Chapter 1
Introduction

Contents

List of tables

List of figures

1. Introduction

The Moorebank Intermodal Terminal (IMT) Project (the Project) involves the development of intermodal freight terminal facilities at Moorebank, in south-west Sydney, linked to Port Botany and the interstate freight rail network. The Project includes associated commercial infrastructure (i.e. warehousing), a rail link connecting the Project site to the Southern Sydney Freight Line (SSFL), and road entry and exit points from Moorebank Avenue. The Project proponent is Moorebank Intermodal Company (MIC), a Government Business Enterprise (GBE) set up to facilitate the development of the Project.

The development of the Project is proposed to be phased, with an initial import export (IMEX) terminal and warehousing facilities planned to start operations around 2018 (subject to environmental and planning approvals). A subsequent 'ramp-up' of IMEX capacity and warehousing is then expected, followed by development of interstate IMT facilities by about 2030, in line with the expected demand.

The key aims of the Project are to increase Sydney's rail freight mode share by promoting the movement of container freight by rail between Port Botany and western and south-western Sydney, and to thereby reduce road freight on Sydney's congested road network. The Project site (shown in Figure 1.1) is centred on an area of land owned by the Australian Government and currently occupied by the Department of Defence (Defence). The site is adjacent to the SSFL, the East Hills Rail Line and the M5 Motorway.

The Project is subject to both Commonwealth and NSW Government approvals, and this Environmental Impact Statement (EIS) has been prepared to support applications for both approvals (EPBC number 2011/6086 and SSD-5066). The Project is a 'controlled action' under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Therefore, MIC is seeking approval for the construction and operation of the Project from the Commonwealth Minister for the Environment (Department of the Environment (DoE) (formerly the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC)) under Part 9 of the EPBC Act.

Under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), MIC is seeking a staged development approval for the Project as State significant development (SSD). At this stage, MIC is seeking Stage 1 SSD approval for the proposal concept (as described in this EIS) from the Minister for Planning (NSW Department of Planning and Environment (NSW DP&E) (formerly the NSW Department of Planning and Infrastructure (NSW DP&I)) under Part 4, Division 4.1 of the EP&A Act (hereafter referred to as the Stage 1 SSD approval). The Stage 1 SSD approval application also includes a package of 'Early Works' that comprises establishment of construction facilities, clean-up and demolition of existing buildings, some contaminated land remediation, service utility terminations and diversions, and establishment of a conservation area. This EIS is seeking approval for these Early Works without the need for any further approvals. Subject to Stage 1 SSD approval being received, the Project (with the exclusion of the Early Works) will be subject to further development applications and environmental assessment under the EP&A Act (hereafter referred to as the Stage 2 SSD approval).

The proposal concept described in this EIS (see Chapter 7 – *Project built form and operations* and Chapter 8 – *Project development phasing and construction*) provides an indicative layout and operational concept for the Project, while retaining flexibility for future developers and operators of the Project. The proposal concept is indicative only and subject to further refinement during detailed design – although any future design refinements would need to consider consistency with the Commonwealth and NSW planning approvals. The concept includes three rail access options for connecting the IMT site to the SSFL, referred to as the northern, central and southern rail access options (as shown on Figure 1.1). Through this EIS, the MIC is seeking approval for all three access options and their associated layouts. The developed option would be selected by the future developer/operator and would be the subject of the Stage 2 SSD approval(s).

Chapter 1 of this EIS (this chapter) provides an introduction to the Project and this EIS. It outlines the background to the Project, the key features of the Project, and the applicable planning approval and impact assessment processes. This chapter also describes the structure of this EIS, the various studies completed in support of it, and the priority environmental and management issues.

