SECTION 1

NEWCASTLE COAL INFRASTRUCTURE GROUP COAL EXPORT TERMINAL

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1 INTRODUCTION

This document is an Environmental Assessment (EA) for the proposed development of a Coal Export Terminal (CET) (the Project) by Newcastle Coal Infrastructure Group Pty Limited (NCIG). The Project is located on Kooragang Island in Newcastle, New South Wales (NSW), within the Newcastle local government area (Newcastle LGA) (Figures 1-1 and 1-2). The Project includes the construction and operation of a 66 million tonnes per annum (Mtpa) CET, including associated rail and coal handling infrastructure and wharf/shiploading facilities on the south arm of the Hunter River.

NCIG is the proponent of the Project. NCIG is a consortium of the following six companies:

- Hunter Valley Energy Coal Limited;
- Centennial Coal Company Limited;
- Donaldson Coal Pty Limited;
- Excel Coal Limited;
- Felix Resources Limited (formerly White Mining Limited); and
- Whitehaven Coal Mining Pty Ltd.

1.1 PROJECT OVERVIEW

1.1.1 Purpose of this Report

This EA has been prepared to accompany the Project Application, in accordance with Part 3A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act).

This EA assesses the environmental impacts of the Project in accordance with the Environmental Assessment Requirements (EARs) issued by the Director-General of the Department of Planning (DoP) on 26 April 2006 (Attachment 1). The EARs were issued in accordance with the requirements of Part 3A of the EP&A Act and Part 1A of the *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation). Further detail on the EARs is provided in Section 1.2.

1.1.2 Background

The ability for NSW coal producers to export coal through Newcastle is constrained by the capacity of the Hunter Valley coal supply chain. Since August 2003, there is evidence that some coal export growth might have been lost as a result of constraints in the system (ABARE, 2005).

Projected future coal export demand cannot be met by the existing coal loading facilities in Newcastle that are located at Carrington and Kooragang Island (Section 3.9).

In September 2004, the NSW Government placed out to tender a 35 year lease for nominated portions of land on Kooragang Island for general use (including possible use as a CET).

The NSW Government named NCIG as the successful tenderer for the lease of the Project site on 25 August 2005. NCIG signed the Kooragang Island Coal Loader Terminal Deed of Agreement for Lease (Agreement for Lease) for the Project site on 26 August 2005.

1.1.3 Project Summary

NCIG proposes to commence construction of the CET in the first quarter of 2007. The Project comprises the following key components (Figure 1-3):

- foundation preparation/capping of a rail corridor traversing the existing Kooragang Island Waste Emplacement Facility (KIWEF) for the development of the rail spurs, rail sidings and rail loops;
- construction of rail spurs, rail sidings and rail loops, rail overpass, train unloading stations and connecting conveyors;
- re-use of dredged materials from the south arm of the Hunter River as preload and engineering fill for construction of the coal storage area, rail corridor and wharf facilities;
- construction of a coal storage area including coal stockpiles, conveyors, transfer points and combined stacker/reclaimers;
- construction of wharf facilities, shiploaders, conveyors and buffer bins;
- development of water management infrastructure including site drainage works, stormwater settlement ponds, primary and secondary settling ponds, site water pond, water tanks and stockpile spray system;
- installation of electricity reticulation and control systems;
- development of access roads and internal roads;
- construction of administration and workshop buildings;

