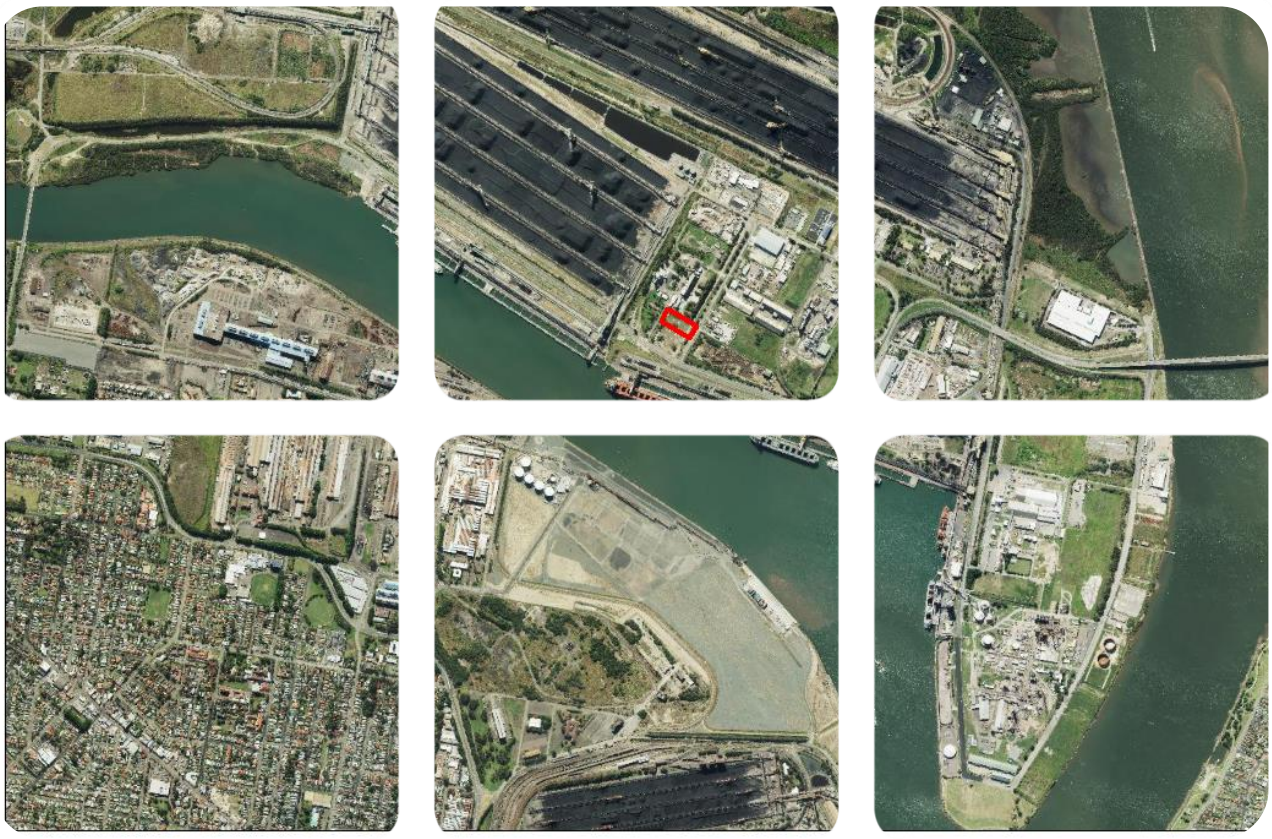
# NEW LPG STORAGE FACILITY, 130 CORMORANT ROAD, KOORAGANG (PART LOT 1 DP 1195449)

*Environmental Impact Statement*

*Prepared for* ***Sovechles Nominees Pty Ltd***

**22 AUGUST 2017**



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Version / Date: 22/08/2017

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## Document Status

| Version | Purpose of Document | Orig | Review | Review Date |
|---|---|---|---|---|
| 0 | Final for Client and Elgas review | AB | RD | 15 August 2017 |
| 1 | Final for DP&E adequacy review | AB | RD | 22 August 2017 |
| | | | | |

## Approval for Issue

| Name | Signature | Date |
|---|---|---|
| Andrew Biller |  | 22-08-17 |

**Submission of Environmental Impact Statement (EIS) prepared under the Environmental Planning and Assessment Act 1979 – Statement of Validity**

| EIS Prepared by | |
|---|---|
| Name | Andrew Biller |
| Qualifications | BSoc Sci MCRP |
| Address | 241 Denison Street, Broadmeadow NSW 2292 |
| In respect of | SSD 8448 – 130 Cormorant Road Kooragang |
| **Development Application** | |
| Proponent Name | Sovechles Nominees Pty Ltd |
| Proponent Address | PO Box 3131, Merewether NSW 2291 |
| **Environmental Impact Statement** | |
| | An EIS is attached. |
| **Declaration** | |
| Certificate | I certify that I have prepared the contents of this EIS and to the best of my knowledge<br>■ It is in accordance with clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000;*<br>■ It contains all available information that is relevant to the Environmental Assessment (EA) of the development to which this statement relates; and<br>■ It is true in all material particulars and does not, by its presentation or omission of information, materially mislead. |
| Signature | |
| Name | Andrew Biller |
| Date | 22.08.2017 |

# Executive Summary

## Introduction and Overview

This Environmental Impact Statement (EIS) is submitted to the NSW Department of Planning and Environment (DP&E) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of a State Significant Development (SSD) application for the construction and operation of a Liquefied Petroleum Gas (LPG) facility, including bulk storage vessel, cylinder storage area, overnight truck parking and loading area, cylinder filling dock, office building and associated car park at 130 Cormorant Road Kooragang (Part Lot 1 DP 1195449).

The application is a designated development pursuant to Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). Clause 10(b)(ii) of Schedule 3 – Chemical storage facilities- includes locational requirements that relate to areas of high water table or highly permeable soil. The definition of "high water table" is described in the Regulation as being "areas where groundwater depth is less than 3 metres below the surface at its highest seasonal level. The Geotechnical Report prepared by RCA for the whole of Lot 1 DP 1195449, as contained in **Appendix 6,** confirms that the depth of the water table varies from 2.5m to greater than 3.2m across the site.

Clause 27(1) of *State Environmental Planning Policy (Three Ports) 2013* (Three Ports SEPP) sets out that development within the lease area of the port of Newcastle (which includes Lot 1 DP 1195449), and that is not permitted without development consent under Part 4 of the EP&A Act, and is designated development pursuant to Schedule 3 of the EP&A Regulations, is declared to be State significant development for the purposes of the EP&A Act.

It should however be noted that Schedule 1 (10)(2) State Environmental Planning Policy (State and Regional Development) 2011 of sets out a capital investment value (CIV) threshold of more than $30 million for gas storage facilities before they are considered as State significant development. By way of comparison, the gas storage facility which is the subject of this EIS has a CIV of less than $2 million. Further, LPG is classed as a hazardous product. However the review of potential impact on the Water Table from accidental LPG release prepared by Arriscar, as contained in **Appendix 8,** sets out that because of the properties and behaviour of LPG due to loss of containment, little or no propane penetrates the ground, nor can it reach the water table. The design of the development incorporates a fully paved concrete working yard area (200 mm in thickness) to allow for the required truck movements for the operation of the facility. Therefore, in the event of a LPG spill the pavement installation will act as an impervious barrier preventing any LPG release into the soil or ground water table.

The site constitutes a small parcel of land in the context of Newcastle Port, and is separated from waterfront land by Cormorant Road. The proposed development will not hinder the future use of waterfront land for port related uses, and will reinforce the economic vitality of the port.

In accordance with Section 78A (8) of the EP&A Act, the Secretary of DP&E issued the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS on 9 June 2017. This EIS has been prepared in accordance with the guidelines for the preparation of EIS's and also addresses issues raised in the SEAR's.

