRE51	Widespread
Pupillidae	*Pupoides lepidulus*	TABSRE11, TABSRE35, TABSRE52, TABSRE62	Widespread
	Pupisoma cf. orcula	TABSRE52	Possible
Crustacea: Isopoda			
Armadillidae	*Buddelundia* sp. 14? (damaged)	TABSRE29, TABSRE34	Possible
Arachnida			
Mygalomorphae			
Anamidae	*Aname mellosa*	TABSRE16, TABSRE24	Widespread
Pseudoscorpiones			
Chernetidae	*Haplochernes* sp.'pepperae group	TABSRE53	Possible
Olpiidae	*Olpiidae spp.*	TABSRE02, TABSRE03, TABSRE05, TABSRE13, TABSRE15, TABSRE29, TABSRE32, TABSRE35, TABSRE52, TABSRE56,	Possible

Higher Order	Genus and Species	Sites Recorded	SRE Invertebrate Status
		TABSRE63, TABSRE66, TABSRE69, TABSRE76	
Chilopoda			
Scolopendromorpha	*Scolopendra laeta*	TABSRE69	Widespread
Diplopoda			
Polydesmida			
Paradoxosomatidae	*Antichiropus forcipatus*	TABSRE62	Confirmed
Polyxenida			
Polyxenidae	*Unixenus mjobergi*	TABSRE04	Widespread
	Unixenus karajinensis	TABSRE04, TABSRE07, TABSRE21	Widespread



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SRE INVERTEBRATE HABITATS AND SAMPLE LOCATIONS

FIGURE 7-4

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_SRE Invertebrate Recorded Locations

7.4 Proposed Mitigation

Mitigation measures for potential impacts to Terrestrial Fauna, have been developed in accordance with the mitigation hierarchy of avoid, minimise and rehabilitate. These measures are consistent with industry standard practice and species-specific guidance and are further detailed in the Conservation Significant Species Management Plan (**Appendix E**).

Avoid

Measures have been incorporated into the design and planning of the Proposal to avoid impacts to Terrestrial Fauna wherever practicable including:

- Avoid clearing of active Grey Falcon nests.
- Avoid the use of barbed wire fencing, unless required by security, legislation or landholders.
- Avoid clearing of confirmed SRE invertebrate species record - *Antichiropus forcipatus.*

Minimise

Where impacts cannot be avoided, the following measures will be implemented during construction and operation to minimise impacts to Terrestrial Fauna:

- Use previously disturbed areas to the maximum extent possible.
- Limit disturbance to Major River habitat to 13ha.
- Limit disturbance to Rocky Outcrop habitat to 1ha.
- Limit total disturbance to 2,180ha.
- Pre-clearance surveys in critical habitat for Threatened species recorded or potentially occur within the development envelope being Major River and Rocky Outcrop habitat.
- Spotter catcher present during clearing in critical habitat for Threatened species recorded or potentially occur within the development envelope being Major River and Rocky Outcrop habitat.
- Implementation of ground disturbance permit system.
- Implementation of speed limits across the development envelope.

Rehabilitate

Proposed rehabilitation measures are outlined in the Conceptual MCP (**Appendix F**). Rehabilitation and mine closure will be planned, implemented and verified in accordance with the requirements of the Mining Act.

Typical rehabilitation measures relevant to Terrestrial Fauna include:

- Stockpiling of vegetation and topsoil for rehabilitation of terrestrial fauna habitats.
- Implement progressive rehabilitation of disturbed areas, as opportunities arise, throughout the life of the mine, reestablishing natural landforms and ensuring restoration of potential Terrestrial Fauna habitats.

Environmental Management Framework

Mitigation measures will be implemented through a site-specific Environmental Management System (EMS), to be developed. The EMS will include management plans, include monitoring programs, performance indicators, and adaptive management measures to ensure impacts

to Terrestrial Fauna are effectively managed. A Conservation Significant Species Management Plan (CSSMP) has been developed to mitigate impacts to listed species with impacts to critical habitat.

7.5 Potential Environmental Impacts

7.5.1 Identified Environmental Impacts

Potential impacts to Terrestrial Fauna have been assessed in accordance with the EPA's definition of the factor and informed by detailed and targeted fauna surveys and habitat mapping. Identified impacts and their relevance to the Proposal are detailed in **Table 7-9**.

Table 7-9 Identified Environmental Impacts to Terrestrial Fauna

Identified Potential Impacts	Relevant to this Proposal	Rationale
Habitat loss impacting fauna populations	Yes	The Proposal will require the clearing of up to 2,180ha of fauna habitat. Clearing of fauna habitat may remove dispersal areas between habitats for species, resulting in fragmentation.
Injury or loss of fauna individuals during clearing and operations	Yes	Fauna may be injured or killed during clearing, ground disturbance, construction and operational activities, including through interaction with machinery and vehicles.
Collision with fences and powerlines leading to fauna mortality	Yes	Fencing and powerlines will be required for the Proposal and could result in fauna injury or mortality through collision or entanglement, depending on final infrastructure design and location.
Loss of SRE invertebrate species and SRE invertebrate habitat	Yes	The Proposal has the potential to clear suitable SRE invertebrate habitat, including Rocky Outcrop, Major River and Low Stony Hills habitat. The confirmed SRE invertebrate species location is avoided.
Habitat degradation associated with construction and operational activities, including the introduction and spread of weeds, dust and altered fire regimes	Yes	Construction and operation may indirectly degrade fauna habitat through weed introduction or spread, dust generation and changes to fire regimes. These pathways may reduce habitat condition or availability for fauna if not appropriately managed.
Disturbance from noise, light and vibration	Yes	Noise, artificial light and vibration will be generated during construction and operation and may disturb fauna behaviour, movement or habitat use near active areas.
Predation and/or competition with feral predators	Yes	The introduction of invasive species may result in direct mortality to fauna through predation or indirect impact through competition for prey species. The Proposal has the potential to introduce or increase the presence of invasive fauna.
Loss of Traditional Owner knowledge and land management	Yes	The Proposal may affect opportunities for Traditional Owner knowledge sharing and involvement in land management if access or participation is reduced. Continued engagement and involvement in monitoring and management will be required.
Accidental introduction and establishment of the Cane Toad	Yes	Vehicles, machinery or materials arriving from known Cane Toad range areas may accidentally introduce

Identified Potential Impacts	Relevant to this Proposal	Rationale
		Cane Toads to the Proposal area if hygiene and inspection controls are not implemented.
Sickness or death due to drinking of contaminated water	Yes	Fauna may be exposed to contaminated water if spills or contaminated runoff reach water sources. This risk is relevant to construction and operational activities involving vehicles, fuels, chemicals or contaminated water.
Modification of water regimes	No	Proposed mine dewatering is not predicted to generate excess water. No mine water discharge is proposed, no creek diversions are proposed, and no significant impediments to surface water flows are expected.

7.5.2 Predicted Environmental Impacts

7.5.2.1 Overview

Predicted impacts on terrestrial fauna have been assessed for potential impacts relevant to the Proposal. The assessment considers direct and indirect impacts using the terrestrial fauna surveys and Proposal design. A summary of predicted impacts is provided in **Table 7-10** with further detail on predicted impacts provided subsequently.

Table 7-10 Predicted Environmental Impacts

Identified Impact	Predicted Impact of the Proposal	Data Certainty
Direct		
Habitat loss impacting fauna populations	The Proposal will result in direct clearing of fauna habitat within the indicative disturbance footprint. Clearing is proposed to be limited to up to 2,180ha within the 4,840ha development envelope.	High
Injury or loss of fauna individuals during clearing and operations	Clearing, ground disturbance and operational activities may result in injury or mortality of fauna individuals.	High
Collision with fences and powerlines leading to fauna mortality	Fauna may be injured or killed through collision with fences or powerlines where these are installed.	Moderate to High
Loss of SRE invertebrate species and SRE invertebrate habitat	The Proposal may remove suitable SRE invertebrate habitat.	High
Indirect		
Habitat degradation associated with construction and operational activities, including introduction and spread of weeds, dust and altered fire regimes	Construction and operation may indirectly degrade fauna habitat through weed introduction or spread, dust generation and changes to fire regimes.	Moderate to High
Disturbance from noise, light and vibration	Noise, artificial light and vibration from construction and operations may alter fauna behaviour, movement or habitat use near active areas.	Moderate
Predation and/or competition with feral predators	Waste, landfill areas or site activities may attract feral predators, which could	Moderate

Identified Impact	Predicted Impact of the Proposal	Data Certainty
	increase predation or competition pressure on native fauna.	
Loss of Traditional Owner knowledge and land management	The Proposal may affect opportunities for Traditional Owner involvement in land management if access or participation is reduced.	Moderate
Accidental introduction and establishment of the Cane Toad	Vehicles or materials arriving from Cane Toad range areas may accidentally introduce Cane Toads to the Proposal.	Moderate
Sickness or death due to drinking of contaminated water	Fauna could be exposed to contaminated water if spills or contaminated runoff reach water sources	Moderate

7.5.2.2 Clearing of Fauna Habitat

The predicted extent of clearing of each habitat type is provided in **Table 7-11**.

Table 7-11 Proposed Disturbance to Fauna Habitat

Habitat	Total Mapped Extent in Survey Area (ha)	% of Total Mapped Survey Area	Total Mapped Extent in DE (ha)	% in DE as Proportion of Survey Area	Total Mapped Extent in IDF (ha)	% in IDF as Proportion of Survey Area
Cleared	82	<1%	69	<1%	53	<1%
Dam	<1	<1%	<1	0%	0	0%
Low Stony Hills	819	4%	398	2%	208	<1%
Major River	872	4%	118	<1%	13	<1%
Minor River	1,720	8%	569	3%	234	2%
Rocky Outcrop	1,856	9%	32	<1%	1	<1%
Sandy Plain	8,279	37%	1,352	6%	661	3%
Stony Plain	9,030	40%	2,153	10%	897	4%
Total*	**22,670**	**100%**	**4,840**	**21%**	**2,180**	**10%**

* Totals rounded to the next 10 ha

Habitat critical to the survival of Threatened species listed under the BC Act is limited to Rocky Outcrop and Major River habitats. Only 1ha of Rocky Outcrop habitat is present within the indicative disturbance footprint, which provides critical breeding and denning habitat for the Northern Quoll and critical habitat for the Pilbara Olive Python. The Major River habitat type provides critical habitat for the Pilbara Olive Python, Grey Falcon, and Peregrine Falcon. In addition, 1,296ha of foraging and dispersal habitat for the Northern Quoll that includes all habitat types within 1km of critical habitat (Rocky Outcrop) and the Major River habitat is proposed to be disturbed.

Suitable habitat for Priority species includes Major River Habitat for Northern Coastal Free-tailed Bat (P1), Sandy Plains for the Brush-tailed Mulgara (P4) and Spectacled Hare Wallaby (P4), Low Stony Hills for the Western Pebble-mound Mouse (P4), and Minor River for the Northern Short-tailed Mouse (P4).

7.6 Assessment of Significance of Residual Impacts

7.6.1 Proposal

An assessment of the significance of residual impacts following the implementation of mitigation measures is presented in **Table 7-12**.

Table 7-12 Assessment of Residual Impacts to Terrestrial Fauna

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Direct		
Habitat loss impacting fauna populations	• Using previously disturbed areas to the maximum extent possible. • Minimise impact to Rocky Outcrop and Major River habitats. • Implementation of an internal Ground Disturbance Permit system and undertaking an annual review of clearing areas. • Implementation of a CSSMP (**Appendix E**). • Implement progressive rehabilitation of disturbed areas, as opportunities arise, throughout the life of the mine, reestablishing natural landforms and ensuring restoration of potential Terrestrial Fauna habitats.	**Residual impact is not considered significant because:** • Significant regional impact to fauna is highly unlikely as the habitats proposed to be cleared within the development envelope are widespread and extend beyond the development envelope. • Large areas of undisturbed fauna habitat occur surrounding the proposal footprint.
Injury or loss of fauna individuals during clearing and operations	• All clearing undertaken for the Proposal will consist of directional clearing towards undisturbed areas, to allow fauna to safely move to adjacent undisturbed vegetation. • Complete pre-clearance surveys in Major River and Rocky Outcrop habitats to identify significant species prior to clearing. • Ensure the presence of a fauna spotter during ground disturbing activities and cease ground disturbance where listed Threatened fauna species are identified until the individual has either moved from the area, been relocated by the fauna spotter or the fauna spotter is satisfied the individual is no longer in the area. • Relocation of individuals found within areas to be cleared prior to commencing ground disturbing works by a suitably qualified person. • Implementation of the CSSMP. • Enforce strict traffic management rules for mine vehicles and ensure no unauthorised off-road driving of mine vehicles.	**Residual impact is not considered significant because:** • The loss of individual fauna will not have a significant impact on the survival or recovery of a Threatened or Priority species and is unlikely to alter the conservation status of any fauna species. • Loss or injury of conservation significant fauna individuals during implementation of the Proposal is to be managed through the CSSMP provided in **Appendix E**.
Collision with fences and powerlines leading to fauna mortality	• Avoid use of barbed wire fencing unless required for security or safety reasons. If required, installation of reflectors between the top two strands of wire in the development envelope. • No barbed wire fencing unless required for landfills. Fencing at landfills will comprise mesh to prevent the spread of wind-blown debris, which is detectable by fauna species.	**Residual impact is not considered significant because:** • Impacts will be unlikely following the implementation of mitigation measures.

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Loss of SRE invertebrate species and SRE invertebrate habitat	• Using previously disturbed areas to the maximum extent possible. • Minimise impact to moderately suitable SRE habitats to approximately 222ha. • Avoid clearing the recorded location of the confirmed SRE invertebrate species - *Antichiropus forcipatus.* • Implementation of an internal Ground Disturbance Permit system and undertaking an annual review of clearing areas. • Implement progressive rehabilitation of disturbed areas, as opportunities arise, throughout the life of the mine, reestablishing natural landforms and ensuring restoration of potential SRE Fauna habitats.	**Residual impact is not considered significant because:** The majority of SRE invertebrate habitats identified in the survey area are widespread across the region and unlikely to provide habitat isolates which may give rise to SRE invertebrates (Invertebrate Solutions, 2025). Habitats considered to be moderately suitable for SRE species is limited to Rocky Outcrop (1ha) and Major River (13ha) and slopes facing southeast on Low Stony Hills fauna habitat types (208ha), of which a combined 222ha will be cleared for the indicative disturbance footprint. No confirmed or conservation significant SRE invertebrate species were recorded from the indicative disturbance footprint.
Indirect		
Habitat degradation associated with construction and operational activities, including introduction and spread of weeds, dust and altered fire regimes.	• Dust suppression methods across the development including but not limited to sprinkle systems, water carts, etc. • Installation of firebreaks around critical infrastructure to minimise the potential for increased fire incidents and intensity. • Any controlled burns would be conducted in consultation with the DBCA. • All mine vehicles fitted with firefighting extinguishers. • Hot works conducted within designated, specially designed workshops or with controls required by a Hot Work Permit System. • Implementation of a vehicle hygiene system as to minimise the potential for increased weed presence and distribution. • All vehicles entering the site will be required to be clean to prevent ingress of weeds.	**Residual impact is not considered significant because:** • Large areas of the development envelope have been burnt on a regular basis therefore a change to the existing fire regime will not result in a significant impact to Terrestrial Fauna. Measures will be implemented to avoid the ignition of accidental fires. • Management measures for weeds and dust will ensure there is no significant residual impact on Terrestrial Fauna.
Disturbance from noise, light and vibration	Lighting will be designed and managed in accordance with the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023b). These include: • Permanent lighting will be installed only where required, within operational areas. • Permanent and temporary lighting will be shielded to minimise light spill. This includes directional or shielded lighting, the mounting of light fittings as low as practicable, or louvered lighting on low-level bollards.	**Residual impact is not considered significant because:** The implementation of mitigation measures will reduce the residual impacts from noise, light and vibration such that they are not expected to be significant. Key species that may be impacted by

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
	• Automatic timers or photovoltaic switches. • Permanent and temporary lighting will be directed away from sensitive areas where possible such as areas of critical habitat. Standard noise management measures will be implemented, including: • Machinery and vehicles are regularly serviced and operated/maintained in accordance with the manufacturers' specifications, and preferential use of modern equipment that generally operate more quietly. • Using techniques that reduce noise, such as employing hydraulic, rather than impact, methods. Training workers on best practices for minimizing noise. • Plant and machinery on site will be switched off and not left idling when not in use.	these activities are unlikely to exist within the development envelope, and the mitigation measures that will be applied will lessen the severity of impacts for other species.
Predation and/or competition with feral predators	• Manage waste materials and on-site landfill facilities to minimise the likelihood of increased feral animal population and resultant increased rate of native animal predation. • Ongoing feral fauna monitoring and control as required. • Personnel prohibited from feeding of feral fauna. • Pets prohibited on site.	**Residual impact is not considered significant because:** It is not expected that the Proposal will result in an increase in feral fauna that may predate on native species within the development envelope. Management measures will ensure that feral fauna capable of predation will not be attracted to the development envelope.
Loss of Traditional Owner knowledge and land management	• Continued engagement and consultation with the Traditional Owners. • Involvement of Traditional Owners in future monitoring and management.	**Residual impact is not considered significant**
Accidental introduction and establishment of the Cane Toad	• Educating personnel on the Cane Toad in site inductions. • Implement additional vehicle hygiene measures for vehicles arriving from known Cane Toad range. • Reporting any confirmed sightings to the DBCA. • Humane disposal of any Cane Toads found in accordance with government protocols.	**Residual impact is not considered significant**
Sickness or death due to drinking of contaminated water	• No refuelling in watercourses. • All vehicles to have spill kits, and training provided. • Spills contained to prevent reaching watercourses. • Existing dams are outside of development envelope and will not be affected by Proposal activities.	**Residual impact is not considered significant**

7.6.2 Cumulative Impacts

7.6.2.1 Methodology

Defining *Local and Regional Impact Areas*

A cumulative impact assessment was completed which considered known clearing impacts to critical habitats in the:

- 'Local impact area' (LIA) - defined as an area within a 100km radius of the Proposal totalling 2,283,764ha; and
- 'Regional impact area' (RIA)- the Pilbara IBRA Bioregion, totalling 17,076,123ha.

Areas within 10km of the coast were excluded given they were not considered representative of the habitats within the development envelope. The LIA and RIA boundaries are shown on **Figure 7.5**.

Cumulative impacts were calculated from the following publicly available approved clearing footprints (or development envelopes where footprints were not available):

- Mining and exploration projects assessed under Part IV of the EP Act, with significant proposal areas excluded as they massively overstated any impacts (DWER 120);
- Clearing Permits issued under Part V of the EP Act, with revoked, surrendered and withdrawn Clearing Permits excluded (DWER 075,076,077); and
- Road and rail reserves (DPIRD 018).

Review of these approvals identified a significant number of projects which were considered in the CIA, the footprints or envelopes of which are shown on **Figure 7.5**. A sample of the closest projects, and the closest major projects are provided as follows:

- RBH Mining Pty Ltd – Sand Mining (14.7km).
- North West Quarries – Pippingarra Quarry (16.3km).
- Ell Gas Transmission Service WA – Petroleum production (18.3km).
- BHP Billiton Iron Ore Pty Ltd – Railway construction and/or maintenance (20.7km).
- Altura Mining Ltd – Pilgangoora Mine Site (21.0km).
- Fortescue Metals Group Ltd – Water/gas/cable/pipeline/powerline (22.7km).
- Roy Hill Infrastructure Pty Ltd – Miscellaneous and geotechnical works (22.9km).
- PMR Quarries Pty Ltd – Mineral Production (26.0km).
- Dampier Salt Ltd – Salt Production (27.2km).
- Process Minerals International Pty Ltd – Poondano Project (27.3km).
- Northern Star Ltd – Hemi Gold Project (52.0km).
- Fortescue Metals Group Ltd – Iron Bridge Mine (60.0km).

Defining Species and Important Habitat for Cumulative Impact Assessment

Three protected species listed under the EPBC Act and BC Act have critical habitat located in the indicative disturbance footprint; Northern Quoll, Pilbara Olive Python, and Grey Falcon. Therefore, a cumulative impact assessment was completed on the following habitats:

- Rocky Outcrop - 1ha of proposed clearing – (critical habitat for Northern Quoll, Pilbara Olive Python).
- Major River - 13ha of proposed clearing - (critical habitat for Pilbara Olive Python, Grey Falcon).

The total area of critical habitat in the local and regional impact areas was calculated from inferred descriptions of mapping units corresponding to habitat definitions in the following datasets:

- Rocky Outcrop in Soil Landscape Mapping Rangelands (DPIRD-063) (DPIRD, 2018):
    - Hills and ranges; *Acacia* shrublands.
    - Hills and ranges; Spinifex grasslands.
    - Mesas, breakaways and stony plains; *Acacia* or eucalypt woodlands and halophytic shrublands.
    - Mesas, breakaways and stony plains; Spinifex grasslands.
- Major River from:
    - Lake, river channel, bare lake bed or claypan; No vegetation (lake or river) in Soil Landscape Mapping Rangelands (DPIRD-063) (DPIRD, 2018).
    - Defined Waterbody areas from 'SurfaceHydro' Polygons within the Geoscience Australia 250K Australian Topographic Features (Geoscience Australia, 2009).

7.6.2.2 Results

A summary of the results is presented in **Table 7-13**.

