SECTION 5

NEWCASTLE COAL INFRASTRUCTURE GROUP COAL EXPORT TERMINAL

DRAFT STATEMENT OF COMMITMENTS

Environmental Mitigation

Environmental mitigation measures to be implemented during the construction and operation of the Project are described in the following sections of the Environmental Assessment (EA):

- Land resources – Section 4.1.3.
- Construction and operational noise and construction vibration – Section 4.3.3.
- Construction and operational air quality and odour – Section 4.4.3.
- Visual character – Section 4.5.3.
- Surface water – Section 4.6.3.
- Land contamination and groundwater – Section 4.7.2.
- Flora – Section 4.8.3.
- Fauna – Section 4.9.3.
- Aboriginal and non-Aboriginal heritage – Section 4.10.3.
- Road transport – Section 4.11.3.
- Socio-economics – Section 4.13.3.
- Hazard and risk – Section 4.14.2.

Compensatory Measures

In addition to the environmental mitigation measures summarised above, compensatory measures with respect to flora and fauna impacts that would be implemented for the Project are described below.

Kooragang Wetland Rehabilitation Project (KWRP) Environmental Management Plan

A financial contribution will be made to KWRP towards updating its Environmental Management Plan to incorporate the details of the proposed habitat creation initiatives outlined below, where relevant to lands managed by the KWRP. This will include a consultation programme and input from relevant independent experts.

Habitat Creation

Habitat creation for the Green and Golden Bell Frog and shorebirds/saltmarsh will be funded as part of the Project.

A financial contribution will be made towards current or future projects which involve habitat creation for the Green and Golden Bell Frog on Regional Land Management Corporation (RLMC) owned lands within the KWRP or alternate suitable lands in the Kooragang Nature Reserve. Habitat creation will be located on the perimeter of existing habitat areas to provide suitable habitat into which the existing Green and Golden Bell Frog population can expand. This habitat creation will also create an opportunity to research the performance of alternative types of habitat enhancement.

Habitat creation initiatives for the Green and Golden Bell Frog will include construction of two habitat ponds of similar scale and detail to existing ponds where the Green and Golden Bell Frogs have been recorded on the Kooragang Island Waste Emplacement Facility (KIWEF) site (i.e. Pond C – Section 4.9). This is consistent with the recovery strategies (i.e. *habitat rehabilitation/restoration and/or regeneration* and *monitoring*) identified by the Department of Environment and Conservation (DEC) to help recover the Green and Golden Bell Frog (DEC, 2005d).

Mangroves in the Hunter Estuary have been expanding at the expense of the Coastal Saltmarsh Endangered Ecological Community (EEC) and, in some areas (e.g. Ash Island), mangroves have been removed to enhance habitat for Coastal Saltmarsh EEC and shorebirds. A financial contribution will be made to an organisation such as the KWRP for the removal of up to 6 ha of mangroves from coastal saltmarsh habitat. A financial contribution will also be made towards the construction of a flow control structure to minimise the potential for mangrove propagules to enter areas reserved for saltmarsh. Alternatively, these initiatives may also be applied to lands within the Kooragang Nature Reserve. These works are expected to enhance habitat for waders as well as provide habitat for the Coastal Saltmarsh EEC.

In addition, habitat in the form of shallow areas for foraging shorebirds will be created during the construction of the northern rail spur embankment, if required to be installed when the Project is fully developed to 66 Mtpa, by modifying the design of the embankment batter slopes to have a gentle toe gradient (i.e. in the submerged zone of the batter slope). This will result in the creation of shallow areas suitable for shorebirds in Deep Pond. The specifications of this initiative will be detailed in the Flora and Fauna Management Plan (FFMP).

Ecological Initiatives

Contribution to Research

A financial contribution would be given to the University of Newcastle, or other appropriate recognised research body, to fund research into the Green and Golden Bell Frog. The focus of research will be to expand existing knowledge of factors affecting the species which may be used to actively improve the strength of the population of Green and Golden Bell Frogs on Kooragang Island.

This is consistent with one of the recovery strategies (i.e. *research: general biological and ecological studies*) identified by the DEC to help recover the Green and Golden Bell Frog (DEC, 2005d).

Contribution to Hunter Wetlands Centre

A financial contribution will be given to the Hunter Wetlands Centre towards an annual exhibition regarding the Green and Golden Bell Frog and migratory shorebirds. The exhibition will include an update on the progress and the effectiveness of the habitat enhancement initiatives conducted as part of the compensatory measures of the Project. This will also provide an opportunity for a representative undertaking the university-based research described above to explain the progress/findings of the research to the interested public.