## Proposed Development Description

The proposed development includes construction and operation of a LPG facility, including bulk storage vessel, cylinder storage area, overnight truck parking and loading area, cylinder filling dock, office building and associated car park. The development is to be located on the northern side of Lot 1 DP 1195449, known as 130 Cormorant Road Kooragang. Lot 1 DP1195449 is separated into 5 leased areas and the proposed LPG will be the fourth business to operate from the site (subject to approval). The three existing approved developments on Lot 1 DP 1195449 include:

- Shell/Coles Service Station and Truck Refuelling;
- Coolabah Food Offer;
- Baywash Carwash

Lot 1 has an area of 2.1 ha. The proposed development will occupy a lease area of approximately 7,984m$^2$, which represents 38% of Lot 1.

## Project Benefits

ELGAS is Australia's largest marketer of LPG, with a local presence across more than 40 service centres. ELGAS deliver and exchange gas bottles and offer a refilling service to homes and businesses across all of Newcastle, Lake Macquarie, Hunter Valley regions including Muswellbrook, Singleton, Maitland, Cessnock, Nelson Bay surrounding areas. They currently service and supply 12,000 domestic and 3,000 commercial customers across the Newcastle and Hunter Region, and the forecast is for further growth over the next 3-5 years.

ELGAS currently operate from 2 small sites located at Warners Bay and Kooragang (not the proposed site). Both these sites are not suitable for long term tenure due to their limited size and location as well as the projected growth in the Newcastle market.

The new site is zoned appropriately, addresses logistical requirements, is well separated from sensitive receivers, and meets the requirements to service the existing and growing Newcastle and Hunter customer base.

The proposed offer at Kooragang will be integral to the current ELGAS offer north of Sydney, and will allow the company the opportunity to continue the delivery of a secure energy source while continuously providing a strong commitment to safety and a reliable level of service.

## Consultation

A range of stakeholders have been engaged during the preparation of this EIS. The purpose of the engagement is to provide information on the proposal as early as possible in the planning process to allow for the up-front identification, and where possible, resolution, of relevant issues or concerns. Consultation has been undertaken with relevant Government agencies, Council, local residents, and businesses through meetings, letters and e-mail where appropriate.

Issues raised during the consultation process have been considered in the design of the proposed facility and addressed within the EIS.

## Environmental Impacts

The EIS provides an assessment of the environmental impacts of the proposed development in accordance with the SEAR's and sets out the undertakings made by the proponent to manage and minimise potential impacts arising from the development. Key matters addressed in the EIS are summarised below:

## Hazards and Risk

The SEARs set out that a Preliminary Hazard Analysis (PHA) must be prepared in accordance with the Department of Planning and Environment (DP&E) Guidelines, identifying the likely hazards and risks associated with the proposed development. The PHA prepared in support of the proposed development concludes that the hazards and risks associated with the project can be managed using appropriate mitigation measures.

## Soil and Water

The SEARs require that the EIS contain a detailed assessment of the impacts of the development on soil and water. The Geotechnical Investigation prepared in support of the proposed development identifies potential impacts on the soil and water environment and recommends measures to manage and mitigate these impacts during construction and site operation. The design of the facility results in an impervious barrier that prevents any LPG release into the soil or ground water table.

## Traffic and Transport

The SEARs require the EIS to contain a detailed assessment of the impacts of the development on traffic and transport. The traffic impact assessment prepared in support of the proposed development concludes that from the site work undertaken and the review of the development proposal and associated plans against the requirements of the RMS *Guide to Traffic Generating Developments and Austroads Guide to Traffic Management*, the proposed development will have minimal impact on the surrounding road network. Parking for the proposed development exceeds Newcastle DCP requirements, and access and circulation for the site is appropriate for the development, providing for the swept paths of heavy vehicles including B-Doubles.

## Air Quality and Odour

The SEARs require the EIS to contain a detailed assessment of the impacts of the development on air quality and odour in the locality. Air quality at Kooragang Island and surrounding areas is influenced by dust and emissions from industrial and non-industrial sources. Industry in the general area of the subject site generate emissions from fuel combustion, coal loading and storage and energy use, including nitro gen oxides, sulphur oxides and carbon dioxide. Third party emissions from ships in the port are also a source of emissions, particularly sulphur dioxide, which is generated by the combustion of heavy bunker oils. The proposed ELGAS facility will have no detrimental effect on air quality or emissions as the nature of the operation will not generate any significant odour emissions.

## Noise and Vibration

The SEARs require the EIS to contain a detailed assessment of the noise and vibration impacts associated with the development. An Operational Noise Impact Assessment has been prepared in accordance with the assessment procedures of the EPA's *Industrial Noise Policy* and the relevant Australian Standards.

The surrounding development is not of a nature that is particularly sensitive to noise and certainly not to lower noise levels anticipated from the proposed development. The site exists in an area that is largely related to the functioning of the Port of Newcastle and is of a scale much larger than the proposed development.

The Operational Noise Impact Assessment concludes that the proposed development will comply with the *Industrial Noise Policy.*

## Waste Management

The SEARs require a detailed assessment of the waste management requirements for the development. A Waste Management Strategy (WMS) has been prepared to assess the potential waste streams generated from the project, likely volumes of waste produced during construction and operations, and propose

management measures to reduce wastes. A Waste Management Plan (WMP) has also been prepared as part of this Waste Management Strategy.

### Biodiversity

The SEARs require a detailed assessment of the impact of the project on biodiversity. The site is located within an established industrial precinct, on a lot that has been substantially developed, and is not identified as having any biodiversity values as set out on the Biodiversity Values map in Newcastle Local Planning Strategy, nor is it located in any major or local habitat corridors.

### Heritage

The SEARs require a detailed assessment of the impact of the project on Heritage. A search of the NSW Office of Environment and Heritage Aboriginal Heritage Information Management System (AHIMS) records has shown that no Aboriginal sites are recorded and no Aboriginal places have been declared in or near the site. The site is located on Part of Lot 1 DP 1195449, the majority of which already accommodates a recently approved service station, food offer and carwash. The proposed development in its current form will not have any impact on Aboriginal and/or non-Aboriginal cultural heritage.

### Visual

The SEARs require a detailed assessment of the visual impact of the proposed development. The scale of the development in the context of the large scale surrounding industry will ensure that likely landscape and visual impacts will be local. There will be no visual impacts when viewing the site from sensitive receivers further afield. The proposal represents an appropriate visual fit, and will contribute to and enhance the existing industrial visual character of the area.

### Conclusion

The proposed development is consistent with the relevant local and State planning instruments. The site constitutes a small parcel of land in the context of Newcastle Port, and is separated from waterfront land by Cormorant Road. Its development will not hinder the future use of waterfront land for port related uses, and will reinforce the economic vitality of the port.

The site is located on Part of Lot 1 DP 1195449, the majority of which already accommodates a recently approved service station, food offer and carwash. Further, the site's location in an established industrial precinct, and with access to B-Double approved routes, also minimises the impacts of additional traffic on the capacity of the local road network and exposure to traffic related noise.

A range of environmental issues have been identified and assessed with appropriate mitigation and management measures proposed to be carried through to the construction and operational phase. Emphasis has been applied to the management of potential hazards and risk associated with the development as well as traffic impacts. In particular, design and operational measures have been included to prevent LPG release into the soil or ground water table.

This EIS demonstrates that the proposal will not result in significant impacts to the environment through the implementation of management and mitigation strategies. Therefore the development is considered an appropriate use for the existing site, has positive economic benefits for the local area, and is in the best interest of the public, environment, and sustainability.

