Social Impact Assessment

Berrimah Freight Terminal Expansion Project

Aurizon Operations Limited

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0.1	25 September 2023	Loren Yallop		
0.2	17 November 2023	Astrid Ruban	Esther Diffey	Craig Smith
1.0	12 February 2024	Astrid Ruban	Esther Diffey	Craig Smith

Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Aurizon Operations Limited (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Acronyms and Abbreviations

AAPA	Aboriginal Areas Protection Authority
AARC	AustralAsia Railway Corporation
AFANT	Amateur Fishermen's Association of the NT
DCA	Development Consent Authority
DEPWS	Department of Environment, Parks and Water Security
DHAC	Darwin Harbour Advisory Committee
DIPL	Department of Infrastructure, Planning and Logistics
DITT	Department of Industry, Tourism and Trade
DRLUP	Darwin Region Land Use Plan 2015
EP Act	*Environment Protection Act 2019 (NT)*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*
IAIA	International Association for Impact Assessment
IAP2	International Association for Public Participation
KTECH	Keep Top End Coasts Healthy
LDC	Land Development Corporation (Larrakia)
LNAC	Larrakia Nation Aboriginal Corporation
MNES	Matters of National Environmental Significance
NLC	Northern Land Council
NT	Northern Territory
NTEPA	Northern Territory Environment Protection Authority
NTIBN	Northern Territory Indigenous Business Network
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan

1.0 Introduction

1.1 Project Description

Aurizon Operations Limited (Aurizon) is proposing the Berrimah Freight Terminal Expansion Project (the Project) which involves the extension of the existing Berrimah Freight Terminal at East Arm to create a larger terminal with an integrated logistics focus, which provides an ability to service both bulk and containerised freight, large container storage area and potential for warehousing or colocation with incumbent freight forwarders.

The Project is and expansion and intensification of existing uses on the site and is expected to include the following key components:

- Construction of seawall and land reclamation to create developable land above the level of overtopping by storm surge and sea level rise associated with climate change
- Construction of site stormwater management system, services and utilities and internal roads
- Construction of new container handling and storage hardstand on which mobile container handling equipment (e.g., rubber tyre gantry cranes or reach stackers) will be used for container loading and unloading activities
- Installation of new rail sidings and associated turnouts, drainage, communications and signalling infrastructure
- Construction of proposed train loadout facility
- Construction of new public road from the Berrimah Road / Wishart Road intersection to the new site entrance
- Development of individual sites (approximately 1.3 ha in area for each site) for customers to lease for the purpose of developing freight forwarding / distribution centres in the future.

Designated vehicle access roads around the facility will be designed to provide safe access to and from the hardstand area and the public road network by the design vehicle (B-Double).

In its operational phase, the Project site will be fully secured with fencing along the land boundary, security lighting, a CCTV monitoring system, a gatehouse, weighbridge and electronic gated access.

1.1.1 Location

The Project is located on part of 270 Berrimah Road, East Arm (Section 6082 Hundred of Bagot) and 330/338 Berrimah Road, East Arm (Section 5412/5411 Hundred of Bagot). The area is zoned RW – Railway and DV – Development under the NT Planning Scheme, which allows for major industries with strategic importance to the future economic development of the NT.

The Project area is approximately 6.5 km south-east of the Darwin CBD, approximately 2 km north-east of the East Arm Wharf and immediately adjacent to existing East Arm developments on the East Arm Peninsula.

The Project site currently supports areas of remnant intertidal mangrove habitat and cleared land and has a number of drainage lines flowing through into Bleesers Creek and Darwin Harbour.

The Project site location is provided on **Figure** 1.

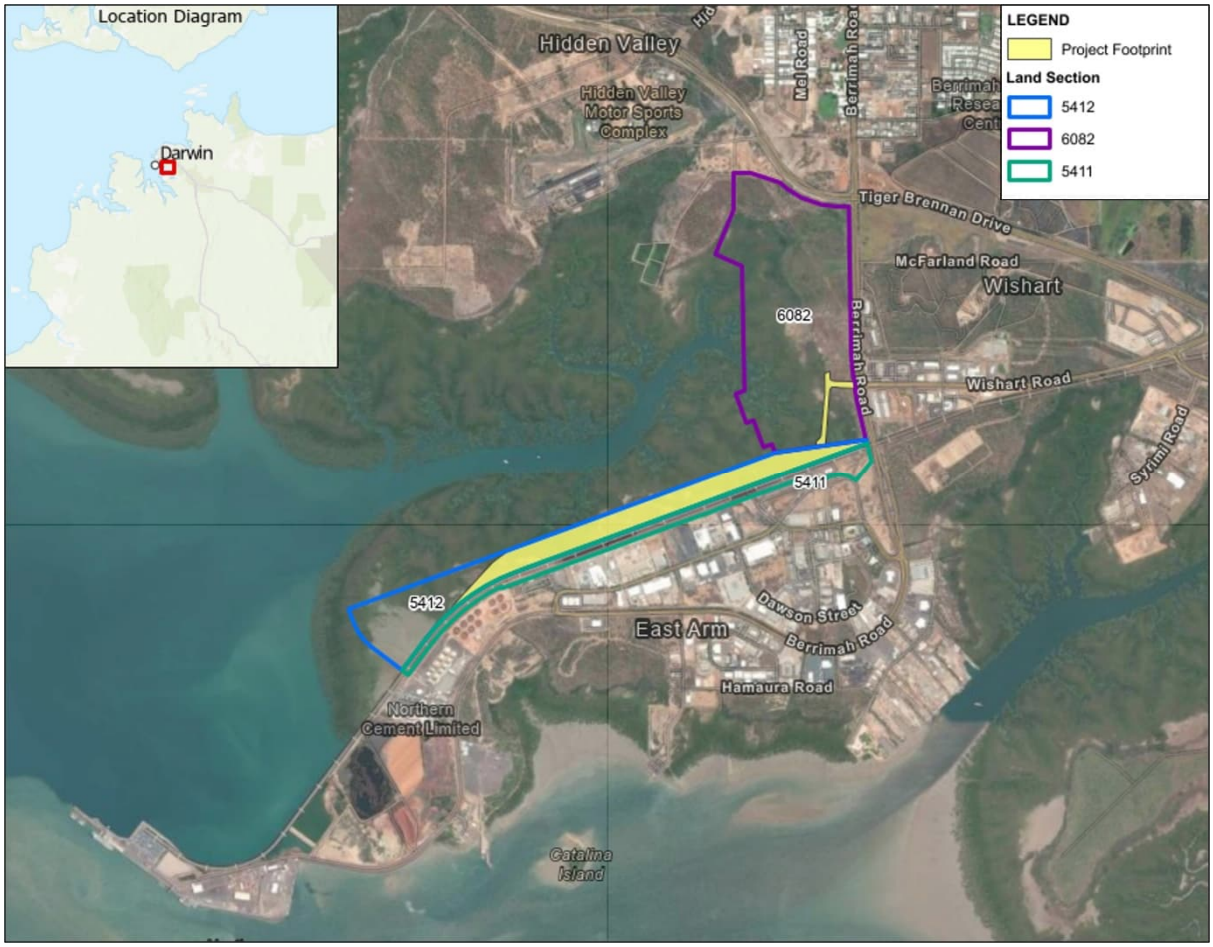


Figure 1 Project location

1.1.2 Construction phase

The construction phase is anticipated to take up to 12 months and will comprise several key activities that are listed below. It is anticipated that some of these activities will occur concurrently, however the methodology employed for the construction of the Berrimah Freight Terminal Expansion Project will be determined by the successful contractor engaged by Aurizon via a tender process.

- Establishment of site construction offices, amenities, materials lay-down areas and equipment compounds
- Site clearing and grubbing
- Transport of fill and materials
- Implementation of erosion and sediment control measures
- Sea wall construction and land filling
- Stormwater drainage and utilities installation
- Installation of rail infrastructure (formation, turnouts, sleepers, rail and ballast) and associated support infrastructure (signalling, lighting, communications etc.)
- Construction of hardstand area for container storage and handling
- Construction of vehicle access roads
- Installation of site fencing and security infrastructure (CCTV, gatehouse, weighbridge, etc).

The contractor awarded the construction packaged will also be responsible for management of various aspects of delivery including water, machinery, workforce, timeframes, traffic and access and environmental management.

Construction machinery and plant to be used for the Berrimah Freight Terminal Expansion Project are expected to be typical of large civil and rail construction projects. A list of typical plant and equipment likely to be used during the key construction activities is shown in **Table 1**.

Table 1 Plant and equipment likely to be employed during construction

Construction Activity	Plant and Equipment Required
Site investigation works	Drill rigs, backhoes, excavators, light/4WD vehicles
Site establishment works	Bulldozers, graders, excavators, dump trucks, rollers, low-loaders, light/4WD vehicles
Clearing and grubbing works	Bulldozers, excavators, dump trucks, chainsaws and mulchers
Seawall construction and bulk earthworks	Excavators, dump trucks, bulldozers, graders, rollers and water carts
Installation of stormwater drainage and other infrastructure	Excavators, backhoes, mobile-cranes, rollers, jackhammers, dump trucks, hand-held compactors, water carts and other small plant
Pavement and hardstand construction	Mobile concrete trucks/pumping trucks, excavators, backhoes, mobile-cranes, rollers, dump trucks, hand-held compactors, water carts and other small plant
Rail infrastructure works (tracklaying, signalling and communications)	Ballast train/wagons, rail delivery train/wagons, track laying machine, ballast tamper, thermite welding equipment, rail grinders, on-track machines, mobile-cranes and water carts

1.1.3 Operational phase

The facilities to be delivered by the Berrimah Freight Terminal Expansion Project are planned to be operational in 2028.

The expanded terminal will operate 24 hours a day, 7 days a week for 365/366 days per year, although there may be short periods of no train movements to/from the terminal associated with either Aurizon's scheduled rail maintenance activities or port shutdown periods, which will occur from time to time.

On-site operations will be consistent with existing site activities and will broadly include:

- **Rail operations** with increased train movements (from 1 per day to 3 per day) as a result of the proposed terminal expansion. Trains will be 1800 metres in length and propelled by two diesel electric locomotives (Class 4300 or 3000).
- **Container handling operations** including an expected increase in the total annual containers from 80,000 TEU (Twenty Foot Equivalent Units) at the existing terminal to 200,000 TEU at the expanded terminal. A theoretical maximum of 400,000 TEU could be handled at the expanded terminal within a year, which reflects the maximum throughput at the Port of Darwin based on the current quay line. This expanded capacity will be supported by additional mobile reach stackers.
- **Road operations** at the expanded Berrimah Freight Terminal will be consistent with the type of traffic currently accessing the East Arm area supporting port to rail interface and up to 50 movements per day. Road operations will incorporate heavy vehicle access (up to B-Double 25m long) in accordance with the existing NHVR classifications relevant to the road network to, from and within the East Arm area. Other typical external operation vehicle movements associated with the site would likely include:
    - prime mover plus semi-trailer and/or dog-trailer;
    - heavy rigid trucks (GVM: >8 tonnes);
    - light rigid trucks (GVM: >4.5 up to 8 tonnes);
    - fuel transport vehicles;
    - maintenance and trades vehicles; and
    - light vehicles and 4WDs driven by site personnel and site visitors.

1.1.4 Project timeframes

Construction

Construction is anticipated to commence in 2026 and is expected to take up to 36 months.

Operation

Berrimah Freight Terminal Expansion Project are planned to be operational in 2028. A design life of 50 years has been adopted for the Berrimah Terminal Expansion and it is anticipated that the expanded freight terminal will remain in active use into the long term, and evolve to meet changes in demand, technology and container handling requirements.

Decommission

Given this and at this early stage in the project planning, no rehabilitation or decommissioning of the Project site is envisaged to occur. However, in the event of the site being decommissioned, appropriate planning would be undertaken, and approvals sought, if necessary, ahead of closure activities.

1.1.5 Workforce

1.1.5.1 Construction

The Project is expected to create approximately 90 direct jobs during construction (subject to confirmation).

The workforce required for the construction of the Project is expected to be mainly drive-in/drive-out (DIDO) workers from the Darwin region. Some specialist rail construction workers from Aurizon will be fly-in/fly-out (FIFO) workers. It is expected that all construction personnel will reside in the Darwin region for the rostered period.

Once a design and construct (D&C) contractor is appointed, further assessment of the local labour market will take place, with a preference to be expected for available local DIDO workers for the bulk of the construction workforce.

It is anticipated that a typical roster will be adopted for the duration of the construction phase, with daily 12-hour shifts occurring between 06:30 and 18:30. However, this will be confirmed by the D&C contractor once appointed.