The total cumulative impact to Rocky Outcrop habitat is estimated to be 23% and the total cumulative impact to Major River habitat is estimated at 30%.

These are considered to be overestimations given development envelopes have been used where disturbance footprints were not available.

Table 7-13 Terrestrial Fauna Cumulative Impact Assessment Summary

Habitat	Total inferred area (ha)		Proposal Impact (ha)	Local Impact			Regional Impact		
	LIA	RIA		Existing Impacts (ha)	Existing Cumulative Impact %	Proposed Cumulative Impact (%)	Existing Impacts (ha)	Existing Cumulative Impact %	Proposed Cumulative Impact (%)
Rocky outcrop	149,984	8,412,495	**1**	23,665	16%	16%	1,905,937	23%	23%
Major River	6,388	11,080	**13**	1,716	27%	27%	3,340	30%	30.2%
Total	**156,372**	**8,423,575**	**14**	**25,381**	**-**	**-**	**1,909,277**	**-**	**-**

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TERRESTRIAL FAUNA CUMULATIVE IMPACT ASSESSMENT

FIGURE 7-5

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7.6.2.3 Findings

The LIA has several significant developments including linear infrastructure corridors and resource projects, with the closest operating projects being sand mines and quarries. The area directly surrounding the Proposal is relatively undeveloped compared to other regions of the Pilbara, aside from significant linear infrastructure corridors to the west and southwest of the Proposal.

The RIA contains extensive areas of concentrated developments; a function of the Pilbara's mineral rich status. Large projects operated by BHP, Rio Tinto and Fortescue are located in the RIA and contribute to a large total impact in the area.

Critical habitats for listed conservation significant species recorded within the indicative disturbance footprint, totalling 14ha, are minor in the context of developments in the LIA and RIA. When calculated, the disturbance from the Proposal did not change the cumulative impact to Rocky Outcrop at a local or regional scale, and only increased the cumulative impact to Major Rivers by 0.2% locally and 0.12% regionally.

As a result, the cumulative impacts of the Proposal are considered insignificant.

7.7 Environmental Outcomes

Environmental outcomes, in the context of the Proposal, refer to the predicted state of the environment after the Proposal is implemented. Outcomes for Terrestrial Fauna seek to:

- Be specific and measurable, clearly describing quantifiable environmental conditions.
- Have a defined spatial and temporal extent.
- Aim to achieve the EPA's objectives for Terrestrial Fauna.

Considering the proposed mitigation measures and likely residual impacts associated with the Proposal, the predicted environmental outcomes and objectives that apply to Terrestrial Fauna are:

- Utilise already cleared or degraded areas wherever possible (53 ha).
- Limit clearing to no more than 2,180ha within a development envelope of 4,840ha.
- Limit clearing to no more than 1ha of Rocky Outcrops habitat.
- Limit clearing to no more than 13ha of Major River habitat.
- No clearing of active Grey Falcon nests.
- Avoid clearing of location of confirmed SRE invertebrate species - *Antichiropus forcipatus.*

There is a high level of confidence in achieving these outcomes, supported by detailed and targeted fauna surveys, and the use of a development envelope and indicative disturbance footprint which allows some flexibility to refine designs within clearly defined limits. Wildcat will implement the Conservation Significant Species Management Plan provided in **Appendix E** to achieve these outcomes.

Potential statutory decision-making processes available regulate potential impacts are detailed in **Appendix A**.

8 Potential Key Environmental Factor – Subterranean Fauna

8.1 EPA Objective

The EPA Objective for subterranean fauna is "to protect subterranean fauna so that biological diversity and ecological integrity are maintained" (EPA, 2023b).

Subterranean fauna live permanently or primarily underground. In the Pilbara, subterranean fauna typically includes:

- Troglofauna – air-breathing fauna that live in unsaturated soil and rock pores above the water table; and
- Stygofauna – aquatic fauna that live in groundwater systems.

8.2 Policy and Guidance

Table 8-1 outlines the relevant policies and guidance for subterranean fauna and explains how they have been incorporated into the Proposal.

Table 8-1 Relevant Policy and Guidance for Subterranean Fauna

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Environmental Protection Authority	
Statement of Environmental Principles, Factors, Objectives and aims of EIA (EPA, 2023b)	The EPA objective for Subterranean Fauna serves as the basis for this assessment. Survey design, impact assessment, and application of the mitigation hierarchy have been undertaken in accordance with the 2023 Statement.
EPA Environmental Factor Guideline – Subterranean Fauna (EPA, 2016a)	This guideline has informed the scope of the subterranean fauna assessment.
Technical Guidance – Subterranean Fauna Surveys for Environmental Impact Assessment (EPA, 2020a)	The design, timing and methods for subterranean fauna surveys have been considered in accordance with this guidance. Applied to determine the level of survey required, assess the likelihood of stygofauna and troglofauna occurrence, and ensure data adequacy.
Other State or Commonwealth	
Biodiversity Conservation Act 2016 (WA)	Considered in assessing the potential presence of specially protected subterranean fauna species and determining whether the Proposal may impact any listed species or communities.
EPBC Act (1999) (Cth)	

8.3 Receiving Environment

8.3.1 Studies and Surveys

The studies and surveys relating to subterranean fauna that have been undertaken for the Proposal are described in **Table 8-2**.

Table 8-2 Studies and Surveys Relevant to Terrestrial Fauna

Survey/Study	Details	Link
Tabba Tabba Lithium-Tantalum Project. Subterranean Fauna Assessment Report (Rockwater, 2024)	A subterranean fauna assessment comprising: • Desktop habitat assessment and literature review indicting prospective habitats of alluvium. • Field sampling program of the project and surrounds, across two sampling rounds in 2024, building on knowledge from a detailed survey completed in 2013. Field sampling for stygofauna included sampling 31 impact and 17 regional sites with 50um and 150um nets; and troglofauna sampling at 33 sites (30.5 impact and 2.5 regional) using trapping and/or net scraping. This report includes data from a previous survey of the area completed by Rockwater in 2013, which comprised two sampling phases across impact and reference sites totalling 37.5 stygofauna sample sites and 17 troglofauna sites. The combination of both surveys presents 4 phases of sampling in the Tabba Tabba area.	**Appendix C-7**
Tabba Tabba Project: Subterranean Fauna Desktop Assessment and Baseline Survey (Bennelongia Envionmental Consultants, 2025)	A desktop assessment and basic field survey were undertaken to characterise subterranean fauna within and adjacent to the Proposal. The assessments included: • Desktop review of subterranean fauna records within 100km x 100km search area centred on the Proposal location; and review of regional geology and hydrogeology to identify potential areas of troglofaunal habitat; and • Field survey conducted in May 2025, targeting both stygofauna and troglofauna. Troglofauna were sampled using a combination of scraping and trapping techniques. Stygofauna were collected using an active sampling technique.	**Appendix C-8**

8.3.2 Geology and Hydrogeology

The project lies on the Tabba Tabba Shear Zone, a northeast-trending range up to 3km wide. The desktop assessment identified 24 surface geology codes, with six underlying bedrock geologies. Areas of cavernous calcrete and dissected and consolidated colluvium, with some clay and silica cementing occur within the study area. Alluvial and colluvial soils that occur in the drainage lines and flat plains are too shallow for subterranean fauna as they reach depths of only 2mbgl. Surface geology of the development envelope is presented in **Figure 8.**.

The bedrock consists of metamorphosed and consolidated geologies that are highly weathered with a high frequency of fracturing from the surface to 40m depth and decreases beyond 80m. The high frequency of fracturing and weathering withing the study area indicates that the geology may be very prospective for subterranean fauna. However, the dykes and small patches of suitable habitat have the potential to limit habitat connectivity and species dispersal.

Two geological formations along the Tabba Tabba Shear Zone are likely to hold groundwater, the Cleaverville banded iron-formation and the Kangaroo caves formation. The groundwater in these formations primarily occur in the weathered and fractured lithological contact zones, typically up to a depth of 80mbgl.

Groundwater quality results from the study area indicate that groundwater is suitable to support stygofauna communities with a neutral pH and slightly brackish salinity.

8.3.3 Subterranean Fauna Assemblage

The desktop review of subterranean fauna records within the 100km x 100km search area completed by Bennelongia (2025) which included values from Rockwater (2024), found:

- 72 species of troglofauna.
- One troglofauna record within the Proposal study area (Dalodesmidae 'BDI085'). This species is known only from two juvenile specimens collected within the Proposal study area).
- 218 stygofauna species.
- 11 species of stygofauna recorded in the Proposal study area, 10 of which were considered widespread.
- No listed threatened species, TECs or PECs were identified.

The field surveys completed by Rockwater (2024) and Bennelongia (2025) recorded:

- Troglofauna:
    - 2024: Five species recorded comprising two millipedes, a centipede, a pauropod and a silverfish, four of which were known only from the Tabba Tabba area.
    - 2025: A single troglofauna specimen (*Tyrannochthonius* `BPS619`) was recorded from Bore TARC395D, outside of the proposed pit. This was the first known record for this species.
- Stygofauna:
    - 2024: a total of 2,144 stygofauna specimens representing at least 32 species.
    - 2025: A total of 462 stygofauna specimens, representing 11 species.

The subterranean taxa recorded in the field surveys and relevant restricted taxa identified in the desktop review are detailed in **Table 8-3**.

Six troglofauna species were recorded during field surveys, which was classified as a depauperate community. While *Lophoturus madecassus* is widespread, all other species are known only from Tabba Tabba. All were recorded only from a single site, but four were recorded only from the pit footprint based on current records (highlighted yellow in **Table 8-3**).

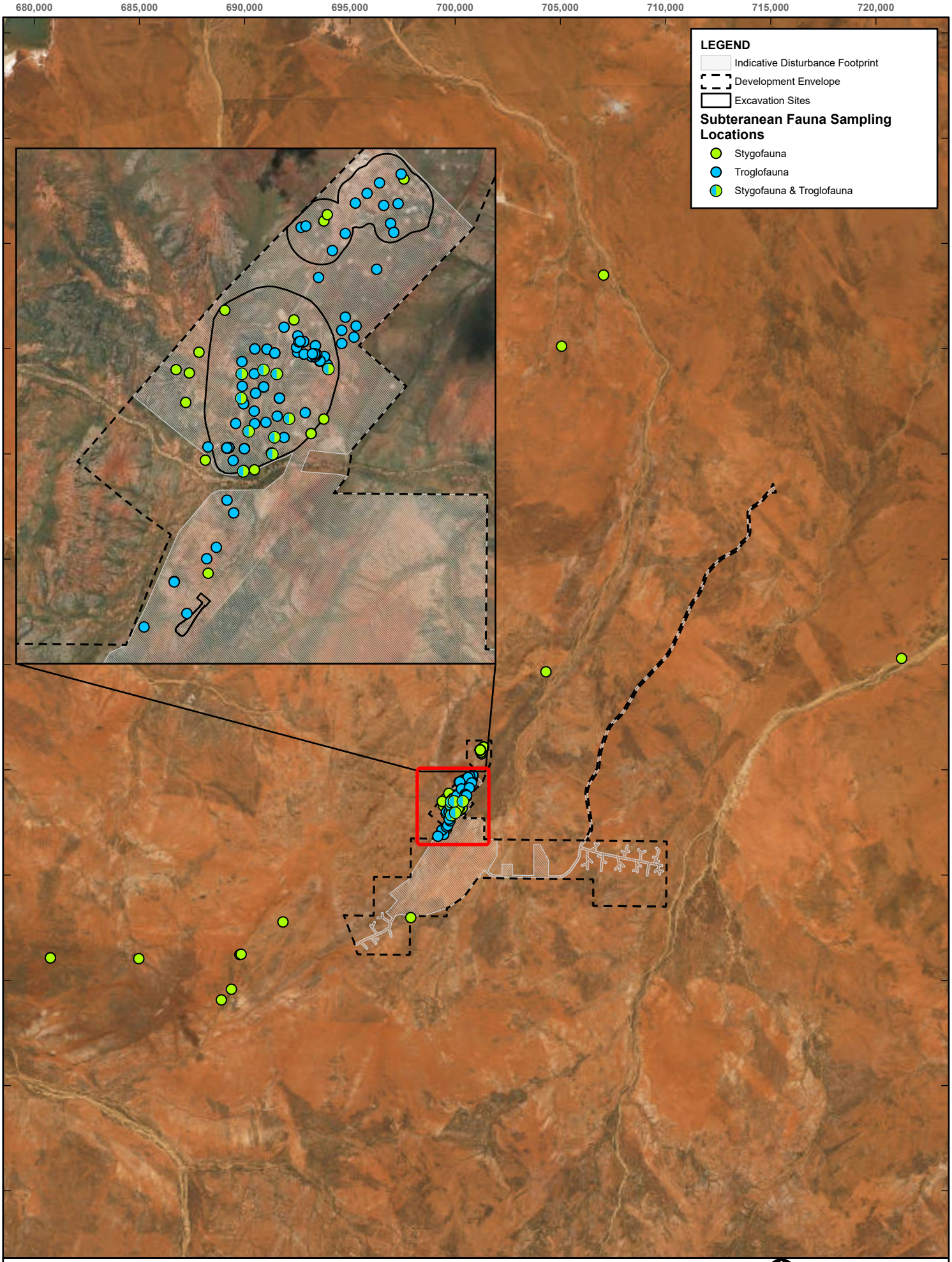
Of the stygofauna species recorded in the project area during field surveys, 19 were considered widespread across the Pilbara region, one had a broader distribution of 11km, seven were considered to have a range potentially limited to the Project, based on current records (highlighted yellow in **Table 8-3).** The remainder were unable to be determined due to an insufficient level of identification.

Table 8-3 Subterranean Fauna Records

Higher Order	Lowest Identification	Number of Specimens	Number of Sites	Known Distribution
Troglofauna				
Pauropoda				
Tetramerocerata	Pauropodidae sp. B01 s.l.	1	1	Singleton
Diplopoda				
Polydesmida	Dalodesmidae `BDI085`	2	1	Single site
	Lophoturus madecassus	3	1	Widespread
Chilopoda				
Scolopendrida	*Cryptops* `BSCOL120`	1	1	Singleton
Insecta				
Zygentoma	Nicoletiinae sp.	1	1	Singleton
Arthropoda				
Arachnida	*Tyrannochthonius* `BPS619'	1	1	Singleton
Stygofauna				
Clitella				
Haplotaxida	*Phreodrilidae* sp. AP DVC s.l.	1	1	Widespread
Oligochaeta				
Tubificida	*Monopylephorus* sp. nov. WA29 (ex Pristina WA3) (PSS)	46	7	Widespread
	Enchytraeidae sp.	1	1	NA
	Enchytraeidae '3 bundle' s.l. (short sclero)	12	2	Widespread
	Phreodrilidae with dissimilar ventral chaetae (fragments)	2	1	Widespread
Ostracoda				
Podocopida	*Areacandona* `BOS365`	13	4	<1 km
	Areacandona iuno	5	3	Widespread
	Cypretta sp.	5	5	NA
	Penthesilenula brasiliensis	16	3	Widespread
	Vestalenula marmonieri	7	2	Widespread
	Areacandona iuno	33	5	Northern Pilbara
	Humphreyscandona 'BOS1889'	1	1	Singleton
Maxillopoda				
Cyclopoida	*Diacyclops* `BCY109`	142	12	~11km
	*Diacyclops cockingi**	153	1	Widespread
	Diacyclops scanloni	8	3	Widespread
	Diacyclops sp. (juv.)	4	2	NA
	Halicyclops CALM	319	5	Widespread
	Goniocyclops nr *uniarticulatus*	46	3	Widespread
	Microcyclops varicans	112	8	Widespread
Harpacticoida	*Megastygonitocrella trispinosa*	170	14	Widespread

Higher Order	Lowest Identification	Number of Specimens	Number of Sites	Known Distribution
	Elaphoidella humphreysi	332	4	Widespread
Malacostraca				
Syncarida	*Billibathynella* `BSY418`	21	3	1.4km
	Bathynella sp. B08	1	1	Singleton
	Billibathynella sp. B07	2	1	2.5km
	Billibathynella sp. B08	1	1	Singleton
	Atopobathynella sp. (juv.)	1	1	NA
Amphipoda	*Nedsia hurlberti* s.l.*	1	1	Widespread
	Nedsia shawensis	124	12	Widespread
	Pilbarana sp. B06	4	4	Widespread
	Paramelitidae Genus 2 sp. B14	46	8	Widespread
Isopoda	*Coxicerberus* sp. B06	6	4	<1km
Annelida				
Polychaeta	*Aeolosoma sp.*	12	2	NA
Platyhelminthes				
Turbellaria	Turbellaria sp.	1	1	NA

* Records from desktop assessment only



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Coordinate System: GDA2020 MGA Zone 50

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Earthstar Geographics
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TABBA TABBA PROJECT
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SUBTERRANEAN FAUNA RECORDS

FIGURE8-1

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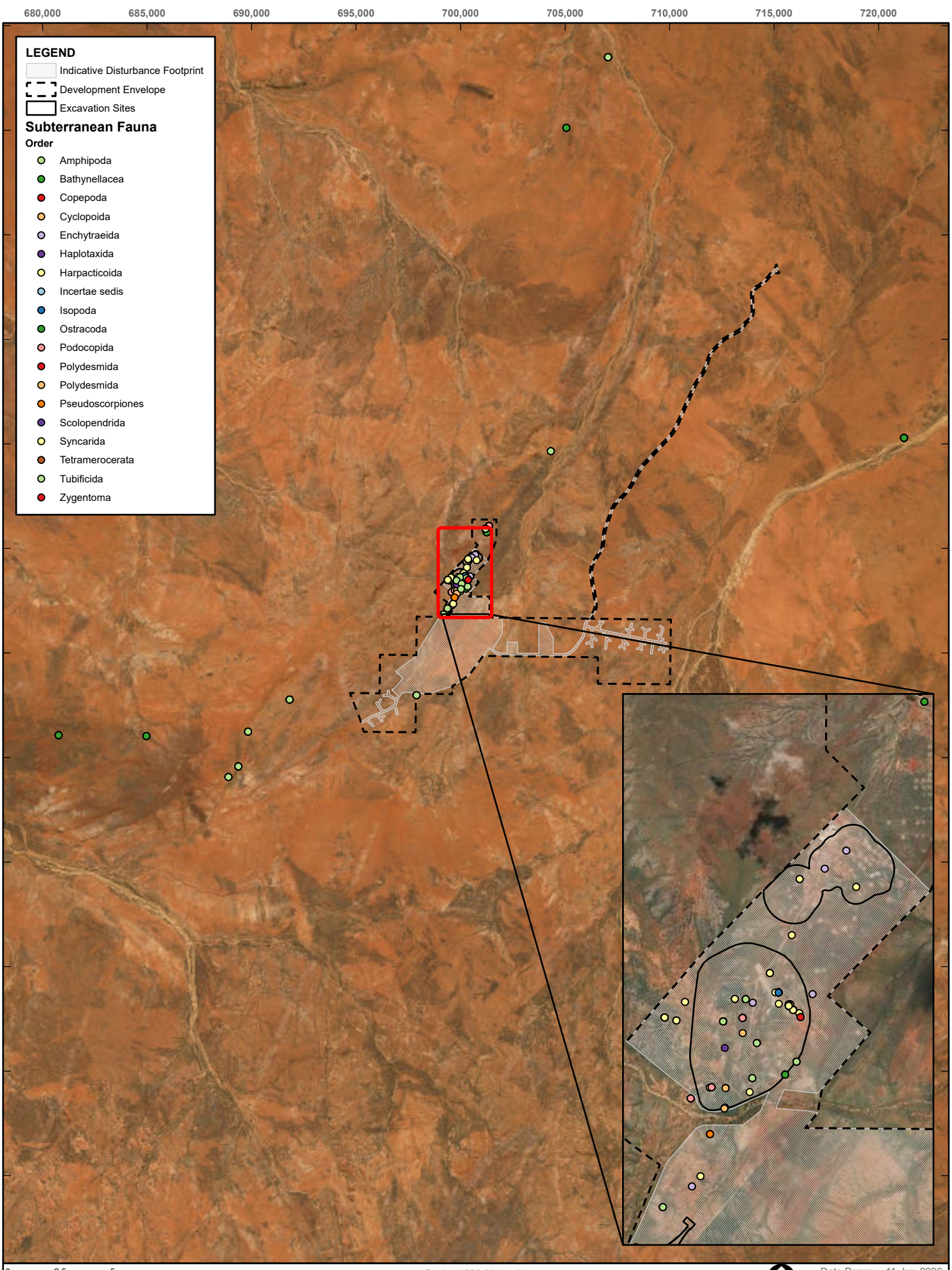

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SUBTERRANEAN FAUNA RECORDS

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Drawn by: KM

FIGURE 8-2

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Subterranean Fauna Records

8.4 Proposed Mitigation

Mitigation measures for potential impacts to subterranean fauna, have been developed in accordance with the mitigation hierarchy of avoid, minimise and rehabilitate.

Avoid

Measures have been incorporated into the design and planning of the Proposal to avoid impacts to Subterranean Fauna wherever practicable including:

- Avoid contamination of subterranean fauna habitat from hydrocarbons, chemicals or waste streams through appropriate management of mine processes and infrastructure.
- Avoid unnecessary removal of stygofauna habitat by aligning dewatering and water supply requirements with operational demand.