# Acronyms and Units

| | |
|---|---|
| AHD | Australian Height Datum |
| AHIMS | NSW Office of Environment and Heritage Aboriginal Heritage Information Management System |
| BCA | Building Code of Australia |
| CEMP | Construction and Environmental Management Plan |
| CIV | Capital Investment Value |
| DCP | Development Control Plan |
| DP&E | NSW Department of Planning and Environment |
| EIS | Environmental Impact Statement |
| EPA | NSW Environment Protection Authority |
| EP&A Act | *Environmental Planning and Assessment Act 1979* |
| EP&A Regulation | *Environmental Planning and Assessment Regulation 2000* |
| ESD | Ecologically Sustainable Development |
| LEP | Local Environmental Plan |
| LGA | Local Government Area |
| LPG | Liquified Petroleum Gas |
| OEH | Office of Environment and Heritage |
| PHA | Preliminary Hazard Analysis |
| QRA | Quantitative Risk Assessment |
| RL | Relative Level |
| RMS | NSW Roads and Maritime Services |
| SEARs | Secretary's Environmental Assessment Requirements |
| SSD | State Significant Development |
| Three Ports SEPP | *State Environmental Planning Policy (Three Ports) 2013* |
| WMP | Waste Management Plan |
| WMS | Waste Management Strategy |

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# Tables

# Figures



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# Appendices

# 1.0 Introduction

## 1.1 Background

This Environmental Impact Statement (EIS) is submitted to the NSW Department of Planning and Environment (DP&E) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of an application for the construction and operation of a Liquified Petroleum Gas (LPG) facility, including bulk storage vessel, cylinder storage area, overnight truck parking and loading area, cylinder filling dock, office building and associated car park at 130 Cormorant Road Kooragang (Part Lot 1 DP 1195449).

The application is designated development pursuant to Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). Clause 10(b)(ii) of Schedule 3 – Chemical storage facilities- includes locational requirements that relate to areas of high water table or highly permeable soil. The definition of "high water table" is described in the Regulation as being "areas where groundwater depth is less than 3 metres below the surface at its highest seasonal level. The Geotechnical Report prepared by RCA for the whole of Lot 1 DP 1195449, as contained in **Appendix 6,** confirms that the depth of the water table varies from 2.5m to greater than 3.2m across the site.

Clause 27(1) of *State Environmental Planning Policy (Three Ports) 2013* (Three Ports SEPP) sets out that development within the lease area of the Port of Newcastle (which includes Lot 1 DP 1195449), and that is not permitted without development consent under Part 4 of the EP&A Act, and is designated development pursuant to Schedule 3 of the EP&A Regulations, is declared to be State significant development for the purposes of the EP&A Act.

It should however be noted that Schedule 1 (10)(2) State Environmental Planning Policy (State and Regional Development) 2011 of sets out a capital investment value (CIV) threshold of more than $30 million for gas storage facilities before they are considered as State significant development. By way of contrast, the gas storage facility which is the subject of this EIS has a CIV of less than $2 million. Further, although LPG is classed as a hazardous product, the Review of Potential Impact on Water Table from Accidental LPG Release prepared by Arriscar, as contained in **Appendix 8,** sets out that because of the properties and behaviour of LPG, due to loss of containment, little or no propane penetrates the ground, nor can it reach the water table. The design of the development incorporates a fully paved concrete working yard area (200 mm in thickness) to allow for the required truck movements for the operation of the facility. Therefore, in the event of a LPG spill the pavement installation will act as an impervious barrier preventing any LPG release into the soil or ground water table.

This EIS has been prepared by RPS on behalf of Sovechles Nominees Pty Ltd (the proponent) and is based on the project drawings prepared by RJ Sinclair Pty Ltd as contained in **Appendix 1** and other supporting information appended to the EIS as identified in the table of contents.

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the EP&A Regulation, and the requirements of the Secretary of DP&E (SEAR's) which are contained in **Appendix 2**. This EIS should be read in conjunction with the supporting information and appended plans.

A request for the SEARs for the proposed LPG storage facility was submitted in April 2017. There has been no change to the project footprint since the SEARs were issued by the Secretary on 9 June 2017.

## 1.2 Existing Site

The subject site is located on the northern side of Lot 1 DP 1195449, known as 130 Cormorant Road Kooragang. A plan showing the location of the subject site of the EIS is shown in **Figure 1**. Lot 1 DP1195449 is separated into 5 leased areas and the proposed LPG will be the fourth offer to operate from the site (subject to approval). The three existing approved developments on Lot 1 DP 1195449 include:

- Shell/Coles Service Station and Truck Refuelling;

- Coolabah Food Offer;
- Baywash Carwash.

The recently completed and operating Shell Service Station and Coolabah Food Offer fronting Cormorant Road was approved by the Minister for Planning on 3 March 2015 (refer to Notice of Determination at **Appendix 13**). Baywash Carwash was approved by the Minister for Planning on 3 December 2015 (refer to Notice of Determination at **Appendix 14**). The service station and car wash DA's did not constitute designated development, and were approved pursuant to Part 4 of the EP&A Act. No archaeological items were discovered during extensive excavation and site works for the construction of the service station and car wash.


**Figure 1 Site Location Plan**

## 1.3 Purpose of this Report

The purpose of this EIS is to assess, and propose mitigation measures for, the environmental implications of proceeding with the development. This EIS has also been prepared to meet the SEARs for the proposed facility, as well as the recommendations of other consulted agencies and relevant stakeholders. The document has been prepared in accordance with the EP&A Act and the EP&A Regulation.

In addition to describing the project, the EIS presents a comprehensive and focussed assessment of the associated planning and environmental issues to a level of detail commensurate with the scale of the development, the characteristics and previous use of the site, and the legislative framework under which the development is to be assessed and determined. The matters dealt with in the EIS are presented in a manner that clearly addresses the specific requirements of the SEARs, as well as the requirements of other consulted government agencies and stakeholders.

## 1.4 The Applicant

The Applicant for the development is Sovechles Nominees Pty Ltd.

## 1.5 Site Description

The site has a rectangular shape, with an eastern frontage to Egret Street of 57.9m, north and south side boundaries of 137m and an area of approximately 7,984m$^2$. The site is relatively level (RL 4.62) and substantially clear of vegetation other than a row of pine trees along the northern boundary and limited scrub. An electrical kiosk servicing the tenancies on Lot 1 DP 1195449 is located close to the south-eastern corner. The site is bounded by a security fence along its western and northern boundaries. A 3.3m wide easement for electricity and other purposes is located along the Egret Street frontage. A detail survey plan is included at **Appendix 3** and the aerial photograph at **Figure 3** shows the characteristics of the site and the surrounds.

## 1.6 Secretary's Environmental Assessment Requirements

In accordance with Section 89G of the EP&A Act, the Secretary of DP&E issued the SEARs for the preparation of the EIS on 9 June 2017. A copy of the SEARs is included at **Appendix 2.**