1.1.5.2 Operation

The project itself will directly support a small operational workforce of approximately 10 FTE to operate the facility (Aurizon staff). However, the expanded activities will support the creation of more jobs through additional leases and onsite processing capacity for lessees; estimated to be 235 FTE.

As with construction activities, it is anticipated that the operational workforce would draw from the Darwin regional labour market, supplemented with FIFO workers to addressed specialised skill gaps.

1.1.5.3 Indigenous participation

No specific commitments to Indigenous participation have been made in relation to this project. Aurizon is currently implementing its third Reconciliation Action Plan (RAP) which includes firm commitments towards enhanced opportunities for First Nations communities and people including:

- Improve employment outcomes by increasing Aboriginal and Torres Strait Islander representation, retention and career development
- Increase Aboriginal and Torres Strait Islander supplier diversity to support improved economic and social outcomes.
- Increase opportunities to support the next generation of Aboriginal and Torres Strait Islander employees move from school/ university to employment.
- Promote economic prosperity of Aboriginal and Torres Strait Islander peoples across our footprint.

1.2 Social Impact Assessment

Aurizon has elected to prepare a Social Impact Assessment (SIA) to inform project referrals.

An SIA identifies how the Project may affect local and regional communities, and what Aurizon will do to mitigate negative social impacts and enhance proposal benefits. The SIA will address issues that emerge from research and stakeholder consultation.

Social Impact Assessment

"A Social Impact Assessment includes the process of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment."

Source: International Association for Impact Assessment, Principles of SIA, (Vanclay 2003)

1.2.1 Objectives

This SIA has been prepared to support a detailed referral submissions to NT EPA. It has been prepared according to the Terms of Reference for the EIS (Northern Territory Environment Protection Authority, 2017) and the following leading practice guidelines:

- *Guidelines for the Preparation of an Economic and Social Impact Assessment* (Northern Territory Environment Protection Authority, 2013)
- *Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects* (Vanclay, et al., 2015).

The objectives of this SIA are to:

- Describe existing social, cultural and economic conditions in baseline conditions in the project's immediate footprint (East Arm Peninsula and adjacent areas of Darwin Harbour) and surrounds
- Identify potentially affected communities, having regard to all potential social impacts throughout the proposal's life (construction, operation and decommissioning)
- Describe the local and regional social context and how this may influence the experience or perception of impacts arising from the Project
- Predict and assess the likely significance of key potential positive and negative, direct and indirect, tangible and intangible, long and short-term social, cultural and economic impacts in the project's immediate and extended social area of influence
- Outline management plans, monitoring and reporting required to minimise detrimental impacts and enhance the benefits of the project
- Describe the actions Aurizon will undertake to avoid or reduce social impacts and enhance social benefits
- Produce recommended approach managing identified social impacts (Social Impact Management Plan) to:
    - outline proponent commitments and measures to alleviate or manage potentially negative impacts and enhance beneficial impacts arising from the Project
    - provide for ongoing monitoring and measurement to capture and adapt to emerging issues throughout the life cycle of the project.

1.2.2 Scope

In accordance with leading practice, the scope of this SIA is:

- **Temporal**: covering planning and approvals, construction and operations.
- **Spatial** (area of influence)**:** The spatial boundaries of the study are threefold:
  - the marine and terrestrial environments of the East Arm Peninsula potentially affected by construction and operations, including clearing, construction of the sea wall, etc.
  - potentially affected people and communities, particularly in the Greater Darwin Region municipalities of Darwin, Palmerston and Litchfield
  - the broader footprint of Darwin Harbour, where cumulative impacts may be experienced or feared.
- **Social and cultural connections:** The social area of influence takes in the Greater Darwin Region catchment area for workers and procurement. The social area of influence includes all Larrakia people, who maintain social and cultural connections with the land and seas potentially affected by the project.
- **Economic**: direct and indirect economic benefits for the communities and towns close to the project area and the greater Darwin region.

1.2.3 Scale of investigation

The proposed Project is in accord with its industrial zoning and existing activities on East Arm Peninsula. As such, a low-scale SIA has been deemed an appropriate level of assessment. Rather than duplicating other relevant technical studies, the SIA cross-references these.

Desktop assessments have been used to profile the existing social zone of influence, current land use, change processes likely to be invoked by the project, people and communities affected by these changes and issues that may be of concern or interest.

1.2.4 Limitations

This Social Impact Assessment is based on desktop research, an initial scoping exercise, client input, a literature review of relevant policies, projects and academic papers and targeted consultation with key stakeholders. While SLR Consulting Australia Pty Ltd (SLR) has applied its best efforts to produce a reliable and accurate study based on ethical research methodology, some limitations of this SIA are:

- Project information and detail will continue to evolve and be refined through subsequent investigative and approval phases. This assessment is based on information available as of November 2023 either provided to SLR by Aurizon or publicly available.
- Social impacts are, by their nature, variable and subjective.
- Stakeholder consultation undertaken in this referral phase was conducted by SLR's project lead. A summary of consultation and outcomes was provided to inform this assessment, however the author is this SIA did not participate directly stakeholder meetings. All efforts have been made to ensure that stakeholder feedback is collected and considered in completeness.
- Economic assessment is being conducted separately and is not part of this SIA
- A detailed project program/timeline and definitive data regarding projected workforce numbers and likely skills needed for construction and operation were not available at the time of writing.
- This assessment and its recommendations should be revisited and revised, as required, as project plans are further refined and as more detailed information becomes available.

1.3 Standards and Statutory Framework

1.3.1 Legislation

An overview of legislation relevant to the proposal and the preparation of the SIA is provided in **Table 2**.

Table 2 Relevant legislation

Title	Description and relevance
Environment Protection Act 2019 and Regulations	The Northern Territory *Environment Protection Act 2019* provides for the protection of the environment of the Territory. The Act also provides for broad community involvement during the process of environmental impact assessment and environmental approvals. The purpose of impact assessment is to allow the NT EPA to analyse the significant potential environmental impacts of a development proposal and make recommendations to the Minister about the acceptability, or otherwise, of these potential impacts.
Environment Protection and Biodiversity Conservation Act 1999	The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance. The Act promotes a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples.
Territory Parks and Wildlife Conservation Act 1976	The *Territory Parks and Wildlife Conservation Act 1976* provides for the study, protection, conservation and sustainable utilisation of wildlife.
Australasia Railway (Special Provisions) Act 1999	The *Australasia Railway (Special Provisions) Act 1999* makes provision in connection with the railway from Tarcoola to Darwin and for related purposes.
Australasia Railway (Third Party Access) Act 1999	The *Australasia Railway (Third Party Access) Act 1999* makes provision for the regulation of third-party access to railway infrastructure services in relation to the AustralAsia Railway, and for other purposes.

1.3.2 Standards

Additional standards guiding consultation and social research for this SIA include:

- *Stakeholder Engagement and Consultation: Environmental impact assessment guidance for proponents* (NT EPA 2021). The guideline adopts as best practice the IAP2 principles for stakeholder engagement. It outlines expected formal feedback processes for projects on public exhibition and encourages proactive approaches to early engagement during preparation of environmental impact statements, starting at the scoping phase. The guideline defines engagement as including 'communication, dialogue, listening and responding'.
- International Association for Impact Assessment (IAIA), *Social Impact Assessment Principles* (Vanclay, 2003), which is regarded as leading practice for SIA.
- IAIA's *Social Impact Assessment: Guidance for assessing and managing the social impacts of projects* (Vanclay et al., 2015).
- Guidelines for the Preparation of an Economic and Social Impact Assessment, Northern Territory Environment Protection Authority (November 2013).
- International Association for Public Participation (IAP2) *Core Values, Spectrum of Participation and Quality Assurance Standard* (2015) which are regarded as industry best practice for public participation (or community and stakeholder engagement) (see www.iap2.org.au)

2.0 Methodology

2.1 Defining the study area

The SIA study area for the proposal considers the communities that have potential to experience changes to social conditions due to direct impacts resulting from location of the proposal or proposal infrastructure, construction activities and land use changes.

The study area also considers areas that may potentially supply goods and services and labour to the proposal, and areas that may be located some distance from the proposal infrastructure but experience indirect or flow on impacts.

This SIA identifies local and regional study areas broadly corresponding to East Arm and its surroundings, captured by the Australian Bureau of Statistics (ABS) as the Darwin, Palmerston and Litchfield Local Government Areas, and the broader regional catchment of the Greater Darwin Capital City Area as defined by the ABS.

These communities have been selected as population catchments as well as relevant administrative areas.

2.2 Stakeholder engagement

Consultation with stakeholders has informed in this SIA. The Northern Territory *Environment Protection Act* 2019 (sections 3(d) and 3(e)) expressively requires proponents to:

- Provide for "*broad community involvement during the process of environmental impact assessment and environmental approval*"
- Recognise "*the role that aboriginal people have as stewards of their country as conferred under their traditions and recognised in law, and the importance of participation by aboriginal people and communities in environmental decision making process*".

The NT EPA's *Stakeholder Engagement and Consultation Guidance for proponents* (updated January 2021), recognises the importance of stakeholder consultation and recommends it be undertaken in addition to formal opportunities for feedback at public exhibition.

> *"The NTEPA considers that both proponents and the community benefit from respectful decisions, deeper dialogue, and collaborative decisions that result from ongoing stakeholder engagement rather than being limited to specific consultation activities."*

Aurizon recognises the importance and value of early and ongoing stakeholder and community engagement and, in line with leading practice, stakeholder consultation was integrated into the social impact assessment process to inform the baseline and the impact assessment.

2.2.1 Purpose of early engagement

The purpose of stakeholder consultation at the referral phase was to identify specific issues and mitigation measures for consideration in the SIA, as well as to:

- Raise awareness about the Project, including the nature scale and purpose of the project, drivers and benefits, approval process and supporting assessments for investigation and assessment
- Provide stakeholders with timely, accurate and relevant information about the project and subsequent project pathways
- Understand stakeholder issues and, where possible, address issues and needs during Project scoping and planning, detailed feasibility investigations as required and the design and delivery of ongoing stakeholder and community engagement
- Inform, and a detailed engagement program for subsequent Project phases

- Provide Aurizon and regulators with confidence that the communities' attitudes, beliefs, values and concerns are well-understood
- Inform decision makers of stakeholder issues, interests, concerns and opportunities
- Inform balanced decision-making by giving equal weight to local knowledge and technical studies
- Build understanding, trust and relationships with stakeholders or groups likely to be positively or negatively impacted by the Project.

2.2.2 Stakeholders

Consultation with stakeholders relevant to this SIA was undertaken between March and October 2023. The feedback captured during consultation is referenced throughout this report.

Consultation activities included meetings, briefings (face-to-face and online), phone calls, emails and distribution of project fact sheets. Stakeholder contacted in this phase of engagement are listed below.

A total of 12 targeted meeting and phone calls were conducted, and project information was distributed to a further 13 community and interest groups identified through early stakeholder mapping to invite feedback.

A detailed summary of engagement activities undertaken to date is included in **Appendix B**.

Table 3 Key stakeholders for the Project

Stakeholder	Likely interests
Local government	City of Darwin City of Palmerston
Northern Territory Government and departments	DCCEEW DEPWS - Flora and Fauna Division DEPWS - Environment Division DIPL - Lands Planning DIPL - Infrastructure NT DIPL - Development Assessment Services DIPL - Transport Planning
Northern Territory Government Agencies	NT Heritage Branch Power and Water Corporation
Local business and industry associations	Darwin Harbour Advisory Committee Darwin Port
Community and environmental groups	Dr Amanda Liliman (Migratory bird specialist) The Planning Action Network Inc. Environment Centre NT Amateur Fishermen's Association of the Northern Territory Industry Capability Network
Aboriginal representative groups and local Aboriginal people	Larrakia Nation Larrakia Development Corporation Larrakia Rangers Land Development Corporation Northern Land Council Aboriginal Areas Protection Authority (AAPA)

2.2.3 Commitment to ongoing engagement

The NT EPA recommend that proponents adopt the Core Values of the International Association for Public Participation (IAP2) as principles for best practice stakeholder engagement.

The NT EPA guidance document also emphasises the importance of culturally appropriate methodologies for consulting with Aboriginal communities, in line with the United Nations Declaration of the Rights of Indigenous Peoples (2007), and the role of land councils in facilitating this.

It outlines the importance of identifying cultural, social, economic and environmental values significant to Aboriginal stakeholders, drawing on the traditional knowledge and expertise of Aboriginal people, providing sufficient time for Aboriginal stakeholders to consider the consequences of a proposal and the importance of free, prior and informed consent (UN 2007).