Minimise

The following measures will be implemented during construction and operation to minimise impacts to subterranean fauna:

- Limit disturbance to troglofauna habitat by inclusion of underground mining method.
- Reduce inundation of the subsurface zone under the TSF by optimising collection and reuse of water from tailings, and collection of seepage.
- Optimise groundwater abstraction across the mine pits and bore fields, to minimise reduction of available habitat for stygofauna.

Rehabilitation

Proposed rehabilitation measures are outlined in the Conceptual MCP (**Appendix F**). Rehabilitation and mine closure will be planned, implemented and verified in accordance with the requirements of the Mining Act, regulated by DMPE.

Typical rehabilitation measures relevant to subterranean fauna include:

- Progressive rehabilitation of disturbed areas to reduce erosion, sediment generation and uncontrolled runoff.
- Closure design for IWLTSF and other mine landforms to reduce long-term seepage and water quality risks.
- Following the end of mining operations, cease dewatering to enable groundwater levels to recover.

8.5 Potential Environmental Impacts

8.5.1 Identified Environmental Impacts

Potential impacts to subterranean fauna have been assessed in accordance with the EPA's definition of the factor and informed by survey results and hydrogeological modelling. Identified impacts and their relevance to the Proposal are detailed in **Table 8-4**.

Table 8-4 Identified Environmental Impacts

Identified Potential Impacts	Relevant to this Proposal	Rationale
Troglofauna		
Loss of troglofauna habitat	Yes	Excavation of mine pits and underground workings may remove troglofauna habitat.
Reduction in troglofauna habitat from potential mounding of groundwater at the site of the IWLTSF.	Yes	Potential seepage from the IWLTSF may have local impacts on groundwater levels.
Stygofauna		
Loss of stygofauna habitat from drawdown of the groundwater table.	Yes	Mine dewatering and groundwater abstraction for water supply is proposed and may reduce availability of habitat to stygofauna.
Reduction in groundwater quality from seepage of WRLs and TSF	Yes	Potential seepage from TSF or WRL, or chemical spills may have an effect on ground water quality.

8.5.2 Predicted Environmental Impacts

Predicted impacts on subterranean fauna have been assessed for potential impacts relevant to the Proposal.

A summary of predicted impacts is provided in **Table 8-5** with further detail on predicted impacts provided in **Sections 8.5.2.1** to **8.5.2.4**.

Table 8-5 Predicted Environmental Impacts

Identified Impact	Predicted Impact of the Proposal	Data Certainty
Direct		
Loss of troglofauna habitat	Excavation of mine pits and underground workings will permanently remove troglofauna habitat within the excavation footprint. The impact is expected to be limited to the spatial extent of the excavations, with similar habitat expected to extend beyond the impact area.	Moderate
Indirect		
Reduction in troglofauna habitat from potential mounding of groundwater at the site of the IWLTSF	Potential seepage from the IWLTSF may cause localised groundwater mounding, which could reduce the extent of unsaturated habitat available for troglofauna near the facility.	Moderate
Loss of stygofauna habitat from drawdown of the groundwater table	Mine dewatering and groundwater abstraction may lower groundwater levels and reduce the availability of saturated habitat for stygofauna within the groundwater drawdown impact area.	Moderate
Reduction in groundwater quality	Seepage from WRLs and the TSF, or chemical spills, may affect groundwater quality and therefore the quality of stygofauna habitat. Waste characterisation indicates that waste rock and tailings are generally geochemically benign.	Moderate to High

8.5.2.1 Loss of Troglofauna Habitat

Excavation of mine pits and development of underground workings will result in the permanent removal of habitat for troglofauna, which occupy voids and fractures above the water table. Four troglofauna species with limited known ranges have been recorded within the proposed pit, as shown in **Figure 8.**.

Cryptops `BSCOL120`, Dalodesmidae `BDI085`, Pauropodidae sp. B01 s.l., and Nicoletiinae sp. were collected in 2024 by Rockwater, and were not recorded during the subsequent survey undertaken by Bennelongia in 2025. They were recorded within the proposed open pit mine area, where the surface geology extends southwards away from the impact area. This restricted distribution likely reflects the higher amount of sampling completed in the impact areas than reference sites. Although stygofauna habitat connectivity differs from troglofauna, it is important to note that stygofauna collected from nearby areas are generally locally and regionally widespread.

The extent of direct habitat loss is limited to the spatial footprint of the excavations and is not expected to significantly affect regional troglofauna populations due to:

- The low abundance and diversity of troglofauna recorded within the study area;
- The availability of continuous similar habitat in the surrounding region; and
- The likelihood that species' ranges are more extensive than sampling has indicated, within continuous suitable habitat extending beyond the planned open pit boundary.

8.5.2.2 Reduction in troglofauna habitat (mounding)

Potential seepage from the IWLTSF may cause localised groundwater mounding, which could reduce the extent of unsaturated habitat available for troglofauna near the facility.

No troglofauna species were restricted to the IWLTSF (WRLs or TSF). If troglofauna did occur here, all troglofauna habitats were considered to extend beyond the project footprint, with species unlikely to be restricted to such a limited area.

Overall the predicted impact to troglofauna from potential mounding is expected to be low.

8.5.2.3 Loss of Stygofauna Habitat

Mine dewatering and groundwater abstraction from the proposed borefields will drawdown groundwater levels from aquifers inhabited by stygofauna species, as described in **Section 5** and **5.5.2.2**.

Seven stygofauna species recorded during the subterranean fauna surveys are potentially restricted to the groundwater impact zone, as listed in **Table 8-3** and shown on **Figure 8.**.

While these species have been recorded from a limited number of sites, the wider area has not been well sampled historically, resulting in limited background data being available for this area. Due to the sampling of available bores and drill holes, more sampling has been completed in the impact area than outside of it, resulting in a sampling bias showing greater results inside the impact area.

While sampling results may show restricted stygofauna distributions, stygofauna are considered likely to extend beyond their current sampled locations. Stygofauna habitat in the surrounding area has been shown to be extensive (Rockwater, 2024), with a high likelihood of habitat connectivity suggesting the distributions of restricted species would extend beyond impacted areas (Bennelongia Envionmental Consultants, 2025). None of the recorded species are likely to have distribution ranges limited to the localised spatial extent of dewatering disturbance

(Rockwater, 2024). In addition, while groundwater drawdown contours show a reduction in habitat of 2m, suitable habitat will remain below this level, and not all habitat will be removed.

8.5.2.4 Reduction in Groundwater Quality (Stygofauna Habitat)

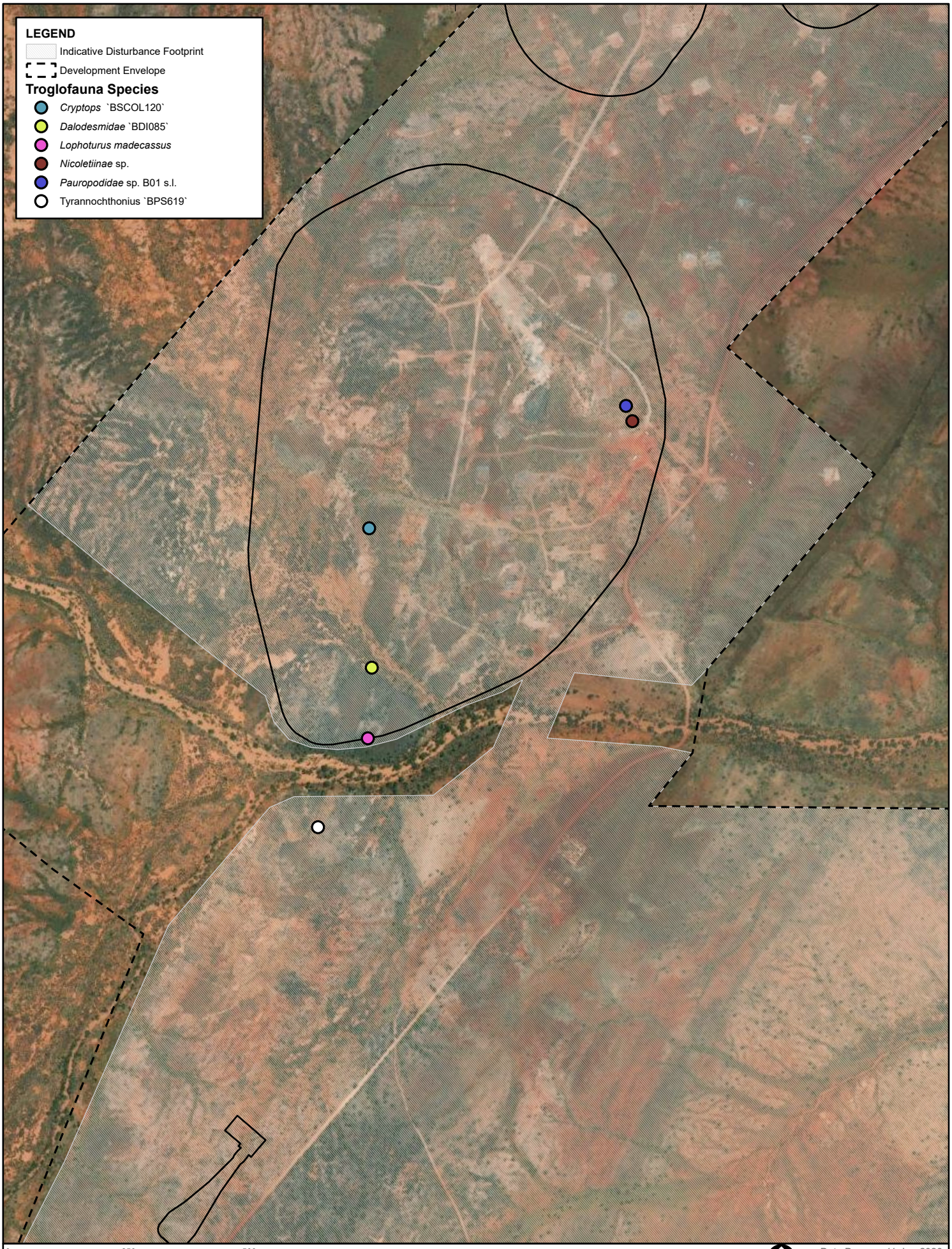
Potential seepage from the IWLTSF (TSF and WRLs) have the capacity to degrade the quality of groundwater utlised by the local stygofauna community. Waste characterisation studies have been completed for both tailings and waste rock. Waste rock testing concluded that expected leachates from waste material are geochemically benign and mostly NAF. Waste material considered PAF will either be co-mingled with NAF or deposited into cells encapsulated in NAF material.

Testwork of the tailings indicated them to be NAF, circum-neutral to mildly alkaline, fresh to mildly brackish and trace metals were within environmental limits. The IWLTSF is designed to limit seepage into the groundwater systems by:

- Installation of compacted cut-off trenches to collect and return water to the processing plant for reuse.
- Installation of a perimeter underdrainage system to collect seepage and return to the processing plant for reuse.
- Continuous recovery of decant water from the facility and return to the processing plant for reuse.
- Installation of monitoring bores downstream of the TSF to regularly monitor groundwater quality and levels.
- Potential installation of seepage recovery bores to intercept and remove additional water and return to the processing plant for reuse.

Overall the predicted impact to stygofauna from potential change in groundwater quality is expected to be low.

700,000



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TROGLOFAUNA POTENTIALLY RESTRICTED TO THE PROPOSED PITS

Vantor
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FIGURE 8-3

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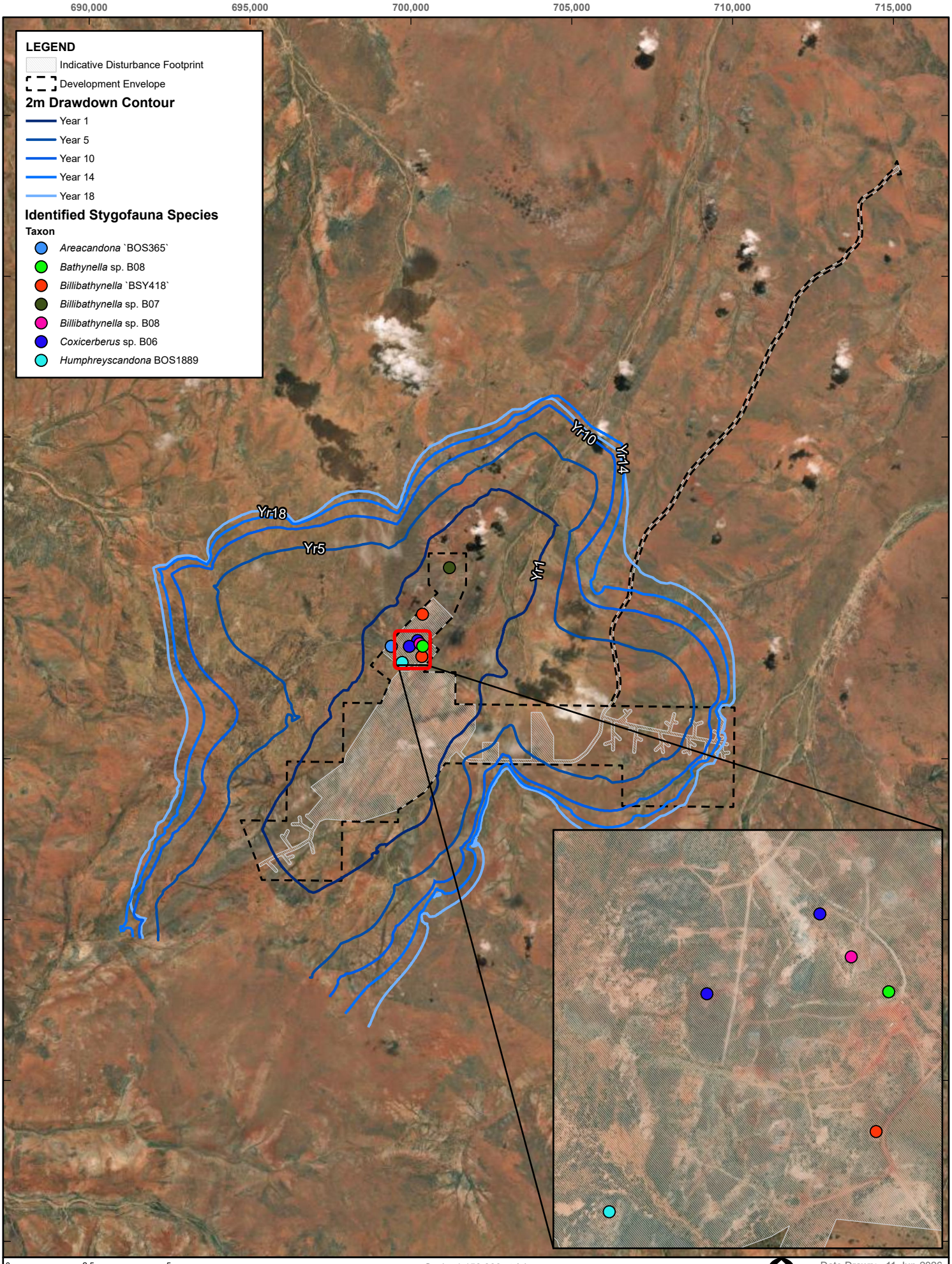

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STYGOFAUNA POTENTIALLY RESTRICTED TO THE 18 YEAR GROUNDWATER DRAWDOWN CONTOUR

Earthstar Geographics, Vantor
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FIGURE 8-4

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8.6 Assessment of Significance of Residual Impacts

8.6.1 Proposal

The assessment of significance of residual impacts to subterranean fauna following the implementation of mitigation measures is presented in **Table 8-6.**

Table 8-6 Assessment of Residual Impacts to Subterranean Fauna

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Direct		
Removal of available troglofauna habitat	• Limit excavation to the minimum required.	**Residual impact is not considered potentially significant:** While four species of troglofauna were recorded only within the proposed impact area of the open mine pit, the availability of habitat extends beyond the impact area, suggesting the species are unlikely to be restricted to the impact area.
Indirect		
Reduction in troglofauna habitat from potential mounding of groundwater at the site of the IWLTSF.	• TSF designed to limit excessive seepage into the groundwater system through installation of underdrainage system and construction of cutoff trenches. • Reduction in mounding of groundwater through installation of seepage recovery bores downstream of the TSF as required. • All recovered water returned to the processing plant for reuse reducing water abstraction requirements from bore fields.	**Residual impact is not considered potentially significant:** The TSF is proposed to be designed and managed to reduce and recover excessive seepage. All recovered water will be returned to the processing plant for reuse reducing water abstraction requirements from bore fields. It is not expected that the proposed activities will significantly reduce the availability of suitable habitat due to groundwater mounding.
Reduction in available stygofauna habitat from drawdown of the groundwater table.	• Groundwater dewatering and abstraction limited to amount required. • Water recovered from TSF and processing directed to the processing plant for reuse.	**Residual impact is not considered potentially significant:** Seven species of stygofauna are potentially restricted to the groundwater drawdown impact area. However, the habitat extends beyond the groundwater drawdown model domain, and will be available below the 2m drawdown, as it is not a confined aquifer. The fractured rock allows for movement beyond the current known distribution of the potentially restricted species.

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Reduction in groundwater quality from seepage of WRLs and TSF.	• Avoid contamination from hydrocarbons, chemicals or waste streams through appropriate management of mine processes and infrastructure. • Reduce inundation of the subsurface zone under the TSF by optimising collection and reuse of water from tailings, and collection of seepage.	**Residual impact is not considered potentially significant:** Waste characterisation studies demonstrate waste rock and tailings are geochemically benign with limited capacity for mine acid drainage. Seepage controls included in the TSF design will also limit seepage of tailings leachate into the groundwater system.

8.6.2 Cumulative

Subterranean fauna will primarily be impacted by changes in groundwater level and quality. The potentially restricted species of subterranean fauna were not identified within the 100km x 100km area used for the desktop assessment undertaken by Bennelongia. Therefore, the impacts to these species is limited to the Proposal and a cumulative impact assessment is not required.

8.7 Environmental Outcomes

Environmental outcomes, in the context of this Proposal, refer to the predicted state of the environment after the Proposal is implemented. The outcomes for subterranean fauna seek to:

- Be specific and measurable, clearly describing quantifiable environmental conditions.
- Have a defined spatial and temporal extent.
- Aim to achieve the EPA's objectives for subterranean fauna.

Considering the proposed mitigation measures and likely residual impacts associated with the Proposal, the predicted environmental outcomes and objectives that apply to subterranean fauna are:

- Available stygofauna habitat is impacted to the extent required for mine dewatering and water abstraction from proposed borefields.
- Removal of troglofauna habitat from excavation of mine open pits and underground workings is limited to the extent required and approved.
- No direct disturbance to subterranean fauna TECs or PECs (none were identified).
- No changes to groundwater quality from seepage from WRLs and the IWLTSF that would impact stygofauna community.

Confidence in achieving subterranean fauna outcomes is moderate. Planned validation of the groundwater model will assist in increasing confidence in the predicted drawdown extent and the effectiveness of proposed management measures.

Potential statutory decision-making processes available regulate potential impacts are detailed in **Appendix A**.

9 Potential Key Environmental Factor – Greenhouse Gas Emissions

9.1 EPA Objective

The EPA's objective for greenhouse gas (GHG) emissions is "to minimise the risk of environmental harm associated with climate change by reducing greenhouse gas emissions as far as practicable" (EPA, 2024a).

The 2024 update to the GHG Environmental Factor Guidelines, states that the EPA no longer requires a GHG environmental management plan (EMP) as part of the assessment.

9.2 Policy and Guidance

9.2.1 State Requirements

In WA, GHG emissions are primarily addressed under the *National Greenhouse and Energy Reporting Act 2007* (Cth) (NGER Act), *National Greenhouse and Energy Reporting Regulations 2008* (Cth) (NGER Regulations), *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (Cth) (Safeguard Rules) and state legislation, governed by the EP Act.

Table 9-1 outlines additional relevant state policies and guidance for GHG emissions and explains how they have been incorporated into the Proposal.

Under the EPA's GHG Environmental Factor Guideline, emissions from a proposal will be assessed where:

- Scope 1 emissions exceed 100,000tCO_2-e in a year at any point over the life of the Proposal; or
- Scope 2 emissions exceed 100,000tCO_2-e in a year.

Table 9-1 Relevant Policy and Guidance for Greenhouse Gas Emissions

Relevant Policy and Guidance	How the Policy and Guidance has been Considered
Environmental Protection Authority	
Environmental Factor Guideline: Greenhouse Gas Emissions (EPA, 2024a)	This guideline outlines the scope of the GHG assessment, including reporting requirements and best-practice design expectations.
Instructions on how to prepare an Environmental Review Document (EPA, 2025b)	This document informs the structure and content of this GHG Emissions chapter, ensuring the required presentation of emissions sources, inventories, mitigation measures, and proposed outcomes.
Other State or Commonwealth Policy or Legislation	
Greenhouse Gas Emissions Policy for Major Projects (DWER, 2024)	The Proposal is committed to contributing to the State's aspiration of achieving net-zero emissions by 2050. In accordance with this policy, the Proposal has: • Incorporated renewable energy (solar + BESS) into the power system to reduce operational emissions and will implement a program of continuous emission reduction. • Considered opportunities for ongoing emissions reductions, including annual quantification, reporting, and review of Scope 1 and Scope 2 emissions and emissions intensity over the life of mine.