**Table 1** provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this EIS and the accompanying technical studies.

**Table 1 Outline of SEAR's**

| Requirement | Where the issue(s) are addressed in the EIS |
|---|---|
| **General** | |
| The Environmental Impact Statement (EIS) must address the Environmental Planning and Assessment Act 1979 and meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000. | Entire EIS |
| Clause 6 - Form of environmental impact statement<br>(a) the name, address and professional qualifications of the person by whom the statement is prepared,<br>(b) the name and address of the responsible person,<br>(c) the address of the land:<br>(i) in respect of which the development application is to be made, or<br>(ii) on which the activity or infrastructure to which the statement relates is to be carried out,<br>(d) a description of the development, activity or infrastructure to which the statement relates,<br>(e) an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule,<br>(f) a declaration by the person by whom the statement is prepared to the effect that:<br>(i) the statement has been prepared in accordance with this Schedule, and<br>(ii) the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and<br>(iii) that the information contained in the statement is neither false nor misleading. | Statement of Validity |
| Clause 7 - Content of environmental impact statement<br>An environmental impact statement must also include each of the following:<br>(a) a summary of the environmental impact statement,<br>(b) a statement of the objectives of the development, activity or infrastructure,<br>(c) an analysis of any feasible alternatives to the carrying out of the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure,<br>(d) an analysis of the development, activity or infrastructure, including:<br>(i) a full description of the development, activity or infrastructure, and<br>(ii) a general description of the environment likely to be affected by the development, activity or infrastructure, together with a detailed description of those aspects of the environment that are likely to be significantly affected, and<br>(iii) the likely impact on the environment of the development, activity or infrastructure, and<br>(iv) a full description of the measures proposed to mitigate | (a) Executive Summary<br>(b) Section 1.3<br>(c) Section 4.0<br>d)(i) Section 3<br>(d)(ii) Section 2<br>(d)(iii) Section 5 and Section 8 |

| Requirement | Where the issue(s) are addressed in the EIS |
|---|---|
| any adverse effects of the development, activity or infrastructure on the environment, and | (d)(iv) Section 8 |
| (v) a list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out, | (d)(v) Section 8 |
| (e) a compilation (in a single section of the environmental impact statement) of the measures referred to in item (d) (iv), | (e) Executive Summary provided in page iv and Section 9 |
| (f) the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development. | (f) Section 10 |
| In addition, the EIS must include a: | |
| ■ detailed description of the development, including:<br>> history of the site, including development consents that apply;<br>> need for the proposed development;<br>> justification for the proposed development;<br>> likely staging of the development – including demolition, construction and operational stages;<br>> likely interactions between the development and existing, approved and proposed operations in the vicinity of the site; and<br>> plans of any proposed building works; | Section 2, Section 4 |
| ■ demonstrate that the site is suitable for the proposed use in accordance with *State Environmental Planning Policy No 55 – Remediation of Land;* | Section 5 |
| ■ consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; | Section 5 |
| ■ consideration of issues discussed in **Attachment 2**; | Section 6 |
| ■ risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; | Section 7 |
| ■ detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment, which includes:<br>> a description of the existing environment, using sufficient baseline data;<br>> an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; | Section 8 |
| > a description of the measures that would be implemented to avoid, minimise, and if necessary offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment, and | Section 8 |
| > a consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS. | Section 9 |
| ■ The EIS must also be accompanied by a report from a qualified quantity surveyor providing:<br>> a detailed calculation of the capital investment value (as | The EIS / DA is accompanied with a CIV report prepared by a qualified quantity surveyor. The proposed development will create approximately |

| Requirement | Where the issue(s) are addressed in the EIS |
|---|---|
| defined in clause 3 of the EP&A Regulation 2000) of the proposal, including details of all assumptions and components from which the VIC calculation is derived;<br>> a close estimate of the jobs that will be created by the development during the construction and operational phases, and<br>> certification that the information provided is accurate at the date of preparation. | 17 jobs during operation.<br><br>Certification is provided in the Statement of Validity. |
| **Key Issues** | |
| Hazards and Risk | Section 8.1 and **Appendix 5** |
| Soil and Water | Section 8.2 and **Appendix 7** |
| Traffic and Transport | Section 8.3 and **Appendix 15** |
| Air Quality and Odour | Section 8.4 and **Appendix 19** |
| Noise and Vibration | Section 8.5 and **Appendix 21** |
| Waste Management | Section 8.6 and **Appendix 16** |
| Biodiversity | Section 8.7 |
| European Heritage | Section 8.8 |
| Aboriginal and Cultural Heritage | Section 8.8 |
| Visual | Section 8.9 |
| **Plans and Documents** | |
| The EIS must include all relevant plans, diagrams and relevant documentation required under Schedule 1 of the Regulation. These items are to be provided as part of the EIS rather than as separate documents. | Plans provided in accordance with the *Environmental Planning and Assessment Regulation 2000.* |
| **Consultation** | |
| During the preparation of the EIS, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected land owners.<br>In particular you must consult with:<br>■ Newcastle City Council;<br>■ Port of Newcastle;<br>■ Department of Primary Industries;<br>■ Water NSW;<br>■ Fire and Rescue NSW;<br>■ Safe Work NSW;<br>■ Roads and Maritime Services; and<br>■ Nearby land owners and occupiers that may be affected by the proposal | Section 6 |

## 1.7 Project Team Table

An expert project team has been formed to deliver the proposed development and includes the organisations and specialists listed in **Table 2**.

**Table 2 Environmental Impact Assessment Team**

| Role | Company |
|---|---|
| Proponent | Sovechles Nominees Pty Ltd |
| Project Drawings | RJ Sinclair Pty Ltd |
| Planning | RPS |
| Preliminary Hazard Analysis and Quantitative Risk Assessment | Arriscar Pty Ltd |
| Geotechnical Investigation | RCA Australia |
| Baseline Environmental Site Assessment | RCA Australia |
| Review of Potential Impact on Water Table from Accidental LPG Release | Arriscar Pty Ltd |
| Traffic Impact Assessment | SECA Solution |

## 1.8 Document Structure

The content of the EIS is summarised in **Table 3.**

**Table 3 EIS Structure and Content**

| Main Report | |
|---|---|
| **Executive Summary** | Provides an overview of the entire EIS |
| **Section 1- Introduction** | Provides a summary of the proposed development, including the site, development, applicant and content of the EIS |
| **Section 2- Site Description** | Provides a description of the site at a regional and local level |
| **Section 3 – Project Description** | Provides a description of the proposed development , including all operational and construction aspects |
| **Section 4- Project Need and Alternatives** | Provides the reason for the development of the project |
| **Section 5 - Planning and Statutory Framework** | Describes the relevant planning and environmental approvals applicable to the development |
| **Section 6 – Consultation and Stakeholder Engagement** | Describes the consultation process with stakeholders, including local community and surrounding businesses, government agencies and interested parties |
| **Section 7 – Environmental Risk Assessment** | Provides a list of key environmental issues for the project, including a risk ranking for each issue identified and proposed mitigation |
| **Section 8 – Impact Assessment, Mitigation and Management** | Provides a description of the existing environment, assesses the predicted impacts from the proposal and provides a description of the management and monitoring measures |
| **Section 9 – Statement of Commitments** | Describes the measures to avoid and/or mitigate the potential environmental impacts of the project |
| **Section 10 –Justification** | Provides a justification for the proposal, including taking into consideration the positive and negative social, economic and environmental impacts as well as the principles of Ecologically Sustainable Development (ESD) |

| Main Report | |
|---|---|
| **Section 11- Conclusion** | Concludes that the proposal will not result in significant impacts to the environment through the implementation of management and mitigation strategies. |
| **Section 12 – References** | Provides a list of the reference material used to prepare the EIS, including guidelines, reports prepared for other projects, and specialist assessments prepared for the EIS |

The content of the appendices to the EIS is listed in **Table 4.**

**Table 4 EIS Appendices**

| Appendices | |
|---|---|
| **Appendix 1** | Project Drawings |
| **Appendix 2** | Secretary's Environmental Assessment Requirements |
| **Appendix 3** | Site Survey Plan |
| **Appendix 4** | Agency Responses |
| **Appendix 5** | Preliminary Hazard Analysis and Quantitative Risk Assessment |
| **Appendix 6** | Geotechnical Investigation |
| **Appendix 7** | Baseline Environmental Site Assessment |
| **Appendix 8** | Review of Potential Impact on water table from Accidental LPG Releases |
| **Appendix 9** | Flood Information Certificate and Explanation |
| **Appendix 10** | Hunter Water Installation of Sewer Mains Practical Completion Certificate and Signed Drawings |
| **Appendix 11** | Hunter Hydraulic Design Assessment |
| **Appendix 12** | Signed Major Works Contract in respect of Sewer and Water Services |
| **Appendix 13** | Service Station Notice of Determination |
| **Appendix 14** | Car Wash Notice of Determination |
| **Appendix 15** | Traffic Impact Assessment |
| **Appendix 16** | Waste Management Plan |
| **Appendix 17** | B-Double Route |
| **Appendix 18** | AHIMS Search Results |
| **Appendix 19** | ELGAS Odour Assessment |
| **Appendix 20** | AS/NZS Extracts re Explosive Atmospheres and Storage and Handling of LPG Gas |
| **Appendix 21** | Operational Noise Impact Assessment |