A Stakeholder Engagement Plan has been prepared to accompany this SIA, which outlines Aurizon's commitment to ongoing engagement in subsequent stages to continue to build relationships and maintain project transparency and responsiveness.

Potential concerns and opportunities identified by stakeholder through engagement to date have been considered and informed the proposed engagement approach for subsequent stages. Adopting a social risk approach allows the project team to ensure that stakeholder perspectives, values and concerns are reflected throughout all phases of consultation so that Aurizon can understand potential impacts to stakeholders and what may trigger potential risks.

Understanding stakeholder concerns and their view regarding potential impacts (both actual and perceived) means that Aurizon can tailor why and how it engages with stakeholders and control the key messages that are communicated. This is also critical to understanding potential stakeholder risks, which in many cases are driven by perceptions stakeholders have of things that are important to them and may often be emotive and subjective. Often these perceptions may not be 'actual impacts' or supported by technical studies but it is critical to understand these.

2.3 Social Baseline

The social baseline was prepared to develop an understanding of the existing social situation within the study area. It was informed through a review of relevant documents and data as listed below and in the reference list at the end of this report:

- Project overview and background studies provided by Aurizon
- Relevant local, regional, territory and commonwealth policy and strategy documents
- Demographic, industry and employment data from Australian Bureau of Statistics Census of Population and Housing and Labour Force Survey
- Summaries and notes from stakeholder consultation undertaken to date.

A summary of baseline findings is provided in Section 4 and throughout the impact assessment section of this report. This baseline provides the scenarios against which changes and impacts will be assessed.

2.4 Assessment of impacts

Potential social impacts have been identified and described based on the initial scoping of potential impacts, findings of the socio-economic baseline, consultation outcomes, and discussion with stakeholder and other technical specialists.

The social impacts within this report have been categorised based on the potential socio-economic impacts identified in the *Guidelines for the Preparation of an Economic and Social Impact Assessment* (Northern Territory Environment Protection Authority, 2013).

Table 4 provides an overview of the impact categories for this SIA and **Table 5** summarises the impact assessment criteria applied in this investigation.

Table 4 Social impact categories

Impact category	Issues discussed
Impacts to Traditional Owners	Potential socio-economic benefits for and impacts to Traditional Owners as a result of the Project. Impacts on cultural values have also been assessed.
Employment and training	Potential benefits and impacts on the local and regional opportunities for businesses, employment and training.
Amenity	Changes to the noise levels, air quality, or visual environment as a result of the project. Changes to amenity can affect people's quality of life.
Housing and accommodation	Changes to availability and affordability of housing and accommodation as a result of the project.
Community services	Changes to demand for local community services as a result of the project.
Historical community values	Impacts to community values associated with non-Aboriginal history of the site and region

Table 5 Impact assessment criteria

Criteria	Definition
Nature of impact	Positive - Impacts that result in net benefits for the community or specific stakeholder groups
	Negative - Impacts that result in detriments for the community or specific stakeholder groups
	Neutral - A change that does not result in a positive or negative impact but allows continuation of the usual function
Timing of impact	Pre-construction
	Construction – Approximately 12 months, commencing on project approval
	Operation – Approximately 50 years, commencing 2028
Duration	Short term – one to five years
	Medium term – five to ten years
	Long term – more than ten years
Severity	Negligible - Marginal change from the baseline conditions so no discernible effect is expected and those affected would not notice the change
	Minor – A small but measurable change from the baseline conditions. Changes are expected to be temporary or short term and/or only affect a small number of people
	Medium – Noticeable and relatively substantial change from the baseline conditions. Changes may be short or long term and/or affect a small or large number of people
	Major – Substantial change from the baseline conditions in the community and affecting a large number of people, and/or a moderate number of people over the long-term
	Severe – A change fundamentally altering the baseline conditions with irreversible and unreplaceable changes and functional recovery is expected in the long term, if at all
Sensitivity	Negligible – No vulnerability of community and ability to absorb and adapt to change
	Low – Minimal vulnerability, with a high resilience to change and capability to adapt
	Moderate – A number of vulnerabilities, with some resilience to change and ability to adapt
	High – Multiple vulnerabilities and / or little capacity to absorb or adapt to change

Criteria	Definition
	Very High – Multiple vulnerabilities and very little capacity to absorb or adapt to change

To develop the impact significance rating, the various levels of sensitivity and severity are correlated in **Table 6**.

As outlined in the Limitations (Section 1.2.3), it should be noted that social impacts are subjective in nature, that is different people perceive social impacts differently, therefore when applying the significance rating, it is assigned using qualitative judgement of the SIA specialists, based on aggregated and generalised outcomes of the impact assessment.

Table 6 Assessing level of significance

Sensitivity \ Severity	Negligible	Minor	Medium	Major	Severe
Negligible	Negligible	Negligible	Minor	Moderate	Moderate
Low	Negligible	Minor	Minor	Moderate	High
Moderate	Minor	Minor	Moderate	High	High
High	Minor	Moderate	High	High	Severe
Very high	Moderate	Moderate	High	Severe	Severe

Note: Positive impacts are discussed in this assessment SIA but are not assigned a level of significance.

2.4.1 Impact management and mitigation

Mitigation and management strategies have been identified to address the potential social impacts and enhance the benefits of the project. These strategies have been identified based on the outcomes of the social baseline, stakeholder consultation, review of other technical studies, and the experience and knowledge of SLR's SIA lead.

An assessment of the residual impact is then made based on implementation of the recommended mitigation measures.

3.0 Policy context

There are numerous reports and documents relevant to this SIA. These have been included in **Table 7** for context.

Table 7 Key policy documents relevant to this SIA

Policy or strategy	Year	Released by	Relevant points
Territory Economic Reconstruction Commission (TERC)	2020	NTG	The Territory Economic Reconstruction Commission's Final Report outlines recommendations to accelerate the Territory's economic growth to deliver more jobs and enhanced living standards. The Report recognises the impacts of Covid-19 and pre-existing decline in private investment at the tail end of a construction boom. In its Final Report, the Commission notes: • Aboriginal leaders will be front and centre of this economic development of the Territory – as land owner, developer, investor and partner, employee and community member • A skilled population is a critical enabler of economic growth, and there is a requirement to grow Territory skills and attract new population linked to industry and business demand. In particular, the Commission reiterates the importance of developing the right skills across more people and leveraging the Territory's strategic geographical strengths.
Territory Benefit Policy	2019	NTG	The Territory Benefit Policy aims to 'maximise the contribution to the NT economy by private sector investments in the NT'. The policy must address all phases of the project's life. It applies to: • private sector projects granted major project status • private projects where the NT Government provides support valued at or greater than $500,000 • projects where a Territory Benefit Plan is specified as a condition of an NT Government agreement. It covers: • local workforce development and employment • regional and Aboriginal economic and community development • local business participation and small to medium enterprise capability development • economic, industry and social infrastructure investment. The Territory Benefit Plan is consistent with the objectives of the Australian Industry Participation (AIP) National Framework.
Darwin Region Land Use Plan	2015	NT Planning Commission	The Darwin Region Land Use Plan (DRLUP) provides a strategic framework to manage future growth, including planning for land use, transport and infrastructure needed to support growth. The plan, based on broad community consultation, identifies the essential characteristics and needs of the region. It is supported by a number of sub-regional area plans. The vision of the plan is: "*A Darwin Region that is alive and prosperous, led by a thriving global city with high-quality amenity and connectivity" and "A region with a diverse economy and strong society that promotes innovation and tropical concepts, and holds an enduring connection to the natural environment*." The plan identifies East Arm Peninsula as supporting future strategic industrial development in the region.

Policy or strategy	Year	Released by	Relevant points
Ecologically Sustainable Development of Darwin Harbour	2010	NT EPA	The NT EPA recognises the developmental, economic, recreational and environmental strengths of the Darwin Harbour and prepared this publication to ensure principles of ecologically sustainable development (ESD) guide future decision-making for this asset. The EPA's advice includes the needs to address cumulative impacts and to provide for public participation and transparency in decision making and management processes.
Darwin Port Development Plan	2020	Darwin Port/ Landbridge	Port operator Landbridge's Port Development Plan outlines plans to further expand the port and increase trade flow through Darwin. The plan outlines Darwin Port's role as the only major multimodal port in Northern Australia.
Palmerston Local Economic Plan 2021-2031	2020	City of Palmerston	The Palmerston Local Economic Plan focusses on opportunities for local economic growth and employment. While it supports local investment in job creation projects such as the Berrimah Freight Terminal Expansion Project, it also recognises that "*Economic activity and employment in Palmerston is focused on construction, retail, and government services. A lack of industry and sector diversity, and a reliance on major projects presents some risks to the Palmerston economy due to potential volatility impacts*." As such, Council supports opportunities for sustainable employment pipelines and local procurement models that can mitigate the boom/bust trend of major projects.

3.1 Key findings

In considering the range of existing policies and strategies, several key themes have emerged including:

- Fostering sustainable economic growth is a primary concern for the NT government
- East Arm is a critical strategic asset for the Greater Darwin region and expansion of Port operations and supporting activities is broadly supported across all levels of policy
- Employment and training opportunities, including opportunities for increased Indigenous workforce participation and local procurement programs are fundamental for economic growth and stronger communities
- While major projects provide economic stimulus, sustainable and ongoing employment and procurement models are important for ongoing job security and stability
- Development must balance environmental and cultural values of the area.

4.0 Study profile of the study area

4.1 Overview of the region

The Berrimah Freight Terminal Expansion Project site is located on East Arm in Darwin Harbour to the south-east of the Darwin city centre.

Traditionally home of the Larrakia People, Darwin is now the most intensively occupied area in the NT following the establishment of European settlement in 1869. Initially known as Palmerston, the city was renamed Darwin in 1911.

Leveraging it natural strategic advantages, the City and Port were developed around Darwin Harbour and quickly became the economic and administrative centre of the NT. 1872 saw the arrival of the Overland Telegraph service followed by the 1870s gold rush which further strengthened the towns economy and population. A railway to Pine Creek in the south was established in 1889 which coincided with a period of strong growth.

Emerging mining and pearling industries attracted Chinese, Japanese, Filipino and Malay workers and families to Darwin. The arrival of new populations was met with resistance from middle-class European residents and resulted in the demarcation of areas as white administration and residential zones, and the establishment of a "Chinatown" and shanty area which also provided a placed for the dispossessed Larrakia people to live until the area was removed in the mid-20th century.

In the decade of 1930s, an influx of defence personnel saw the population of Darwin explode from a few thousand to approximately 15,000 by 1941. Darwin operated as an allied defence hub through the Second World War, resulting in new infrastructure including the construction of the Stuart Highway in 1941 and air force airstrips, as well as stationing large numbers of military personnel and use of the Harbour for naval purposes.

Darwin faced destruction from Cyclones in 1897, 1937 and 1974. These devastating events, in addition to damage caused by bombing in WWII has resulted in an urban area that has experienced significance change and multiple periods of rebuilding and renewal.

4.1.1 Project site

The Berrimah Freight Terminal Expansion Project site is surrounded by a range of land uses including:

- **To the north**: mangroves fronting Bleesers Creek;
- **To the south** : existing Berrimah freight terminal, Darwin Railway station, Vopak fuel terminal, Crowley fuel terminal (under construction), transport terminals for Linfox, Fastrack, Ichthys (Offshore Logistics Base), Team Global Express, Qube (Prelude Darwin Onshore Supply Base), FedEx and Border Express;
- **To the east**: Berrimah Road (including the road over rail bridge), Berrimah cattle company facility, various industrial premises and vacant industrial lots; and
- **To the west**: Darwin Harbour and the East Arm Wharf with its road and rail access.

Existing site and surrounding uses are predominantly industrial, commercial and environmental. There are no residences or community facilities on East Arm, or in close proximity to the site.

4.1.2 East Arm

East Arm is approximately 6.5 km across the harbour from the Central Business District (CBD), or 14 km by road. The area lies adjacent to the Local Governed areas of Darwin, Palmerston and Litchfield but is Unincorporated Land and, as such, falls outside the boundaries of local Government. The area has long been established to support the harbour and port activities, with a multi-year, major wharf expansion carried out from 2010.

The nearest residential areas include the Northcrest housing development in Berrimah and Palmerston's outer suburbs of Marlow Lagoon and Durack, 6 km to the east or a 9 km commute.

East Arm is accessed by Berrimah Road, which connects to the arterial roads of Tiger Brennan Drive and the Stuart Highway.

East Arm sits in Darwin Harbour with is highly valued as an important ecological, social, cultural and economic asset. The harbour spans 3230 km^2 from Charles Point in the West to Gunn Point in the East and Darwin River Dam to the south and encompasses Shoal Bay, Middle Arm, West Arm and their respective tributaries.