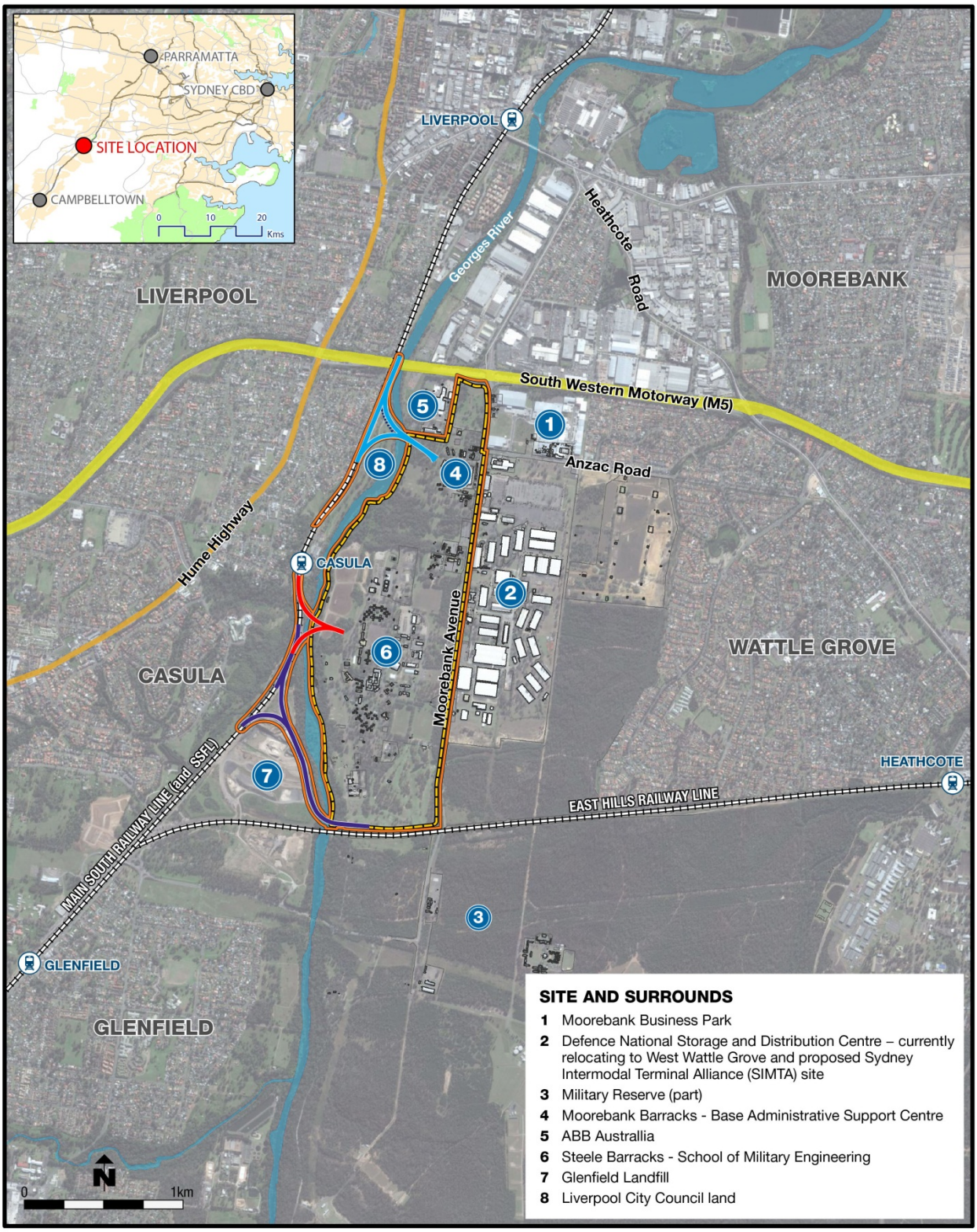

Figure 1.1 Project site and context

1.1 Project background

This section provides a brief summary of the background to the Project. A detailed description of the evolution of the Project is included in Chapter 3 – *Strategic context and need for the Project* and Chapter 6 – *Project development and alternatives*.

Forecast growth in international and interstate freight movements through Sydney's Port Botany, and increased industrial and commercial development in west and south-western Sydney, have prompted government and industry to consider strategies for alleviating constraints on Port Botany and better management of freight on Sydney and interstate roads. Insufficient intermodal rail freight capacity is recognised as a key barrier to the future development of Sydney and to improved national productivity.

In response to these pressures, the Australian Government announced in September 2004 that it would consider the development of an IMT at Moorebank (Department of Transport and Regional Services 2006). The Project site at Moorebank (refer to Figure 1.1) was considered suitable for the development of an IMT due to its proximity to road and rail networks, and to established and future industrial and commercial centres in western Sydney (refer to section 3.6.2 in Chapter 3 – *Strategic context and need for the Project*). It is anticipated that the forecast growth in freight movements would be accommodated by an IMT at the Project site. The downside of not proceeding with the Project (i.e. not developing more IMT capacity) is that increasing freight volumes would continue to be transported by road, causing further congestion to the surrounding road network and inefficiencies in freight distribution.

In 2005, the independent Freight Infrastructure Advisory Board recommended that the NSW Government act to ensure that the Moorebank site was secured for the development of a future IMT facility. The Board concluded that, in its opinion, the Moorebank site is an ideal location for an IMT and suitably placed in Sydney's west and south-western freight corridor.

As part of the $3.4 billion Nation Building Program for road and rail infrastructure, the Australian Government allocated $300 million to detailed planning for the development of an IMT at the Project site. In May 2009, Infrastructure Australia identified the IMT as part of its 'priority pipeline'. Subsequently, in the 2010–11 Budget, the Australian Government committed $70.7 million of the $300 million provision in the Nation Building Program towards the development of a business case, designs, approvals and an implementation strategy for an IMT at the Project site. The funding was also proposed to support the potential relocation of the School of Military Engineering (SME) and other Defence units currently occupying the Project site to the nearby Holsworthy Barracks, south-east of the Project site.

In September 2010, the Commonwealth Department of Finance (DoF) (formerly the Commonwealth Department of Finance and Deregulation (DoFD)) commenced the Moorebank Intermodal Terminal Feasibility Study (the Feasibility Study). The Moorebank Project Office (MPO) was established to conduct the Feasibility Study, with input from a team of advisers. The Feasibility Study included economic and financial analysis, technical feasibility and master planning for the facility.

A scoping study undertaken as part of the Feasibility Study indicated that an IMT at Moorebank would have a positive impact on national productivity and long-term public benefits associated with reducing road congestion from heavy vehicle freight transport, and the associated environmental and social impacts of this congestion. Following this study, a business case was prepared. In April 2012, after reviewing the findings of the business case, the Australian Government committed to proceeding with the Project, subject to planning and environmental approval.