# 2.0 Existing Environment

## 2.1 Site Description

The site (part Lot 1 DP 1195449) is located on the northern part of land at 130 Cormorant Road Kooragang in the Newcastle Local Government Area (LGA). The site has a rectangular shape, with an eastern frontage to Egret Street of 57.9m, north and south side boundaries of 137m and an area of approximately 7,984m$^2$. The site is relatively level (RL 4.62) and substantially clear of vegetation other than a row of pine trees along the northern boundary and limited scrub. An electrical kiosk servicing the tenancies on Lot 1 DP 1195449 is located close to the south-eastern corner. The site is bounded by a security fence along its western and northern boundaries. A 3.3m wide easement for electricity and other purposes is located along the Egret Street frontage. A detail survey plan is included at **Appendix 3** and the aerial photograph at **Figure 3** shows the characteristics of the site.

## 2.2 Surrounding Development

Lot 1 DP1195449 is separated into 5 leased areas which include a vacant parcel to accommodate the subject proposal, a recently constructed and operating Shell Service Station and Coolabah Food Offer on the corner of Cormorant Road and Egret Street, Baywash Carwash close to Egret Street and a vacant parcel (currently the subject of a DA for industrial units) on the western side of the service station. An overall site plan for Lot 1 DP1195449 has been prepared by RJ Sinclair and is included at **Figure 2** below and **Appendix 1**.

Kooragang Island is a major location for the export of coal and currently accommodates heavy industry and port related uses as well as associated loading and rail infrastructure. To the north of the site is a Boral Cement facility which is accessed via a private road off Cormorant Road, and which runs close to the western boundary of the site.

Land to the west of the private road is largely vacant other than a railway which traverses the site from the southeast to the north-west corner and a small substation and associated infrastructure fronting Cormorant Road. To the south and south east of the site are a number of vessel berths with associated coal loading infrastructure. To the east of the site, on the opposite side of Egret Street is Sims Metal Management and associated scrapyard, the main access for which is off Cormorant Road. Further to the north east on the opposite side of Egret Street is a BOC Australia facility with associated gas storage infrastructure accessed off Egret Street.

Cormorant Road is the main thoroughfare between Newcastle and Stockton and further afield to Newcastle Airport and Port Stephens. Cormorant Road in the vicinity of the site is dual carriageway at its intersection with Egret Street. Egret Street, which fronts the site and is classified as a private road under the jurisdiction of the Port of Newcastle, has a wide single carriage way and can be accessed off Cormorant Road by both eastbound and westbound traffic. Egret Street services a number of industrial related activities further to the north and north east of the site, including but not limited to Boral, Port Waratah Coal and Newcastle Coal Infrastructure Group.

The aerial photograph at **Figure 3** and the photographs below depict the character of the site and surrounding area. **Plates 1** to **14** on the following pages provide recent photographs of the site from various viewpoints.