This is consistent with one of the recovery strategies (i.e. *community and land-holder liaison/awareness and/or education*) identified by the DEC to help recover the Green and Golden Bell Frog (DEC, 2005d).

Environmental Management

Environmental Representative

Newcastle Coal Infrastructure Group (NCIG) will employ a suitably qualified and experienced Environmental Manager to oversee the environmental performance of the Project and compliance with statutory and other obligations including the conditions of approvals and licences.

Construction Environmental Management Plan (CEMP)

NCIG will prepare and implement a CEMP to detail an environmental management framework, practices and procedures to be followed during construction of the Project. The CEMP will identify all statutory and other obligations that NCIG is required to fulfil including approvals, licences and consultation requirements.

The CEMP will include the detailed management plans and monitoring programmes described below.

Soil and Excavation Management Plan (SEMP)

A SEMP will be developed for the Project detailing methods for the management of contaminated soils and water. The SEMP will be prepared prior to the development of the Project and will incorporate the outcomes of a detailed geotechnical and geochemical investigation undertaken as part of the detailed design of the Project. A description of the detailed design of these controls will be included in the SEMP.

The SEMP will describe the measures to control contaminated soils and dust generation/volatilisation potential. These measures will include:

- using water sprays to control dust;
- minimising the surface area disturbed by excavation at any one time;
- confining vehicle movements to designated access routes;
- limiting the speed of vehicles on unpaved roads; and
- immediate encapsulation of materials considered unsuitable for use as construction fill.

The SEMP will detail the management procedures for acid sulphate soils should they occur on the site. The SEMP will provide measures for the control of acid sulphate soils such as lime dosing if necessary.

The SEMP will also describe procedures for the management of Aboriginal cultural heritage during construction. These procedures will incorporate the following elements:

- During induction training, NCIG personnel will be advised of their responsibility to advise management if they uncover any item that could be of Aboriginal heritage significance.
- Project excavation works that are expected to extend into the natural ground surface (i.e. below known fill material) will be monitored by an Aboriginal heritage representative to identify any archaeological material if it is present in the excavated material.

- If potential archaeological material is identified, based on the significance of the items (as determined by a consulting archaeologist), salvage of a selection of any artefacts may be undertaken in consultation with the DEC.
- If any archaeological material is salvaged on-site, it will be either stored in a keeping place on-site or provided to the Aboriginal community for safekeeping or educational display.
- At the cessation of the Project, if any salvaged Aboriginal objects are stored on-site their management will be determined in consultation with the Aboriginal community and the DEC.

Site Water Management Plan (SWMP) (Construction)

A SWMP will be developed for the construction phase of the Project in consultation with relevant authorities. The construction SWMP will describe the Project water management system, including:

- details of all water management structures including the water management system for dredge sea water;
- locations and design specifications for all water diversions from undisturbed runoff areas including channel design and stabilisation, sediment retention storages and other structures;
- details of internal drainage of water from construction/development runoff areas including bunding, drainage channels, dewatering sumps and pump and pipelines;
- procedures for the management of groundwater during excavations and temporary dewatering activities on site; and
- procedures that will be implemented to ameliorate potential surface water and groundwater impacts.

The SWMP will be reviewed and revised as required in consultation with relevant authorities and will be periodically updated during the period of construction, where necessary.

Erosion and sediment control strategies for the Project will be developed and documented in an Erosion and Sediment Control Plan (ESCP) and will be a component of the SWMP. The ESCP will be prepared in a progressive manner prior to the development of each Project component involving land disturbance.

The measures presented in the ESCP will aim to control soil erosion and sediment generation proximal to the source and thereby minimise the potential for Project activities to adversely affect downstream water quality.

The ESCP will be prepared in general accordance with the manual *Managing Urban Stormwater: Soils and Construction – Volume 1* (Landcom, 2004). The design capacity of erosion and sediment control structures will be determined in consultation with relevant authorities based on catchment area, soil types, design life and associated environmental risk.

The ESCP will be revised as required in consultation with relevant authorities.