As a natural deep-water port, the harbour supports northern Australia's largest concentration of marine and logistics activities. Darwin Port is Australia's northern trade gateway with Asia and contributes to this nationally significant economic hub which services international and domestic trading vessels, cruise ships, gas exports, livestock exports, Defence and dry and liquid bulk trades.

4.1.3 Surrounding areas

The City of Palmerston is a rapidly growing residential area, with light industrial areas in the suburbs of Pinelands and Yarrawonga. Palmerston has functioned as a dormitory area for the families of service people on Defence bases in and around Darwin. Residential development of Palmerston dates from 1982 when the City was planned as the main urban growth centre of the wider Darwin region. Population growth is expected to continue.

The Litchfield Council area wraps around East Arm to the west and south. The LGA covers a large area, bounded by the Adelaide River, and is predominantly rural and rural-residential, with some small indigenous communities, a Defence area and a prison. Rural land is used mainly for agriculture (particularly beef cattle farming) and horticulture, with some conservation areas. Traditionally indigenous people lived in the area, and continue to do so, often in small communities. European settlement dates from 1864 when the area was first surveyed. The population of Litchfield remained small until post WWII era which saw substantial growth lasting to the late 20th Century, due, in part, to the establishment of the Robertson Barracks (army base) in the 1990s.

The City of Darwin is a residential, commercial and military area. The City encompasses several Defence areas, including the Defence Establishment Berrimah, Larrakeyah Barracks, RAAF Base Darwin and the RAAF Bombing and Gunnery Range. The City area also includes parklands, reserves, and several beaches. Central Darwin and in the northern centre of Casuarina provide local and regional retail and service centres.

4.2 Traditional owner groups

The traditional owners of Darwin are the Larrakia (saltwater) people. The Woolner and Djowei Aboriginal people are the traditional owners of the areas further south in Litchfield LGA.

Larrakia Country reaches beyond the municipal boundaries of Darwin, encompassing the area from the Cox Peninsula in the west to the Adelaide River in the east. The Larrakia people established the first trade routes in the region, trading with the Tiwi, Wagait, and Wulna people as well as with Indonesian fishermen.

The interests of the Larrakia People are represented by the Larrakia Nation Aboriginal Corporation, Larrakia Development Corporation, Larrakia Rangers, and the Northern Land Council.

A detailed Aboriginal Cultural Heritage Assessment will be conducted to investigate potential impacts or sites of significance for the Larrakia People.

4.3 Demographic profile

As noted above, there are no residences on East Arm and therefore no permanent residential populations in immediate proximity of the Project site.

As described in Section 2.1, the study area defined for this SIA encompasses the communities of the neighbouring Darwin, Palmerston and Litchfield Local Government Areas, and the broader regional catchment of the Greater Darwin Capital City Area as defined by the Australian Bureau of Statistics (ABS). The workforce for the construction and operational phases of this project are also anticipated to draw from these catchments.

Table 8 provides an overview of key demographic characteristics of these communities.

Table 8 Demographic key features (Source: ABS Quick Stats and ABS Regional data)

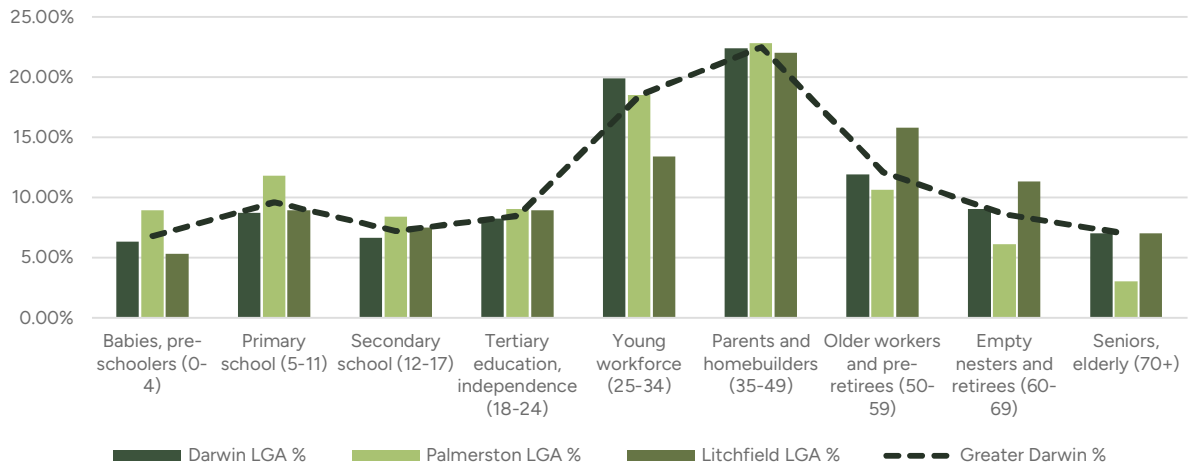
2021 Census	Darwin LGA (LGA7100)	Palmerston LGA (LGA72800)	Litchfield LGA (LGA72300)	Greater Darwin (7GDAR)
Estimated Residential Population	80,530	37,247	21,411	139,902
% working age (15-64)	70.4%	68.3%	70.1%	70.1%
Unemployment rate	4.1%	4.2%	3.5%	4.0%
Aboriginal unemployment 2021)	13.0	10.0	7.7	11.1%
Aboriginal not in the labour force (over 15)	40.2	33.0	60.3	42.3%
Main sector of employment	State Government Administration (8.3%)	State Government Administration (7.3%)	State Government Administration (6.9%)	State Government Administration (7.9%)
Estimated Aboriginal and TSI	7,003 (8.7%)	4,844 (13%)	2,648 (12.4%)	14,539 (10.4%)
Median weekly household income	$2,188	$2,199	$2,346	$2,209
Aged 15+ and achieved Certificate, Year 12 or above as highest level of educational attainment	70.2%	65%	58.7%	67.2%
Year 12 = highest level of educational attainment	13.8%	15%	13.8%	14.1%
Average number of people per household	2.6	2.8	2.8	2.6
Average number bedrooms	2.9	3.2	3.1	3
Median monthly household mortgage	$2,000	$2,037	$2,253	$2,100
Median weekly household rent	$380	$400	$380	$385
Median age	35	31	39	34
Born overseas	42%	30.9%	23%	36.2%
Number of local businesses (2022)	7,520	1,896	2,025	11,608

4.3.1 Population age

Figure 2 shows the population age profile across the study area by service age group. Service Age Groups are age bracket that broadly correspond to typical life stages.

It demonstrates that the City of Palmerston has a younger residential population with comparatively higher numbers of children and parents and homebuilders, while Litchfield has an aging population and significantly lower proportions of the young workforce age bracket. This is typical for rural areas across Australia. The concentrated urban area if City of Darwin has the highest proportion of young workforce cohort which corresponds to the distribution of employment across the region.

Figure 2 Population age profile (2021)



4.3.2 Families and households

The distribution of household types across the Greater Darwin region is consistent with the age profile shown above.

The City of Palmerston has a higher proportion of family households which corresponds to the higher proportion of young children living in the LGA.

Litchfield has a comparatively higher proportion of family households without children which corresponds to the higher proportion of the empty nester age cohort.

Similarly, the highest proportion of lone person households and group households are located in the Cirt of Darwin which is home to a higher proportion of young workforce cohort (**Table 9**).

Table 9 Household profile

Household and family type	Darwin LGA	Palmerston LGA	Litchfield LGA	Greater Darwin
Average people per household	2.6	2.8	2.8	2.6
Total family households	60.9	69.0	61.1	62.7
Couple family with children	*26.9*	*34.0*	*29.2*	*29.0*
Couple family without children	*23.3*	*20.7*	*23.5*	*22.6*
One parent family	*9.4*	*13.4*	*7.7*	*10.0*
Other family	*1.3*	*0.9*	*0.7*	*1.1*
Single (or lone) person households	22.8	19.0	14.9	20.7
Group households	6.2	3.8	2.4	5.0

Household mobility measures the changes to the residents that make up a household over a defined period. This data indicates that the City of Palmerston has significantly higher household mobility with only 27% of households remaining the same over a five-year period. By comparison, 59% of

households withing the City of Litchfield had no change to residents over the same period (**Table 10**).

Table 10 Household mobility

Tenure type	Darwin LGA	Palmerston LGA	Litchfield LGA	Greater Darwin
Owned outright	18.0%	8.9%	28.3%	17.2%
Mortgaged	26.7%	39.4%	39.6%	31.9%
Renting	45.8%	41.9%	16.8%	40.5%
Renting - Social housing	*6.2%*	*6.9%*	*0.7%*	*5.5%*
No change to residents residing in household in the last five years in 5 years	36%	27%	59%	37%

Higher rates of household mobility can indicate a more transient population which may include itinerant or short-term worker populations. However, in the case of Palmerston, it may also represent a higher proportion of first home buyers and growing families which is reflected in the higher proportion of mortgaged homes and comparatively lower rates of outright homeownership.

Table 11 summarises the distribution of dwelling types and occupancy across the study area. It shows that separate houses are the most prolific dwelling type across the Greater Darwin region. However, the urban centre of Darwin has higher proportion of medium and high-density dwelling, which is also reflected in the higher proportion of lobe person households and young workforce age cohorts.

Overall, there is a varied supply of dwelling types across Greater Darwin able to support residents and workers of all life stages.

Table 11 Dwelling type

Dwelling type	Darwin LGA	Palmerston LGA	Litchfield LGA	Greater Darwin
Unoccupied private dwellings	8.5%	7.7%	9.9%	8.6%
Separate house	47.8%	73.7%	81.2%	59.1%
Medium density	22.6%	20.7%	2.0%	17.3%
High density	25.8%	5%	1.5%	11.0%
Other dwelling	3.1%	0.3%	12.9%	1.1%
Not stated	0.7%	0.3%	2.4%	0.3%

4.3.3 Health and wellbeing

Indigenous life expectancy continues to lag behind that of non-Indigenous Australians (**Table 12**). At a national level between 2015 and 2017, life expectancy at birth for Indigenous males in Northern Territory was estimated to be 66.6 years, 11.5 years less than life expectancy at birth for non-Indigenous males (80.2 years). Life expectancy at birth for Indigenous females in Northern Territory was estimated to be 69.9 years, which is 12.8 years less than life expectancy at birth for non-Indigenous females (83.5 years).

Table 12 Life expectancy by Aboriginal status 2015-2017

	Aboriginal and Torres Strait Islander	Non-Indigenous	Difference
Northern Territory females	69.9 years	82.7 years	12.8 years
Northern Territory males	66.6 years	78.1 years	11.5 years
Australian females	74.4 years	83.5 years	9 years
Australian males	70 years	80.2 years	10.3 years

Up to 4.0% of residents across the Project areas require assistance with daily activities and almost a quarter live with a long-term health condition (**Table 13**).

Table 13 Need for assistance and health conditions

Need for assistance	Darwin LGA	Palmerston LGA	Litchfield LGA	Greater Darwin
Need for assistance with core activities	3.60%	4.00%	3.30%	3.70%
Long term health conditions	23.80%	24.60%	24%	24.00%

4.3.4 Disadvantage

The RDA Northern Territory Socio-Economic Indexes for Areas (SEIFA) measure the relative level of socio-economic disadvantage and/or advantage based on a range of Census characteristics.

Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) for selected areas in NT is summarised in **Table 14.** This index contains indicators of disadvantage (e.g. unemployment, low incomes or education levels, single parent families, low skilled occupations, poor English proficiency) as well as additional indicators of advantage (e.g. professional occupations, high income, higher education levels, high rent, large dwellings).

A higher score on the index means a lower level of disadvantage, or a higher level of advantage. A lower score on the index means a higher level of disadvantage, and a lack of advantage.

The percentile column indicates the approximate position of this small area in a ranked list of Australia's suburbs and localities in 2021. A higher number indicates a higher socio-economic status.

Table 14 Index of Relative Socio-economic Advantage and Disadvantage

RDA NT Ranking	Area	2021 index	Percentile
1	City of Darwin LGA	1,036.30	78
2	Greater Darwin	1,023.00	71
3	Wider Darwin	1,021.00	70
4	Litchfield Council LGA	1,013.70	66
5	Alice Springs Town Council LGA	1,003.60	61
6	Australia	1,002.60	60
7	City of Palmerston LGA	998.10	57
8	Wagait Shire LGA	970.40	41
9	Unincorporated NT (ex. Nhulunbuy and Alyangula)	966.40	39
10	Katherine Town Council LGA	964.90	38
11	RDA Northern Territory	957	33

In 2021, City of Darwin LGA had the highest level of advantage in the RDA Northern Territory, with a SEIFA index score of 1,036.30.