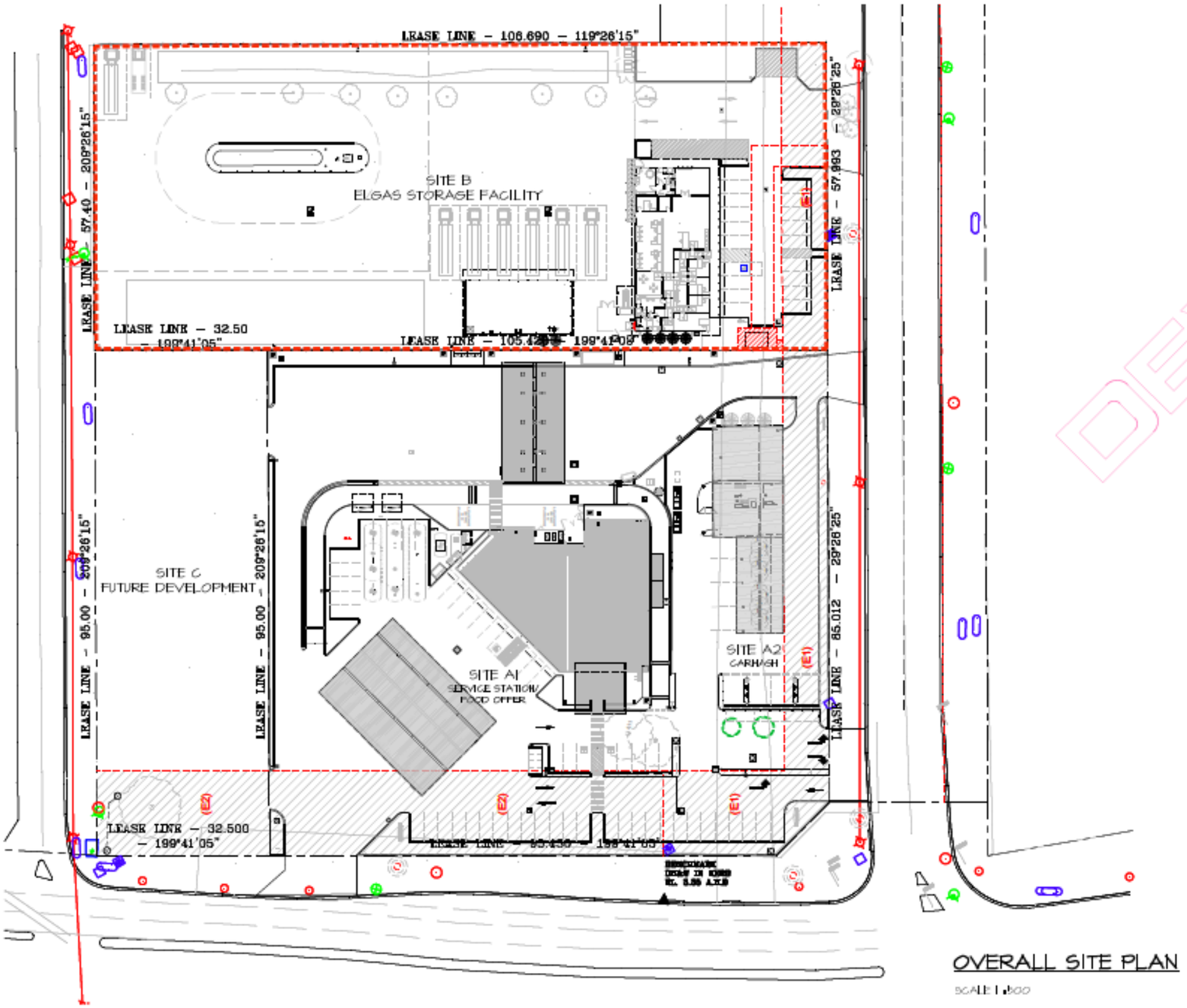


**Figure 2 Overall Site Plan**

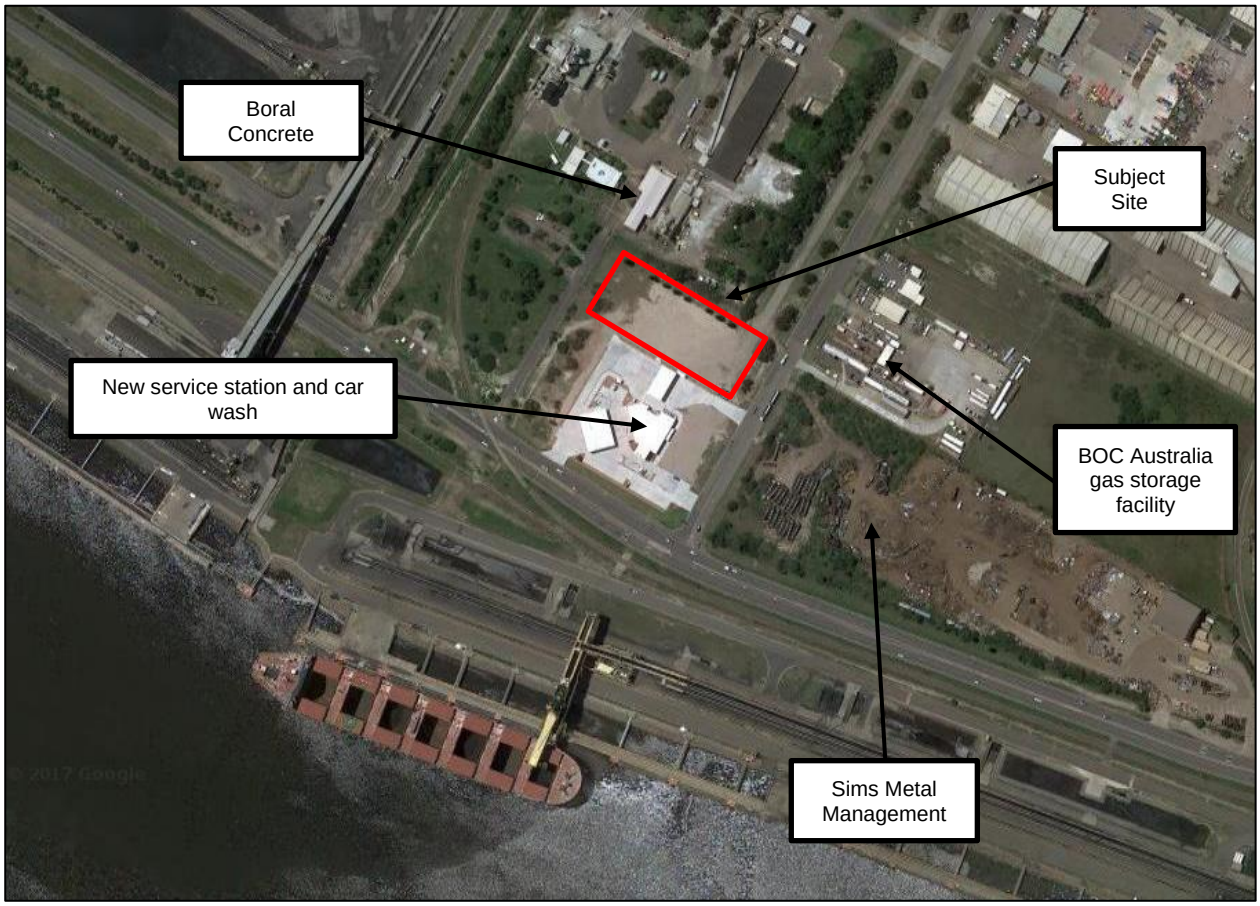


**Figure 3 Aerial Photograph**

**Plate 1 View east across the site towards service station**

**Plate 2 Adjoining Boral facility close to northern side boundary**

**Plate 3 View of adjoining Boral facility from north west corner of site**

**Plate 4 View east towards Egret Street from south-west corner**

**Plate 5 View north along Egret Street towards BOC gas storage facility opposite the site**

**Plate 6 View of existing service station from southern side of Cormorant Road**

**Plate 7 Existing service station looking towards the site**


**Plate 8 Existing Coolabah Cafe**

**Plate 9 Existing Shell service station**

**Plate 10 Existing BOC Facility opposite the site**

**Plate 11 Industry in the vicinity of the site**

**Plate 12 View south along Egret Street**

**Plate 13 Coal loader in the vicinity of the site**

**Plate 14 Cormorant Road in the vicinity of the site**

**Plate 15 Industry in the vicinity of the site**

## 2.3 Site History

The Baseline Environmental Site Assessment prepared by RCA, as contained in **Appendix 7,** provides the following site history based on a review of historical aerial photographs. **Figures 4** and **5** on the following pages also provide evidence of the historical development of the site:

- 1954 - The site has not yet been delineated and is within an area which appears to be unused or agricultural land, close to (or perhaps partially within) an unnamed channel flowing from north to south. Cormorant Road and Egret Street are not yet formed, although there does appear to be an informal roadway which may have formed the basis of the roads. Limited development had been undertaken on Kooragang Island at the time and appears restricted to isolated structures which may be farmhouses. The northern shoreline of the Hunter River looks primarily undisturbed. There is industrial/commercial development evident on the other side of the Hunter River at Mayfield, which is within the vicinity of the BHP steel processing facility. The southern River bank looks to have undergone some modification.
- 1966 - The site has not yet been delineated however there appears to have been disturbance at the site. The resolution and absence of colour on the photographs makes it difficult to determine whether the disturbance is the placement of fill or removal of vegetation, however due to the blocking of the north-south running channel, RCA Australia (RCA) considers that it is likely fill. Substantial development has been undertaken on the northern shoreline of the Hunter River. Development has commenced on the far eastern portion of Kooragang Island and Cormorant Road has been constructed. The southern shoreline of the Hunter River has been formalised, Platts Channel has been filled and the BHP facility has been constructed.
- 1975 - The site has been delineated and is vacant and unused. The surface appears to be either grass or sand; it is difficult to determine which with the provided photograph. Cormorant Road and Egret Street are both constructed, as is the Blue Circle cement site and associated driveway. There are some buildings on the site now occupied by Sims Metals. Additional development has occurred on the northern shoreline of the Hunter River, however the portion in front of the site looks unchanged from 1966. Additional development has occurred on Kooragang Island, especially to the far east where the Orica plant is now situated. Stockton Bridge has been constructed and the north of the site has completely filled in the north-south running channel. No changes to the southern shoreline of the Hunter River are apparent.
- 1983 - The site does not appear to have been altered from the 1975 photograph. The surface appears to be grass, patchy in some areas. There are a number of trees/shrubs situated on the site in clumps. The Blue Circle and Sims Metals sites appear to have furthered developed and development on the Port Waratah Coal's facility is also apparent to the north of the site. The northern shoreline of the Hunter River has undergone some further changes, however not in front of the site. No substantial changes are apparent on the southern shore of the Hunter River. Development in the eastern portion of Kooragang Island has increased.
- 1993 - The site is vacant and unused, however there are a number of trees/shrubs situated on the site in clumps. The other neighbouring sites and the northern shoreline near the site do not appear to be changed from the 1983 photograph. No substantial changes are apparent on the southern shore of the Hunter River or on Kooragang Island from the 1983 photograph.
- 2004 - The site appears to be unchanged from that in 1993. Additional development has been undertaken in the immediate vicinity of the site and the northern shoreline of the Hunter River has undergone additional development to construct coal loading facilities. The demolition of the BHP facility has been substantially completed, however there are still signs of remnant infrastructure.
- 2007 - The site appears to be unchanged from 2004. Additional development has been undertaken in the immediate vicinity of the site. No significant changes on the southern side of the Hunter River are apparent.

- 2010 - The site appears to be unchanged from 2004. Significant development has occurred to the west of the site with the construction of Port Waratah Coal Services' facility and additional construction on the northern shoreline of the Hunter River.
- 2013 - The site and immediate surrounds look unchanged from 2010. Significant development has occurred on the northern shoreline of the Hunter River, including the construction of a docking and coal loading facility in front of the site.

## 2.4 Existing Approvals

Lot 1 DP1195449 is separated into 5 leased areas which include a vacant parcel to accommodate the subject proposal, a recently constructed and operating Shell Service Station and Coolabah Food Offer on the corner of Cormorant Road and Egret Street, Baywash Carwash close to Egret Street and a vacant parcel (currently the subject of a DA for a self-storage facility) on the western side of the service station.