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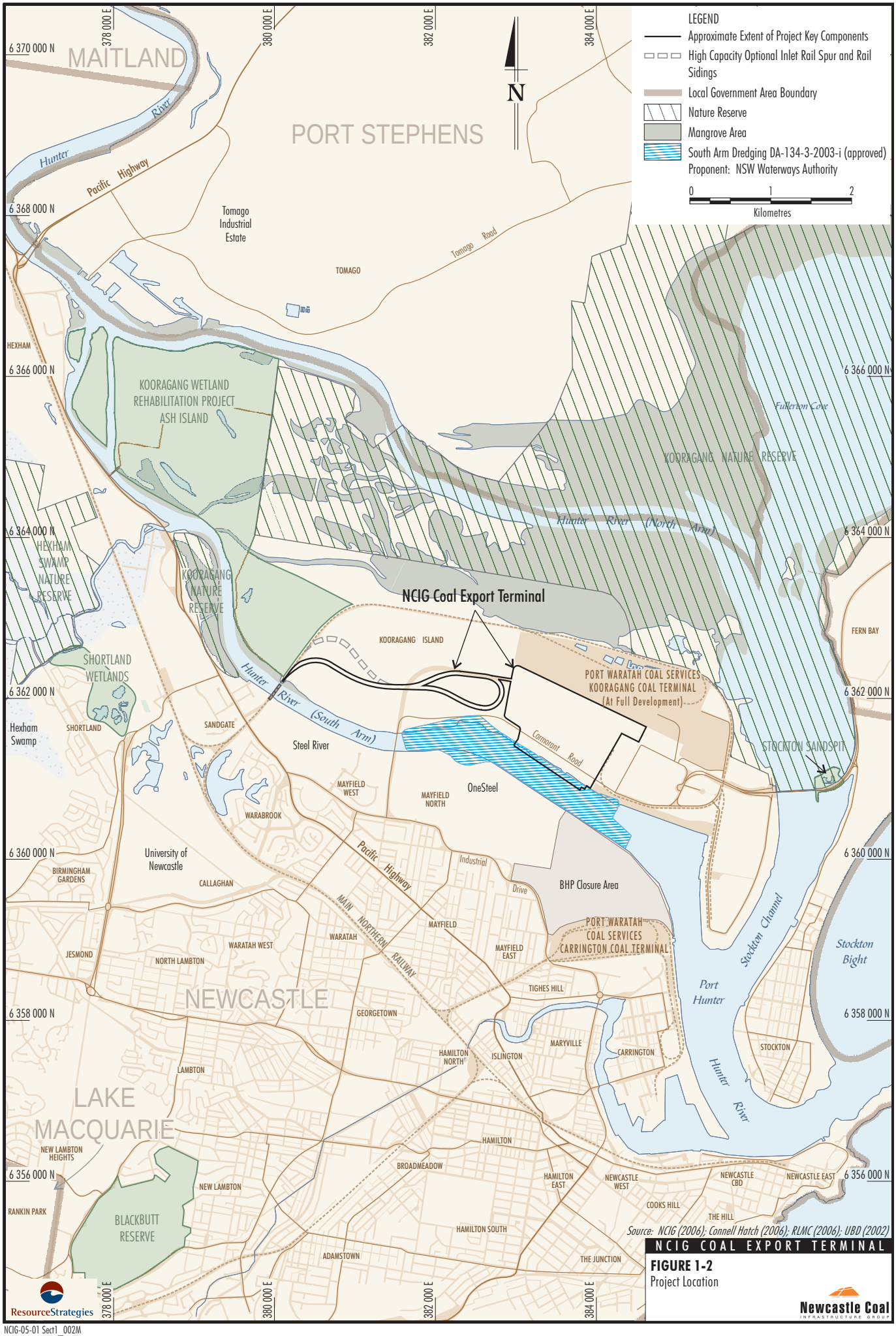

Source: NCIG (2006); Connell Hatch (2006); RLMC (2006); UBD (2002)