The Litchfield and Palmerston LGAs also rank in the top 10 localities measured across the state. This indicates relative advantage across the broader study area.

4.4 Industry, jobs and training

The Northern Territory Government is aiming for a $40 billion economy by 2030 to drive growth and accelerate jobs and population growth (TERC 2020). The Government's ambition is to grow private sector investment and return the economy to a more sustainable footing.

Table 15 shows the top 10 industries of employment for the resident workforce of Greater Darwin. It demonstrates that Public Administration and Safety is the largest employer (18.7%) followed by Healthcare and Social Assistance (13.6%). The Construction industry employs 8.8% of the Greater Darwin workforce and Transport, Postal and Warehousing employs a further 4.4%

Table 15 Top 5 industry sectors of employment in Greater Darwin

Rank	Industry sector	Number	%
1	Public Administration and Safety	13,939	18.7
2	Health Care and Social Assistance	10,171	13.6
3	Construction	6,556	8.8
4	Education and Training	6,218	8.3
5	Accommodation and Food Services	5,714	7.7
6	Retail Trade	5,449	7.3
7	Professional, Scientific and Technical Services	4,116	5.5
8	Transport, Postal and Warehousing	3,310	4.4
9	Inadequately described or not stated	3,111	4.2
10	Other Services	2,915	3.9

The overall workforce participation rate for Greater Darwin is 69.7% participation rate, which is higher than the national average of 61.1%. Correspondingly, Greater Darwin has a lower unemployment rate than the national average 5.1%.

4.4.1 Employment and training

The workforce required for the construction of the Project is expected to be mainly drive-in/drive-out (DIDO) workers from the Darwin region. Some specialist rail construction workers from Aurizon will be fly-in/fly-out (FIFO) workers.

Once a D&C contractor is appointed, further assessment of the local labour market will take place, with a preference to be expected for available local DIDO workers for the bulk of the construction workforce.

4.5 Community Infrastructure

Darwin and its surrounds are the most populous part of the NT. As such, it also boasts a high concentration of community services and facilities to support the local resident, worker and visitor populations.

Table 16 summarises the social infrastructure provision across the Project area. It demonstrates that identified Project communities are well services with local and regional scale facilities and services.

Table 16 Summary of community facilities and services

Category	Facilities, services and attractions
Service centres and retail hubs	Darwin Central Business District Casuarina Square Shopping Centre

Category	Facilities, services and attractions
	Palmerston City Centre Gateway Shopping Centre Oasis Shopping Village
Community facilities	Lyons community Centre Nightcliff Community Centre Litchfield Community Centre Palmerston Library Casuina Library Darwin City Library Karama Library Nigtcliff Library Taminmin Library
Emergency services	**Police** - Darwin City Police Station, Casuarina Police Station, Palmerston Police Station, Northern Territory Police Association, NT Water Police, Darwin Sherif's Office, Northern Territory Police, Fire and Emergency Services **Fire** – NT Fire and Rescue Services, Marrara Fire Station, Territory Fore Service and training **Ambulance** – Parap Ambulance Station, St Johns Ambulance **Emergency** – NT Emergency Service Darwin
Open space and recreation	**Sporting complexes and recreation centres** - Marrara Sporting Complex, Larrakia Park (Darwin Football Stadium), Palmerston Swimming & Fitness Centre, Palmerston Recreation Centre and Palmerston Water Park **Recreation reserves and golf courses** - East Point Recreation Reserve, Marlow Lagoon Recreation Area, Howard Springs Hunting Reserve, Freds Pass Reserve, Palmerston Golf Course, **Open space and conservation areas** – Casuarina Coastal Reserve, Holmes Jungle Nature Park, Charles Darwin National Park, Bicentennial Park, George Brown Darwin Botanic Gardens, Crocosaurus Cove, Channel Island Conservation Reserve, Fogg Dam Conservation Reserve, Knuckey Lagoons Conservation Reserve, Harrison Dam Conservation Area, Melacca Swamp Conservation Area, Tree Point Conservation Area, Shoal Bay Coastal Reserve, Darwin River Dam, McMinns Lagoon, Territory Wildlife Park, Berry Springs Nature Park, Howard Springs Nature Park, Blackmore River Conservation Reserve
Education	**Charles Darwin University** – Casuarina Campus and Palmerston Campus **Government and non-government primary and secondary schools** including specialist and flexible learning institutes such as NT School of Distance, Top End School of Flexible Learning, School of Sport Education, Royal Darwin Hospital School, NT Music School, Darwin Languages Centre, Families as First Teachers support services.
Health	Royal Darwin Hospital Palmerston Regional Hospital
Government and administrative	Government House Parliament House Darwin Correctional Centre
Military	Army bases Robertson Barracks
Places of interest and major attractions	**Historical attractions** - Darwin Military Museum, Australian Aviation Heritage Centre, Museum and Art Gallery of the Northern Territory, Fannie Bay Gaol Museum **Regional attractions** – Skycity Darwin Casino, Hidden Valley Motor Sports Complex, The Big Boxing Crocodile

4.6 Community participation

Across Greater Darwin, 15.9% of the population reported doing some form of voluntary work in 2021. This is a greater proportion than the national average participation rate for volunteerism (14.1%). This is particularly notable given the general trend of decreasing volunteerism resulting from Covid-19 restrictions, lockdowns and physical distancing advice.

However, in 2021, 9.4% of 15 to 24 year olds in Greater Darwin were disengaged with employment and education, compared to 9.1% in Australia.

4.7 Access and connectivity

Greater Darwin is well serviced by the local and arterial road network including Stuart Highway, and the Arnhem Highway.

Berrimah Road is the main road servicing the East Arm area. The road provides north-south connectivity as well as access to east-west intersections including those with Stuart Highway, Tiger Brennan Drive and Wishart Road. It also provides a key link between the Darwin International Airport, Stuart Highway and East Arm Port. Construction of a new overpass at the intersection of Tiger Brennan Drive and Berrimah Road will commence in November 2023. This project will deliver improved safety outcomes and ease traffic congestion along this route, as well as enhanced connectivity for freight transport to East Arm.

Darwin International Airport is located between East Arm and the City Centre servicing FIFO workers and visitors to the region.

An extensive local bus network operated through the residential, retail and commercial areas of the Greater Darwin area, but does not extend services to East Arm. A network of pedestrian and cycle paths provides local access and connects residential and retail centres. It does not extend into East Arm.

The Ghan passenger trainline terminates at the Darwin Railway Station at the end of Berrimah Road. However, this rail terminal is used only by the Adelaide-Darwin train which operates up to one service per day. The Railway Station does not connect to any local transit networks, and passengers typically rely on private transport or provide shuttle buses to travel between the Station and the City centre.

Table 17 shows the most common methods of travel to work for workers in the Greater Darwin region. It demonstrates that private vehicle travel is by far the most common mode of travel with 70.4% of workers driving themselves and a further 6.3% traveling in a private vehicle as a passenger.

In 2021, more workers across Greater Darwin worked from home (4.3%) than travelled by any form of public (2.9%) or active transport (3.7% walking, 1.7% bicycle) suggesting that the regional population is quite heavily dependent on provide vehicle transport.

Table 17 Method of travel to work across Greater Darwin (2021)

Main method of travel	%
Car or truck (as driver) or motorbike	70.4
Car as passenger including taxi and ride share	6.3
Walked only	3.7
Public transport including bus	2.9
Bicycle	1.7
Other	2
Worked at home	4.3

5.0 Impact assessment

This section presents a description and assessment of the potential socio-economic impacts that may result from the project.

Potential impacts on Traditional Owners, the local and regional economy and employment, amenity, housing and accommodation, access and connectivity and safety, and community services have been assessed according to the methodology described in **Section 2**.

A summary of the impact assessment is presented at the end of each section.

5.1 Impacts on Traditional Owners

5.1.1 Potential impacts

As discussed in Section 4.2, the Traditional Owners of the Project site are the Larrakia People who continue to work to protect the land and sea across Larrakia Country through the work of the Land Development Corporation (LCD) and Larrakia Land and Sea Rangers.

Discussions with Larrakia and the NT Government Heritage Branch have indicated that there are known Aboriginal or Macassan archaeological places within the Project area. The significance of these sites, potential impacts and implications of development will be invested in more detail through an Aboriginal Cultural Heritage Assessment conducted in consultation with the Larrakia People and LDC.

Initial discussions with LDC have specifically highlighted the access road through LDC land as a point of interest. The land in question has experienced varying degrees of disturbance as a result of development and public access over time.

Discussions focused predominantly on opportunities for potential for further involvement with LDC during the pre-construction and constriction phases construction. This may include the presence of Larrakia supervisors during clearing or the use of Larrakia Rangers to assist with the pre-clearance heritage surveys. Partnering with Traditional Owner groups in this manner also creates opportunities for training and skill sharing across both the proponent and the LDC and Rangers.

Maintaining close relationships with LDC and the Larrakia Rangers will be critical to ensure that pre-construction and construction works are designed and conducted appropriately to mitigate the risk of unnecessary disturbance of Larrakia Country or sites of Cultural Heritage significance. Engagement with the LDC should be ongoing and targeted throughout all project phases and must extend beyond the preparation of an Aboriginal Cultural Heritage Assessment.

While Aurizon has not quantified specific targets with respect to Indigenous employment or training opportunities through this Project, the ongoing implementation of its Reconciliation Action Plan (RAP) provides in-principle support for these opportunities where identified.

5.1.2 Assessment

While the Project will impact Larrakia Land, with sensitive management and partnership with LDC, potentially adverse impacts can be mitigated or minimised and the Project can deliver positive outcomes where opportunities to work with LDC and Larrakia Rangers can support upskilling and two-way knowledge sharing.

Given the Project proposes an expansion and intensification of existing on-site activities, it is not expected that the scale or nature of disturbance will alter significantly. As such existing mitigation, management and monitoring measures should be applied and expanded as appropriate.

5.2 Impacts on local and regional amenity

Consideration of amenity includes community experience or perceptions of factors that cause disruption or disturbance to the comfort and use of places where people live, work and play. This includes disturbance from industrial noise, dust, lights, vibrations, traffic congestion, destruction of landscapes or pollution that detracts from the quality of our environs.

Technical studies will assess the likelihood and consequences of impacts on identified receptors against legislated or recommended standards, while this SIA will consider what is it is that communities and stakeholders **value** about these assets and how these may be directly or indirectly impacted as a result of the Project.

5.2.1 Potential impacts

Enjoyment of the natural environment

The mangroves to the north of the Project site are a highly valued feature of the local environment and provide vital habitat for migratory bird species as well as supporting biodiversity. Concerns around the potential environmental impacts on local land and water resources were presented as a significant issue during consultation with stakeholders and community.

In particular, concerns were raised regarding:

- The loss of mangroves and impacts on regional biodiversity, habitat and productivity
- The importance of the adjacent salt pan as a migratory bird habitat
- Tidal variation and hydrology – use of existing channels for surface water runoff
- Impacts to flora and fauna – due to clearing of site for development
- Potential construction impacts to Blessers Creek
- Indirect impacts on marine species given Project proximity to Darwin Harbour.

The project team has consulted local migratory shorebird expert, Dr Lilleyman to discuss potential impacts emerging from the proposal. Dr Lilleyman raised concerns regarding the loss of habitat should the salt pan be impacted. Following this advice, the saltpan area has been removed from the Project footprint to mitigate impacts to vital roosting habitat.

Darwin Harbour is recognised as an NT Site of Conservation Significance (SOCS Number 6) for its estuarine, freshwater and terrestrial environments of ecological value. The area of significance incorporates extensive areas of tidal mudflats and a diverse area of mangroves (DEPWS, 2021a; Northern Territory Government, 2009).

Amenity

Given the project is located approximately three kilometres from the closest residential areas of Darwin, it is unlikely that community members would be affected by noise, vibration and dust impacts resulting from the project. The DEPWS Environment Division confirmed through consultation that there are no sensitive receptors nearby, but that the Project must be cognisant of NT EPA separation distances throughout detailed design and construction phases.

However, potential for dust, noise, pollution, loss of recreational spaces and visual impacts on the harbour have been raised through stakeholder consultation to date as well as recommendations to comply with recognised air quality standards.

Once complete, it is not anticipated that the Project will result in additional visual impacts beyond the scale or nature of those already existing. Similarly, the surrounding mangroves and undeveloped land will be largely retained and, as such, will provide a visual buffer for surrounding areas with a view towards East Arm.

Construction machinery and plant to be used for the Berrimah Terminal Expansion are expected to be typical of large civil and rail construction projects. A list of typical plant and equipment likely to be used during the key construction activities is shown in **Table 18**.