A Surface Water and Groundwater Monitoring Programme (SWGMP) will be developed for the Project as part of the water management system and will be detailed in the SWMP. The monitoring programme will include:

- monthly sampling at a network of surface water and groundwater quality monitoring sites;
- analysis of groundwater samples for a range of parameters including, but not necessarily limited to groundwater level, pH, electrical conductivity (EC), total dissolved solids (TDS), total suspended solids (TSS), sulphate, Total polycyclic aromatic hydrocarbons (PAH) and a suite of metals;
- analysis of surface water samples for a range of parameters including, but not necessarily limited to pH, EC, TDS and TSS.
- data review procedures for analysing surface water and groundwater quality results; and
- investigation triggers and contingencies for managing potential adverse impacts of the Project on surface water and groundwater quality.

Noise Monitoring Programme (NMP) (Construction)

A NMP will be developed for the Project. The NMP will describe the following elements:

- noise monitoring to be undertaken for the Project (i.e. monitoring locations, frequencies, parameters and specifications);
- Project noise mitigation measures;
- a protocol for the ongoing management of noise;

- procedures to be followed in the event of an exceedance of criteria; and
- complaint response protocols.

The NMP will detail specific actions for responding to exceedances of criteria and complaints if they occur. The results of noise monitoring will be used to optimise noise controls, validate the noise modelling predictions and will be reported to relevant authorities via the Annual Environmental Management Report (AEMR).

The Project noise monitoring will comprise quarterly attended and unattended monitoring. Quarterly monitoring will be conducted at up to six locations in the vicinity of the Project. Noise monitoring will be conducted in accordance with AS 1055-1997 *Acoustics – Description and Measurement of Environmental Noise* and the Industrial Noise Policy (INP).

Construction Vibration Monitoring

Monitoring of construction vibration will be undertaken at adjacent industrial receivers within 180 m of piling activities to assess compliance with relevant criteria. Vibrational peak particle velocity (mm/s) will be measured in accordance with relevant standards.

Air Quality Monitoring Programme (AQMP) (Construction)

An AQMP will be prepared for the Project. The AQMP will describe the following elements:

- air quality monitoring to be undertaken for the Project;
- Project mitigation measures with respect to air quality;
- a protocol for the ongoing management of air quality during construction;
- procedures to be followed in the event of an exceedance of criteria; and
- complaint response protocols.

Notwithstanding the predicted compliance with applicable air quality criteria, the AQMP will detail specific actions for responding to exceedances of criteria and complaints should they occur. The results of air quality monitoring will be used to optimise air quality controls and will be reported to relevant authorities via the AEMR.

A network of up to six dust depositional gauges will be installed for the Project. These gauges will be installed on Kooragang Island and in surrounding residential areas (such as Mayfield, Fern Bay and Stockton).

The dust deposition gauges will be analysed for ash content and insoluble solids in accordance with AS/NZS 3580.10.1-2003 *Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method*.

A high volume sampler will be installed at Stockton to facilitate monitoring of the concentration of particulate matter less than 10 microns in size (PM_{10}). The high volume sampler will monitor PM_{10} over a six day continuous cycle in accordance with the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* (EPA, 2001).

Traffic Management Plans

Traffic management plans will be completed to address any roadworks on public roads (e.g. improvements to the Delta access road and Cormorant Road intersection) in consultation with the Newcastle City Council (NCC) and the Roads and Traffic Authority (RTA) and in accordance with the RTA *Traffic Control at Worksites Manual* (RTA, 2003b). Traffic management plans will also be developed to address the construction of the conveyors over Cormorant Road and the haulage of fill across Cormorant Road and Pacific National access road/Delta access road in consultation with NCC and RTA.

A component of the traffic management plans will be identification of relevant aspects of the local road environment including:

- an inventory of road widths, road condition, traffic management and parking controls present;
- a description of the nature and extent of any existing on-street parking;
- existing public transport and pedestrian infrastructure and any requirements for any additional infrastructure of this nature;
- consideration of the requirements of NCC with respect to sight distances, parking, suitable splays and driveway widths at intersections and gates; and
- provision of suitable internal roads on-site.

For the progressive expansion from 33 million tonnes per annum (Mtpa) to 66 Mtpa, a Construction Traffic Management Plan (CTMP) will be prepared in consultation with the RTA and NCC. A CTMP should review the outcomes of the Road Transport Assessment (Appendix C); compare predicted versus actual road usage levels; consider the road network configuration existing at that time; and, if necessary, make recommendations for further traffic controls in consultation with the RTA and NCC.

Flora and Fauna Management Plan (FFMP)

A FFMP will be prepared prior to Project construction and will include management measures to be undertaken during construction and operation, including a Vegetation Clearance Protocol (VCP) and Threatened Species Management Protocol (TSMP). In addition, the FFMP will describe landscape plantings, pest management measures, weed management measures, on-site amphibian chytrid fungus management measures, rail culvert modification and fauna monitoring programmes. Further details regarding the FFMP are provided below.