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FIGURE 1-2
Project Location

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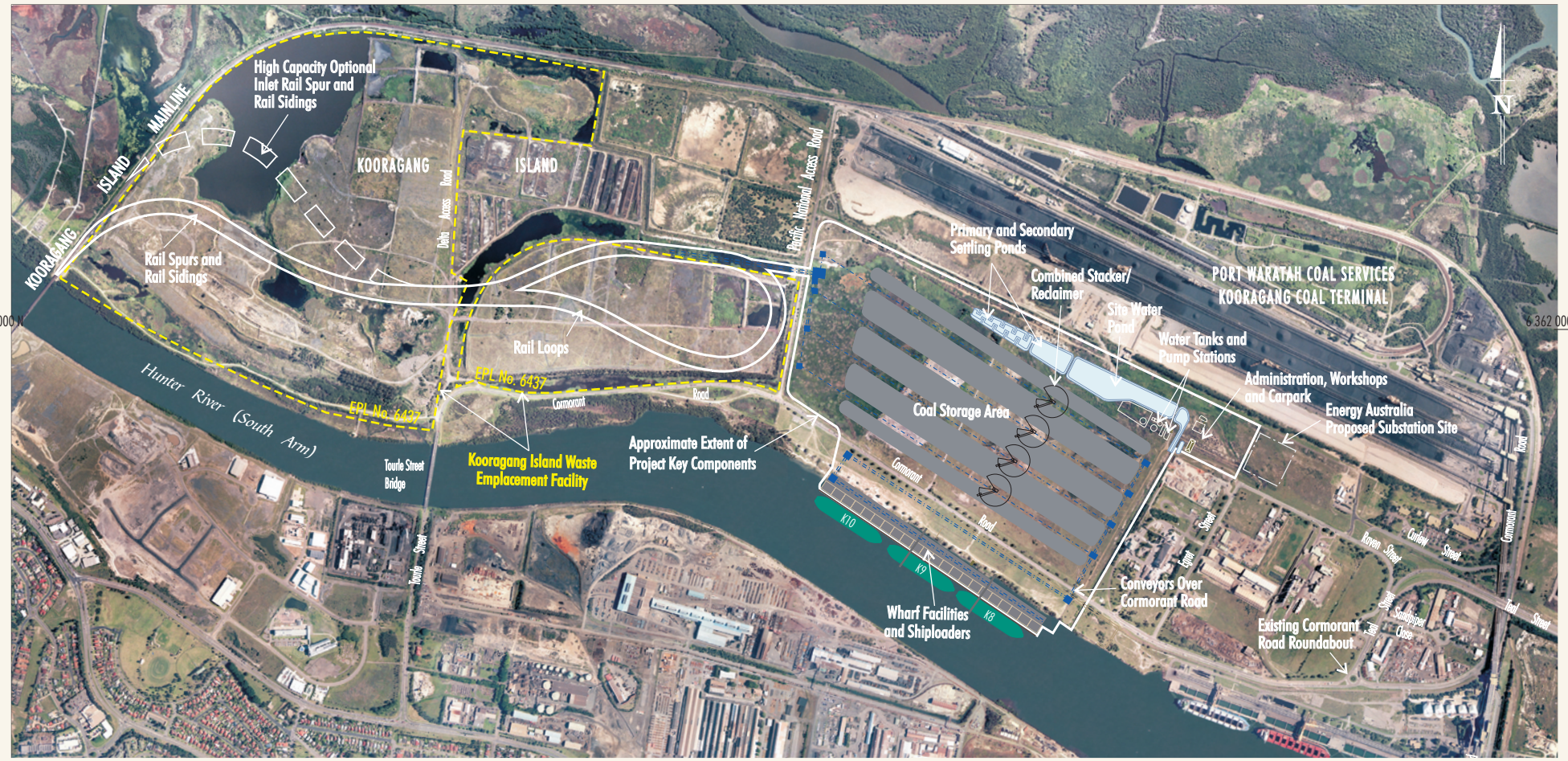

Source: NCIG (2006); Connell Hatch (2006)

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FIGURE 1-3
Aerial Photograph Showing
Project General Arrangement

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- other associated minor infrastructure, plant, equipment and activities; and
- operation of the CET up to a capacity of 66 Mtpa, including the unloading of coal trains, the stockpiling of coal, and the loading of coal to ships via the wharf facilities and shiploaders.

Upgrading of electricity transmission infrastructure to supply the existing and future industrial requirements of Kooragang Island industrial facilities (including the Project) is being undertaken by Energy Australia and is not included as part of the Project or assessed in this EA.

Dredged material from the approved Extension of Shipping Channels within the Port of Newcastle (DA-134-3-2003-i) would be used as construction material for the Project. Further detail of the interaction between this Project and DA-134-3-2003-i is provided in Sections 2.5.1 and 3.6.1.

A description of the construction and operation of the Project, including a provisional development schedule, is provided in Section 2. An assessment of the potential environmental impacts of the Project and the proposed environmental mitigation, management and monitoring measures is provided in Section 4. Supporting appendices upon which the assessment is based are attached to this EA.

1.1.4 Site Location, Tenure and Past Land Use

The Project is located on Kooragang Island, which lies near the mouth of the Hunter River, approximately 6 kilometres (km) north-west of the Newcastle Central Business District. Kooragang Island is characterised by a combination of port and industrial land uses in the south and the Kooragang Nature Reserve in the north (Figures 1-2 and 1-3).

The Project is located on lands administered by the Regional Land Management Corporation (RLMC), the Maritime Services Board of NSW and the Minister for Public Works and Services (Table 1-1).