Table 18 Typical construction machinery

Construction Activity	Plant and Equipment Required
Site investigation works	Drill rigs, backhoes, excavators, light/4WD vehicles
Site establishment works	Bulldozers, graders, excavators, dump trucks, rollers, low-loaders, light/4WD vehicles
Clearing and grubbing works	Bulldozers, excavators, dump trucks, chainsaws and mulchers
Seawall construction and bulk earthworks	Excavators, dump trucks, bulldozers, graders, rollers and water carts
Installation of stormwater drainage and other infrastructure	Excavators, backhoes, mobile-cranes, rollers, jackhammers, dump trucks, hand-held compactors, water carts and other small plant
Pavement and hardstand construction	Mobile concrete trucks/pumping trucks, excavators, backhoes, mobile-cranes, rollers, dump trucks, hand-held compactors, water carts and other small plant
Rail infrastructure works (tracklaying, signalling and communications)	Ballast train/wagons, rail delivery train/wagons, track laying machine, ballast tamper, thermite welding equipment, rail grinders, on-track machines, mobile-cranes and water carts

Transport and access

The Project does not propose significant changes to the local or regional transport network. The expanded site will continue to be accessed via Berrimah Road and the local arterial network.

The site will be accessible by heavy vehicles (up to B-Double 25m long) in accordance with the existing NHVR classifications relevant to the road network to, from and within the East Arm area.

Other typical external operation vehicle movements associated with the site would likely include:

- prime mover plus semi-trailer and/or dog-trailer
- heavy rigid trucks (GVM: >8 tonnes)
- light rigid trucks (GVM: >4.5 up to 8 tonnes)
- fuel transport vehicles
- maintenance and trades vehicles, and
- light vehicles and 4WDs driven by site personnel and site visitors.

Vehicle traffic generated by the operations of the expanded Berrimah Freight Terminal will be consistent with the type of traffic currently accessing the East Arm area. Most the truck movements to and from the expanded terminal will be a port to rail interface between East Arm Wharf and the terminal and anticipated to equate to no more than 50 movements per day.

Consultation with DIPL Infrastructure Division highlighted the strategic importance of the project for logistics in the NT and the benefits for the wider freight network.

DIPL Transport and Planning Division raised questions regarding the designation and design of site access roads noting different requirements for private and public roads as well as the potential requirement for upgrades to lighting, signage and median strip at any public intersections and the need for a detailed Traffic Impact Assessment for construction and operational phases.

Safety

Potential impacts to community, workforce and environmental safety include chemical or fuel spills, management of contaminated spoils, and storage of any hazardous materials on site.

DEPWS Environmental Division also noted potential safety risks relating to extreme weather evets such as storm surges.

5.2.2 Assessment and mitigation

It is noted that the Northern Territory Government has been developing land at East Arm for marine industries since 2004, as part of its aim to develop East Arm Peninsula as a logistics and transport precinct. Given that the Project represents an expansion of existing on-site activities within a relatively contained and previously disturbed area, it is not expected that the Project will generate significant impacts to local amenity.

Environmental values

The Project site is located alongside existing similar uses and resents expansion of existing activities within a relatively contained footprint.

While it will necessitate the remove of some mangrove area, this will be minimised through design and will be offset by the retention of the salt pan migratory bird habitat. Detailed flora and fauna studies and technical assessments will be prepared, and findings shared with stakeholders and community, to ensure that any impacts are minimised and monitored.

Due to the contained nature of the Project footprint, its location adjacent to similar activities, and retention of most of the surrounding environment, it is not anticipated that the visual impact will be significantly increased or altered at the completion of construction.

Aurizon has engaged in early consultation with DEPWS regarding environmental impacts and proposed removal of some mangrove areas. DEPWS advised that limited removal is acceptable as long as compliance with relevant regulatory management and monitoring practices is demonstrated.

Amenity

No sensitive receptors have been identified within the defined NT EPA buffer distances or that are impacted by existing site activities. As such, it is not that construction impacts such as noise, dust or vibration will be negligible.

In accordance with legislative requirement and best proactive, the Project will be constructed under a Construction Environmental Management Plan (CEMP), prepared by the D&C contractor once appointed. The CEMP will cover the environmental protection practices, resources and sequence of activities required to comply with relevant environmental legislation and conditions of any applicable licence, approval and permit.

The CEMP requirements will identify potential adverse environmental effects, applicable regulatory requirements and/or compliance limits for the physical, human and biological environment with a particular emphasis on a risk-based approach to identifying and managing risks associated with work methods to be used. Appropriate environmental protection measures will be documented to keep environmental effects within compliance limits and show the responsibility for implementation in each case.

The CEMP will include all supplementary plans for environmental protection and operational control including plans for erosion and sedimentation control, weed management, waste management, dust management and noise management.

Regular audits of the D&C contractor's compliance with the CEMP will be undertaken by an experienced environmental auditor appointed by Aurizon. Reporting from the audits, including any corrective action requests and improvement observations, will be discussed with the D&C contractor at the completion of each audit and responses will be verified at the following audit.

Transport and access

The operational impact of ongoing traffic generation by the activity at the expanded Berrimah Freight Terminal is expected to be relatively minor in context of the existing road network.

Minimising potential disruption to traffic and the local road network will be critical given the significant employment areas surrounding the Berrimah Terminal Expansion Project site. Where possible, the proposed construction work would be programmed to minimise impact on traffic using Berrimah Road and other major roads servicing the East Arm Peninsula.

Once appointed, the D&C contractor will prepare and implement a Construction Traffic Management Plan (CTMP). The CTMP will include the traffic management measures to be employed to minimise the traffic impacts expected during construction and will detail how to minimise potential disruption to the road traffic network and traffic flow, minimise impact on commuters, minimise impact on businesses, identify detours, and identify works that will be constructed during peak periods and non-peak periods and any night works.

Safety

Potential safety risks are acknowledged and are consistent with existing on-site activities.

Adherence to regulatory controls for environmental management and monitoring will be ensures to address identified risks.

5.3 Employment and training

5.3.1 Potential impacts

The Project will deliver important enabling infrastructure to support economic and job growth in the Greater Darwin region. Like any major infrastructure investment, the Project will directly and indirectly generate new jobs through construction and operation phases across a variety of construction, manufacturing, logistics, industrial and commercial industries.

In addition to jobs generated directly by Aurizon, once operational, the expanded site will attract new businesses and expanded on-site roles through lessees.

Indirectly, the Project will support local job creation resulting from extended demand for local support services and supply chains generated by a growing workforce.

The creation of new jobs also provides opportunities for upskilling and training new workforce and thereby strengthening the local about market. This may include activities such as vegetation clearing and land management and civil construction.

As discussed in Section 5.1, early consultation with LDC and Larrakia Rangers has identified opportunities to work with these groups during pre-construction surveys, land clearing and ongoing monitoring.

This partnership generates new opportunities for Social Procurement programs and the inclusion of Aboriginal-owned businesses, and training and employment opportunities.

5.3.2 Assessment

Overall, the project will deliver positive opportunities for the local and regional job and training market.

The construction phase is anticipated to create 150 jobs over a 12-month program, likely to drawn from the Darwin regional work force, with a further 10 jobs created directly through the operational phase.

Indirectly, the project will generate further jobs through the introduction of new lessees on site and through increased demand for local services.

Close collaboration with Traditional Owner groups also presents opportunities for training and employment for Aboriginal workers.

5.4 Impacts on housing and accommodation

5.4.1 Potential impacts

The workforce directly employed through construction and operational phases of the project are anticipated to derive from the existing local and regional skilled workforce.

The Project is anticipated to create approximately 90 direct jobs during construction. However, given the relatively construction timeframe of 36 months, it is not expected that this will generate demand for additional housing where workers relocate from elsewhere. Similarly, the operational phase is anticipated to generate approximately 235 new jobs which can be accommodated within the existing residential workforce of the greater Darwin region.

It is possible that construction and expanded operations will produce some additional demand for short term accommodation for specialised roles to be delivered by FIFO workers.

5.4.2 Assessment

The timeframe and scale of new jobs created with construction and operational phases is not likely to materially impact existing residential housing supply or short stay accommodation.

5.5 Impacts on community services and facilities

5.5.1 Potential impacts

The greater Darwin regional is well supplied with community facilities and services to support the residential and visitor populations.

While it is expected that the construction and operations workforce will predominantly be sourced from within the existing residential workforce, the region's strong tourism sector has developed a network of services and facilities that has capacity to scale up or down in response respond to fluctuating seasonal demand. As such, it is anticipated that this flexibility can accommodate any short-term population increases during peak construction periods or operational activities.

5.5.2 Assessment

The existing supply of community services and facilities is expected to accommodate potential fluctuation or increase demand resulting from peak construction or operational periods.

5.6 Impacts on community identity and values

5.6.1 Potential impacts

East Arm Peninsula has played a strong role in Darwin's unique history, first as home the Larrakia people, and then operating as a quarantine station from 1931 to the 1990s and a leprosarium from 1955 to 1982.

Both facilities were demolished to make way for railway and port infrastructure demonstrating the transient nature of the East Arm and the ongoing focus on highest and best uses to support regional economy and infrastructure. The Project is consistent with this decision-making frame and demonstrates investment towards economic, employment and industry growth of the Darwin region and broader transport networks.

The proposed expansion and intensification of use is unlikely to result in changes to local cultural identity as the area is established as a hub for infrastructure and industry. However, increased heavy vehicle traffic has potential to negative impact on perceived safety of local and regional road networks. It is possible that increased terminal throughout and industrial traffic could result in an environment that feels hostile towards pedestrians, cycles and other road users or increased risk of road trauma.

5.6.2 Assessment

In general, the scale of change to the people and communities of Greater Darwin is predicted to be inconsequential. The relatively small construction and operational workforce is unlikely to induce any noticeable demographic change, with workers mostly drawn from the existing labour force. Any increase in population will be incremental, over the next decade, which is likely to be readily absorbed and indistinguishable from general growth stimulated by overall industrial activity.

Perceived reduction in road safety can be mitigated through detailed traffic management planning as well as ongoing upgrades to reduce congestion and increase road safety. The proposed overpass at the intersection of Berrimah Road and Tiger Brennan Drive will also help to mitigate adverse perception issues.

5.7 Cumulative impacts

Cumulative impacts are those where multiple past, present and future projects compound the economic and social risks and opportunities. They result from the successive, incremental and or combined effects of an action, project or activity when added to other existing, planned and or reasonably anticipated future ones (IFC 2013). Cumulative impacts are defined by the NT EPA (2021) as impacts that can accumulate as a result of additive or interactive processes and actions, a combination of multiple minor impacts over time and impacts resulting from the activities of multiple projects operating in a region.

The key events or activities creating change processes that may lead to cumulative impacts are:

- Announcements of other projects planned in the region
- Start of operations at other projects
- Multiple projects operating simultaneously in the area.

Cumulative impacts may arise when multiple projects are operating in an area at the same time, creating competition for staff, compounding pressure on services and multiple and interacting pressures on the environment.

5.7.1 Competing projects

There are several projects that are proposed in the region which could be constructed and operated concurrently with the Project.

Overall, concurrent projects are anticipated to contribute positively to cumulative economic activity in the region through the creation of a strengthen industry network and a sound pipeline of employment and procurement opportunities.

5.7.2 Mangroves

While the removal of mangroves for the Project is assessed as having low biological significance and low impacts, the cumulative loss of mangroves due to past, present and future industrial and residential growth around Darwin Harbour remains a concern for stakeholders.

6.0 Conclusion

A low-scale SIA was conducted based on an assessment of likely risks and opportunities and sensitivity analysis of these impacts.

The SIA was prepared in accordance with the Terms of Reference for the EIS (Northern Territory Environmental Protection Agency, 2017) and the following leading practice guidelines:

- Guidelines for the Preparation of an Economic and Social Impact Assessment (Northern Territory Environmental Protection Agency, 2013)
- Social Impact Assessment: Guidance for Assessing and Managing the Social Impacts of Projects (Vanclay, et al., 2015).

The Berrimah Freight Terminal Expansion project is a relatively small industrial activity with a localised footprint. Project activities, during construction and operations, are likely to be in accord with the site's industrial zoning and activities on East Arm Peninsula.

The direct potential negative impacts of the project are likely to be limited and able to be managed with good communication, management planning and appropriate mitigation and enhancement measures.

The key positive social impacts of the proposal during construction and operation include:

- Direct and indirect job creation during construction and operational phases
- Efficiencies and improvements to the regional transport and logistics network
- Opportunities for strengthening partnerships with Larrakia LDC and Rangers and partner on pre-construction and land clearing activities
- Opportunities for enhanced opportunities for local procurement and strengthened regional supply chains.