The Shell Service Station and Coolabah Food Offer was approved by the Minister for Planning on 3 March 2015 (refer Notice of Determination at **Appendix 13**). Baywash Carwash was approved by the Minister for Planning on 3 December 2015 (refer Notice of Determination at **Appendix 14**),

## 2.5 Land Ownership

The land is owned by the Port of Newcastle.

## 2.6 Zoning

The site is zoned SP1 Special Activities pursuant to the Three Ports SEPP.

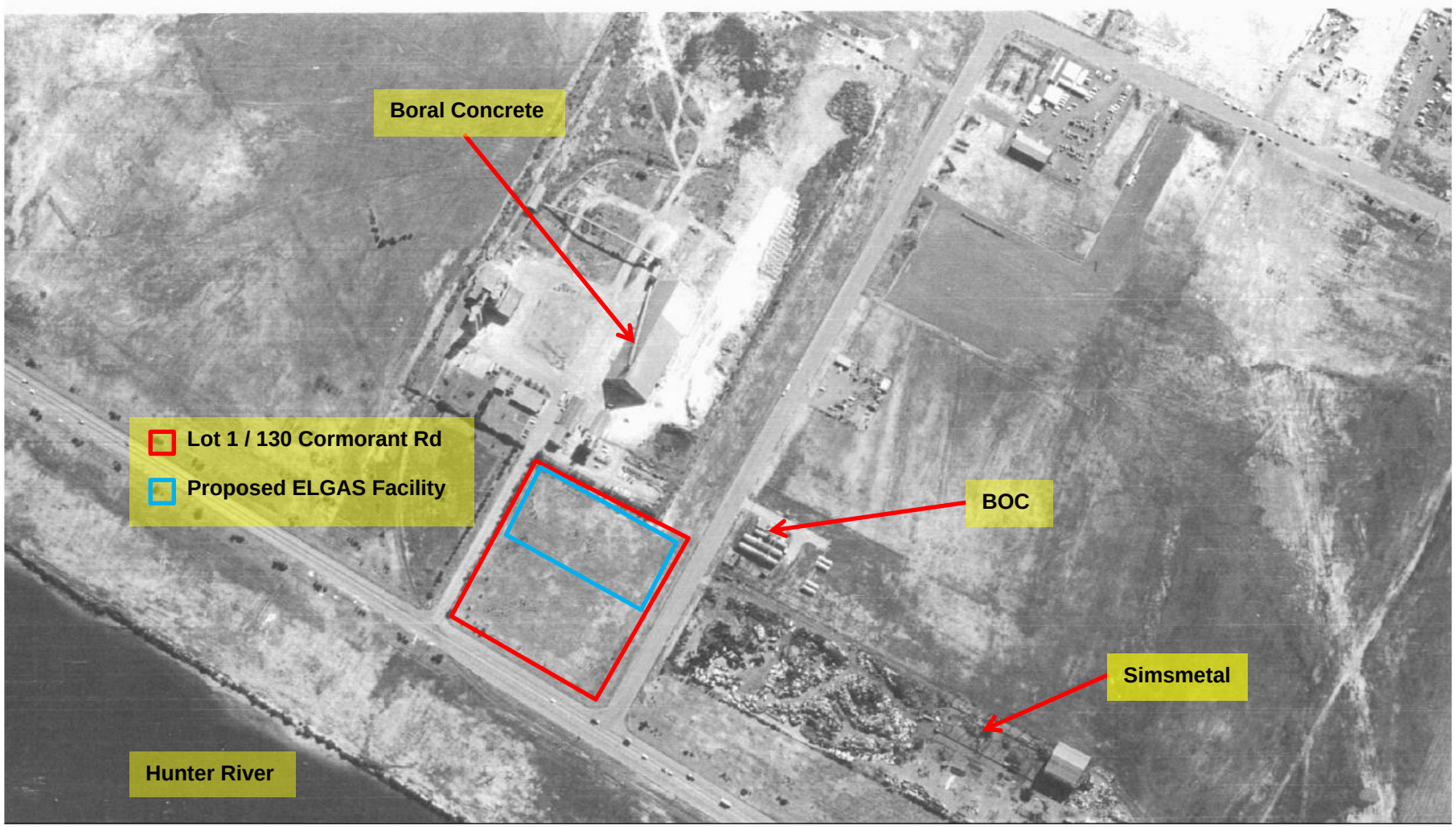


**Figure 4 Proposed Location of the ELGAS Facility – Kooragang Island, 1983 Aerial Photo**

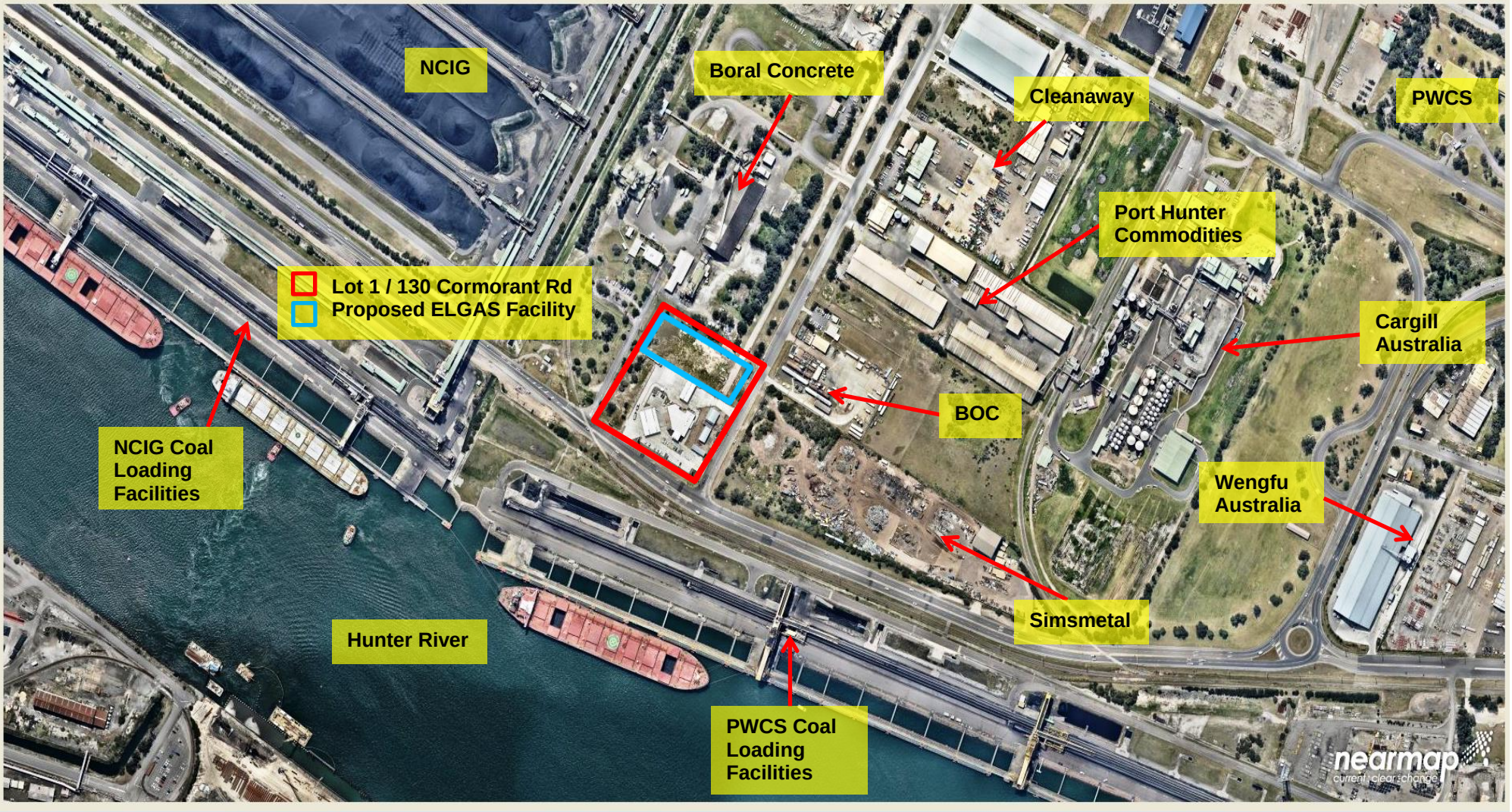


**Figure 5 Proposed Location of the ELGAS Facility - Kooragang Island, June 2016 Nearmap Photo**

# 3.0 Description of Development

This section of the EIS provides a detailed description of the development. The proposed works include site preparation, removal of trees, installation of services and drainage infrastructure and construction and operation of a LPG facility, including bulk storage vessel, cylinder storage area, overnight truck parking and loading area, cylinder filling dock, office building and associated car park.