In December 2012, the Australian Government created Moorebank Intermodal Company Limited (MIC) to oversee the development of the Moorebank IMT and to work with industry to achieve the terminal's full potential.

1.2 Project overview

1.2.1 What is an IMT?

An intermodal terminal, or IMT, is a location for the interchange of freight between one mode of transport and another. This can be sea to road or rail (as is the case in a marine terminal), or road to/from rail (as in the case of an inland terminal). The Project is intended to provide an inland road/rail terminal to service freight movements to and from Sydney's west and south-west.

There are two distinct subsystems associated with IMTs in Australia: import/export (IMEX) IMTs, which handle international freight; and domestic IMTs, which handle interstate and intrastate (regional) trade. Inland IMTs, such as this Project, offer marine terminals like Port Botany the opportunity to extend their capacity by moving some freight off-site by rail (via a 'port shuttle' service) closer to the end-customer locations.

Intermodal freight is predominantly containerised cargo, measured in twenty-foot equivalent units (TEU). In some circumstances, bulk cargos (such as construction material and grain in Sydney) are also transferred or packed at IMTs. The Project would exclusively handle containerised cargo, through the development of an IMEX facility and an interstate freight handling facility. The Project would, therefore, represent the point on a container's journey at which intact loads are transferred from rail to road or vice versa, and would provide a point for transhipment.

Containers are temporarily stored at IMTs to accommodate scheduling and transport considerations, such as the desire or ability of cargo owners to receive containers, and the ability of transport operators to move the containers. As a result, hardstand storage areas for containers (both loaded and empty) are a core component of most terminals. Given the concentration of freight activities at IMTs, other services, including warehousing and container packing and unpacking, are often co-located within or adjacent to the terminal. This is proposed as part of this Project.

1.2.2 Key features of the Project

Details of the indicative concept layouts for the Project, as well as the indicative operations, development phasing and construction, are provided in Part C of this EIS (refer Chapter 7 – *Project built form and operations* and Chapter 8 – *Project development phasing and construction*).

The Project involves the development of approximately 220 hectares (ha) of land at the Project site (see Figure 1.1) for the construction and operation of an IMT and associated infrastructure, facilities and warehousing. The primary functions of the IMT are to be a transfer point in the logistics chain for shipping containers, and to handle both international IMEX cargo and domestic interstate and intrastate (regional) cargo.

As noted in section 1.1, the Project site is currently occupied by the SME. Under the approved Moorebank Units Relocation (MUR) Project, the SME will be relocated to Holsworthy Barracks by mid-2015, enabling the construction of the Project to begin.

The key features/components of the Project are:

- *an IMEX freight terminal* – designed to handle up to 1.05 million TEU a year (525,000 TEU inbound and 525,000 TEU outbound) of IMEX containerised freight to service port shuttle train services between Port Botany and the Project;

- *an interstate freight terminal* – designed to handle up to 500,000 TEU a year (250,000 TEU inbound and 250,000 TEU outbound) of interstate containerised freight to service freight trains travelling to and from regional and interstate destinations; and

- *warehousing facilities* – with capacity for up to 300,000 square metres (sq. m) to provide an interface between the IMT and commercial users of the facilities such as freight forwarders, logistics facilities and retail distribution centres.

1.2.3 Rail access options and layouts

The Project is intended to connect to the SSFL, which was commissioned in January 2013 within the Main South Railway Line corridor. The SSFL connects Port Botany to west and south-western Sydney, and would provide a direct route for freight trains from Port Botany to the Project site.

Three rail access options are included as part of the proposal concept detailed in this EIS, as shown in Figure 1.1.

- The northern rail access option would provide rail access from the north-western corner of the IMT site, passing through the former Casula Powerhouse Golf Course (currently owned by Liverpool City Council (LCC)) and crossing the Georges River and floodplain.

- The central rail access option would provide rail access from the centre of the western boundary of the IMT site, passing through Commonwealth land on the western bank of the Georges River (referred to as the 'hourglass land').

- The southern rail access option would provide rail access from the south-western corner of the IMT site, passing through the Glenfield Landfill site (owned by Glenfield Waste Services) and crossing the Georges River and floodplain.

Once the selected developer/operator is appointed, the Project would progress to the detailed design phase, at which point one of the three rail access options identified above would be selected by the developer/operator based on an assessment of the:

- impacts of the rail access option;

- feasibility of obtaining the land required to construct and operate the rail access option; and

- overall IMT site layout, with the aim of achieving the most effective and efficient operational layout for the IMEX and interstate terminals.

In order to maintain flexibility for future developers and operators of the Project, the proposal concept, as presented in this EIS, provides three indicative IMT internal layouts; one for each of the three proposed rail access options.

1.2.4 Indicative Project development phasing

The Project is expected to be phased (staged) in its development, as summarised in Figure 1.2. The indicative phasing includes both construction and operational phases, which are likely to overlap at certain times. For the purposes of assessment of the Project, five Project development phases have been identified and detailed in this EIS. These are indicative only, but illustrate the type of construction and operation activities that would occur over time at the Project site.

The Project would likely commence in mid-2015 with the Early Works development phase, and would progress to initial construction and then operation through to the Project Full Build Phase (operation of full IMEX terminal, warehousing and interstate terminal) by approximately 2030.