The Project is located on lands designated Zone 4(b) (Port and Industry), Zone 5(a) (Special Uses Zone – Arterial Road) and an unzoned area (Hunter River) under the *Newcastle Local Environmental Plan, 2003* (Newcastle LEP) (Figure 1-4).

Kooragang Island was originally a series of deltaic islands (including Ash Island, Dempsey Island and Moscheto Island) near the mouth of the Hunter River. Europeans initially used the islands for agriculture upon settling in the area in the 1830s (Dames & Moore, 1999; Umwelt, 2003a). The islands were sporadically used for dredge spoil disposal associated with early harbour works, and from 1953, reclamation of the deltaic islands for industrial use was legislated. In 1972, BHP commenced operating a landfill on Kooragang Island (i.e. the KIWEF) (Figure 1-3). Industrial waste materials (e.g. coal washery rejects, steel manufacturing waste and construction waste) were used to reclaim land in addition to the deposition of dredged material from the Hunter River estuary and its tributaries.

The Project site comprises part of the KIWEF and reclaimed land situated between the south arm of the Hunter River and existing industrial development on the island (Figure 1-3).

1.1.5 Project Snapshot

Key Project information is summarised in Table 1-2.

1.1.6 Proponent

The Project is being developed by NCIG (Table 1-2). The address of NCIG is:

Newcastle Coal Infrastructure Group Pty Limited
Post Office Box H287
Australia Square
SYDNEY NSW 1215
Telephone: (02) 4929 3479

1.2 ENVIRONMENTAL ASSESSMENT REQUIREMENTS

A Planning Focus Meeting (PFM) for the Project was held on 8 March 2006. The objective of the PFM was to familiarise government stakeholders with the development proposal and to facilitate identification and consideration of environmental and other issues relevant to the Project. From this consultation, DoP developed the EARs for the EA (Attachment 1).

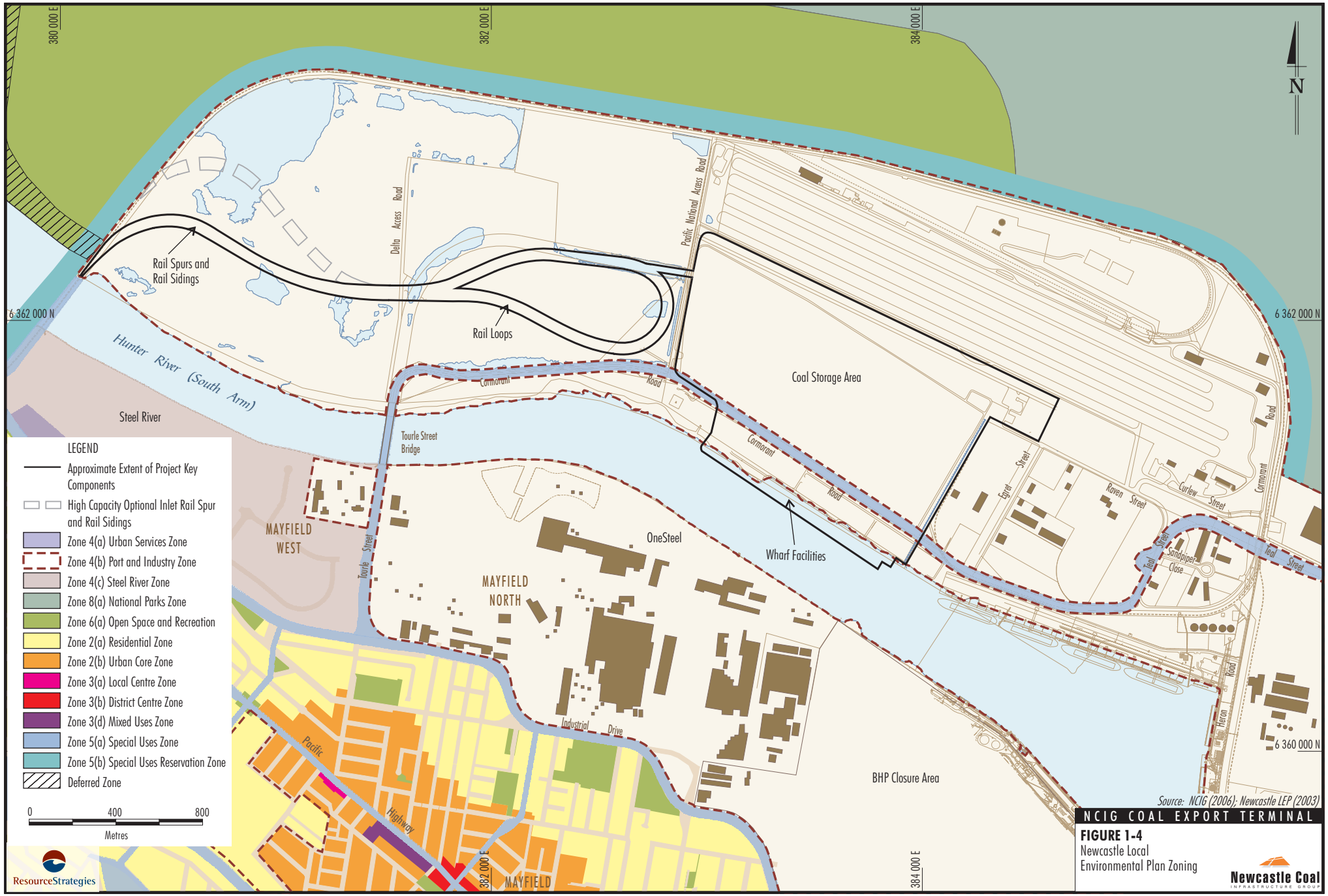
A summary of the EARs is provided in Table 1-3. Table 1-3 also provides the relevant section of the EA where each issue raised in the EARs is addressed.