Relevant Policy and Guidance	How the Policy and Guidance has been Considered
Western Australian Climate Policy (Government of Western Australia, 2020)	The Proposal aligns with the State's strategic direction for climate action by integrating long-term emission reduction targets aligned with the State's net-zero aspiration.
Climate Change Act 2022 (Cth)	Establishes Australia's national emissions reduction targets (43% by 2030 and net zero by 2050) and provides the legislative basis for climate policy and reporting.
Australian Accounting Standards Board (AASB) S2 Climate-related Disclosures (2024)	Sets mandatory requirements for climate-related financial disclosures, including governance, strategy, risk management, and emissions reporting, aligned with the Australian Sustainability Reporting Standards (ASRS) framework and effective from 2025.

9.2.2 National and International Requirements

Australia ratified the Paris Agreement in 2016 and has legislated a 43% reduction in GHG emissions below 2005 levels by 2030 and net zero emissions by 2050 under the *Climate Change Act 2022*. Australia has also proposed a 2035 Nationally Determined Contribution (NDC) target of a 65–75% reduction below 2005 levels, which remains subject to finalisation.

As noted above, in Australia GHG emissions are managed through the NGER Act, the Safeguard Mechanism, and the Australian Carbon Credit Unit (ACCU) Scheme. The Safeguard Mechanism applies to facilities with Scope 1 emissions of 100,000tCO_2-e or more per year and establishes declining, production-adjusted baselines for a range of industries. Facilities that exceed their baseline must surrender ACCUs or Safeguard Mechanism Credits (SMCs) to offset the excess emissions, while facilities operating below their baseline can generate SMCs that may be sold to other Safeguard-covered facilities with baseline exceedances, either through bilateral agreements or emerging secondary markets.

The Proposal's estimated annual Scope 1 emissions are expected to exceed 25,000tCO_2-e, at which point it will be required to report its annual emissions under the NGER Act.

In addition, the Proposal's annual Scope 1 emissions are estimated to exceed 100,000tCO_2-e in some operational years and is therefore expected to be a Safeguard-covered facility based on the current Proposal design. A Safeguard Mechanism baseline for the Proposal has been calculated in accordance with the Safeguard Rule, under which, covered emissions are required to be progressively reduced based on decreasing production-adjusted emissions intensity values.

Being a new facility, the Proposal will be required to adopt the best practice emission intensity of 0.0105tCO_2-e per tonne of lithium ore, in line with the Safeguard Rule, Part 17A.

9.3 Receiving Environment

9.3.1 Studies and Surveys

To inform the Proposal's GHG assessment, SLR Consulting has compiled annual Scope 1, 2 and 3 emissions inventories covering the construction and operation of the Proposal.

9.3.2 Existing environment

9.3.2.1 Background

Climate change impacts arise from the collective influence of multiple GHGs, including gases other than carbon dioxide (CO_2), which are expressed as carbon dioxide equivalents (CO_2-e) using Global Warming Potentials (GWPs). For this Proposal, direct (scope 1) emissions are

predominantly (approximately 99%) CO_2, with minor contributions from methane (CH_4) and nitrous oxide (N_2O). The 100-year time horizon Global Warming Potentials (GWP_{100}) of these GHGs, as presented in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) (IPCC, 2015), are provided in **Table 9-2**.

Table 9-2 Identified GHGs for the Proposal and their Global Warming Potential

Greenhouse Gas	Global Warming Potential (GWP_{100})
Carbon dioxide	1
Methane	28
Nitrous oxide	265

For the purposes of GHG accounting and inventory development, GHG emissions are classified as the following (EPA, 2024a):

- **Scope 1**: emissions generated as a direct result of an activity e.g. diesel combustion by vehicles or gas consumption for on-site power generation.
- **Scope 2**: indirect emissions generated from the independent consumption of an energy product imported into the facility, such as electricity.
- **Scope 3**: all indirect emissions (not included in Scope 2) that are generated in the wider community as a result of the activity. These include both upstream and downstream emissions that are a consequence of the activities of the Proposal, but from sources not owned or controlled by the proponent as part of the Proposal.

9.3.2.2 Greenhouse Gas Emissions

Human-induced GHG emissions are a major driver of climate change and are projected to result significant climate-related impacts in WA (EPA, 2024a). Observed data show that WA has warmed since the early 20th century, and climate models project further increases in average temperatures, including more hot days, heatwaves and elevated fire weather risk across much of the State (CSIRO and Bureau of Meteorology, 2024). Projections also indicate a continuation of the long-term drying trend in southwest WA, alongside an increased likelihood of more intense short-duration rainfall events in parts of northern and inland WA (CSIRO and Bureau of Meteorology, 2024). Coastal regions are projected to be increasingly affected by sea-level rise, ocean warming and ocean acidification, with implications for coastal infrastructure and marine ecosystems (Government of Western Australia, 2025).

Australian and state-based emissions projections indicate that future GHG emissions trajectories are influenced by economic growth, population change, technology uptake and the implementation of climate and energy policies. National emissions projections prepared by the Australian Government show that, while emissions intensity is projected to decline due to policies supporting renewable electricity, energy efficiency and industrial decarbonisation, absolute emissions reductions depend on the pace and scale of policy delivery across key sectors (DCCEEW, 2024a). Western Australia's emissions profile is strongly influenced by energy-intensive industry and resource development, and projections indicate that achieving sustained reductions in net emissions will require continued deployment of emissions reduction measures consistent with national policy settings, including the Safeguard Mechanism and complementary abatement programs (Government of Western Australia, 2023).

9.4 Proposed Mitigation

Wildcat will seek to achieve ongoing reductions in the Proposal's GHG emissions by implementing management and mitigation measures to avoid and minimise Scope 1, and

Scope 3 emissions where practicable, both during detailed design and over the life of the Proposal.

In addition, the greater business and technology opportunities to avoid GHG emissions, including alternative/innovative equipment, methods of mining and logistics, will be continuously reviewed and implemented, where practicable.

Consistent with the EPA WA mitigation hierarchy, GHG emissions management for the Proposal will prioritise the avoidance of emissions where practicable, followed by minimisation, as listed below (note: Stage 1 refers to the initial years of operation (Years 1–3), with Stage 2 representing operations from Year 3 onwards, including expanded renewable energy integration):

Avoid

- Scope 1:
    - Integration of renewable energy (solar PV) and BESS to reduce reliance on LNG-fuelled power generation.
    - Installation of a staged hybrid renewable energy power system is anticipated. Stage 1 is expected to comprise 29.0 MWp of solar PV capacity, a 13.69 MW / 27.38 MWh BESS, and 20.4 MW of LNG-fired gas generation. Stage 2 is likely to include potential expansion to approximately 45.6 MWp of solar PV capacity together with additional BESS and renewable energy generation capacity, subject to ongoing engineering, commercial and operational optimisation. Increased utilisation of renewable energy and reduced reliance on LNG-fuelled power generation over the life of the Proposal.
    - Design of the power system is expected to prioritise renewable energy generation where feasible, with diesel generation likely limited to black start and backup power requirements (e.g. KTA50 gensets).
    - Mine plan optimisation, including site layout, haul road distance, fleet size and pit sequencing, is expected to assist in reducing mobile plant emissions associated with unnecessary fuel combustion.
- Scope 2:
    - The Proposal is currently expected not to be connected to the electricity grid and all electricity required for operations to be generated on site, using a combination of LNG-fuelled thermal generation and renewable sources. As such, Scope 2 emissions are not currently anticipated. However, future connection to external electricity infrastructure may be considered as regional power infrastructure in the Pilbara develops.
    - The Proposal is planned to include a hybrid (Thermal/Solar/BESS) Power Station and LNG supply facility that will be owned, operated and maintained by a third party.
- Scope 3:
    - Procurement and logistics planning is expected to consider embodied emissions in materials of contraction and consumables, as well as supplier proximity and transport requirements to avoid transport-related emissions where feasible.

Minimise

- Scope 1:
    - Selection of LNG-powered engines for the thermal power plant which has approximately 25% lower GHG emissions intensity compared to diesel generators.
    - Fuel efficiency will be improved through consideration of autonomous haulage, idle hours reduction.
    - The sizing and specifications of stationary plant will be optimised to maximise energy efficiency.
    - Blast design will be optimised to reduce explosive consumption.
    - Clearing of native vegetation will be minimised through mine planning optimisation.
    - All machinery will be maintained in good working order, to manufacturers' requirements.
    - Energy management and monitoring systems will be implemented to improve operational efficiency.
    - The use of energy-efficient technology will be used wherever possible.
- Scope 3:
    - Freight and export potential pathways have been identified, with final selection will consider operational efficiency and associated emissions, where practicable.
    - Transport-related emissions are expected to be further refined as detailed logistics data becomes available during later Proposal stages.

9.5 Potential Environmental Impacts

9.5.1 Identified Environmental Impacts

Potential impacts of the Proposal's GHG emissions were identified based on an assessment of the significance of the estimated annual GHG emissions compared to state and national GHG emission inventories and benchmarking of the Proposal's GHG emissions intensity compared to similar operations and the Safeguard Mechanism baseline. The outcomes are summarised in **Table 9-3**.

Table 9-3 Identified Environmental Impacts

Identified Potential Impacts	Relevant to this Proposal	Rationale
Contribution to increased atmospheric GHG concentrations at the state, national, and global levels	Yes	GHG emissions from the Proposal have the potential to contribute to increasing atmospheric GHG concentrations at the state, national, and global levels.
Scope 1emissions	Yes	The Proposal will generate Scope 1 emissions from several activities, including: • LNG consumption for power generation; • Diesel consumption for power generation; • Diesel consumption by construction equipment; • Diesel consumption by non-road-registered heavy mining equipment; and • Diesel consumption by road-registered vehicles. Minor additional Scope 1 emissions will result from vegetation clearing, and the use of explosives, however these activities are projected to be minor sources. It is also anticipated that there will be additional minor fugitive emissions associated with the use of refrigerants in cooling equipment and SF_6 within electrical switchgear in the power system. However, these two sources are expected to be minor sources and, due to the lack of Proposal-specific data, have not been included in the inventory.
Scope 2 emissions	No	The Proposal will not be connected to the electrical grid so there will be no Scope 2 emissions; all electricity will be generated on site using LNG or solar PV, supported by the BESS.
Scope 3 emissions	Yes	Scope 3 emissions will be generated from upstream and downstream value chain activities, including capital goods, fuel- and energy-related activities, employee commuting, downstream transportation and distribution, and processing of sold products (Categories 2, 3, 7, 9 and 10). As the Project is at the proposal stage, the detailed data required to quantify Scope 3 emissions is not available, therefore the estimated Scope 3 emissions presented are based on limited and indicative data.

9.5.2 Predicted Environmental Impacts

9.5.2.1 GHG Emissions Inventory Development

A comprehensive assessment has been conducted to calculate the Proposal's anticipated Scope 1 and Scope 3 emissions over the life of the Proposal. Construction of the Proposal is scheduled to begin in Financial Year 2028 (FY28), with operations commencing after two years of construction. The GHG calculations from this assessment are included in **Appendix C-14**.

Annual GHG emissions have been projected for a single life-of-Project scenario, aligned with the current Proposal design. During the initial phase of operations, the Proposal will utilise a hybrid power system comprising LNG, solar and BESS. From approximately Year three of

operations onward, the system will be expanded to increase the solar and BESS capacity, to further reduce reliance on LNG.

Scope 1 emission sources included in the inventory comprise LNG consumption for power generation, diesel consumption for power generation (i.e. during testing and maintenance of the emergency/black start generators), diesel consumption by transport and stationary mining and construction equipment, diesel use by light vehicles, vegetation clearing, and use of explosives. Assumptions and emission factors used in the Scope 1 emission calculations are outlined below.

- Emissions from vegetation clearing are expected to occur within the two years of the construction phase and the first two operational years, with a total cleared area of 2,180ha. The emissions associated with loss of carbon stocks in the cleared vegetation were estimated using the National Carbon Accounting Model (FullCAM) (DCCEEW, 2024b), which gave an average factor of 27.27tCO_2-e per hectare.
- Emissions associated with LNG and diesel consumption in stationary plant and mobile equipment were calculated using emission factors from the National Greenhouse Accounts (DCCEEW, 2025a).
- Explosives used on site will comprise emulsion-based products that do not contain diesel; associated emissions were therefore estimated using an in-house emission factor derived by Wildcat of 0.13kgCO_2-e per kg of emulsion.

The Proposal's Scope 3 emissions are the indirect GHG emissions resulting from activities in Wildcat's value chain. For the purposes of this assessment, the following Scope 3 emissions categories have been considered:

- Upstream:
    - Category 02: Capital goods
    - Category 07: Employee commuting
- Downstream:
    - Category 09: Downstream transportation and distribution
    - Category 10: Processing of sold products

The estimates assume that Tabba Tabba will operate continuously, 24 hours a day, 7 days a week for 52 weeks per year.

9.5.2.2 Emission Sources

Further details of the Proposal's GHG emission sources and estimation methods are outlined in **Table 9-4**.

Table 9-4 Tabba Tabba Proposal GHG Emission sources and Calculation Methods

Emission Scope	Emission Source	Description of Emission Source	Estimation Method	Assumption
Scope 1	Diesel consumption in: • Mobile, stationary equipment and transport equipment • Power generation/black-start generator • Construction equipment	Emissions associated with the combustion of fossil fuels for the operation of plant machinery, quarrying vehicles, road registered vehicles and explosives.	Diesel consumption estimates are based on the pre-feasibility study (PFS) fleet data. Emission rates calculated using an energy content factor for diesel of 38.6GJ/kL and emission factors of 70.41kg CO_2-e/GJ and 70.2kgCO_2-e/GJ respectively.	The strategy will remain stable throughout the Proposal's life. However, this strategy is market-driven and may change from time to time. The estimated GHG emissions are based on the current strategy and fuel use projections available at the time of preparing this assessment.
	Power generation (Stationary equipment)	Emissions associated with the combustion of LNG in the on-site power plant.	LNG consumption estimates are based on the PFS data. Emission rates calculated using an energy content factor for LNG of 25.3GJ/kL and emission factor of 51.4kg CO_2-e/GJ.	The strategy will remain stable throughout the Proposal's life. The required LNG will be sourced from the Pluto LNG facility operated by Woodside Energy and LNG transport. This strategy is commercial and market-driven and may change from time to time. The estimated GHG emissions are based on the current strategy and equipment data available at the time of preparing this assessment.
	Vegetation Clearing	Release of GHG emissions from clearing and construction.	The Proposal includes clearing up to 2,180ha of vegetation. Calculated using the National Carbon Accounting Model (FullCAM).	70% of the clearing will be undertaken during the two-year construction phase, with the remaining 30% occurring within the first two years of operations.
	Explosives	Emissions associated with the use of explosives during mining operations, comprising emulsion-based products.	Emissions are estimated based on the quantity of emulsion used, applying an in-house emission factor of 0.13kgCO_2-e per kg of emulsion.	The estimated GHG emissions are based on projected explosive consumption rates available at the time of preparing this assessment.

Emission Scope	Emission Source	Description of Emission Source	Estimation Method	Assumption
Scope 3	Category 02 - Capital good	Emissions associated with the production of capital goods used for the Proposal, including mining equipment, processing plant, and supporting infrastructure.	Capital expenditure inputs were sourced from the PFS, including open pit capital cost of AUD 2,033million (operations: 17 years) and underground capital cost of AUD 185 million (operations: 12 years). Emissions are estimated using a spend-based approach, applying environmental Extended Input-Output (EEIO) emission factors to capital expenditure for major equipment, processing plant and infrastructure.	Capital expenditure is assumed to be representative of Proposal infrastructure and suitable for use with EEIO emission factors. Costs are assumed to occur during the construction phase, and a constant exchange rate of 0.7 Australian Dollar/United States Dollar has been applied.
	Category 07 - Employee commuting	Emissions associated with the transport of employees to and from the site, including fly-in fly-out (FIFO) travel and daily commuting.	Emissions were estimated based on the number of employees on site (750) and assumed flight frequency (3 flights per day), applying emission factors for air travel. Total annual flights were calculated and multiplied by representative emission factors per passenger-kilometre.	Workforce numbers and flight frequency were sourced from the PFS. It is assumed that employees travel via FIFO arrangements from Perth to Port Hedland Airport, a one-way flight distance of approximately 1,340km. Transport from Port Hedland Airport to the Proposal site is assumed to be by Proponent-owned and operated buses and light vehicles.
	Category 09 - Downstream transportation and distribution	Emissions associated with the transport of lithium products (e.g. spodumene concentrate) from the Proposal to customers or export facilities.	Emissions were estimated based on the transport of product by road and sea. Road transport emissions were calculated using an assumed road train payload, number of annual trips (two-way), and haul distance (100km between the Proposal site and Port Hedland), applying emission factors per tonne-kilometre. Shipping emissions were estimated using an assumed bulk carrier capacity, number of annual shipments (two-way), and a nominal shipping distance (3,000km from Port Hedland to destination), applying emission factors per tonne-kilometre for ocean freight.	Road train payload (120t per trip) and bulk carrier capacity (70,000t per vessel) were assumed based on previous project experience and typical industry practice. Transport distances of 100km (road) and 3,000km (sea) are based on indicative logistics assumptions. Trips are assumed to be fully loaded for outbound transport, with return trips included for conservatism. Standard emission factors were applied in the absence of contractor-specific data.

Emission Scope	Emission Source	Description of Emission Source	Estimation Method	Assumption
	Category 10 - Processing of sold products	Emissions resulting from downstream processing of lithium products by third parties, such as conversion of spodumene concentrate to lithium chemicals (e.g. lithium hydroxide or carbonate).	Based on benchmark refinery emissions (Scope 1, 2 and 3) from comparable lithium processing facilities.	Values derived from similar projects and used as proxy due to lack of downstream data.

9.5.2.3 GHG Emission Estimates

The Scope 1 and Scope 3 emissions estimates for the life of Proposal are detailed in **Table 9-5** and **Table 9-6**, respectively, with the Scope 1 and 3 emissions proportions from emission sources presented in **Figure 9.1** and **Figure 9.2**, respectively**.**

The Proposal's Scope 1 emissions are estimated to increase from an average of approximately 78,771tCO_2-e per annum during the construction phase to an average of approximately 110,000tCO_2-e per annum during operations.

As the Proposal will not import electricity, Scope 2 emissions will remain zero throughout the life of the Proposal.

Total Scope 1 emissions over the life of the Proposal are estimated at approximately 1,808,310tCO_2-e. Total Scope 3 emissions are estimated at approximately 3,452,867tCO_2-e, noting that these estimates are based on limited available data. Scope 1 emissions account for approximately 34% of the Proposal's total GHG emissions (Scopes 1, 2 and 3). The contribution of Scope 3 emissions is expected to increase however, as more detailed data becomes available.

The estimated Scope 1 emissions are primarily driven by diesel consumption in mining equipment (approximately 54%) and LNG consumption for on-site power generation (approximately 41%), with limited contribution from other emission sources. This reflects the Proposal's off-grid configuration and reliance on diesel-powered mobile mining equipment. This is typical for remote mining operations and represents the key areas for future Scope 1 emissions reduction opportunities.

In relation to Scope 3 emissions, Category 7 (employee commuting) is the dominant source, reflecting the Proposal's remote location and reliance on a fly-in fly-out (FIFO) workforce. The estimated emissions are primarily associated with aviation transport between Perth and the Proposal site. Other Scope 3 categories are either not applicable, immaterial, or subject to higher uncertainty at this stage, resulting in a greater proportional contribution from employee commuting.