The indicative development phasing is in line with the forecast market demand for processing of containers through the Project, as explained further in Chapter 3 – *Context and need for the Project*. The actual phasing would be confirmed during detailed design and through subsequent Stage 2 SSD approval applications.

1.2.5 Road access to the site

Freight trucks would access the Project site from Moorebank Avenue, via the M5 Motorway. Trucks would then access the M7 Motorway and Hume Highway by the M5 Motorway. An upgrade of Moorebank Avenue would be included as part of the first phase of Project development (Phase A) to enable safe and efficient access to the Project site. Further details are provided in Chapter 7 – *Project built form and operations,* Chapter 8 – *Project development phasing and construction* and Chapter 11 – *Traffic, transport and access*.

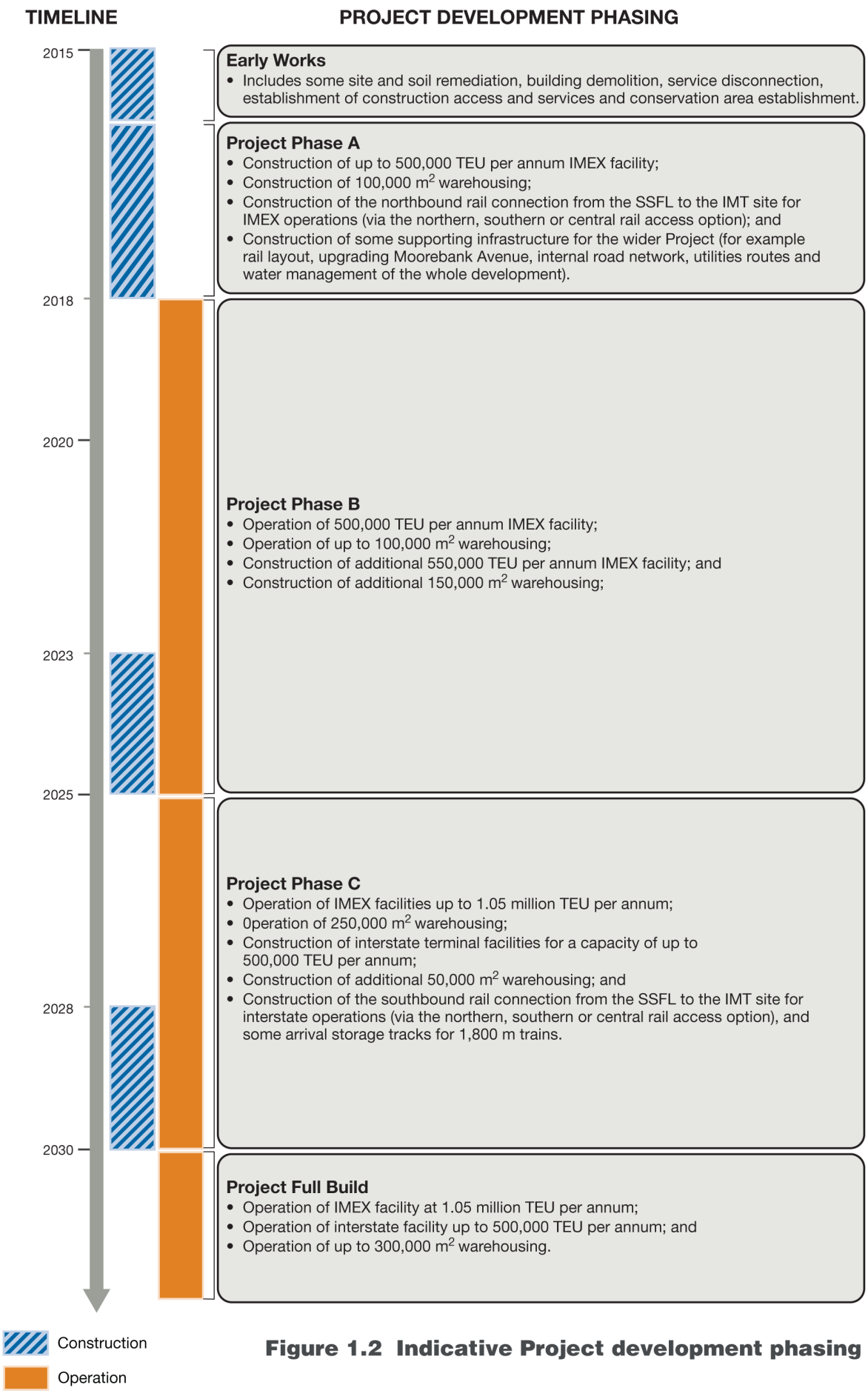

Figure 1.2 Indicative Project development phasing

1.3 Project objectives

The Project is a key piece of strategic infrastructure designed to address Sydney's shortage of IMT capacity. Specifically, it would facilitate the movement of up to 1.05 million TEU a year of IMEX freight between Port Botany and the Project site, and a further 500,000 TEU a year associated with the operation of an interstate terminal. This would present a number of benefits, including relieving congestion of container freight from the road network surrounding Port Botany, complementing other IMTs in the Sydney region (e.g. Enfield and Ingleburn), and supporting any increase in freight handling capacity at Port Botany. It would also complement other government rail investments. Benefits of the Project are further detailed in section 3.2.