Table 1-1
Land Tenure Summary

Lot/Deposited Plan (DP)	Land Administrator	Land Owner
Part of Lot 122 – DP 874949	RLMC	Crown (NSW Treasury Crown Property Portfolio)
Part of Lot 7 – DP 1015754	RLMC	Minister for Public Works and Services
Part of Lot 6 – DP 1015754	RLMC	Minister for Public Works and Services
Part of Lot 20 – DP 262325	Maritime Services Board of NSW	Maritime Services Board of NSW
Part of Lot 2 – DP 581473	Minister for Public Works and Services	Minister for Public Works and Services

Table 1-2
Project Snapshot

Summary	
Project	Construction and operation of a 66 Mtpa capacity CET including rail spurs from the Kooragang Island mainline, rail sidings, rail loops, train unloading, coal handling/stockpiling and shiploading systems.
Proponent	NCIG is the proponent for the Project. NCIG is a consortium of six coal companies including: Hunter Valley Energy Coal Limited; Centennial Coal Company Limited; Donaldson Coal Pty Ltd; Excel Coal Limited; Felix Resources Limited; and Whitehaven Coal Mining Pty Ltd.
Land Tenure	NCIG signed an Agreement for Lease of the Project site on 26 August 2005. The Agreement for Lease outlines the conditions that NCIG must satisfy (including obtaining Project Approval) prior to entering into a 35 year lease.
Coal Transport	Coal trains would enter the Project site from the Kooragang Island mainline via the rail spurs, follow the rail loops and empty their wagons into a hopper at train unloading stations. An average of approximately 26 trains would be unloaded each day. Up to a maximum of 40 trains would be unloaded on any one day.
Train Unloading	Two train unloading stations would be designed to operate at up to approximately 8,500 tonnes per hour (tph).
Coal Stockpiles	Coal would be stacked to a maximum height of approximately 25 metres (m) and would allow a maximum design capacity of up to approximately 6.6 million tonnes (Mt) of coal to be stockpiled at the CET. The coal stockpiles would be served by rail-mounted combined stacker/reclaimers and associated conveyor systems.
Wharf Facilities and Shiploaders	Three berths would be constructed for the CET. The berths would be served by two rail-mounted shiploaders. Each shiploader would operate at approximately 10,500 tph nominal capacity, peaking at up to 12,500 tph. Coal would be transferred from the coal stockpiles to the shiploaders via conveyors over Cormorant Road.
Shipping	The wharf would be capable of receiving Cape size vessels which carry up to 230,000 tonnes (t) of coal. Up to approximately 12 ships would be loaded per week.
Water Supply	Water supply requirements would be met from stormwater contained on-site and water purchased from the Hunter Water Corporation. Water would be recycled on-site to reduce the quantity of water purchased.
Project Life	Expected to exceed 30 years - dependent on the future development of coal reserves in the Hunter Valley and Gunnedah Basin.
Employment	Construction workforce of up to 500 employees and an operational workforce of 100 employees (at 66 Mtpa capacity).
Construction	Installation, construction and commissioning of rail infrastructure, coal storage area, wharf facilities and shiploaders. An initial 33 month construction phase is expected for the CET capacity to reach 33 Mtpa. The timing of further progressive development of the CET to 66 Mtpa would depend on market demand. Construction materials would be provided from dredging activities associated with the approved Extension of Shipping Channels within the Port of Newcastle (DA-134-3-2003-i).
Hours of Operation	Construction activities with the potential to be audible at surrounding residential areas would generally be undertaken between 7.00 am and 6.00 pm, up to seven days per week. Oversize loads may be transported outside of these times to minimise traffic impacts. Dredged material from the south arm of the Hunter River would be deposited at the Project site 24 hours per day and seven days per week. CET operations would take place 24 hours per day, seven days per week. Trains and shipping would operate 24 hours per day, seven days per week.
Access Roads	During the operation of the CET, the main access point for the Project would be via the entrance to the administration and workshop buildings located off the western end of Raven Street near the intersection of Egret Street and Raven Street. Secondary access points would be available to the wharf and rail infrastructure areas. Construction access would be via Roads and Traffic Authority (RTA) approved access points.
Electricity Supply and Distribution	An internal power reticulation network would be developed for the Project. Electricity supply infrastructure to the Project would be provided by Energy Australia.