Vegetation Clearance Protocol

The FFMP will include a VCP to minimise the potential impacts of vegetation clearance on fauna. During construction, vegetation immediately adjoining the Project disturbance areas (including the Freshwater Wetlands on Coastal Floodplains EEC and the Coastal Saltmarsh EEC) will be delineated and clearly marked to minimise the potential for accidental damage during construction. The VCP will also include a pre-clearance survey, identification of fauna management strategies and specific procedures for vegetation clearance.

Threatened Species Management Protocol

A TSMP will be developed as a component of the FFMP to facilitate the implementation of threatened species management strategies to minimise potential impacts on threatened fauna species.

Green and Golden Bell Frogs found in the Project site during construction or operation will be removed from the direct disturbance area and placed in adjacent suitable habitat in accordance with the *Hygiene Protocol for the Control of Disease in Frogs* (NPWS, 2001) which recommends best-practice procedures for handling frogs and suggests strategies for minimising the potential of spreading amphibian chytrid fungus.

Habitat in the form of shallow areas for foraging shorebirds would be created during the construction of the northern rail spur embankment (if required to be built) by modifying the design of the embankment batter slopes to have a gentle toe gradient (i.e. in the submerged zone of the batter slope). This would result in the creation of shallow areas suitable for shorebirds in Deep Pond. The specifications of this initiative would be detailed in the FFMP.

Monitoring of the Green and Golden Bell Frog, Australasian Bittern and shorebirds will be undertaken in the area surrounding the Project annually for the duration of the Project. The objective of monitoring will be to collect up-to-date information on the use of the Project site and surrounds by fauna. Monitoring data for the Green and Golden Bell Frog will be provided to university institutions undertaking relevant research on the Green and Golden Bell Frog.

Operation Environmental Management Plan (OEMP)

NCIG will prepare and implement an OEMP to detail an environmental management framework, practices and procedures to be followed during operation of the Project. The OEMP will identify all statutory and other obligations NCIG is required to fulfil including approvals, licences and consultation requirements. The OEMP will include the detailed management plans described below.

Site Water Management Plan (Operation)

A SWMP will be developed for the operational phase of the Project in consultation with relevant authorities. The operational SWMP will describe the Project water management system, including:

- updates of the predicted site water balance including details of the Project water supply system (Section 2.8.2);
- details of all water management structures including settling ponds and water tanks;
- locations and design specifications for all water diversions from undisturbed runoff areas including channel design and stabilisation, sediment retention storages and other structures;
- details of internal drainage of water from construction/development runoff or operational areas, including bunding, drainage channels, dewatering sumps and pump and pipelines; and
- procedures that will be implemented to ameliorate potential surface water impacts.

A SWGMP will be developed for the Project as part of the water management system and will be detailed in the SWMP and will include:

- monthly sampling at a network of surface water and groundwater quality monitoring sites;
- analysis of groundwater samples for a range of parameters including, but not necessarily limited to groundwater level, pH, EC, TDS, TSS, sulphate, Total PAH and a suite of metals;
- analysis of surface water samples for a range of parameters including, but not necessarily limited to pH, EC, TDS and TSS;
- data review procedures for analysing surface water and groundwater quality results; and
- investigation triggers and contingencies for managing potential adverse impacts of the Project on surface water and groundwater quality.

The SWMP will be reviewed and revised as required in consultation with relevant authorities and will be periodically updated over the life of the Project.

Noise Monitoring Programme (Operation)

A NMP will be developed for the Project operations. The NMP will describe the following elements:

- noise monitoring to be undertaken for the Project (i.e. monitoring locations, frequencies, parameters and specifications);
- Project noise mitigation measures;
- a protocol for the ongoing management of noise;
- procedures to be followed in the event of an exceedance of criteria; and
- complaint response protocols.

The NMP will detail specific actions for responding to exceedances of criteria and complaints. The results of noise monitoring will be used to optimise noise controls, validate the noise modelling predictions and will be reported to relevant authorities via the AEMR.

The Project noise monitoring will comprise quarterly attended and unattended monitoring. Quarterly monitoring will be conducted at up to six locations in the vicinity of the Project. Noise monitoring will be conducted in accordance with AS 1055-1997 *Acoustics – Description and Measurement of Environmental Noise* and the INP.