Table 1.1 details the six long-term objectives established for the Project by the Australian Government in 2010, as well as MIC's constitutional objectives as established by the Australian Government in December 2012. As MIC is now the proponent for the Project, its objectives are the current objectives for the Project; however, the Australian Government objectives are also included here, as the Project was developed in accordance with those objectives until MIC was formed in 2012.

Table 1.1 Australian Government objectives (2010) and MIC constitutional objectives (2012)

Aust. Government objectives (2010) for the Project			**MIC constitutional objectives (2012) for the Project**		
No.	**Objective**	**Relevance to this EIS**	**No.**	**Objective**	**Relevance to this EIS**
1.	Boost national productivity over the long term through improved freight network capacity and rail utilisation.	Underpinned the development of the Project concept and consideration of alternative sites and layouts up to end 2012 (refer Chapter 6 – *Project development and alternatives)*	i)	To facilitate the development of an intermodal freight terminal at Moorebank, including an IMEX facility, an interstate freight terminal capable of catering for 1,800 metre trains and ancillary facilities by optimising private sector investment and innovation in the development, construction and operation of the intermodal terminal.	Underpinned the optimisation and further development of the Project concept from December 2012 up to finalisation of this EIS (refer Chapter 6 – *Project development and alternatives)*
2.	Create a flexible and commercially viable facility and enable open access for rail operators and other terminal users.		ii)	To facilitate the operation of a flexible and commercially viable common user facility which shall be available on reasonably comparable terms to all rail operators and other terminal users.	
3.	Minimise impact on Defence's operational capability during the relocation of Defence facilities from the Moorebank site.		iii)	To ensure the intermodal terminal operates with the aim of improving national productivity through an efficient supply chain, increased freight capacity and better rail utilisation.	
4.	Attract employment and investment to west and south-western Sydney.		iv)	To operate on commercially sound principles having regard to the Australian Government's long-term intention to sell its interest in the Company.	

Aust. Government objectives (2010) for the Project			MIC constitutional objectives (2012) for the Project	
5.	Achieve sound environmental and social outcomes that are considerate of community views.		In achieving the above objectives, MIC is tasked with delivering a value for money solution to the Australian Government and acting in an environmentally and socially responsible manner with due regard to local communities' views. This means that the IMT needs to be designed, developed and operated in a way that would minimise impacts on nearby residents and businesses.	
6.	Optimise value for money for the Commonwealth having regard to the other stated Project objectives.			

Further detail on the strategic need and justification for the Project is presented in Chapter 3 – *Strategic context and need for the Project*.

1.4 The proponent and delivery entity

Both the Commonwealth approval process and the NSW Stage 1 SSD approval process will be undertaken in the name of MIC, as the Project proponent.

MIC has been established to oversee the delivery of the Project, and is wholly owned by the Australian Government. Its two shareholder ministers are the Minister for Infrastructure and Regional Development and the Minister for Finance. More information on MIC is available at http://www.micl.com.au. Before MIC was established in December 2012, the (former) DoFD was responsible for the Project and delivered the feasibility study for the Project, including a scoping study and business case.

At the time of publication of this EIS, an evaluation of interest from potential operators and developers of the terminal has been completed. MIC has commenced negotiations with the Sydney Intermodal Terminal Alliance (SIMTA) for a period of up to six months to determine whether suitable terms for the development and operations of the terminal can be agreed and whether a combined IMT precinct can be developed. The SIMTA site, located immediately east of the Project site, is also subject to a proposal for the construction and operation of an IMT. This includes a proposed southern rail access connection to the SSFL across the Glenfield Landfill site. If negotiations are successful and MIC and SIMTA agree to develop a combined IMT precinct, then:

- only one IMEX terminal would be built; and
- a southern rail access connection to the SSFL would be constructed across the Glenfield Landfill for the IMT precinct.

If a detailed agreement with SIMTA cannot be reached within six months, MIC will consider other options.

The SIMTA concept plan has received both Commonwealth and NSW approvals, however the NSW Planning Assessment Commission approved the project subject to modifications and a requirement for further assessment. The approval also placed a limit of 250,000 TEU a year throughput on the Stage 1 project application and a total upper limit throughput cap of 500,000 TEU a year.

It should be noted that this EIS only seeks approval for the development of the IMT on the Project site. Any further planning approval requirements as a result of an agreement being reached with SIMTA would be considered further as part of the Stage 2 SSD process (refer section 1.6 below).

1.5 The EIS Project Team

The EIS Project Team is detailed in Volume 2, Appendix A to this EIS.

Parsons Brinckerhoff Pty Ltd (Parsons Brinckerhoff) has been the lead adviser in the preparation of this EIS for the Project concept (see below).

1.6 Planning and assessment process

The planning and assessment process for the Project is summarised in Figure 1.3.

MIC is currently seeking approval for the proposal 'concept' (i.e. the broad parameters of the Project) to satisfy both:

- a Stage 1 SSD approval under the EP&A Act; and
- the requirements of the EPBC Act in relation to impacts of the proposed action on matters protected under the Act (which, in the case of this Project, comprise listed threatened species and communities) and impacts on the environment by a Commonwealth agency.