Table 9-5 Scope 1 Emissions over the life of the Proposal (t CO_2-e)

Emission Source/Activity	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Life of Proposal
	Construction		Operation															
Vegetation clearing	23,494	13,817	9,920	8,861	-	-	-	-	-	-	-	-	-	-	-	-	-	**56,092**
Explosives	1,132	1,520	1,564	1,563	1,576	1,575	1,571	1,316	697	558	529	404	330	72				**14,407**
LNG - stationary use (power generation)	-	-	32,567	32,567	32,567	32,567	32,567	32,567	32,567	65,134	65,134	65,134	65,134	65,134	65,134	65,134	65,134	**749,041**
Diesel - stationary use (power generation)	-	-	325	325	325	325	325	325	325	325	325	325	325	325	325	325	325	**4,875**
Diesel - stationary use (construction equipment)	325	325	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**975**
Diesel - stationary use (mining equipment-non-road registered)	43,633	71,651	84,987	86,430	91,770	101,988	114,256	106,340	65,417	54,158	52,152	45,320	42,404	12,192	-	-	-	**972,698**
Diesel - transport use (light vehicles)	822	822	822	822	822	822	822	822	711	711	711	711	711	91	-	-	-	**10,222**
Total Scope 1 CO_2-e Emissions	**69,406**	**88,135**	**130,510**	**130,568**	**127,060**	**137,277**	**149,541**	**141,370**	**99,717**	**120,886**	**118,851**	**111,894**	**108,904**	**77,814**	**65,459**	**65,459**	**65,459**	**1,808,310**

Table 9-6 Scope 3 Emissions over the life of the Proposal (t CO_2-e)

Emission Source/Activity	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Life of Proposal
	Construction		Operation															
Category 02 – Capital goods	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	48,197	**819,349**
Category 03 – Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	11,035	17,940	32,682	32,958	34,274	36,792	39,815	37,864	27,752	36,353	35,859	34,176	33,457	25,859	22,832	22,832	22,832	**505,312**
Category 07 – Employee commuting	-	-	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	140,707	**2,110,601**
Category 09 – Downstream transportation and distribution	-	-	571	953	1,178	915	804	925	1,311	1,550	1,510	1,513	1,533	1,528	1,507	1,265	512	**17,576**
Category 10 – Processing of sold products	-	-	-	-	1.5	1.1	1.1	1.1	0.9	0.8	0.6	0.6	0.6	0.5	0.5	0.5	1.7	**12**
Total Scope 3 CO_2-e Emissions	**59,232**	**66,137**	**222,157**	**222,816**	**224,356**	**226,611**	**229,524**	**227,693**	**217,967**	**226,808**	**226,273**	**224,592**	**223,894**	**216,292**	**213,244**	**213,001**	**212,249**	**3,452,846**

Figure 9.1 Proportion of Scope 1 Emissions by Source Over the Life of the Proposal

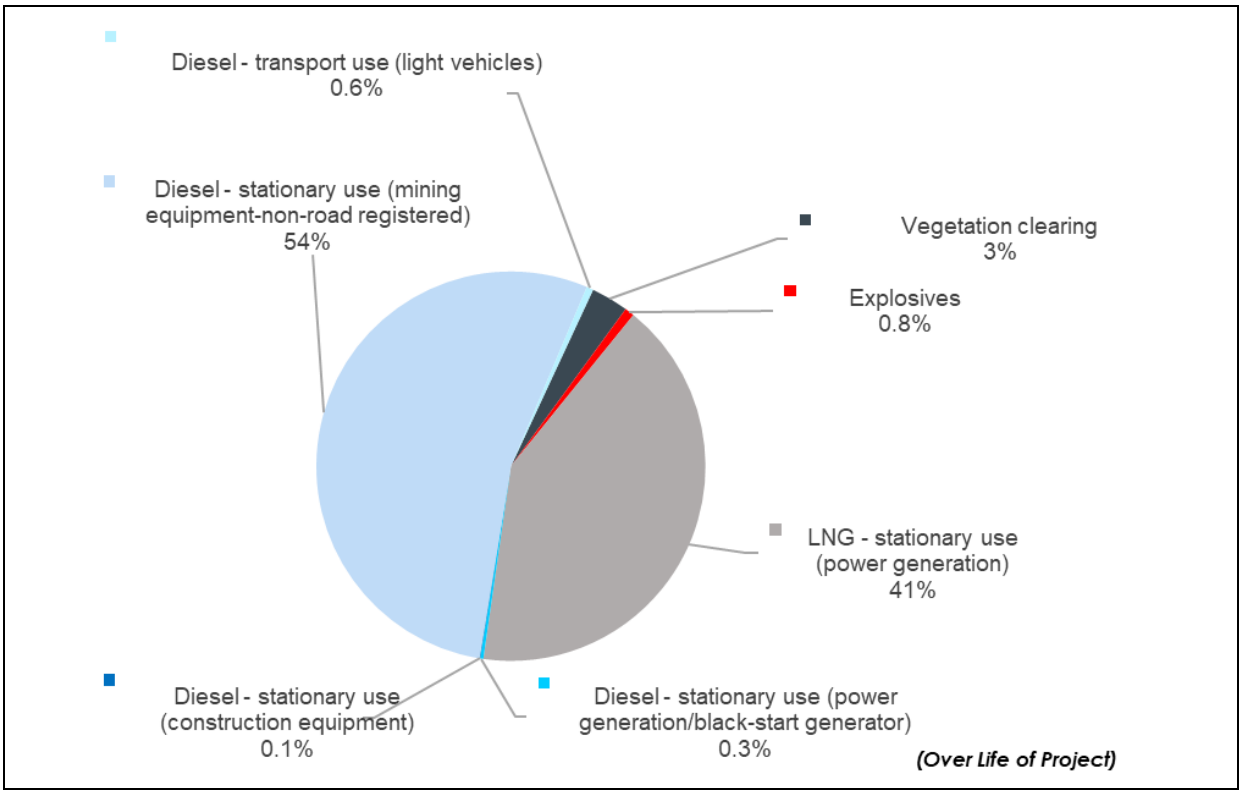
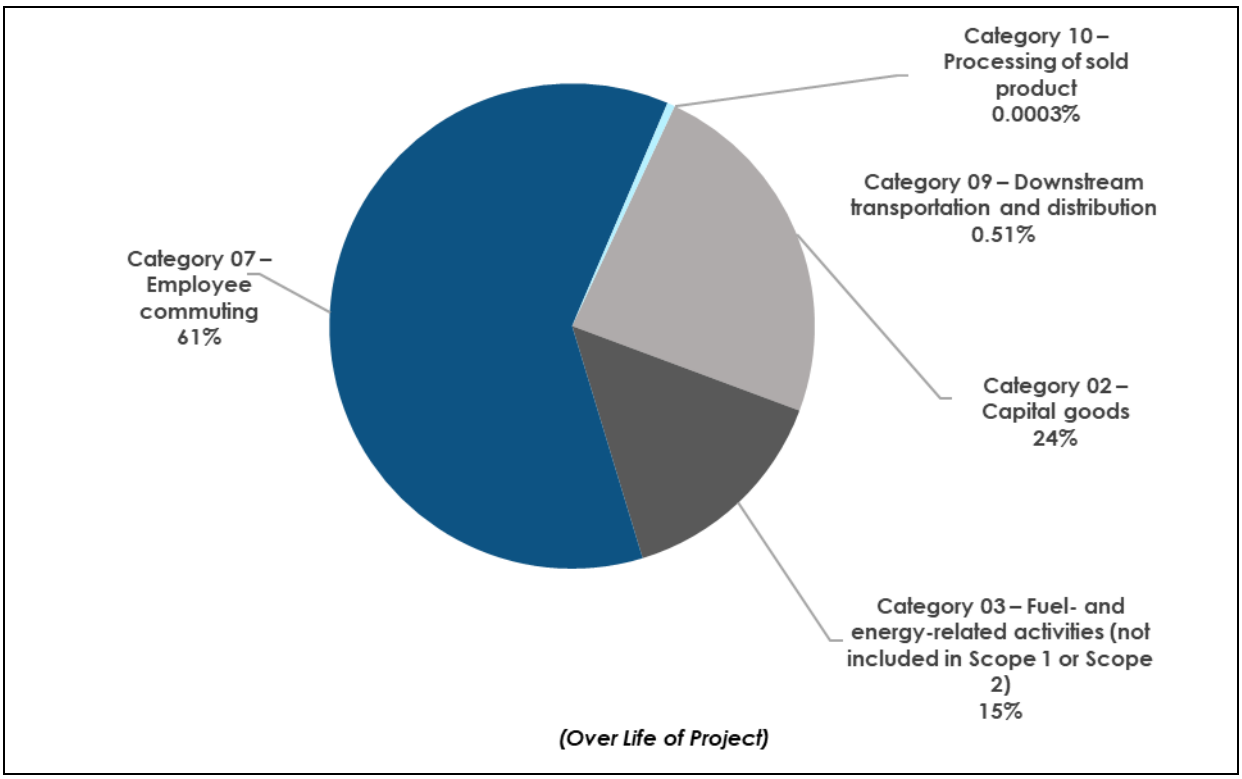


Figure 9.2 Proportion of Scope 3 Emissions by Source Over the Life of the Proposal



9.5.2.4 Emissions Reduction Pathway

The Proposal's emissions reduction pathway is primarily driven by the progressive integration of renewable energy within the on-site hybrid power system. During the initial years of operation, power is planned to be supplied by a hybrid system comprising LNG, solar PV and BESS. From Year 3 onward, increased solar and BESS capacity is expected to reduce reliance on LNG-fired generation and associated Scope 1 emissions.

Further emissions reduction opportunities such as use of electric vehicles may be considered over the life of mine as technologies and operational practices evolve.

9.5.2.5 Safeguard Mechanism Obligations

During Years 1 and 2 of the Proposal, when mining operations are not yet in full production, the average annual Scope 1 emissions are estimated at approximately 78,771tCO_2-e, which is below the Safeguard Mechanism threshold of 100,000tCO_2-e.

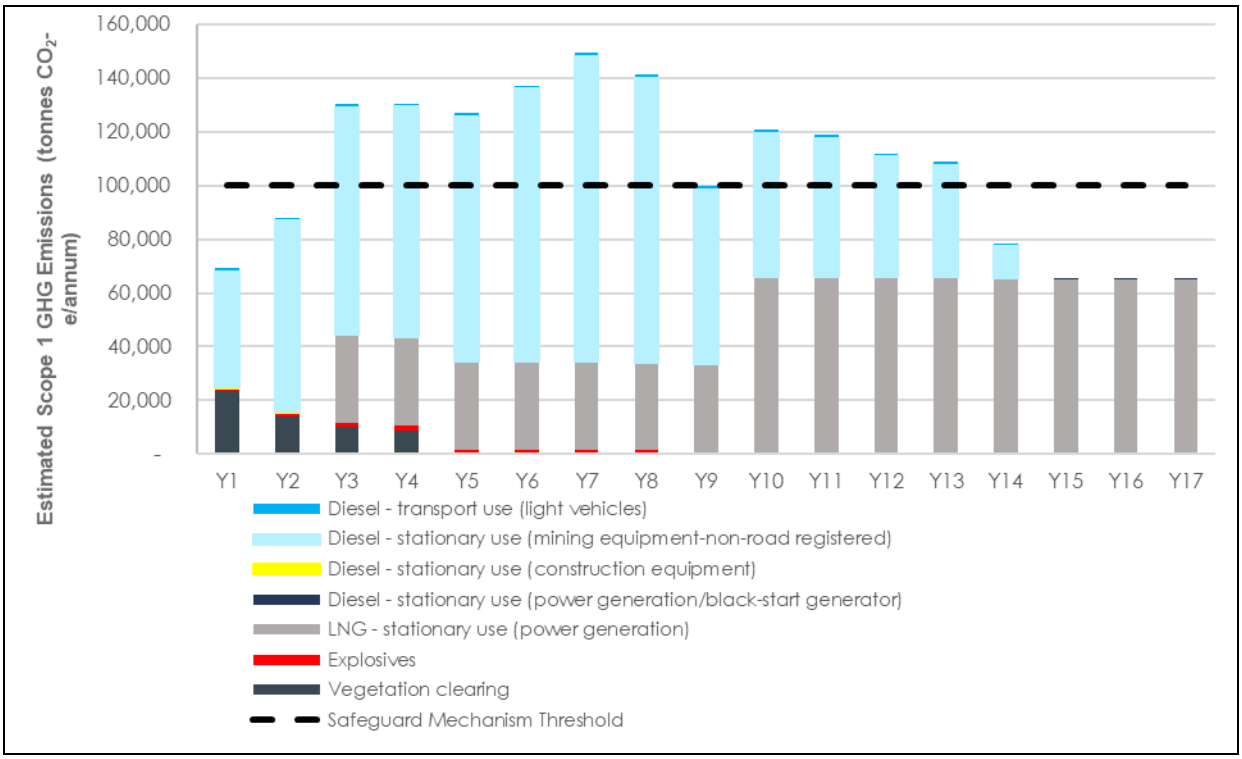
From Year 3 onwards (once the operational phase starts), average annual Scope 1 emissions are estimated at approximately 110,000tCO_2-e, which exceeds the Safeguard Mechanism threshold. Accordingly, the Proposal is expected to be a Safeguard-covered facility.

As a new facility, the Proposal's Safeguard baseline will be determined in accordance with the Safeguard Rule (Part 17A) using the best practice emissions intensity for lithium mining, which is currently set at 0.0105tCO_2-e per tonne of lithium ore. Based on this emissions intensity, and after application of the emissions reduction contribution (ERC), the peak projected production-adjusted Safeguard baseline over the life of the Proposal is estimated to be approximately 25,000tCO_2-e per annum. As this calculated production-adjusted baseline is below 100,000tCO_2-e per annum, the applicable baseline emissions number for the Proposal would default to 100,000tCO_2-e per annum in accordance with the Safeguard Mechanism provisions for new facilities (Part 3, Division 1).

As the forecasted Scope 1 emissions exceed the applicable baseline (**Figure 9.3**), the Proponent will be required to surrender SMCs or ACCUs to offset exceedances and maintain compliance. The volume of credits surrendered will be calculated annually as the difference between the facility's reported Scope 1 emissions and its baseline emissions number, consistent with the compliance obligations under Safeguard Mechanism. The Proposal will also be subject to relevant monitoring, reporting and surrender requirements.

The Proposal will comply with the EPA GHG guideline by ensuring that emissions are managed in accordance with regulatory requirements. This includes the implementation of best practice emissions reduction measures, the use of carbon credits offsets as required under the Safeguard Mechanism, and compliance with monitoring and reporting obligations.

Figure 9.3 Scope 1 Emissions and Safeguard Baseline over the Life of the Proposal



9.6 Assessment of Significance of Residual Impacts

9.6.1 Proposal Benchmarking (Operational Phase)

The Proposal's peak annual production is expected in Year 10 of the Proposal (Year 8 of operations), reaching approximately 4,570,125 tonnes of lithium, petalite and tantalum ore mined, with a projected Scope 1 emission intensity of 0.0265tCO_2-e per tonne of ore processed.

However, diesel consumption for mining equipment is slightly higher in Year 7 of the Proposal, resulting in the highest annual Scope 1 emissions of approximately 149,541tCO_2-e, with an emission intensity of 0.0631tCO_2-e per tonne of ore processed.

The average annual emission intensity during the steady-state operational phase, with approximately 3.6Mt lithium ore mined (between year five to year 15 of the Proposal), is projected to be 0.0361tCO_2-e per tonne of ore mined. This estimate is based on lithium ore as the primary production variable, with tantalum and petalite treated as minor by-products.

This steady-state intensity provides an appropriate basis for comparison with comparable operations and facility-specific emissions intensity determinations under the Safeguard Mechanism. Comparisons are presented in **Table 9-7**.

Table 9-7 Benchmarked Scope 1 emission intensities

Facility	Scope 1 Emission Intensity (t CO_2-e/per tonne of Lithium Ore) *
Tabba Tabba Proposal	0.0361
Wodgina Lithium Project	0.0173
Greenbushes Lithium Operation	0.0124
Pilgangoora Operations	0.0144
Mt Marion Lithium Project	0.0185
* These data have been sourced from: https://cer.gov.au/markets/reports-and-data/safeguard-data/emissions-intensity-determination-data	

The estimated steady-state emissions intensity of approximately 0.0361tCO_2-e per tonne of ore is significantly higher than the facility-specific emissions intensity determinations reported for comparable Western Australian lithium operations as above (typically ~0.012–0.018 tCO_2-e/t). This difference is attributable to the Proposal's reliance on on-site LNG-fired power generation within an off-grid hybrid power system, which results in direct Scope 1 emissions associated with electricity generation being reported at the facility level. In contrast, some comparable operations, such as Greenbushes Lithium Operation, have access to grid electricity and therefore report a portion of electricity-related emissions as Scope 2 emissions rather than Scope 1 emissions.

For other comparable operations, including Wodgina, Pilgangoora and Mt Marion, direct comparison between operations is inherently limited due to differences in power supply arrangements, operational scale, renewable energy penetration, and the inclusion of on-site electricity generation within facility Scope 1 reporting boundaries. In addition, the benchmarked emissions intensities sourced from the Clean Energy Regulator (CER) Emissions Intensity Determination dataset are reported as tonnes CO_2-e per tonne of lithium ore; however, differences in production definitions, facility boundaries and reporting methodologies between operations may influence direct comparability.

The Proposal's emissions intensity is expected to reduce over time through increased renewable energy penetration, including staged expansion of solar PV and battery energy storage capacity.

9.6.2 Cumulative Impacts

Total Australian emissions in energy sectors which includes mining-related emissions were 398Mt CO_2-e in 2023-2024 (Scope 1 + Scope 2) (Australian Government, 2026), with WA contributing 81Mt CO_2-e (20%) (CCWA, 2026). After implementing mitigation measures, the Proposal's impact on regional and national emissions is assessed as negligible. The Proponent's commitment to adopting best-practice emissions management, aligning with the NGER Safeguard Mechanism and international benchmarks, enables emissions to be minimised as far as practicable and remain consistent with Australia's GHG reduction targets.

Based on the above, the Proposal is not expected to result in significant GHG impacts after mitigation. Its contribution to state and national levels is low, highlighting the Proposal's minor environmental impact in the context of GHG emissions. **Table 9-8** shows the Proposal's contribution to State and National energy sector emissions.

After implementing mitigation measures, the Proposal's impact on regional and national emissions is assessed as negligible. The Proponent's commitment to adopting best-practice emissions management, aligning with the NGER Safeguard Mechanism and international

benchmarks, enables emissions to be minimised as far as practicable and remain consistent with Australia's GHG reduction targets.

Based on the above, the Proposal is not expected to result in significant GHG impacts after mitigation. Its contribution to state and national levels is low, highlighting the Proposal's minor environmental impact in the context of GHG emissions.

Table 9-8 Proposal's Contribution to Annual Energy Sector Emissions

Greenhouse gas	Proposal Emissions
Proposal Annual Average Emissions (operational phase)	110,000tCO_2/annum
Emissions as a Percentage of National Inventory (as at 2023-2024)	0.03%
Emissions as a Percentage of State Inventory (as at 2023-2024)	0.13%

9.7 Environmental Outcomes

The assessment of potential impacts and mitigation strategies for GHG emissions in this Proposal aligns with the EPA's objectives for emissions management. The predicted outcomes for GHG emissions in low carbon emission scenario include:

- Estimated annual average Scope 1 GHG emissions over the Proposal's operational phase is approximately 110,000tCO_2-e.
- The Proposal's impact on State and National emissions is minor, contributing less than 0.13% to total State energy sector emissions and under 0.03% to total National emissions.

While the Proposal's Scope 1 emissions intensity is higher than the benchmarked lithium operations, this primarily reflects the Proposal's off-grid LNG-fired power generation requirements and associated Scope 1 accounting boundary, rather than atypical emissions performance for a comparable remote Western Australian mining operation.

Mitigation measures for Scope 1 and 3 emissions focus on adopting best practice project design, transitioning to lower emission fuel (LNG) and renewable energy, and integrating offsets as necessary.

Wildcat has proposed a proactive GHG reduction pathway by adopting renewable energy during the life of the Proposal. The Proposal's emissions management strategy incorporates compliance with the NGER Safeguard Mechanism, ensuring that its Scope 1 emissions align with baseline reduction trajectories to support Australia's net-zero emissions target by 2050.

The assessment of the potential impact of GHG emissions from the Proposal concludes that, through the implementation of mitigation strategies, the Proposal's GHG emissions meet the EPA's objective for GHG emissions management.

10 Potential Key Environmental Factor – Social Surroundings

10.1 EPA Objective

The EPA objective for social surroundings is "to protect social surroundings from significant harm". For the purposes of the definition of environment, the social surroundings of man are aesthetic, cultural, economic and social surroundings to the extent that those surroundings directly affect or are affected by a person's physical or biological surroundings.

10.2 Policy and Guidance

Table **10-1** outlines the relevant policies and guidance for Social Surroundings and explains how they have been incorporated into the Proposal.

Table 10-1 Relevant Policy and Guidance for Social Surroundings

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Environmental Protection Authority	
Statement of Environmental Principles, Factors, Objectives and Aims of EIA (EPA, 2023b)	The EPA objective for Social Surroundings serves as the basis for this assessment. The Proposal has applied the mitigation hierarchy to avoid and minimise impacts on heritage values, amenity, community uses, pastoral landholders, and cultural associations.
Environmental Factor Guideline: Social Surroundings (EPA, 2023a)	Informed the identification and characterisation of social and cultural values, the assessment of potential impacts, and the development of mitigation measures for Aboriginal cultural heritage and amenity.
Technical Guidance – Environmental Impact Assessment of Social Surroundings: Aboriginal Cultural Heritage (EPA, 2023c)	Applied to inform the consideration of Aboriginal cultural heritage values, including consultation with Traditional Owners and the application of appropriate avoidance and management measures.
Instructions on how to prepare an Environmental Review Document (EPA, 2025b)	Informed the structure, content and level of assessment presented in this document.
Instructions on how to prepare EP Act Part IV Environmental Management Plans (EPA, 2021)	Informs the development of management commitments relevant to Social Surroundings. A standalone EMP is not proposed for amenity-related impacts, which will be managed through design and operational controls, while Aboriginal cultural heritage is addressed through a separate heritage management framework.
Other State or Commonwealth	
Environmental Protection (Noise) Regulations 1997 (EP Noise Regulations)	Establish statutory noise emission limits. Noise emissions from the Proposal have been assessed against applicable criteria, with mitigation measures incorporated into the design to minimise impacts to sensitive receptors. Noise will be managed through compliance with the Regulations and standard operational controls, rather than a standalone environmental management plan.
Aboriginal Heritage Act 1972 (WA) (AH Act)	Provides the legislative framework for protecting Aboriginal cultural heritage. Aboriginal cultural heritage will be managed through a dedicated heritage management framework, including heritage surveys, avoidance measures (e.g. exclusion zones), Heritage Monitoring Zones, and ongoing consultation with the Nyamal Aboriginal Corporation.

Relevant Policy and Guidance	Explain How the Policy and Guidance has been Considered
Native Title Act 1993 (Cth)	Recognises and protects native title rights and interests. The Proposal has been developed in accordance with the Native Title Agreement with the Nyamal People.
Interim Guidance on Engaging with First Nations People (DCCEEW, 2023a)	Applied to support early, transparent and culturally appropriate engagement with Traditional Owners in relation to cultural heritage and broader social values.
ESG: Change for the Better (Minerals Council of Australia, 2021)	Considered in aligning the Proposal with industry expectations for responsible development, including engagement with Traditional Owners and local communities.
Other Industry or Proponent	
Native Title Agreement between Wildcat Resources and the Nyamal Aboriginal Corporation (signed December 2025)	Establishes a formal framework for engagement, cultural heritage protection, land access, and consent. The Agreement informs avoidance measures, including exclusion zones, and supports ongoing engagement with the Nyamal People throughout the life of the Proposal.