Air Quality Monitoring Programme (Operation)

An AQMP will be prepared for the Project operations. The AQMP will describe the following elements:

- air quality monitoring to be undertaken for the Project;
- Project mitigation measures with respect to air quality;
- a protocol for the ongoing management of air quality during operations;
- procedures to be followed in the event of an exceedance of criteria; and
- complaint response protocols.

The AQMP will detail specific actions for responding to exceedances of criteria and complaints. The results of air quality monitoring will be used to optimise air quality controls, validate the air quality modelling predictions and will be reported to relevant authorities via the AEMR.

Dust deposition and PM_{10} monitoring will be undertaken for the Project operations. It is anticipated that the monitoring sites established for the construction AQMP will continue to be utilised during Project operations.

Landscape Management Plan

A Landscape Management Plan will be developed for the Project to fulfil the requirements of the Newcastle Development Control Plan (DCP). Administration and workshop areas will be appropriately landscaped with selective tree planting, formal gardens and grassed areas in keeping with the “shop front” location on Egret Street.

Spontaneous Combustion Management Plan

A Spontaneous Combustion Management Plan will be developed for the Project and will include the following:

- coal stockpile management measures;
- monitoring of potential causes of spontaneous combustion events; and
- corrective action in the event of spontaneous combustion.

Waste Management Plan (WMP)

In accordance with the requirements of the Newcastle DCP (Section 3.3.4), a WMP will be prepared for the Project. The WMP will include measures to avoid and minimise the generation of wastes and promote waste re-use and recycling, including:

- waste avoidance – practices will be developed that reduce the amount of waste on-site, via selective purchasing procedures by store personnel and the use of bulk purchasing, where practicable;
- material reuse – reuse of recyclable or reusable materials where practicable; and
- recycling – materials such as metals, oil, timber, plastics, glass and paper will be recycled where practicable.

Waste hydrocarbons will be collected and stored in a 12,000 litre (L) waste oil tank, before being removed by licensed waste transporters on a periodic basis. The workshop and truck washdown areas will have purpose built oil/water separator systems installed which will be inspected and maintained on a regular basis.

Emergency Response Plan (ERP)

An ERP will be prepared for the Project and will include:

- emergency objectives and procedures;
- site emergency response structure;
- roles and responsibilities, including dedicated emergency personnel appointed by NCIG; and
- protocols for incident reporting.

Flora and Fauna Management Plan

A FFMP will also be prepared for Project operations. The construction FFMP will be reviewed and relevant components will be retained for the operation FFMP. This will include annual fauna monitoring (as previously described for the construction FFMP) and relevant TSMP components.

Environmental Reporting

NCIG will prepare an AEMR that reviews the performance of the Project against the construction and operation management plans, provides an overview of environmental management actions and summarises monitoring results over the 12-month reporting period. The AEMR will be distributed to relevant government agencies and stakeholders, and copies provided to other interested parties if requested.

Site Exit Strategy

NCIG will develop a site exit strategy prior to decommissioning and closure of the Project. The site exit strategy will be developed in consultation with the relevant government authorities and other stakeholders. The site exit strategy will include consideration of:

- consideration of the post closure retention of rail and wharf infrastructure to promote future development of the port and industry area on Kooragang Island; and
- consideration of the amelioration of potential adverse socio-economic effects due to the reduction in employment at Project closure.