This EIS assesses the impacts of all potential IMT layouts, rail access options and indicative development phases to a concept level. The exception is the Early Works development phase, for which MIC is seeking approval to commence as part of the Stage 1 SSD approval application, with no further approval required. Details of the Early Works phase are provided in section 8.3 of Chapter 8 – *Project development phasing*.

As identified in Figure 1.3, the approval processes under the EPBC Act and the EP&A Act are intended to proceed in parallel, as follows:

- Under the EPBC Act:
  - > This EIS comprises a draft EIS pursuant to section 102.
  - > MIC has received approval from the Commonwealth Minister for the Environment (Commonwealth Minister) to publish this document and invite anyone to provide comments to MIC on the draft EIS, within a period as specified by the Minister (agreed as 60 calendar days).
  - > Following the public comment period, MIC will finalise the EIS (taking into account any relevant comments) and give the final EIS and any supplementary EIS (which will be prepared to respond to submissions received on the draft EIS) to the Commonwealth Minister in order for the assessment process to be finalised and the approval process under Part 9 of the EPBC Act to commence. The final EIS will also be made publicly available. Following preparation of a Recommendation Report by the Australian Government Environment Secretary, the Commonwealth Minister for the Environment (or delegate) will then decide whether to approve the Project and any conditions on such approval.
- Under the EP&A Act:
  - > This EIS comprises a final EIS pursuant to Part 4, Division 1 for Stage 1 SSD approval, with MIC seeking consent for Early Works without the need for any further approvals.
  - > This EIS has been placed on public exhibition and public submissions are invited within a period specified by the Minister (60 calendar days).

- Following the public exhibition period, MIC will prepare a Response to Submissions Report for the Stage 1 SSD approval application for the Project. This report will be lodged with the NSW DP&E, which will then prepare an Assessment Report to assist the Minister in making a determination on the Project. The Assessment Report will be made publicly available.

- The Stage 1 SSD approval (if received) would provide approval in principle for the overall Project, including approval of the broad layout and operational parameters. However, it would defer approval of details (such as precise rail and road layout, urban design, etc.) until the subsequent development approvals (the Stage 2 SSD approvals).

- If the NSW Minister for Planning (or the Planning Assessment Commission, by delegation) issues the Stage 1 SSD approval, they will also issue conditions of consent. These would include conditions to be complied with in the implementation of the Early Works, as well as a schedule of additional assessments required to secure subsequent development approvals. These would typically include additional air, noise and traffic assessment, and more detailed assessment of individual Project phases. These further assessments would be contained in a new EIS document (or similar) that would provide an updated description of the Project and the supplementary impact assessments prescribed by the Minister.

- The subsequent Stage 2 SSD approval process may be a single development approval (and supporting EIS or similar) for the entire development, or, more likely, multiple development approvals for various components of the development.

As part of the procurement process, MIC would coordinate any required modifications to the EPBC approval and the Stage 1 SSD approval for the Project, as well as the preparation of subsequent, more detailed Stage 2 SSD approvals to comply with the final design for the Project. MIC would work closely with the community throughout this process.

In addition, a planning proposal has been prepared in accordance with the EP&A Act and would be undertaken by NSW DP&E acting as the relevant planning authority (RPA). The planning proposal seeks to rezone the main IMT site to partly *IN1 General Industrial* (for the IMT) and partly *E3 Environmental Management* (for the conservation zone along the Georges River). The planning proposal also seeks to introduce height and floor space ratio controls which will apply to development on the main IMT site. The planning proposal is being exhibited concurrently with the EIS.

Further details on the approvals and the planning proposal process are provided in Chapter 4 – *Planning and statutory requirements* of this EIS.