10.3 Receiving Environment

10.3.1 Studies and Surveys

The studies and surveys relating to Social Surroundings that have been undertaken for the Proposal are described in **Table 10-2**.

Table 10-2 Studies and Surveys Relevant to Social Surroundings Factor

Survey/Study	Details	Link
Aboriginal Cultural Heritage Surveys	Aboriginal cultural heritage surveys have been undertaken in consultation with the Traditional Owners to identify and document cultural heritage values within the development envelope. These surveys include archaeological and ethnographic investigations and have informed the identification of heritage sites, areas of cultural sensitivity, exclusion zones and Heritage Monitoring Zones. Further surveys are ongoing to support detailed disturbance planning and ensure that all areas proposed for disturbance are appropriately assessed. The outcomes of these surveys are incorporated into Proposal design and ground disturbance controls. Detailed heritage survey reports are not included in this supporting document but are managed in accordance with statutory requirements and agreements with NAC. In addition to conducting cultural heritage surveys in consultation with the NAC, a search of the DPLH Aboriginal Heritage Inquiry System (AHIS) was completed on 07 April 2026 for the tenements associated with the development envelope.	Reports are confidential and not provided with referral documentation.
Environmental Noise Assessment (SLR, 2026b)	An Environmental Noise Assessment was undertaken by SLR Consulting in 2026 to assess potential noise emissions associated with construction and operation of the Proposal. The assessment includes modelling of operational and blasting noise using industry-standard software and methodologies, incorporating site-specific inputs such as equipment, terrain and meteorological conditions. The modelling applies conservative assumptions to represent worst-case scenarios and assesses predicted noise levels against the requirements of the *Environmental Protection*	**Appendix C-13**

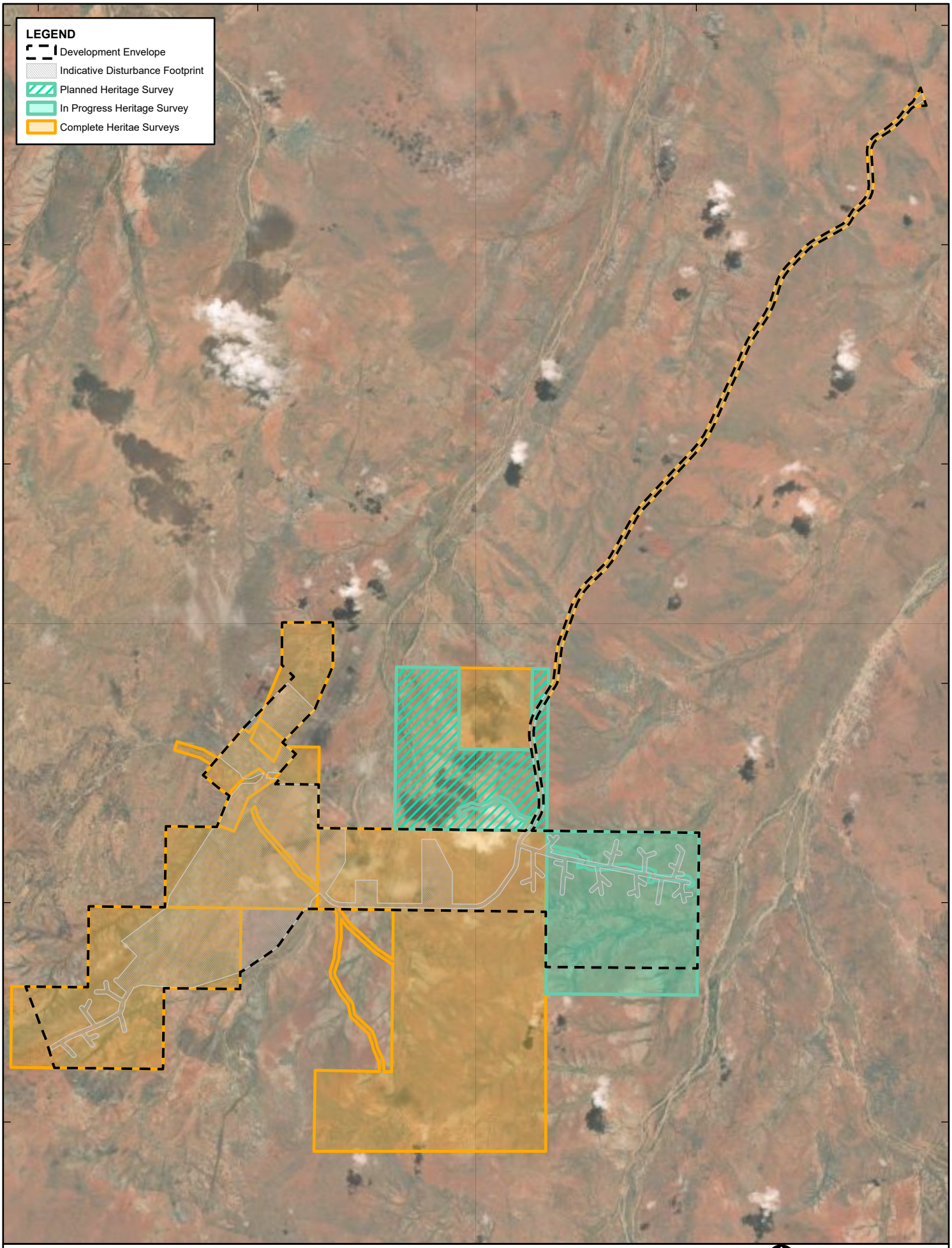
Survey/Study	Details	Link
	(Noise) Regulations 1997. The assessment supports the evaluation of potential impacts to nearby receptors and informs Proposal design and mitigation measures.	
Air Quality Assessment (SLR, 2026a)	An Air Quality Assessment was undertaken by SLR in 2026 to characterise particulate emissions associated with the Proposal, including TSP, PM_{10} and $PM_{2.5}$. The assessment includes developing a site-specific emissions inventory and applying the TAPM/CALMET/CALPUFF dispersion modelling suite, in accordance with Western Australian guidance. The modelling predicts ground-level concentrations and dust deposition rates, incorporating conservative assumptions such as worst-case emission factors and meteorological conditions. The assessment supports evaluating potential dust impacts on nearby receptors and informs mitigation and management measures.	**Appendix C-15**
Visual Impact Assessment	A visual impact assessment was undertaken to assess potential changes to the landscape associated with the Proposal. The assessment includes identification of key viewpoints, line-of-sight analysis using detailed topographic data, and preparation of photomontages to represent the final landform configuration. The methodology is consistent with standard visual assessment practices and provides a conservative representation of visibility, as it does not account for vegetation screening or atmospheric conditions. The assessment informs the evaluation of visual amenity impacts and supports design considerations for landform integration.	**Section 10.5.2.3**

10.3.2 Aboriginal Heritage

Aboriginal Cultural Heritage Surveys

Wildcat has completed several Aboriginal cultural heritage surveys within the development envelope, undertaken in collaboration with Nyamal People. These surveys have informed the understanding of cultural heritage values and have supported the identification of areas of cultural significance. In addition, the available heritage information, including spatial data, has been used to inform the design of the Proposal, including the establishment of exclusion zones to avoid impacts to identified heritage values.

The details and locations of heritage sites identified during surveys are confidential. The status of Aboriginal heritage surveys across the development envelope is provided in **Figure 10.1**.



Scale: 1:110,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 11-Jun-2026
Project Number: 620.V00796

SLR

Earthstar Geographics
Drawn by: JWP

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ENVIRONMENTAL REVIEW DOCUMENT

CULTURAL HERITAGE SURVEY STATUS

FIGURE 10-1

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Cultural Heritage Survey Status

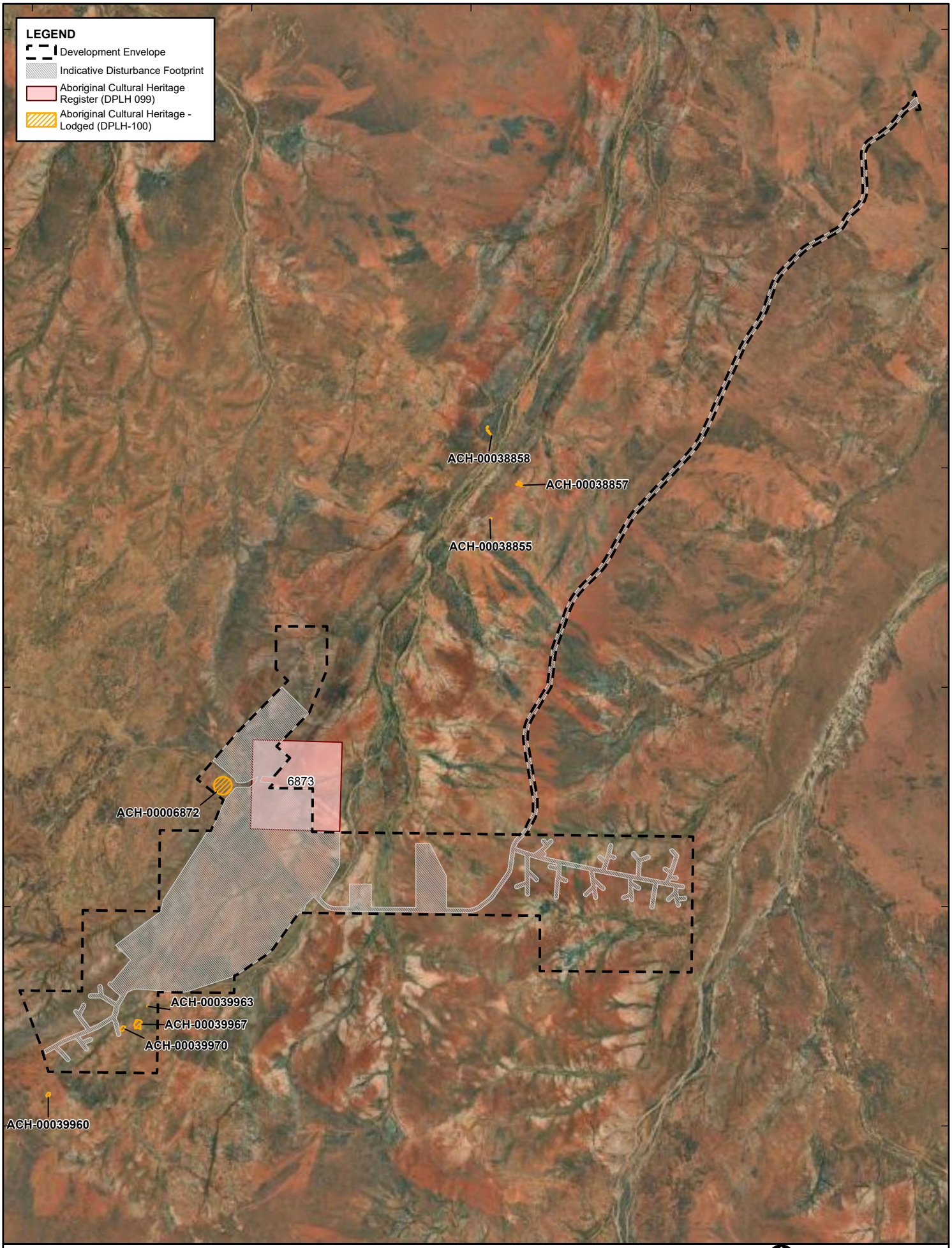
Aboriginal Cultural Heritage Sites

The search of the AHIS identified one registered Aboriginal site and four lodged sites located across the tenements associated with the development envelope, as detailed in **Table 10-3** and shown in Figure 10.2. The NAC has requested that the details and locations of heritage sites identified during surveys be kept confidential.

In addition to identified sites, Heritage Monitoring Zones have been established in consultation with NAC to manage any proposed ground disturbance in areas of cultural sensitivity. These zones provide an additional level of control and oversight during construction and operation.

Table 10-3 Aboriginal Heritage Sites

Type	Tenements Intersected	Place ID	Name	Description	Restrictions
Registered	M45/377 M45/376 M45/375 M45/354 G45/360	6873	Tabba Tabba	Ritual/Ceremonial	Yes No gender restrictions.
Lodged	M45/377 M45/354	6872	Tabba Tabba Creek Tributary	Artefacts / Scatter	No
Lodged	L45/915	39970	NJ2219-NCA01	Grinding areas / Grooves	No
Lodged		39967	NJ2219-NCA02	Grinding areas / Grooves	No
Lodged		39963	NJ2219-NCA03	Grinding areas / Grooves	No



SLR

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REGISTERED ABORIGINAL HERITAGE SITES

FIGURE 10-2

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig 10-1_Registered Aboriginal Heritage Sites

10.3.3 European Heritage

The Heritage Council of Western Australia maintains a State Register of Heritage Places under the *Heritage Act 2018* (WA). No Heritage Places are listed within the development envelope; the closest non-indigenous heritage sites are the Tantalite mine, 4.2km west, and Wallareenya Station, 5.5km southwest of the development envelope:

- Place 18417: The Tantalite mine is abandoned, and its significance mostly remains as a representation of mine ventures in the 1940s.
- Place 18416: Wallareenya Station is significant for the World War II associations as one of the first stages of departure during Port Hedland's evacuation from the threat of Japanese bombing in 1942.

10.3.4 Social and Land Use

The Proposal is primarily located within the Wallareenya Station pastoral lease, with the proposed access road and a portion of the eastern borefield situated within the Strelley Station pastoral lease.

The development envelope is located in an area of gently undulating terrain typical of the Pilbara region. Elevation across this area ranges from approximately 95 to 146m AHD, with adjacent areas ranging from approximately 75 to 176m AHD.

Land use in the surrounding area is characterised by low-intensity pastoral activities, limited infrastructure, and a very low density of sensitive receptors. The nearest residence is located approximately 18km from the centre of the proposed development envelope, and the nearest notable public road is the Marble Bar Road, which runs from the town of Marble Bar to the Great Northern Highway. A groundwater bore located southeast of the proposed pit is currently used by pastoralists for stock watering.

Access to the Proposal is currently via Wallareenya Road. This road is an unsealed track primarily used to for access to the Wallareenya Station homestead. It is subject to periodic flooding, includes multiple creek crossings and is intersected by the indicative disturbance footprint. A new site access road has therefore been designed further to the east to improve safety, reliability and separation from operational areas.

A portion of the existing Wallareenya Road is proposed to be closed and de-gazetted due to being intersected by a proposed mine pit.

10.4 Proposed mitigation

Mitigation measures for potential impacts to social surroundings have been developed in accordance with the mitigation hierarchy of avoid, minimise and rehabilitate.

Avoid

The Proposal has been designed to avoid significant impacts to social surroundings where practicable by:

- Establishing exclusion zones to protect identified Aboriginal cultural heritage values in consultation with NAC, informed by heritage surveys and the Native Title Agreement.
- Iterative design of the site access road alignment to avoid Aboriginal cultural heritage sites and maintain separation from areas of cultural sensitivity, while also reducing potential dust.

- Committing to no ground disturbance in unsurveyed areas, supported by a ground disturbance permit system and ongoing heritage surveys.
- Avoiding noise impacts to external sensitive receptors, as demonstrated by the Environmental Noise Assessment (SLR, 2026b) which predicted noise levels at external receptors comply with the *Environmental Protection (Noise) Regulations 1997*.
- Iterative refinement of infrastructure layout, informed by the Environmental Noise Assessment (SLR, 2026b), including relocation of the accommodation village further north and away from the access road to avoid higher noise exposure areas identified in noise contours.
- Avoiding impacts to external sensitive receptors for dust, TSP, PM_{10} and $PM_{2.5}$ as demonstrated through the Air Quality Assessment (SLR, 2026a).

Minimise

The proposal incorporates a range of design and operational measures to minimise impacts to amenity (noise, dust, and visual) and cultural values:

- Ongoing engagement with the Nyamal People.
- Implementation of Heritage Monitoring Zones, agreed with the NAC, to manage ground disturbance activities in areas of cultural sensitivity.
- Incorporation of heritage survey outcomes into Proposal design to minimise disturbance.
- Implementation of heritage clearance processes and ground disturbance permits prior to any disturbance activities.
- Consideration of surrounding topography and elevation to inform landform design. Mine landforms (including the TSF and WRLs) have been designed with reference to the local elevation range; the highest point in the surrounding area is at 176m AHD, with the plains at 100 - 110m AHD. Proposed landform heights (approximately 70 - 80m) are consistent with, and do not exceed, the vertical scale of the surrounding landscape.
- Access agreements for exploration and mining activities with both pastoral leaseholders will manage impacts to existing pastoral activities. This includes measures to mitigate any impacts to bores affected by the Proposal.
- An agreement has been reached between Wildcat and the affected pastoral leaseholder regarding the proposed closure of a section of Wallareenya Road. The agreement provides alternative property access via the proposed new site access road. At mine closure, this new access road is intended to be transferred to the relevant local government as a permanent replacement for the existing Wallareenya Road.
- Use of distance separation and natural attenuation (including topography) between major noise-generating infrastructure and sensitive receptors (e.g. Wallareenya Homestead), incorporated into Proposal layout design.
- Village layout optimisation, including internal buffering to further reduce noise exposure.
- Operational controls, including equipment selection, maintenance, and management of vehicle movements to reduce noise emissions at source.

- Management of blasting activities to comply with applicable noise and air blast criteria.
- Mine landforms (including the TSF and WRLs) have been designed to integrate with the existing landform profile, minimising visual prominence.
- Progressive shaping and contouring of WRLs to create naturalistic landforms and reduce visual contrast.
- Implementation of industry-standard dust suppression measures (e.g. water carts, progressive rehabilitation, and management of exposed surfaces), such that dust emissions remain localised to the Proposal and do not affect external sensitive receptors, consistent with modelling results.

Rehabilitate

Proposed rehabilitation measures are outlined in the Conceptual Mine Closure Plan (**Appendix F**). Rehabilitation and mine closure will be planned, implemented and verified in accordance with the requirements of the Mining Act, regulated by DMPE throughout the life of mine.

Typical rehabilitation measures relevant to social surroundings include:

- Progressive rehabilitation of disturbed areas during operations to reduce the duration and extent of visual and dust impacts.
- Recontouring and profiling of mine landforms (including the TSF and WRLs) to achieve stable, non-erodible and naturalistic landforms that integrate with the surrounding topography.
- Surface treatment and revegetation, where appropriate, to stabilise landforms and reduce visual contrast with the surrounding landscape.
- Decommissioning and removal of infrastructure that is no longer required at closure.
- Implementation of closure measures to achieve safe, stable, non-polluting and sustainable landforms, consistent with the intended post-mining land use.

10.5 Potential Impacts

10.5.1 Identified Impacts

Potential impacts on Social Surroundings were identified through a review of the receiving environment, stakeholder engagement, and technical studies undertaken for the Proposal. Identified impacts and their relevance to the Proposal are detailed in **Table 10-4**.

Table 10-4 Identified Environmental Impacts

Identified Potential Impacts	Relevant to this Proposal	Rationale
Disturbance to Aboriginal cultural heritage values	Yes	Ground disturbance activities have the potential to impact Aboriginal cultural heritage values. This is a key consideration informed by consultation with the Traditional Owners and heritage processes.
Disturbance to non-aboriginal cultural heritage values	No	No registered non-indigenous heritage sites have been identified in the proposed development envelope.

Identified Potential Impacts	Relevant to this Proposal	Rationale
Noise emissions affecting amenity at nearby receptors	Yes	Noise emissions from construction and operations (e.g. processing plant, haulage, power generation and blasting) have the potential to affect amenity at nearby receptors, including Wallareenya Homestead and the accommodation village.
Visual amenity impacts from mine infrastructure and landforms (including TSF and WRLs)	Yes	The scale, extent and elevation of mine infrastructure and landforms have the potential to alter the visual character of the local landscape and be visible from surrounding areas.
Dust emissions affecting amenity	Yes	Dust generated from construction and operational activities (e.g. haul roads, material handling and landforms) has the potential to affect amenity at nearby receptors.
Noise impacts on distant or highly remote receptors	No	Due to the remote location of the Proposal and separation distances to receptors beyond the immediate area, this impact pathway is unlikely to result in measurable changes to amenity and is not considered to require detailed assessment.
Visual impacts on the broader regional landscape	No	Visual impacts are expected to be localised due to distance, scale and topography. Broader regional landscape character is unlikely to be materially affected.
Impacts on public access or social infrastructure	No	The Proposal is located in a remote area and is not expected to materially affect public access, infrastructure or community cohesion. Access for the pastoral leaseholder will be maintained via the new Site Access Road.

10.5.2 Predicted Impacts

Predicted impacts on Social Surroundings have been assessed for relevant impacts, including those on Aboriginal cultural heritage, noise, visual amenity and dust levels. A summary of predicted impacts is provided in **Table 10-5**, with further detail on predicted impacts provided in the subsequent pages of this section.