The positive and negative social impacts identified and assessed in this report will be managed and mitigated through a range of measures, including mitigation measures recommended in other referral technical studies.

A SIMP has been prepared (**Appendix A**), to mitigate and manage identified social impacts.

Key mitigation measures include:

- Development and delivery of a comprehensive and responsive Community and Stakeholder Engagement program.
- Preparation and delivery of detailed Local Procurement and a Workforce Management Plans.
- Compliance with approval requirements and recommended standard for noise and air quality and the requirements of Construction and Environmental Management Plans.
- Preparation and compliance with key management plans including.
- On going monitoring, reporting and review of the SIA findings and the recommendations of the high-level SIMP.

7.0 References

Australian Bureau of Statistics (2022) 2021 Census of Population and Housing

City of Darwin. (2019). 2030 City for People. City of Colour: Strategic Plan.

City of Palmerston. (2021). Local Economic Plan 2021-2031. Palmerston: City of Palmerston.

.id (informed decisions). (2022) Community Profile for City of Darwin, City of Palmerston, City of Litchfield, Greater Darwin

International Association for Public Participation (IAP2). Core Values. Wollongong: IAP2.

International Association for Public Participation Australasia. (2015). Quality Assurance Standard. Wollongong: IAP2 Australasia.

NT EPA (2010) Ecologically Sustainable Development in the Darwin Harbour Region: Review of Governance Frameworks.

NT EPA (2021) Referring a Proposal to the NTEPA: Environmental Impact Assessment Guidance for Proponents

NT EPA (2021) Stakeholder Engagement and Consultation: Environmental Impact Assessment Guidance for Proponents.

Appendix A Social Impact Management Plan

Social Impact Assessment

Berrimah Freight Terminal Expansion

Aurizon Operations Limited

SLR Project No.: 680.030156.00001

12 February 2024

Social Impact Management Plan

The following table summarises and rates the impacts discussed in Section 5 and the proposed mitigation measures. It represents a high level Social Impact management Plan (SIMP).

As described throughout this report, the most significant impacts of the Project are likely to be experienced in the construction phase, when land clearing, workforce, transportation, and building activities are occurring. Over operations, the Project will require minimal maintenance activities and only a small onsite workforce.

This SIMP is a living document that will be regularly updated to respond to changing priorities and dynamics. It has been prepared as a practical, flexible and adaptive document to identify and respond to emerging issues of the Project.

Monitoring and reporting

The mitigation and management measures outlined in the SIMP, are supported by a rigorous and comprehensive monitoring and reporting process which will include:

- **Ongoing reporting and review** - Necessary to measure success of mitigation and enhancement measures, track change against indicators and communicate results to project proponents, stakeholders and the public.
- **SIMP monitoring** to
    - Track and enable reporting on delivery of management measures
    - Ensure that mitigation and benefit enhancement measures are effective, and/or support identification of corrective actions to improve their effectiveness.
- **Evaluation** of social management measures to understand how individual programs are tracking against overall Project objectives and to:
    - Identify and respond to problems at an early stage.
    - Conduct more effective forward planning.
    - Record program inputs, outputs, outcomes and impacts.
    - Understand and justify whether a program is meeting initial objectives.
    - Increase accountability within Project staff and teams.
    - Understand if community and stakeholder expectations are being met.
    - Increase levels of Project transparency.

The key monitoring mechanisms that are proposed for the Project are summarised below.

Summary of key monitoring mechanisms

Monitoring Mechanism	Data Type	Purpose
Employment records	Quantitative	Monitor employment diversity, e.g. gender, Indigenous status, local residency.
Procurement spend reports	Quantitative	Monitor Project spend on goods and services with local and regional providers, as well as with Indigenous businesses.
Project safety reporting	Quantitative	Monitor safety incidents and near misses that may impact on workforce health and wellbeing, as well as on the general community.
Attendance records	Quantitative	Reflect workforce and community participation in education programs, business forums, induction training, safety sessions, etc.

Monitoring Mechanism	Data Type	Purpose
Environmental monitoring reports	Quantitative	Report on results of dust, noise and air quality monitoring to evaluate potential impacts on amenity.
Community complaints register	Qualitative	Record community issues, concerns and questions regarding the Project – to identify evolving social issues.

- **Reporting** to communicate findings of the monitoring process to community and stakeholders and describe how social management activities are progressing and to support continual improvement of internal processes and practices.
- **Reviews** to track the implementation and review performance measures of the SIMP regularly, to facilitate continual improvement of strategies and practices.

Companion plans and guiding documents

This SIMP aligns with and supports other key management plans for the project, including:

Environmental Management Framework (EMF)

The Project's environmental management framework is designed to be consistent with the AS/NZS ISO14000 standards for environmental management. The framework references a suite of documents that will guide the delivery of the Project and provides a basis for incrementally improving management practices over time. Additional details on the EMF are provided in the Referral report.

Environmental management plans

Construction environmental management plans (CEMPs) and operational environmental management plans (OEMPs) will be prepared by the construction and operational contractors before the start of construction and operations. An outline of the CEMP and OEMP requirements are discussed further in the Referral report.

The CEMP's and OEMP's will interact and cross-reference a suite of other documents that will guide the delivery of the Project, including, but not limited to:

- Social Impact Management Plans (SIMP)
- Traffic Management Plans
- Erosion and Sediment Control Plan (ESCP)
- Biosecurity Management Plan

Stakeholder and Community Engagement Plan

Effective stakeholder engagement will be crucial to managing stakeholder aspirations and expectations for the Project. This is important in ensuring that stakeholders have a realistic understanding of the opportunities and impacts likely to occur as a result of the Project, thus reducing the likelihood of tensions between communities, other stakeholders and the Project.

A Stakeholder Engagement Plan (SEP) has been developed for the Project which outlines the intended approach to:

- Meeting regulatory requirements (including those commitments made in this SIMP)
- Mitigating negative impacts on communities
- Providing agreed benefits to communities
- Complaints management procedures
- Collecting and incorporating feedback to foster relationships, build capacity and inform decisions.

Assessment of impacts and proposed mitigation measures

Description of impact	Nature/ type of impact	Timing of impact	Duration of impact	Stakeholders impacted	Severity	Sensitivity	Significance (-ve only)	Proposed mitigation
Impacts on Traditional Owners								
Mangrove clearing and construction noise and dust may impact identified Aboriginal Cultural Heritage artifact or sites of significance. Given the consultation process undertaken with Traditional Owners to date, it is anticipated that involving Larrakia Rangers and LDC in site surveys and site clearing activities will mitigate significant impacts of this nature.	Direct Negative	Pre-construction Construction	Short to medium term	Traditional Owners	Minor	Moderate	Minor	Preparation and implementation of a detailed Stakeholder Communication and Engagement Strategy Undertake a detailed Aboriginal Cultural Heritage Assessment and supported by ongoing consultation with Traditional Owners leading up to and during construction. Prepare a Local Procurement Plan and a Workforce Management Plan (as outlined below) Compliance with Construction Management Plan and Environmental Management Plan
Opportunity to partner with Larrakia Rangers in pre-construction and clearing works and provide two-way knowledge sharing and industry experience for Larrakia Rangers and provide Indigenous training and employment pathways.	Indirect Positive	Pre-construction Construction Monitoring and maintenance	Short - long term		Minor	Moderate	Minor	
Major infrastructure projects can create direct and indirect procurement opportunities for Traditional Owner businesses, leading to increased revenue and benefiting business owners and employees, their families and communities. This would depend on Traditional Owners establishing relevant businesses by the time the project commences and being successfully engaged on the project.	Direct and indirect Positive	Construction Monitoring and maintenance	medium – long term	Traditional Owner businesses Traditional Owner families and communities	Minor	High	Moderate	
Jobs and training								
Direct generation of jobs through construction and operation phases, resulting in opportunities for the local and regional labour force.	Direct and indirect Positive	Construction	Short - long term	Greater Darwin communities and businesses	Medium	Moderate	N/A	Prepare a local procurement and employment policy and Local Procurement Plan and a Workforce Management Plan for the Project which will form part of the terms and conditions with which the construction contractor must comply. These will include: - Prioritisation of Traditional Owner and local businesses where possible through the procurement process - Prioritisation of Traditional Owner and local employment where possible - Shared procurement opportunities through established local procurement communication channels - Support for skills development and work readiness for Traditional Owner groups - Traineeship partnership opportunities and programs Compliance with Construction Management Plan and Environmental Management Plan
Direct and indirect procurement opportunities for local and regional businesses, leading to increased revenue and benefiting business owners and employees the construction and operation phases	Direct and indirect Positive	Construction Operation	Long term		Medium	Moderate	N/A	
Expanded freight terminal activities will attract new lessees and contribute to additional onsite jobs and training opportunities	Indirect Positive	Operation	Long term		Medium	Low	N/A	
Direct and indirect employment opportunities generated by the project, benefiting local residents and communities through increased personal and household income, and contributing to a decrease in the regional unemployment rate.	Direct and indirect Positive	Construction Operation	Long term		Minor	Low	N/A	
Business and employment opportunities would support existing established industry and expand job and training opportunities for resident workforces.	Indirect Positive	Construction	Short – long term		Minor	Moderate	N/A	
Amenity								
Potential noise, dust and vibration impacts on residential property located in proximity of the Project site. Given that no residential areas of sensitive receptors identified within 6km of the Project site, is it considered highly unlikely that residential areas would experience impacts.	Direct Negative	Construction	Short term	Surrounding residents and sensitive receptor	Negligible	Low	Minor	Amenity impacts will be managed as per mitigation measures outlined in the Noise and Air Quality, and Visual Impact studies and compliance with relevant standards. Compliance with Construction Management Plan and Environmental Management Plan A Stakeholder Communication and Engagement Strategy will include targeted consultation with potentially impacted stakeholders to provide early on ongoing information regarding project works and potential amenity impacts.
Dust, noise and vibration generated during constriction may adversely impact workers and/or users of adjacent infrastructure, businesses and facilities including the Darwin Passenger Rail Station. Given the nature of surrounding uses, it is not anticipated that these impacts would disrupt existing operations at adjacent sites. Compliance with CEMP would ensure that direct impacts are mitigated or minimised, particularly with respect to visitors to Darwin Rail Station which is located over 1.5 kilometres away.	Direct Negative	Construction	Short term	Adjacent business and Darwin Passenger Rail customers	Minor	Low	Minor	

Description of impact	Nature/ type of impact	Timing of impact	Duration of impact	Stakeholders impacted	Severity	Sensitivity	Significance (-ve only)	Proposed mitigation
The Project is recognised as a high value strategic asset that will deliver benefits for the efficiency and safety of the regional freight and logistics network.	Direct Positive	Operation	Long term	Transport and logistics operators NT Government Consumers	Medium	Negligible	N/A	An Emergency Response Plan will be prepared in consultation with local emergency service providers
Recreational users of adjacent mangrove and coastal areas may experience some disruption due to noise, dust and vibration during construction which could reduce their enjoyment of these areas. However, it is expected these users could find alternate places to undertake these activities during this period and that the distance between the Project site and publicly accessible mangroves provides a buffer from these potential impacts.	Direct Negative	Construction	Short term	Recreational users	Minor	Low	Minor	
The Project presents some potential for noise and dust impacts arising from additional heavy vehicle traffic and provide vehicles movement to and from site during construction. The passage and movement of vehicles during construction and operation would be managed through a Traffic Management Plan. Due to the relatively short construction period, workforce numbers and scale of site.	Direct Negative	Construction	Short term	Local residents and businesses	Medium	Low	Minor	
Potential impacts to community, workforce and environmental safety include chemical or fuel spills, management of contaminated soils, and storage of any hazardous materials on site. DEPWS Environmental Division also noted potential safety risks relating to extreme weather evets such as storm surges. Adherence to regulatory controls for environmental management and monitoring will be ensures to address identified risks.	Direct Negative	Construction Operation	Short - long term	Local residents Site workers Workers and visitors to adjacent businesses and sites on East Arm Emergency services	Minor	Moderate	Minor	
Housing and accommodation								
The construction and operational workforce are expected to number approximately 160 FTE combined. Goven the existing experienced workforce and the relatively short 12-month construction timeframe, it is anticipated that the workforce will predominantly reside across the Great Darwin region. This is consistent with comparable infrastructure projects currently under construction in the Darwin region. As such it is not anticipated that the construction or operational phases will result in any material increase in local housing demand.	Direct Neutral	Construction Operation	Short - long term	Construction workforce Operational workforce Private property owners	Minor	Low	N/A	Local Procurement Plan and a Workforce Management Plan to consider the likely numbers of non-resident workers during construction and will include proposed method of accommodation. Ongoing monitoring of employment against anticipated workforce profile.
Community Services								
Potential emergencies at the project site will increase demand for local emergency services. An emergency response plan will be required to ensure emergency services are responded to in a coordinated way.	Direct Neutral	Construction Operation	Short to long term	Local emergency service providers	Minor	Low	N/A	Local Procurement Plan and a Workforce Management Plan to consider the likely numbers of non-resident workers during construction and will include proposed method of accommodation. Ongoing monitoring of employment against anticipated workforce profile.
Small increase in demand on community services such as health, emergency services and education as a result of increased onsite activity during construction. This is not anticipated to materially impact the demand for or provision of community services. .	Indirect Neutral	Construction	Short to medium term	Local community service providers	Negligible	Low	N/A	
Historical community values								
Historical features will not be impacted by project works. The Project present an expansion and intensification of existing industrial uses which is consistent with the use of East Arm in the post-settlement history of the area.	Indirect Neutral	Construction Operation	Short to long term	Local community Visitors	Minor	Low	N/A	Historical narrative of East Arm will be incorporated into Project messaging as outlined in the Stakeholder Communication and Engagement Strategy. Community consultation should adopt a values-based lens to demonstrate how the Project reflects and responds to local cultural identity and community values.
Increased site capacity will generate increased heavy vehicle traffic, particularly during the construction phase. This increase has potential to negatively impact the perceived safety of the local area and major road network. However, clear project messaging, community capacity building, a Traffic Management Plan and ongoing road infrastructure upgrades will help to mitigate the perceived reduction in road safety.	Direct Negative	Construction Operation	Short to long term	Local community Local workforce Road users Visitors	Medium	Low	Minor	