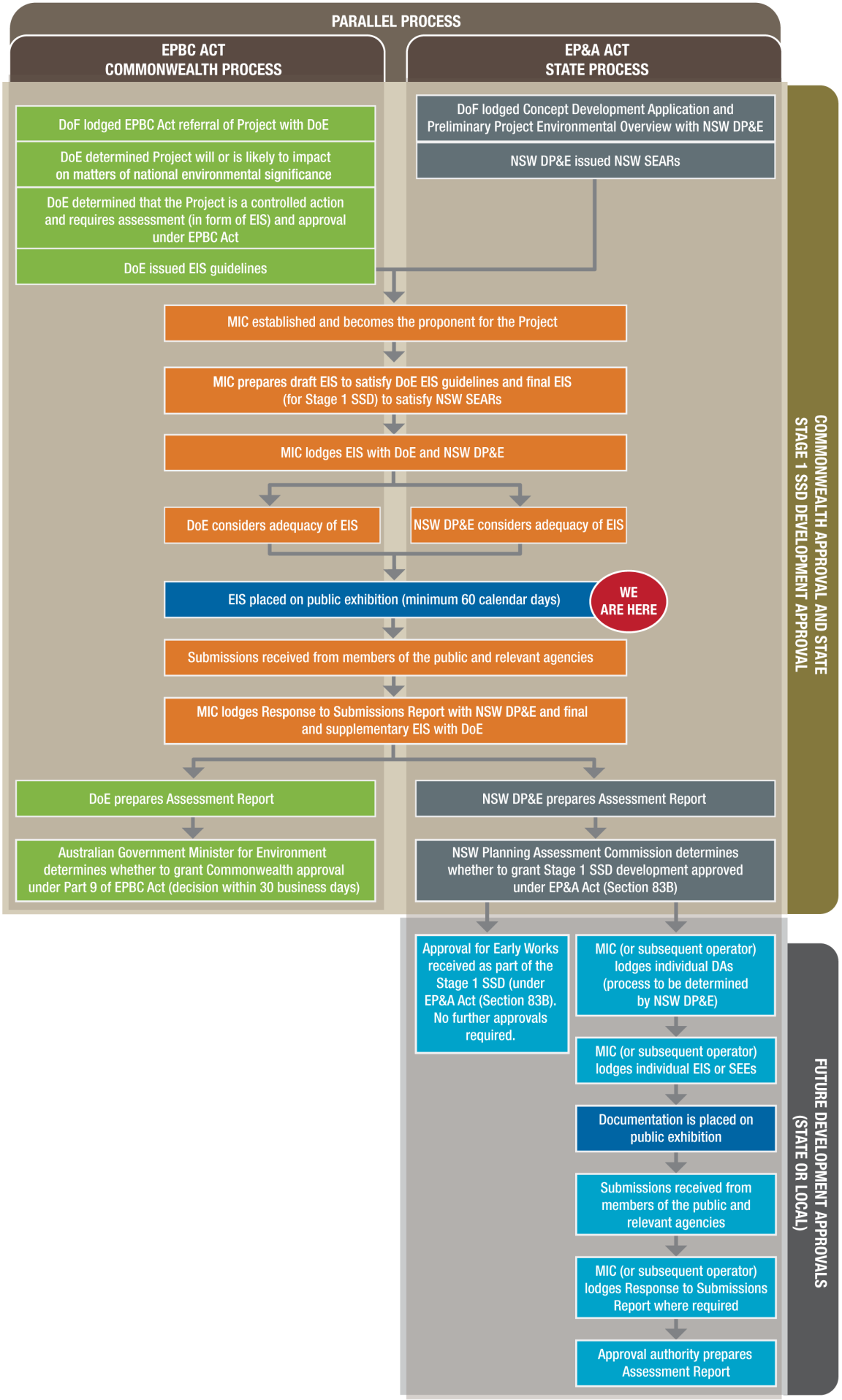

Figure 1.3 Commonwealth and State approval pathway

1.7 Impact assessment approach

As outlined in section 1.2.4, construction and operation of the IMT is expected to be undertaken in a phased manner. In order to identify the potential worst case environmental impacts of the Project, this EIS assessed the potential impacts of various phases of development over the entire Project period leading to the fully developed, operational Project (the 'Full Build').

For a number of technical studies undertaken for the EIS, construction and operational impacts were assessed separately using the following scenarios:

- Early Works;
- construction of the Project, comprising 'typical' construction impacts; and
- operation of the fully developed Project (i.e. Full Build) – representing the 'worst case' operational scenario in terms of Project footprint, buildings and infrastructure – assumed to be from 2030.

This approach has been used for the purposes of assessing:

- biodiversity (Chapter 13 – *Biodiversity*);
- preliminary hazards (Chapter 14 – *Hazards and risks*);
- contamination and soils (Chapter 15 – *Contamination and soils*);
- hydrology and water quality (Chapter 16 – *Hydrology, groundwater and water quality*);
- Aboriginal heritage (Chapter 20 – *Aboriginal heritage*);
- European heritage (Chapter 21 – *European heritage*);
- visual and urban design (Chapter 22 – *Visual and urban design*);
- light spill assessment (Chapter 22 – *Visual and urban design*);
- property and infrastructure (Chapter 23 – *Property and infrastructure*); and
- waste and resource management (Chapter 26 – *Waste and resource management*).

A different approach has been applied to the assessment of traffic and transport, noise and vibration, local air quality and human health, as these issues have been identified as being the most potentially significant impacts and would be heavily influenced by the Project development phasing. As summarised in Chapter 10 – *Impact assessment approach*, 13 scenarios have been developed to determine the potential worst case impacts of the Project during each of the indicative development phases. These scenarios have been developed with consideration of the different rail access options and the key construction and operational activities expected during each Project development phase. A 'summary of key findings' section, including a summary matrix, is provided at the end of each impact assessment chapter (Chapters 11–27) to summarise the overall impacts of the Project and each of the three rail access options.

Further details in relation to the impact assessment approach are provided in Chapter 10 – *Impact assessment approach*.

In addition, an assessment of the cumulative impacts of the IMT proposal in conjunction with the development of the adjacent SIMTA site and other nearby development is provided in Chapter 27 – *Cumulative impacts*.

1.8 Structure of the EIS

This EIS comprises nine volumes:

- Volumes 1A and 1B comprise the main EIS document;
- Volume 2 comprises the appendices to the main EIS document; and
- Volumes 3 to 9 comprise the technical reports prepared by specialists and the wider Project Team.

The contents of this EIS are listed in Table 1.1 below.