Table 10-5 Predicted Impacts to social surrounds

Identified Impact	Predicted Impact of the Proposal	Data Certainty
Disturbance to Aboriginal cultural heritage values	Direct disturbance to Aboriginal cultural heritage values within the development envelope associated with ground disturbance activities.	Moderate to High.
Noise emissions affecting amenity at nearby receptors.	Noise generated from construction, operational and blasting activities, with potential to affect nearby receptors, including Wallareenya Homestead and the accommodation village.	High
Visual amenity impacts from mine infrastructure and landforms (including TSF and WRLs)	Visible alteration of local landscape character, with WRLs visible from sections of nearby public road (Marble Bar Road) and potentially from the nearest residence (Wallareenya Homestead).	High
Dust emissions affecting amenity	Dust generated from construction and operational activities within the Proposal area, with the potential to affect amenity at nearby receptors (e.g., accommodation village, site infrastructure, and nearby roads).	High

10.5.2.1 Aboriginal Cultural Heritage Values

The extent of direct impact is defined by the disturbance footprint of the Proposal. Known heritage areas are avoided where possible in Proposal design, including the establishment of exclusion zones, Heritage Monitoring Zones, and heritage clearance processes. Where cultural heritage sites cannot be fully avoided, proposed disturbance will only occur with the informed consent of the NAC and following the grant of necessary approvals under the AH Act.

As a result, impacts are expected to be limited to areas approved for disturbance and managed in accordance with statutory requirements and agreed processes with NAC.

Indirect impacts, such as reduced access or changes to cultural landscape values, are managed through ongoing consultation and implementation of heritage management processes.

10.5.2.2 Noise

The Environmental Noise Assessment (SLR, 2026b) considered noise emissions from mining operations, including blasting, traffic and processing. Predictions were made using SoundPLAN modelling based on proposed infrastructure, equipment, terrain, and meteorological conditions consistent with regulatory guidance. Baseline noise conditions were characterised based on typical regional conditions, and additional monitoring was deemed unnecessary due to the absence of significant existing noise sources.

Predicted noise levels at the Wallareenya Homestead (approximately 18km from the Proposal) and the proposed accommodation village were modelled. The mine village is not considered a sensitive receptor for the purpose of assessing impacts to social surroundings; however, it has been included to inform design and occupational health management.

Modelled results are presented in **Table 10-6** and **Table 10-7**, and **Figure 10.3** and **Figure 10.4**.

Table 10-6 Predicted Mining Noise Emissions

Sensitive Receptor	Night-time Design Criteria LA10 dB	Predicted night-time noise emission, LA10 dB
Wallareenya Homestead	35	20
Village Mine Camp	35	39 - 45

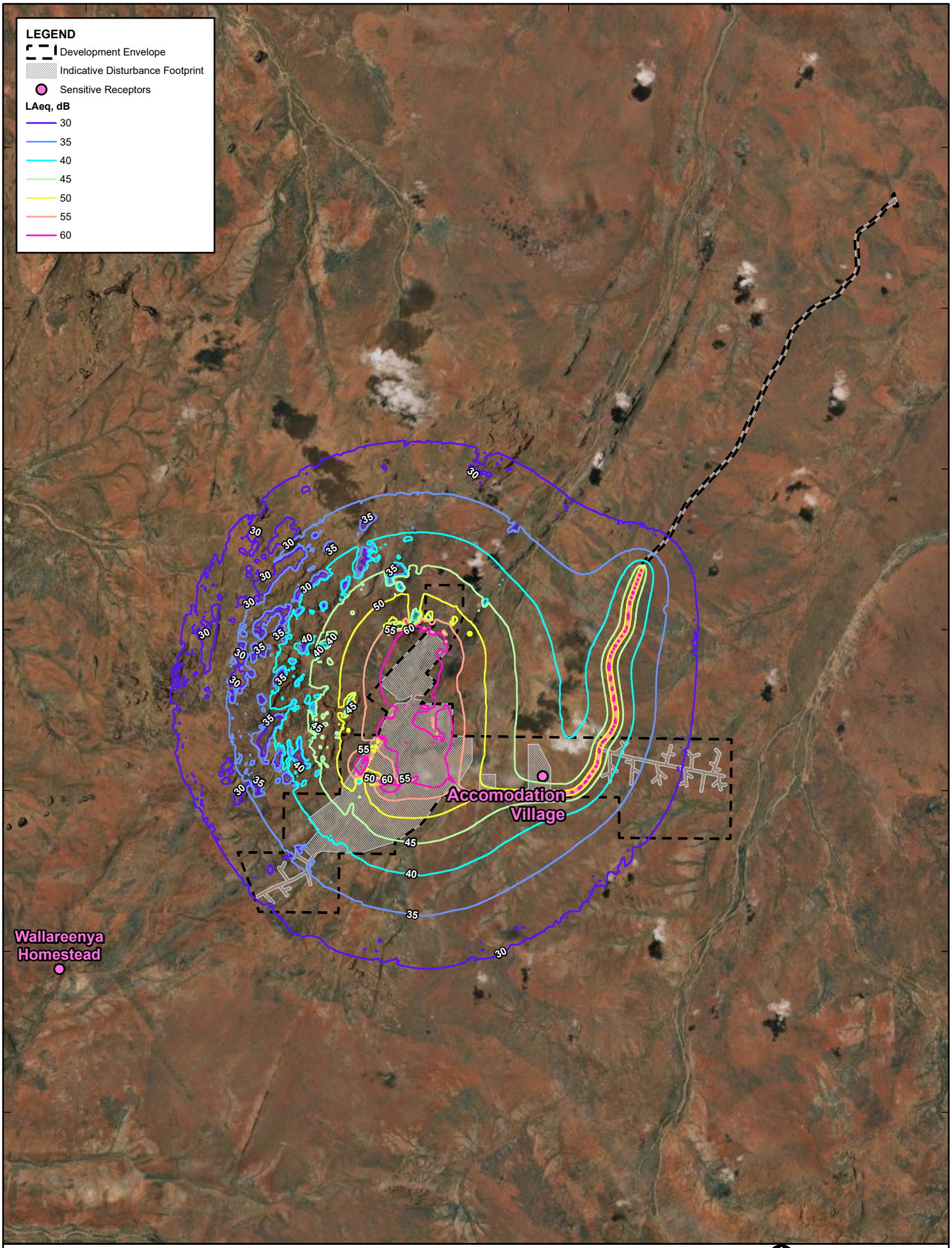
Table 10-7 Predicted Airblast Overpressure Noise Levels

Sensitive Receptor	Airblast Design Criteria Lz peak dB	Predicted Airblast Noise Level (worst case) LZ peak dB
Wallareenya Homestead	115	97
Village Mine Camp	115	109

Predicted operational noise levels at Wallareenya Homestead are approximately 20 LA10 dB, well below the assigned night-time level of 35 LA10 dB. Airblast levels are also below criteria (~97 LZ peak dB), and noise is unlikely to be audible at the homestead.

At the accommodation village, predicted noise levels range between approximately 39 and 45dB, influenced by haul road traffic.

Overall, the noise environment is characterised by low baseline levels, large separation distances, and predicted compliance with the *Environmental Protection (Noise) Regulations 1997*, and the assessment methodology is consistent with applicable guidance.


690,000
695,000
700,000
705,000
710,000
715,000
7,730,000
7,725,000
7,720,000
7,715,000
7,710,000
7,705,000
7,700,000
LEGEND
Development Envelope
Indicative Disturbance Footprint
Sensitive Receptors
LAeq, dB
30
35
40
45
50
55
60
Accomodation Village
Wallareenya Homestead
0 1 2 km
Scale: 1:150,000 at A4
Coordinate System: GDA2020 MGA Zone 50
Date Drawn: 02-Jun-2026
Project Number: 620.V00796
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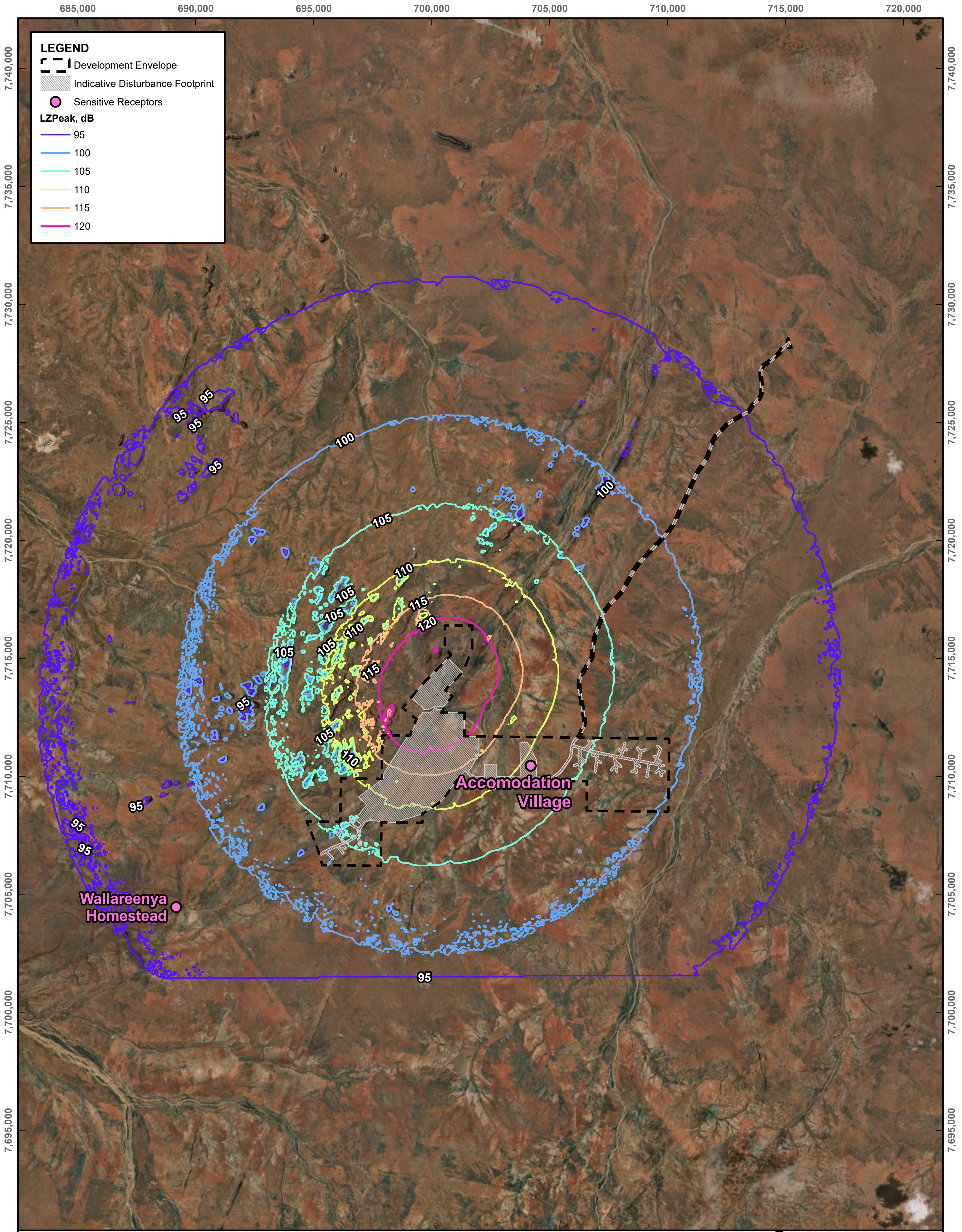
MINING CUMULATIVE PREDICTED NOISE CONTOURS, LAEQ, DB
FIGURE 10-3
Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NES/DS/NMA,GeodataResearch,GA/Sc and the GIS User Community, Earthstar Geographics, WP
DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.
Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X_Mining Cumulative Predicted Noise Contours, LAeq, dB



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Scale: 1:200,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 26-May-2026
Project Number: 620.V00796

SLR

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PREDICTED AIRBLAST NOISE CONTOURS, LZPEAK, DB

FIGURE 10-4

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X Predicted Airblast Noise Contours LZpeak dB

10.5.2.3 Visual Amenity

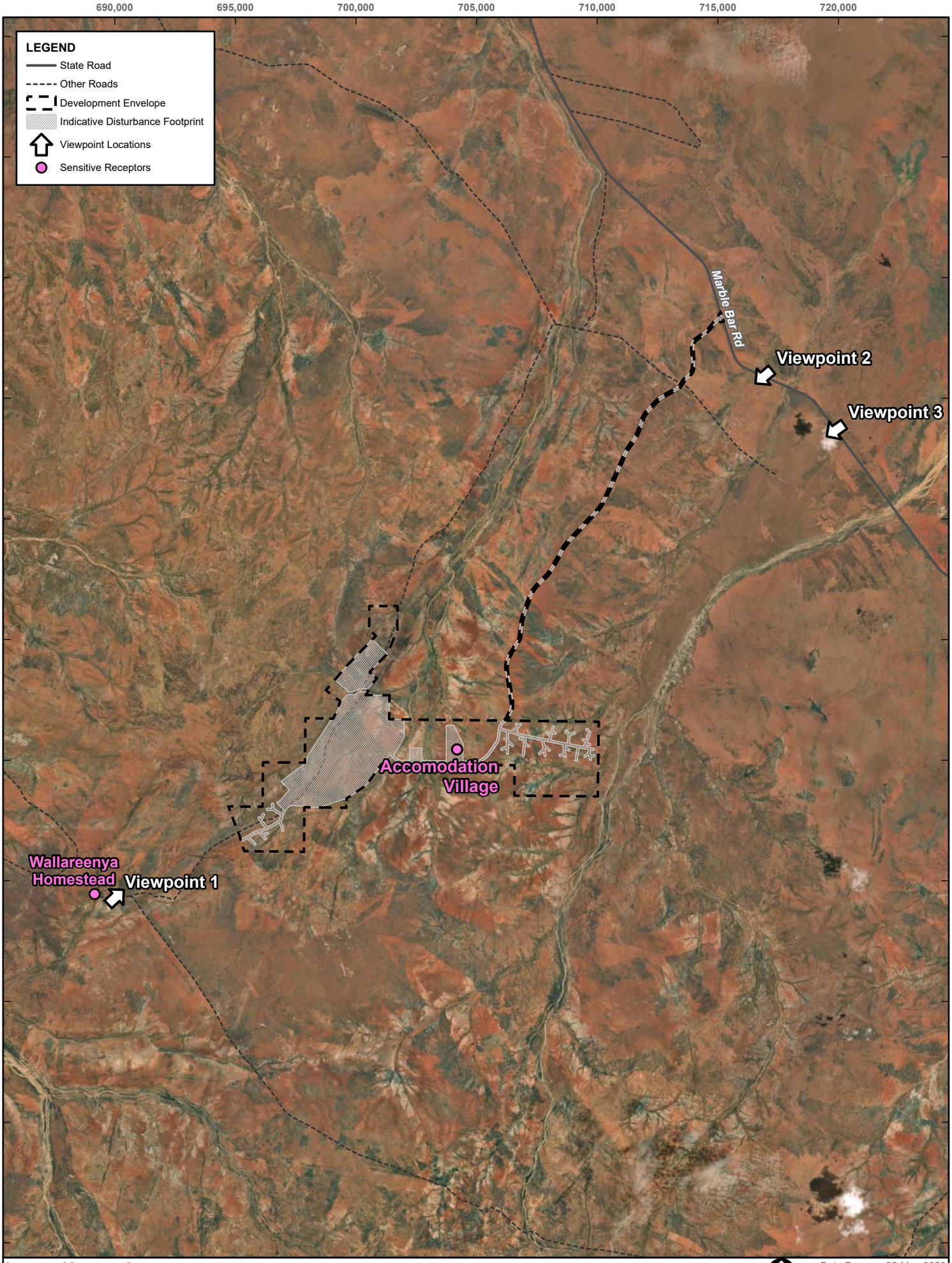
A visual impact assessment was undertaken to characterise potential changes to the landscape associated with the development of permanent landforms. The assessment identified key viewpoints, including Wallareenya Homestead and locations along Marble Bar Road, shown in **Figure 10.5**. Line-of-sight analysis was applied using detailed topographic data and field photography (captured at an eye height of approximately 1.5m). Visual representations (photomontages) of the final landform configuration were prepared to illustrate the extent and appearance of the proposed WRLs from these locations.

The results, summarised in **Table 10-8** and shown in **Plate 3-1** to **Plate 10-3** indicate that WRLs will be visible from sections of Marble Bar Road, where they may be perceived as low, continuous landforms on the horizon. From Wallareenya Homestead, visibility is expected to be slight to negligible, reflecting the separation distance and partial screening provided by intervening terrain. The assessment further indicates that the magnitude of visual change is low at Wallareenya Homestead and low to moderate at locations along Marble Bar Road, reflecting the degree of visibility, viewing distance and sensitivity of each receptor.

The photomontages demonstrate that, although the Proposal will introduce new landforms into the landscape, their form, height and extent remain broadly consistent with the surrounding topographic context. As a result, changes to visual amenity are expected to be localised and not prominent within the broader landscape setting.

Table 10-8 Visual Amenity Impacts at Socially Significant Sites

Site ID	Site	Type	Plate reference	Impact
1	Wallareenya Homestead	Residence	**Plate 10-1**	Negligible visual impact of Proposal due to distance from receptor and partial topographic/vegetative screening.
2	Marble Bar Road	Public road	**Plate 10-2**	Low visual impact of Proposal due to distance from receptor. WRLs seen as low, continuous landforms on the horizon. Proposal is not expected to be prominent in views.
3	Marble Bar Road	Public road	**Plate 10-3**	Negligible visual impact of Proposal due to distance from receptor and partial topographic/vegetative screening.



0 2.5 5 km

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Coordinate System: GDA2020 MGA Zone 50

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Project Number: 620.V00796

SLR

Earthstar Geographics
Drawn by: JWP

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LOCATION OF VISUAL ASSESSMENT VIEWPOINTS

FIGURE 10-5

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X Location of Visual Assessment Viewpoints