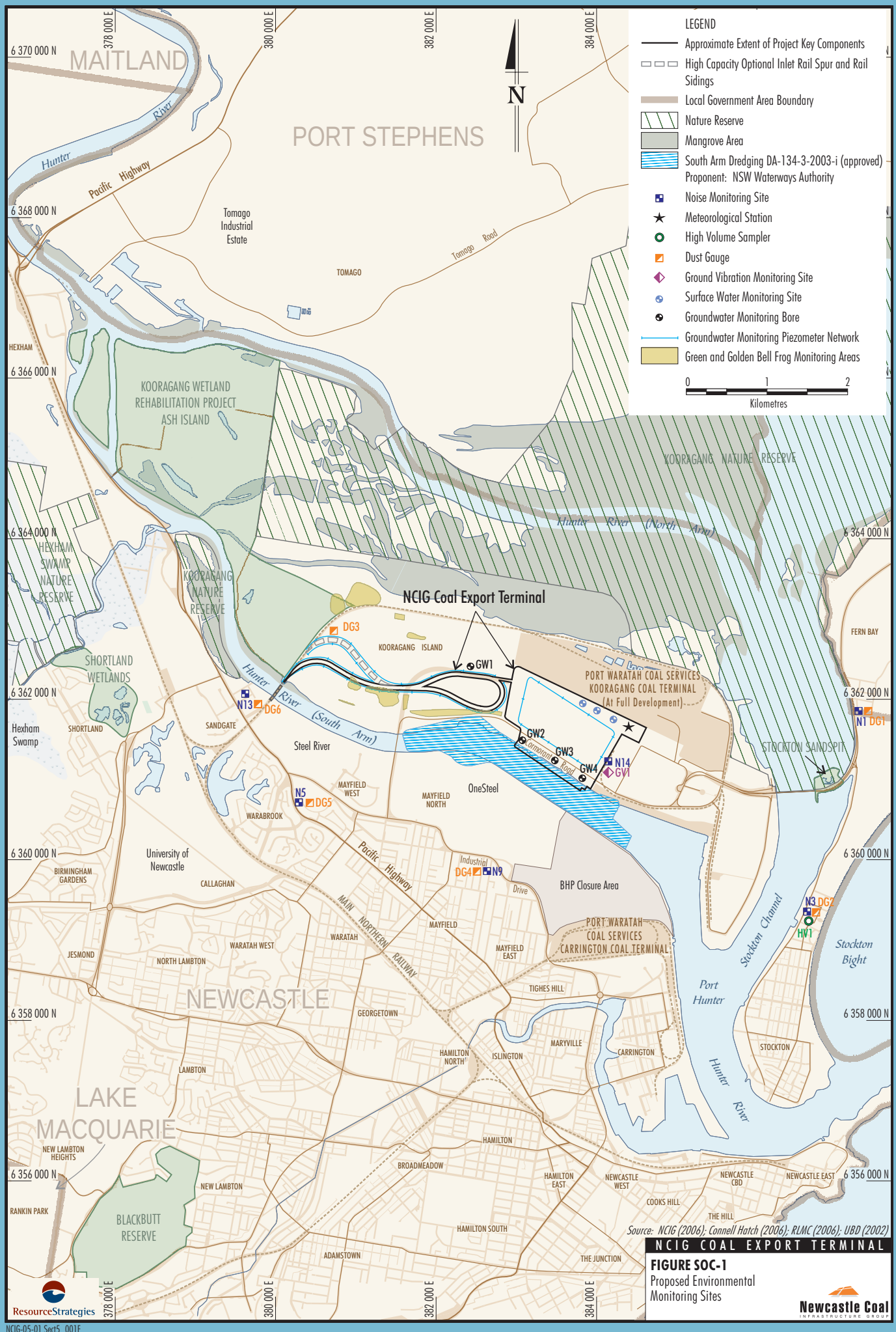
Environmental Monitoring Programme

An environmental monitoring programme will be developed for the Project. Table SOC-1 provides an overview of the programme and Figure SOC-1 shows the proposed location of each monitoring site. Monitoring results as well as monitoring site locations, parameters and frequencies will be reviewed through the AEMR, in consultation with relevant authorities.

Table SOC-1
Overview of the Proposed Environmental Monitoring Programme

Monitoring Focus	Section	Proposed Monitoring Sites
Erosion and Sediment Control	4.1.3	Sediment control structures.
Meteorology • Temperature. • Relative humidity. • Net solar radiation. • Rainfall. • Wind speed and direction. • Sigma theta (rate of change of wind direction).	4.2.2	Project automated meteorological station.
Noise • Attended and unattended noise monitoring.	4.3.3	N1, N3, N5, N9, N13 and N14.
Construction Vibration • Ground vibration.	4.3.3	Adjacent industrial receivers within 180 m of piling activities.
Air Quality • Dust deposition.	4.4.3	DG1 to DG6.
• High volume sampling (PM_{10}).	4.4.3	HV1.
Surface Water Quality • pH, EC, TDS and TSS.	4.6.3	Surface water quality sites. [1] Raw water tank.
Groundwater	4.7.2	Groundwater monitoring piezometer network.
• Groundwater level, pH, EC, TDS, TSS, Total PAH and a suite of metals.	4.7.2	GW1 to GW4
Fauna Monitoring • Green and Golden Bell Frog, Australasian Bittern and shorebirds.	4.9.3	Potential habitat areas surrounding the Project.

[1] To be located at site water management structures.



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

NCIG COAL EXPORT TERMINAL

FIGURE SOC-1
Proposed Environmental Monitoring Sites

ResourceStrategies

Newcastle Coal INFRASTRUCTURE GROUP

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