Appendix B Stakeholder Engagement Log

Social Impact Assessment

Berrimah Freight Terminal Expansion Project

Aurizon Operations Limited

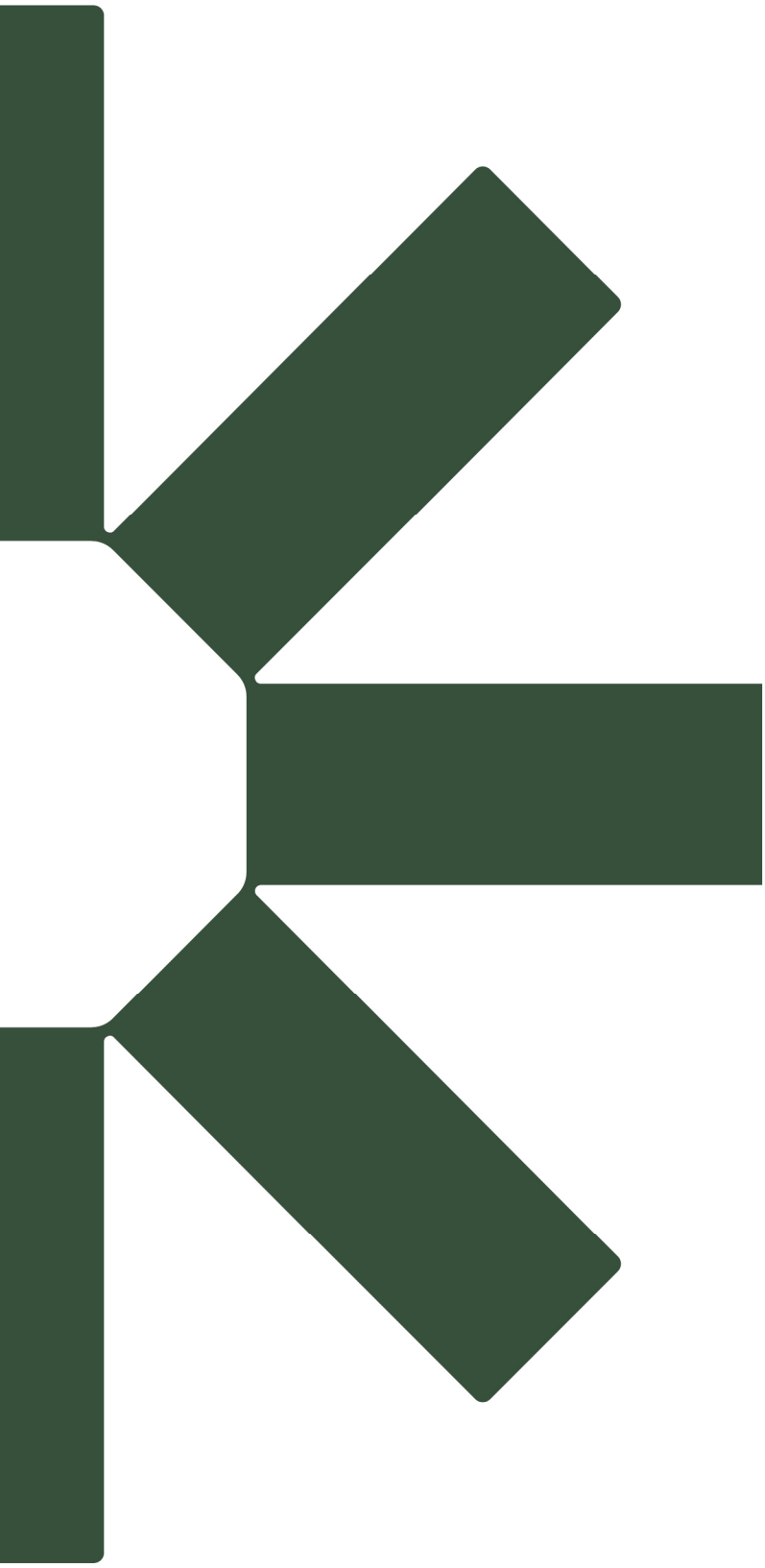
SLR Project No.: 680.030156.00001

12 February 2024

Date	Stakeholder	Communication (method/description)	Additional Notes
Stage 1 - Prior to submission of referral to NT EPA			
02-Mar-23	Land Development Corporation (Paul Schneider and Dan Cameron)	Phone call	Initial discusses regarding the access road through LDC land.
07-Mar-23	DEPWS - Flora and Fauna Division (Bridie Hill, Neil Smit, David Rhind)	Meeting	• Loss of mangroves – need to consider loss of productivity and regional context. • Migratory birds – importance of the salt pan as a migratory bird habitat. • Tidal variation and hydrology – use of existing channels for surface water runoff. • Impacts to flora and fauna – due to clearing of site for development. • Bleesers Creek – low chance of impacting habitats within creek if construction methodologies like Darwin Ship Lift.
08-Mar-23	Amanda Liliman (Migratory bird specialist)	Email Trail (CS)	Contact was made with Dr Lilleyman as she is a migratory shorebird expert in the Darwin region. She expressed concern with the initial concept design and its impacts on the saltpan area as it is an important roosting habitat for migratory birds. Subsequent to her concerns, the concept design was modified to avoid the saltpan are altogether.
09-Mar-23	DIPL - Lands Planning (Graeme Finch)	Phone call	Phone call to discuss the project and any linkages to current lands planning in the area. Suggested talking to Infrastructure NT.
09-Mar-23	DIPL - Infrastructure NT (Tracey Lines)	Meeting	• Project is important for logistics in the NT • Train turn around would be important for the project. • INT happy to assist with economic benefits.
14-Mar-23	DIPL - Development Assessment Services (Dawn Parkes, Sally Graetz)	Meeting	• DA can be lodged at any time, but paused until environmental approvals have been obtained • RW (railway) zoning - needs to be in line with Australasia Railway (Special Provisions) Act 1999 • Several overlays to be considered - storm surge - Land adjacent to a designated road. • DA would be exhibited for 4 weeks
15-Mar-23	DEPWS - Environment Division (Kylie Fitzpatrick, Holly Durrant, Peter Vasel)	Meeting	• Storage – if hazardous materials are to be stored on site, need to check compatibility with surrounding businesses. • Air/Noise: o Use NEPM 2015 air quality standards o Air and GHG emissions from trains to meet performance standards and licence conditions. o Must use NSW Guidelines for noise assessment. o No sensitive receptors nearby, but need to consider NT EPA separation distances • Storm Surge • Acid Sulfate Soils • UXOs

Date	Stakeholder	Communication (method/description)	Additional Notes
			• Cumulative Impacts • Previous diesel spill on site • Emergency Procedures
20-Mar-23	DCCEEW - (Josh Bray, Sophia Wakeling, Leo Pure)	Meeting	• Salt Pan – area is likely to provide habitat for EPBC listed migratory birds. • MNES – should consider all MNES, including threatened species, within the impact assessment. Also need to provide evidence to justify conclusions regarding impacts. • Indirect Impacts – consider indirect impacts, including to marine species, given proximity to Darwin Harbour.
22-Mar-2023	DIPL - Transport Planning (Ranil Attanayaka)	Meeting	• Access Road – is the access road to be a public or private road? • Public – if a public road, it will need a road reserve and be built to NTG standards. • Private – if private, how will public access be restricted/controlled? • Security – need to consider security around the facility. • Intersection – may require upgrades to lighting, signage and medium strip. • TIA – a Traffic Impact Assessment will be required for both construction and operational phases.
22-Mar-2023	PWC (Goutham Maddirara, Steve Saunders, Ella Leonhardt)	Meeting	Initial discussions held with PWC regarding power, water and sewage infrastructure currently servicing East Arm and the potential connections to the project area.
08-Aug-23	NT Heritage Branch	Email	Emailed Heritage Branch for information on any heritage objects/items in the project area. A response was received on 22/8/23 indicating that there are no nominated, provisionally declared or declared heritage places or objects within the subject area. The Heritage did indicate that there are known Aboriginal or Macassan archaeological places within the subject area.
08-Aug-23	Aboriginal Areas Protection Authority (AAPA)	Aurizon applies for new AAPA Certificate following advice from SLR.	
30-Aug-23	Larrakia Development Corporation (Melissa Nunes)	Meeting	Discussed the Project and potential for further involvement with LDC during construction. Melissa mentioned the option for Larrakia supervisors to be present during clearing.
11-Sep-23	AAPA (Travis Kelly, Catherine McLeish, Thomas Loporto)	Meeting	Meeting to update AAPA on the project. Aurizon has submitted an application for a new AAPA Certificate.
02-Oct-23	Larrakia Development Corporation	Email	Project factsheet sent via email to Melissa Nunes - Business Manager <melissa.nunes@larrakia.com.au> and reception@larrakia.com.au

Date	Stakeholder	Communication (method/description)	Additional Notes
02-Oct-23	Larrakia Nation	Email	Project factsheet sent via email to reception@larrakia.com
02-Oct-23	Darwin Harbour Advisory Committee (DHAC)	Email	Project factsheet sent via email to darwinharbour.DEPWS@nt.gov.au
02-Oct-23	The Planning Action Network Inc. (PLan)	Email	Project factsheet sent via email to info@planinc.org.au
02-Oct-23	Environment Centre NT (ECNT)	Email	Project factsheet sent via email to admin@ecnt.org
02-Oct-23	Amateur Fishermen's Association of the Northern Territory (AFANT)	Email	Project factsheet sent via email to office@afant.com.au
02-Oct-23	Darwin Port	Email	Project factsheet sent via email to darwinport@darwinport.com.au
02-Oct-23	Land Development Corporation		Project factsheet sent via email to enquiries@landdevcorp.com.au and Stevi Thomas - Marketing & Communications <stevi.thomas@landdevcorp.com.au>
02-Oct-23	Northern Land Council	Email	Project factsheet sent via email to reception@nlc.org.au
02-Oct-23	Industry Capability Network (ICN)	Email	Project factsheet sent via email to info@icnnt.org.au
02-Oct-23	City of Darwin	Email	Project factsheet sent via email to darwin@darwin.nt.gov.au
02-Oct-23	Palmerston City Council	Email	Project factsheet sent via email to palmerston@palmerston.nt.gov.au
05-Oct-23	Amanda Liliman (Migratory bird specialist)	Email	Provided comment on the Project factsheet. Response provided on 10/10/23. Amanda responded to the Project Factsheet (and cc'ed in 11 others including Environment Centre NT, the Planning Action Network Inc., Larrakia Rangers, BirdLife Top End). She raised concerns about the project footprint and its proximity to the saltpan. She asked for further information about: • the project footprint (ie a better image) • the separation distance between the development and the saltpan • the timing of construction • the Aboriginal heritage A response was provided back to Amanda (and cc'ed in 11 others)
10-Oct-23	Larrakia Rangers (Ben Smith)	Phone call	Spoke with Ben regarding the use of Larrakia Rangers to assist with the pre-clearance heritage surveys.



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