Plate 10-1 Line of Sight Assessment – Site 1 - Wallareenya Homestead

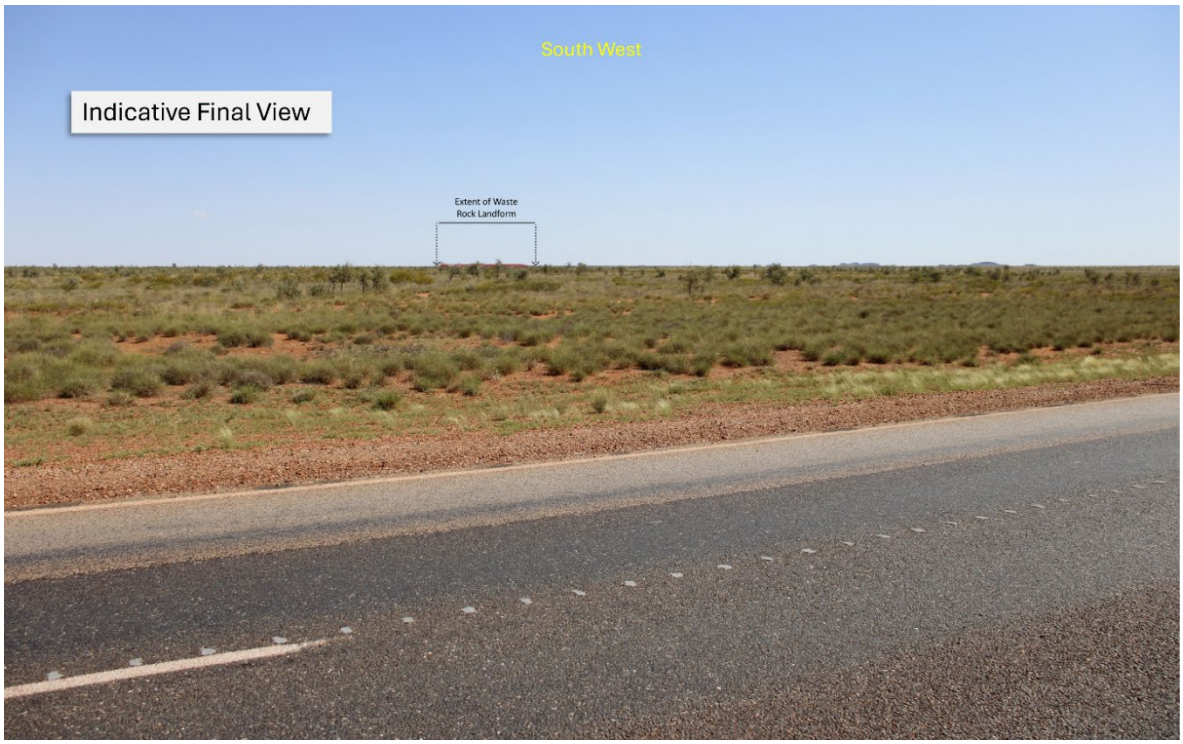


Plate 10-2 Line of Site Assessment - Site 2 – Marble Bar Road

Plate 10-3 Line of Sight Assessment – Site 3 – Mable Bar Road

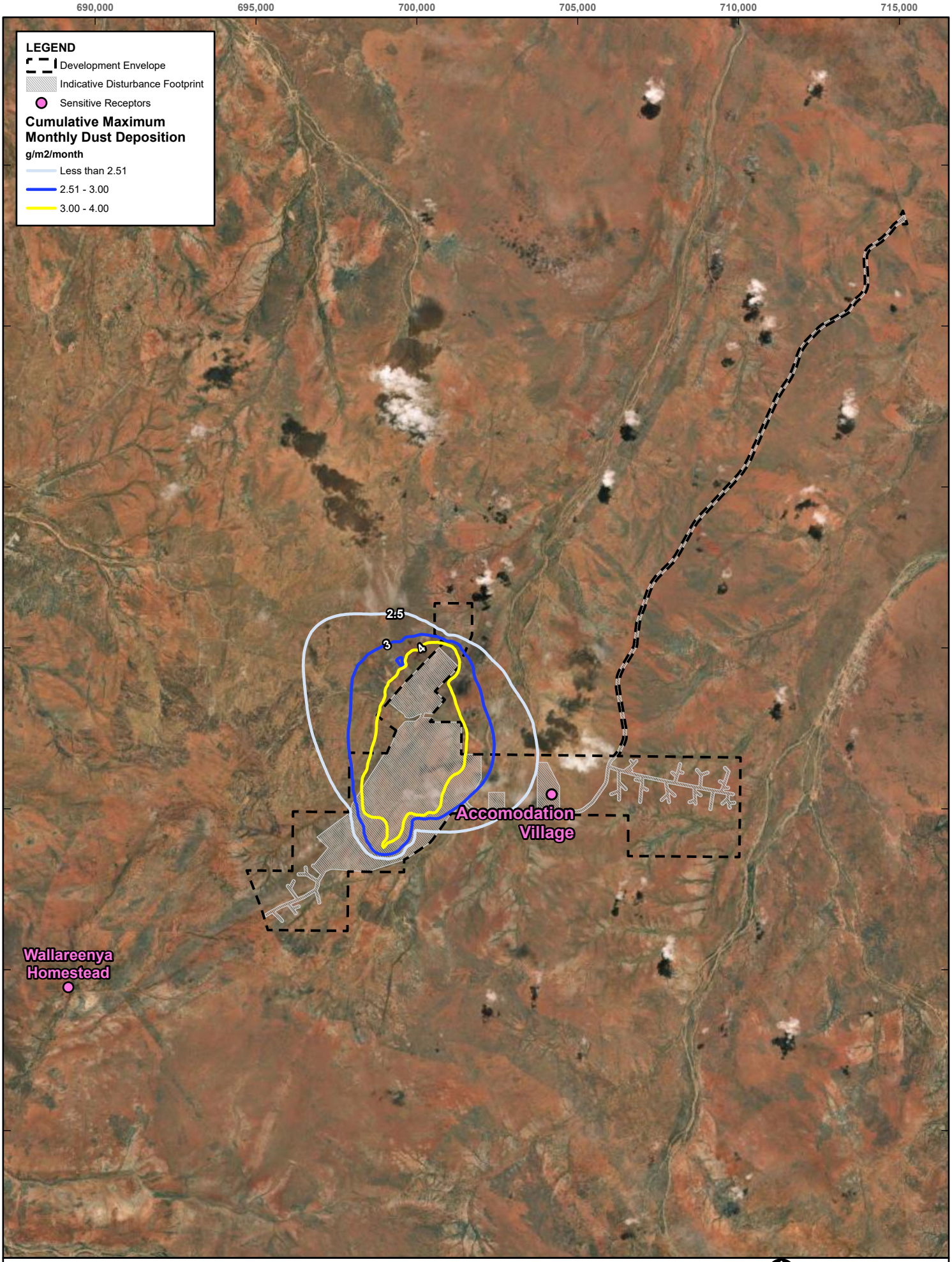
10.5.2.4 Dust

The potential for dust impacts on Social Surroundings was assessed in the Air Quality Impact Assessment (AQIA) undertaken by SLR Consulting, which characterised particulate emissions associated with the Proposal, including TSP, PM_{10}, and $PM_{2.5}$. The AQIA developed a site-specific emissions inventory and applied dispersion modelling using the TAPM/CALMET/CALPUFF suite to predict ground-level concentrations and dust deposition rates. Predicted deposited dust concentrations are shown in **Figure 10.6**.

The AQIA indicates that dust emissions will be highest near disturbance areas, such as haul roads and active mining areas, and will decrease with distance due to dispersion and deposition. Under conservative worst-case assumptions, elevated particulate concentrations may occur proximate to the development envelope. The AQIA indicates that $PM_{2.5}$ may exceed criteria within approximately 500m to 1.5km of the development envelope, and PM_{10} and TSP may exceed criteria up to approximately 6km from the development envelope. Deposited dust is generally compliant beyond the development envelope, with slight exceedances predicted close to pit areas.

No offsite sensitive receptors were identified within the primary receptor screening area adopted in the AQIA, and no material impacts are expected at identified offsite sensitive receptors, including Wallareenya Homestead. However, elevated dust levels may occur at the on-site accommodation village due to its proximity to operational areas and haul roads. As the accommodation village is an on-site workforce facility rather than an offsite sensitive receptor for environmental assessment purposes, this is considered a health and safety/operational matter and will be managed separately through site-specific controls and relevant approvals.

The receiving environment is therefore characterised by low potential for off-site dust impacts, with emissions expected to be localised to the Proposal area. Further discussion of dust implications is presented in **Appendix B-3**, and detailed results are presented in the Air Quality Assessment (**Appendix C-15**).



0 1 2 km

Scale: 1:150,000 at A4
Coordinate System: GDA2020 MGA Zone 50

Date Drawn: 08-Jun-2026
Project Number: 620.V00796

SLR

Earthstar Geographics
Drawn by: JWP

DISCLAIMER: All information within this document may be based on external sources. SLR Consulting Pty Ltd makes no warranty regarding the data's accuracy or reliability for any purpose.

TABBA TABBA PROJECT ENVIRONMENTAL REVIEW DOCUMENT

PREDICTED CUMULATIVE 30-DAY DEPOSITED DUST CONCENTRATIONS

FIGURE 10-6

Path: H:\Local Resources\Mining Advisory\ADVGIS\03-Projects\Australia-WA\TabbaTabbaLithium\ADVAU00796\01-ESRI\ADVAU00796.aprx\ERD Fig X-X Predicted cumulative 30-day deposited dust concentrations

10.6 Assessment of Significance of Residual Impacts

10.6.1 Proposal

This section brings together the receiving environment, predicted impacts and proposed mitigation measures to assess whether residual impacts on Social Surroundings are significant. The assessment considers the physical changes associated with the Proposal and the consequences those changes may have for the affected environmental values in local and regional contexts.

Residual impacts have been assessed following the application of the mitigation hierarchy, including avoidance, minimisation and rehabilitation measures. The assessment of significance is presented in **Table 10-9** Assessment of Residual Impacts to Social Surroundings.

Table 10-9 Assessment of Residual Impacts to Social Surroundings

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Direct		
Disturbance to Aboriginal cultural heritage values	• Establish exclusion and monitoring zones to protect and manage significant Aboriginal cultural heritage values • Incorporate heritage survey outcomes into detailed design to avoid or minimise disturbance where practicable. • Implement heritage clearance processes and ground disturbance permit procedures prior to disturbance. • Ongoing consultation and engagement with the NAC. • Where heritage sites cannot be fully avoided, disturbance will only occur with informed consent of the NAC and following the grant of necessary approvals under the AH Act.	**Residual impact is not considered significant:** Direct impacts are expected to be limited to areas approved for disturbance and managed in accordance with statutory requirements and agreed processes with NAC. The Proposal has been designed to avoid and minimise impacts to known heritage values where practicable, supported by exclusion zones, Heritage Monitoring Zones, heritage clearance procedures and ongoing engagement with NAC.
Noise emissions affecting amenity at nearby receptors.	• Operational controls, including equipment selection, maintenance, and management of vehicle movements to maintain compliance with applicable noise criteria. • Management of blasting activities to comply with applicable noise and air blast criteria. • Iterative refinement of infrastructure layout, including relocation of the accommodation village further north and away from the access road.	**Residual impact is not considered significant:** Predicted operational noise levels at Wallareenya Homestead are well below applicable criteria and predicted airblast levels also comply. Potential noise impacts at the accommodation village are recognised, but the village is not considered an off-site sensitive receptor for Social Surroundings and will be managed through Proposal design and occupational health measures. Residual amenity impacts from noise are expected to be localised to the immediate vicinity of the Proposal.
Visual amenity impacts from mine infrastructure and landforms (including TSF and WRLs)	• Mine landforms (including the TSF and WRLs) have been designed to integrate with the existing landform profile, minimising visual prominence. • Progressive shaping and contouring of WRLs to create naturalistic landforms and reduce visual contrast. • Progressive rehabilitation and closure works to reduce long-term visual contrast.	**Residual impact is not considered significant:** The Proposal will have negligible to low visual impact on sensitive receptors. From Wallareenya Homestead, visual impact is expected to be slight to negligible, and from Marble Bar Road, WRLs are expected to be seen as low, continuous landforms on the horizon. Residual visual amenity impacts are expected to be localised and not prominent in the broader landscape setting.

Potential Impacts	Mitigation Measures	Predicted Outcomes / Residual Impact
Dust emissions affecting amenity	• Implement industry-standard dust suppression measures, including water carts, management of exposed surfaces, traffic management and progressive rehabilitation. • Manage dust-generating activities, particularly near haul roads and active mining areas. • Continue refinement of site design and operational controls informed by the AQIA. • Manage dust at the accommodation village separately through site-specific controls and relevant health and safety / operational measures.	**Residual impact is not considered significant:** The AQIA indicates that particulate concentrations may be elevated near disturbance areas under conservative worst-case assumptions; however, no material impacts are expected at the identified offsite sensitive receptors, including Wallareenya Homestead. Elevated dust levels may occur at the on-site accommodation village, but this is considered a workforce health and safety/operational matter rather than an off-site Social Surroundings impact and will be managed in accordance with workplace health and safety obligations. Residual dust-related amenity impacts are expected to be localised.

10.6.2 Cumulative Impacts

Potential cumulative impacts to Social Surroundings would arise where the Proposal interacts with other existing or reasonably foreseeable developments in the locality.

The land use surrounding the Proposal is predominantly pastoral, with a low density of sensitive receptors and limited sources of industrial emissions. Based on available information, no nearby mining or industrial developments have been identified that would result in overlapping or interacting impacts to social surroundings.

Accordingly, the potential for cumulative impacts is considered low, as outlined below:

- **Aboriginal cultural heritage values**: Impacts are managed through site-specific avoidance, consultation and heritage processes. In the absence of other identified developments in the locality, cumulative impacts to cultural heritage values are not expected.
- **Noise**: Predicted noise levels at external receptors are low and comply with applicable criteria with a substantial margin. Given the absence of other significant noise-generating developments in the locality, cumulative noise impacts are not expected.
- **Visual amenity**: The Proposal will introduce visible landforms into a predominantly pastoral landscape. Consistent with the visual assessment, changes to visual amenity are localised and vary depending on distance and receptor sensitivity. No other developments have been identified that would contribute to cumulative visual change within the surrounding landscape.
- **Dust**: Particulate concentrations are predicted to be highest near the Proposal and to decrease with distance due to dispersion and deposition. While elevated PM2.5, PM10 and TSP concentrations may occur proximate to the development envelope under conservative worst-case assumptions, no material impacts are expected at identified offsite sensitive receptors. In the absence of other significant dust-generating activities in the locality, cumulative dust impacts are not expected.

On this basis, cumulative impacts on social surroundings are not expected to be significant.

10.7 Environmental Outcomes

The Proposal has the potential to impact social surroundings through changes to amenity (noise, visual and dust) and disturbance to Aboriginal cultural heritage.

Amenity-related impacts have been assessed through technical studies and are expected to be localised and of low consequence, given the Proposal's remote location and the absence of nearby sensitive receptors. These impacts will be managed through design, operational controls and applicable regulatory frameworks.

Considering the proposed mitigation measures and likely residual impacts associated with the Proposal, the predicted environmental outcomes and objectives that apply to social surroundings are:

- No disturbance to Aboriginal cultural heritage sites in the development envelope, unless disturbance is authorised under the *Aboriginal Heritage Act 1972* (WA), in accordance with the Native Title Mining Agreement and informed by consultation with the NAC.
- Exclusion zones are established and maintained to protect identified Aboriginal cultural heritage values and areas of cultural sensitivity.

- Heritage Monitoring Zones, agreed with the NAC, are implemented to manage ground disturbance activities in areas of cultural sensitivity.
- Ongoing access to land for traditional use and custom by the Native Title party is maintained, subject to reasonable health and safety requirements.
- Adverse impacts to Aboriginal cultural heritage are avoided where practicable and otherwise minimised through Project design.
- Ongoing consultation and engagement with the NAC are undertaken for the life of the Proposal to support the protection and management of Aboriginal cultural heritage values.

There is a high level of confidence in achieving these outcomes, supported by established engagement with the NAC, completed and ongoing heritage surveys, the avoidance of known heritages sites through design, and the implementation of exclusion zones and ground-disturbance controls. As a result, the level of uncertainty is low.

Potential statutory decision-making processes available regulate potential impacts are detailed in **Appendix A**.

11 Offsets

The EPA's mitigation hierarchy has been applied throughout the design and assessment of this Proposal. Avoidance, mitigation and rehabilitation measures have been incorporated wherever practicable to reduce the extent and duration of predicted impacts on potential key environmental factors. Despite these measures, there may be some significant residual impacts associated with the Proposal.

In accordance with the EP Act, the WA Environmental Offsets Policy (2011), and the WA Environmental Offsets Guidelines (2014), the Proponent proposes to provide environmental offsets to counterbalance any significant residual impacts that cannot be further avoided or mitigated. The requirement for offsets will be confirmed through the EPA's assessment process.

The Proponent intends to meet any offset obligations through contributions to the Pilbara Environmental Offsets Fund (PEOF). This is consistent with the EPA's preference for strategic, regionally coordinated offset delivery in the Pilbara. The PEOF provides a mechanism for delivering landscape scale environmental benefits that align with regional conservation priorities, including the protection and management of threatened species habitat, rehabilitation of degraded areas, and improved ecological knowledge through targeted research and monitoring.

Should offsets be required, the Proponent will calculate the financial contribution in accordance with the PEOF's established methodology, including the application of the Offsets Assessment Guide where relevant. A final offsets package, including justification, calculations, and proposed timing of contributions, will be provided to the EPA for approval following completion of the environmental impact assessment and confirmation of the Proposal's residual impacts.

12 Matters of National Environmental Significance

12.1 Overview

This section has been written to be consistent with the EPBC Act. Therefore, the Proposal is referred to as the Proposed Action and matters of national environmental significance (MNES) are as defined under the EPBC Act.

The Proposed Action was referred to DCCEEW on 02 June 2026 as the following MNES have been identified as either occurring or having the potential to occur within the development envelope:

- Listed Threatened species and communities (sections 18 and 18A of the EPBC Act).
- Listed migratory species (sections 20 and 20A of the EPBC Act).

All other MNES defined by the EPBC Act were deemed to be 'not applicable' to the Proposed Action.

The referral of the Proposed Action is currently under assessment with an outcome of a decision pending. If the Proposed Action is determined to be a Controlled Action under the EPBC Act, the proponent will pursue separate Commonwealth and State environmental assessments.

This section provides an overview of the information provided to DCCEEW for their assessment.

12.2 Relevant Policy and Guidance

Relevant key polices and guidance for Matters of National Environmental Significance include:

- Significant Impact Guidelines 1.1 – Matters of National Environmental Significance (DoE, 2013).
- EPBC Act Policy Statement 3.21 - Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (DoEE, 2017).
- Various guidelines for EPBC Act listed species, and associated Species Profile and Threats (SPRAT).
- Approved conservation advice and/or recovery plans, where available, for each relevant MNES.

12.3 Existing Environmental Values Relevant to MNES

Table 12-1 lists the MNES either recorded within the survey area, or which have the potential to occur (Western Wildlife, 2026). It also provides a summary of the information submitted to DCCEEW in the Referral Supporting Document, including details on the relevant MNES and potential impacts of the Proposed Action.

Any relevant proposed avoidance and mitigation measures are outlined **in Section 0** and **1**.

Table 12-1 MNES Summary

MNES	Discussion
Fringed Fire-bush *Seringia exastia*	• Current status under EPBC Act – Critically Endangered. • Recently synonymised with *Seringia elliptica* after a taxonomic review. • Delisted under WA BC Act. Is currently under assessment for delisting under EPBC Act with an expected outcome in October 2026. • Species was assigned *Seringia exastia* name due to taxonomic nomenclature rules stating the oldest existing name is to be used. • Species is common and widespread, ranging over 2.6 millionkm^2 in northern and central Western Australia, South Australia and Northern Territory. • The species was not recorded within the development envelope.
Night Parrot *Pezoporus occidentalis*	• Current status under the EPBC Act – Critically Endangered. • No Night Parrot were recorded during field surveys. • Spinifex habitat is located within the Sandy Plain habitat, however consistent fires over the past 20 years have reduced its suitability for roosting and breeding for the Night Parrot. • For the majority of the study area, the vegetation is likely to be too heavily wooded to be favoured by the Night Parrot, which prefers open habitats.
Northern Quoll *Dasyurus hallucatus*	• Current status under the EPBC Act – Endangered. • Rocky Outcrop habitat identified as critical habitat, of which a maximum of 1ha is proposed to be impacted. • Northern Quoll recorded on multiple occasions across the survey area.
Greater Bilby *Macrotis lagotis*	• Current status under the EPBC Act – Vulnerable. • Not recorded during the survey. • Suitable habitat may be in the Sandy Plain habitat type, however Western Wildlife (2026) has determined that much of this habitat is of marginal quality for the Greater Bilby. This habitat type is most likely to be used for dispersal and unlikely to be regularly occupied and therefore not considered to be critical to the survival of the species. • Greater Bilby habitat is widespread and common throughout the Pilbara bioregion.
Ghost Bat *Macroderma gigas*	• Current status under the EPBC Act – Vulnerable. • Recorded via secondary evidence (scat, feeding remains) in a small cave in the Rocky Outcrops habitat classified as a nocturnal roost (not critical habitat), and a dead specimen on a pastoral fence. • No diurnal roosting habitat is present. • Foraging habitat includes all habitat types in the study area; however these are unlikely to be critical to the species.
Pilbara Leaf-nosed Bat *Rhinoceros aurantia (Pilbara form)*	• Current status under the EPBC Act – Vulnerable. • Not recorded during the survey. • All historical records are over 20km from the survey area. • No caves likely to support diurnal roosting were detected in the study area. From the data collected across two seasons, it appears that the study area does not regularly support the Pilbara leaf-nosed Bat, and no critical habitat is likely to be present.
Pilbara Olive Python *Liasis olivaceus barroni*	• Current status under the EPBC Act – Vulnerable. • Not recorded during the survey. • Habitats in the study area that are likely to be habitat critical for survival are the Major River and Rocky Outcrops habitats. • 1ha of Rocky Outcrops and 13ha of Major River habitat are proposed to be cleared.

MNES	Discussion
Grey Falcon *Falco hypoleucos*	• Current status under the EPBC Act – Vulnerable. • The Grey Falcon was recorded opportunistically 4km outside of the study area. • Potential critical breeding habitat is present in the Major River habitat, specifically in tall trees with existing nests. • 13ha of Major River habitat are proposed to be cleared.
Migratory Birds	• No Migratory species were recorded from within the survey area. • The Common Greenshank is also listed as Endangered, and the Sharp-tailed Sandpiper as Vulnerable. • Habitats that may be utilised by Migratory species include the Major River habitat type, and inundated claypans in the Sandy Plain habitat type. However, these habitats are unlikely to support either a nationally or internationally significant proportion of the individual species populations and are therefore not classified as critical habitat. • In addition, migratory species have a tendency for site fidelity, and as there have been no records within the development envelope, it is highly unlikely that species will utilise the area in the future.

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Appendix

Appendix A Legislative Context

A-1 Environmental Impact Assessment Process

A-2 Other Approvals and Regulations

A-3 Object and Principles of the EP Act

Appendix B Other Environmental Factors or Matters

B-1 Landforms

B-2 Terrestrial Environmental Quality

B-3 Air Quality

Appendix C Technical Studies

C-1 Hydrogeological Modelling Report (SLR, 2026c)

C-2 Hydrology Assessment Report (Carrick, 2025)

C-3 Aquatic Ecology Survey – Tabba Tabba Lithium Project (SLR, 2025)

C-4 Tabba Tabba Project Flora and Vegetation Assessment (Ecoscape, 2026)

C-5 Tabba Tabba Project Detailed Vertebrate Fauna Survey 2025 (Western Wildlife, 2026)

C-6 Dual Season Survey for Short Range Endemic Fauna for the Tabba Tabba Lithium Project, Northern Pilbara, Western Australia (Invertebrate Solutions, 2025)

C-7 Tabba Tabba Lithium-Tantalum Project – Subterranean Fauna Assessment (Rockwater, 2024)

C-8 Tabba Tabba Project – Subterranean Fauna Desktop Assessment and Baseline Survey (Bennelongia Envionmental Consultants, 2025)

C-9 Soils Characterisation (SES, 2024)

C-10 Tailings Characterisation (MWM, 2025b)

C-11 Waste Rock Geochemical Characterisation (MWM, 2025a)

C-12 TSF Pre-Feasibility Study Report (CMW Geosciences, 2025)

C-13 Environmental Noise Assessment Report (SLR, 2026b)

C-14 Greenhouse Gas Assessment (SLR, 2026d)

C-15 Air Quality Assessment Report (SLR, 2026a)

C-16 Interim Landform Assessment (MBS Environmental, 2026)

Appendix D Summary of Stakeholder Engagement Activities and Outcomes

Appendix E Conservation Significant Species Management Plan

Appendix F Conceptual Mine Closure Plan