Table 1.2 EIS volume contents

Volume	Chapter/Appendix/ Technical Paper	Title/description
Volume 1A – Main Volume	Declaration	Declaration in accordance with Schedule 2, Part 3 of the NSW *Environmental Planning and Assessment Regulation 2000*; and general information relating to the proposed action under the Commonwealth EPBC Act
	Glossary and abbreviations	Glossary and abbreviations
	EIS Summary	Summary of the EIS
	Chapter 1	Introduction
	Chapter 2	Site context and environmental values
	Chapter 3	Strategic context and need for the Project
	Chapter 4	Planning and statutory requirements
	Chapter 5	Stakeholder and community consultation
	Chapter 6	Project development and alternatives
	Chapter 7	Project built form and operations
	Chapter 8	Project development phasing and construction
	Chapter 9	Project sustainability
	Chapter 10	Impact assessment approach
	Chapter 11	Traffic, transport and access
	Chapter 12	Noise and vibration
	Chapter 13	Biodiversity
	Chapter 14	Hazards and risks
	Chapter 15	Contamination and soils
Volume 1B – Main Volume	Chapter 16	Hydrology, groundwater and water quality
	Chapter 17	Local air quality
	Chapter 18	Regional air quality
	Chapter 19	Greenhouse gas assessment
	Chapter 20	Aboriginal heritage
	Chapter 21	European heritage

Volume	Chapter/Appendix/ Technical Paper	Title/description
	Chapter 22	Visual and urban design
	Chapter 23	Property and infrastructure
	Chapter 24	Social and economic impacts
	Chapter 25	Human health risks and impacts
	Chapter 26	Waste and resource management
	Chapter 27	Cumulative impacts
	Chapter 28	Environmental management framework
	Chapter 29	Environmental risk analysis
	Chapter 30	Project justification and conclusions
	Chapter 31	References
Volume 2 – Appendices	Appendix A	EIS Project team
	Appendix B	EIS guidelines and requirements
	Appendix C	Compliance with the Georges River Regional Environmental Plan principles
	Appendix D	Consultation information, materials and outcomes
	Appendix E	MCA criteria relating to Project objectives
	Appendix F	Layouts of shortlisted Project alternatives
	Appendix G	Peer review endorsements
	Appendix H	Provisional EMPs
	Appendix I	Environmental record of Proponent
	Appendix J	Compliance with Schedule 1, Part 1 and 2 of the NSW *Environmental Planning and Assessment Regulation 2000*
	Appendix K	Tenure history of the Project site
Volume 3	Technical Paper 1	Traffic and Transport Impact Assessment
	Technical Paper 2	Noise and Vibration Impact Assessment
Volume 4	Technical Paper 3	Ecological Impact Assessment (with associated Biodiversity Offset Strategy)
	Technical Paper 4	Preliminary Risk Assessment
Volume 5A	Technical Paper 5	Environmental Site Assessment (Phase 2)
Volume 5B	Technical Paper 5	Environmental Site Assessment (Phase 2) – Appendices C to F
Volume 6	Technical Paper 6	Surface Water Assessment
	Technical Paper 7	Local Air Quality Impact Assessment
	Technical Paper 8	Regional Air Quality Impact Assessment
	Technical Paper 9	Greenhouse Gas Assessment
Volume 7	Technical Paper 10	Aboriginal Heritage Impact Assessment
Volume 8	Technical Paper 11	European Heritage Impact Assessment
	Technical Paper 12	Visual Impact Assessment
Volume 9	Technical Paper 13	Light Spill Impact Assessment
	Technical Paper 14	Social Impact Assessment
	Technical Paper 15	Human Health Risk Assessment
	Technical Paper 16	Health Impact Assessment

Sixteen technical papers were prepared for the EIS by Parsons Brinckerhoff or its specialist sub-consultants (refer Table 1.2). The technical papers in Volumes 3 to 9 have been used to inform this EIS document. In particular, the mitigation and management measures recommended in the technical papers have been taken into account in developing the proposed mitigation and management measures for the Project as a whole. These proposed measures are presented in Chapter 28 – *Environment management framework*.

The mitigation measures have been grouped into two types:

- Measures that are mandatory and firm mitigation commitments (subject to the Project proceeding). These measures are marked 'M' in Table 28.2 (refer to section 28.3 in Chapter 28 – *Environmental management framework*).
- Measures that are subject to review during the Project approval process or detailed design, when the future operator/developer has been selected and more detail of the Project design and operations would be available. These measures are marked 'SR' in Table 28.2, which indicates they are 'subject to review' by the future developer/operator (refer to section 28.3 in Chapter 28 – *Environmental management framework*).

1.9 Summary of priority environmental and management issues

An environmental risk analysis (ERA) was undertaken for the Project (refer to Chapter 29 – *Environmental risk analysis*). The outcomes of the ERA have confirmed that the Project is anticipated to have environmental and social impacts; however, assuming effective implementation of the proposed mitigation and management measures outlined in this EIS (refer to Chapter 28 – *Environmental management framework*), the majority of the impacts identified are not considered significant. Following implementation of the proposed mitigation measures, the anticipated key residual impacts (i.e. the priority environmental and management issues) are predicted to comprise:

- increase in ambient noise levels at sensitive receivers;
- loss or disturbance of Threatened flora and fauna species;
- potential for increase in flood levels (afflux) upstream of the Georges River bridge; and
- adverse impact on visual amenity.

Notwithstanding mitigation and management, these impacts were identified as risks that retain a moderate significance rating, resulting in the need for an ongoing and targeted focus on these matters as the Project enters its next stages (e.g. detailed design and future Stage 2 SSD approvals). For further details refer to Chapter 29 – *Environmental risk analysis.*