Source: NCIG (2006); Newcastle LEP (2003)

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FIGURE 1-4
Newcastle Local Environmental Plan Zoning

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Table 1-3
Director-General's Environmental Assessment Requirements – Reference Summary*

General/Key/Consultation Requirements	Main Text Reference
General Requirements	
The Environmental Assessment (EA) must include:	
Executive Summary.	Executive Summary – front of EA document
Description of the proposal including construction, operation and staging.	Sections 1 and 2
An assessment of the environmental impacts of the Project.	Section 4
Project justification with consideration of benefits and impacts of the proposal.	Section 3.9
Draft Statement of Commitments	Section 5
Certification by the author of the Environmental Assessment.	Front of EA document
Key Assessment Requirements	
The EA must include assessment of the following key issues:	
Strategic Planning and Justification – The strategic basis for the Project with specific reference to the need for, the scale of, and any staging works associated with, the Project.	Sections 2 and 3.9
Air Quality Impacts – Air quality (including odour) impact assessment prepared in accordance with the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* (DEC, 2005a). The assessment must consider impacts of the Project in isolation and in a cumulative context during construction and operations and provide mitigation, monitoring and management measures.	Section 4.4
Noise Impacts – Noise impact assessment conducted in accordance with the *NSW Industrial Noise Policy* (EPA, 2000), *Environmental Noise Control Manual* (EPA, 2004a) and the *NSW Environmental Noise Criteria for Road Traffic Noise* (EPA, 1999). The assessment must consider the impact of the Project on the residential areas of Warabrook, Mayfield, Carrington and Stockton in isolation and in a cumulative context and provide mitigation, monitoring and management measures.	Section 4.3
Water Quality and Hydrological Impacts – Assessment of water quality (surface and groundwater) impacts during both the construction and operation of the Project. Consideration of how the Project will alter the surface profile of landfill areas, and how a capping strategy can be implemented for the altered areas that meet performance requirements in accordance with *Environmental Guidelines: Solid Waste Landfills* (EPA, 1996). The assessment must also consider the hydrodynamics of the Hunter River, Hunter River estuary and associated aquifer systems. Water quality and hydrodynamic mitigation, monitoring and management measures must also be outlined.	Sections 2.4.1, 2.5.1, 2.8, 4.6 and 4.7
Ecological Impacts – Flora and Fauna impact assessments prepared in accordance with the *Guidelines for Threatened Species Assessment* (DEC and DPI, 2005). The assessments must specifically consider threatened and migratory species and communities listed under both NSW and Commonwealth legislation that have been recorded in the Kooragang and surrounding wetland areas.	Sections 4.8 and 4.9
Heritage Impacts – Aboriginal heritage assessment prepared in accordance with the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, 2005b) and an assessment of Non-Aboriginal heritage.	Section 4.10
General Environmental Risk Analysis – Environmental risk analysis (ERA) to identify potential environmental impacts associated with the Project (construction and operation). The ERA must identify mitigation measures and potentially significant residual environmental impacts after the application of the proposed mitigation measures.	Section 3.8
Consultation Requirements	
Consultation must be undertaken with the following parties during the preparation of the EA: • Commonwealth Department of Environment and Heritage; • NSW Department of Environment and Conservation; • NSW Department of Natural Resources and Hunter Catchment Management Trust; • NSW Department of Primary Industries; • Australian Rail Track Corporation and NSW Rail Infrastructure Corporation; • Newcastle City Council and Port Stephens Council; • Mayfield Residents Group, Stockton Community Forum, Citizens and Kooragang Alliance (CAKA) and the Hunter Bird Observers Club; and • the local community.	Section 3.7

* The complete version of the Director-General's EARs is presented in Attachment 1.

The Project will be assessed in accordance with the framework established by the EP&A Act and the EP&A Regulation. Approval for the Project is sought under Part 3A of the EP&A Act.

The development approval process is outlined in further detail in Sections 3.1 to 3.6.

1.3 DOCUMENT STRUCTURE

The EA comprises a main text component and supporting study components, which include Appendices A to J. An overview of the main text is presented below.

Section 1	Provides background information on the Project including an overview of the Project and EA document.
Section 2	Describes the Project, including construction and operational activities.
Section 3	Outlines the statutory context for the Project, describes the consultation undertaken, summarises the outcomes of the ERA and provides a justification for the Project having regard to the principles of ecologically sustainable development (ESD).
Section 4	Details the environmental assessment for the Project including a description of the existing environment, an assessment of potential impacts and a description of environmental mitigation and management measures.
Section 5	Provides NCIG's Draft Statement of Commitments detailing measures for environmental mitigation, management and monitoring for the Project.
Section 6	Lists documents referenced in Sections 1 to 5 of the EA.
Section 7	Defines abbreviations, acronyms and terms used in Sections 1 to 5 of the EA.

Attachments to the main text are also provided as follows:

Attachment 1	Director-General's Environmental Assessment Requirements
Attachment 2	Record of Aboriginal Consultation
Attachment 3	Peer Review Letters

Appendices A to J contain supporting documentation, including a number of independent specialist reports:

Appendix A	Construction, Operation and Road Transport Noise Impact Assessment
Appendix B	Air Quality Impact Assessment
Appendix C	Road Transport Assessment
Appendix D	Land Contamination and Groundwater Assessment
Appendix E	Flora Assessment
Appendix F	Fauna Assessment
Appendix G	Socio-Economic Assessment
Appendix H	Visual Assessment
Appendix I	Preliminary Hazard Analysis
Appendix J	Environmental Risk Analysis

1.4 PROJECT CONSULTANTS

This EA was prepared by Resource Strategies Pty Ltd with specialist input provided by the following organisations/specialists:

- NCIG Project Team and Connell-Hatch (Project Description, Mitigation Measures, Environmental Management and Monitoring Programmes);
- Holmes Air Sciences (Air Quality Impact Assessment);
- Heggies Australia (Construction, Operation and Road Transport Noise Impact Assessment);
- EDAW Australia (Visual Assessment);
- Masson Wilson Twiney (Road Transport Assessment);
- Gillespie Economics (Socio-Economic Assessment);
- RCA Australia (Land Contamination and Groundwater Assessment);
- Safe Production Solutions (Environmental Risk Analysis);
- Connell-Hatch (Flora and Fauna Baseline Surveys and Water Management Report); and
- Professor David Goldney (BSc Dip Ed PhD DSc MEIA); Principal Consulting Ecologist, Western Research Institute Ltd; Adjunct Professor, Charles Sturt University; and Visiting Professor, University of Sydney, Orange Campus (Flora and Fauna Assessments).

In addition, the following specialists were commissioned as peer reviewers:

- Fauna Assessment (Frogs) – Associate Professor Michael Tyler (MSc DSc); Visiting Research Fellow, Department of Environmental Biology, University of Adelaide.
- Fauna Assessment (Frogs) – Doctor Arthur White (BSc PhD Dip Ed); Director Biosphere Consultants Pty Ltd.