In particular, the following is proposed:

- Site preparation works and removal of trees;
- New on site stormwater drainage system to connect to existing system for Lot 1;
- New above ground 50 ton/100kl LPG bulk storage vessel, fireproofed with Fendolite coating, and associated safety shower, remote fill point and Armco barrier;
- Cylinder storage areas to be located along part of southern and northern boundaries;
- New Single storey roofed 10m by 20m cylinder filling dock (to be constructed of selected colourbond wall sheeting) and associated safety shower located behind office building and 3m off southern side boundary;
- Overnight truck loading area for up to six vehicles to be located on northern side of Cylinder filling dock;
- Additional overnight truck parking for up to two laden vehicles (1x 6 tonne and 1x 9 tonne) to be located at north-western corner;
- New Single storey office building including entry, reception and display area, staff work area, storage and male and female WCs. The office building is to be constructed of colourbond FC sheeting, powder coated aluminium windows with colourbond roof;
- New delivery bay and associated turning area close to front gate;
- New at-grade 19 space asphaltic concrete car park (including one disabled space) close to Egret Street frontage;
- New concrete driveway crossing to Egret Street;
- New bin store area;
- The yard area on the western side of the office building is to concrete paved throughout and fenced with 1800mm high colourbond security fence with 3 rows of barbed wire above. Vehicle access to the yard is to be controlled by 1800mm high electrically operated palisade sliding security gate;
- New rainwater harvesting tanks in vicinity of office building and cylinder filling block;
- New 1200mm high palisade security fence around office building and car park area;
- New perimeter landscaping at Egret Street frontage;
- New ELGAS wall sign on eastern side of office building facing Egret Street;

The proposed site layout is shown in **Figure 6** below and the project drawings at **Appendix 1**.

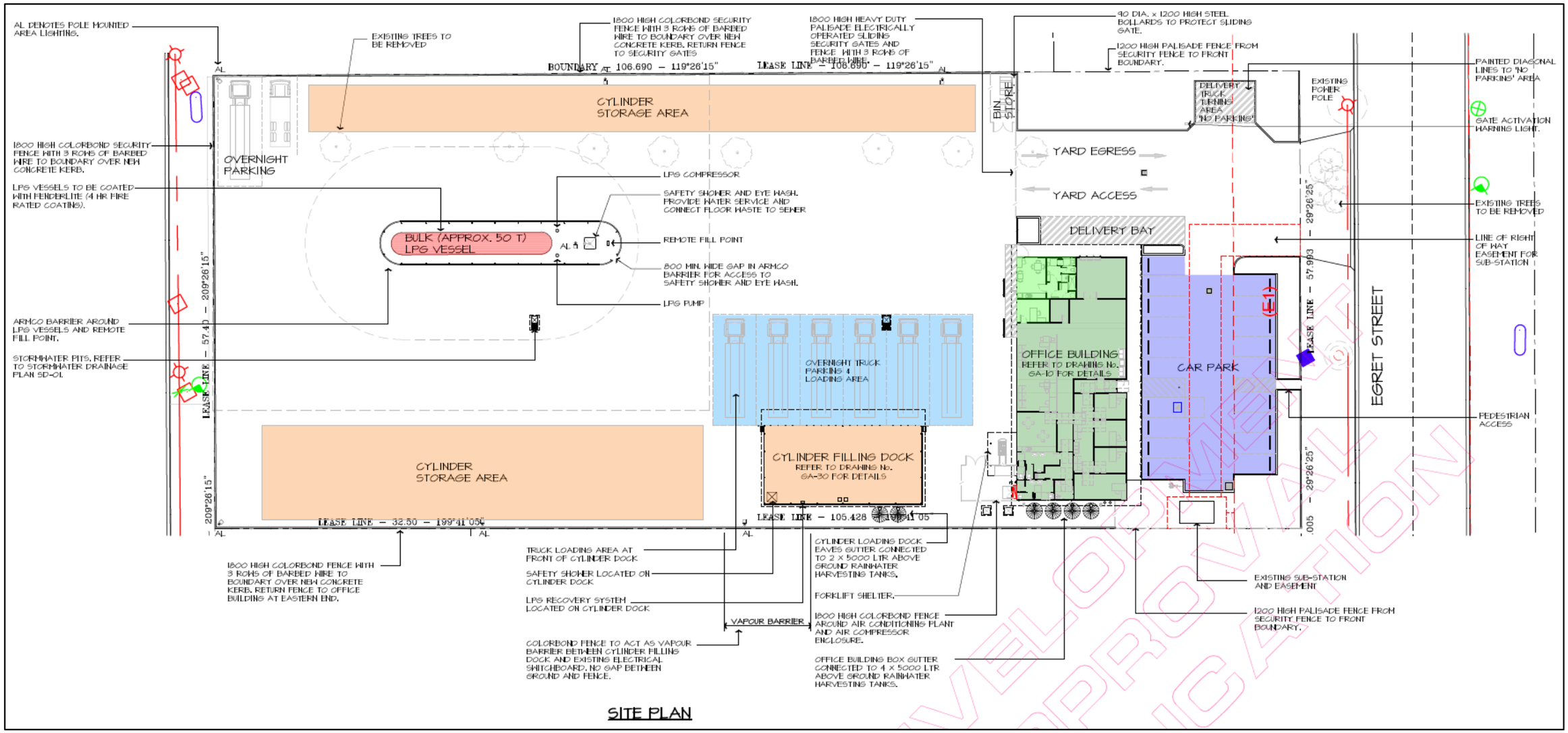


**Figure 6 Proposed Site Layout**

**Table 5** below lists the project drawings prepared by RJ Sinclair as contained in **Appendix 1**.

**Table 5 Schedule of Drawings**

| Drawings prepared by RJ Sinclair | | |
|---|---|---|
| **Drawing Number** | **Drawing Title** | **Revision** |
| GA00 | Cover Sheet and Drawing Schedule | |
| GA01 | Site Plan | DA2 |
| GA02 | Site Pavement Finishes Plan | DA2 |
| GA03 | Site Dimensions Plan | DA2 |
| GA 10 | Office Building Floor Plan | DA1 |
| GA11 | Office Building Dimensions Plan | DA1 |
| GA 12 | Roof Plan | DA1 |
| GA 20 | Office Building Elevations | DA1 |
| GA 21 | Office Building Sections | DA1 |
| GA 30 | Cylinder Filling Dock Plan | DA2 |
| | | |
| TS01 | Turning Circle B-Double | DA2 |
| TS02 | Turing Study 12.5m Rigid | DA2 |
| TS03 | Turning Delivery Bay | DA1 |
| | | |
| L01 | Landscape Site Plan | DA1 |
| L02 | Landscape Bedding Plans | DA1 |
| | | |
| SD01 | Stormwater Drainage Plan | DA1 |
| SD02 | Stormwater Schedules and Details Sheet 1 | DA1 |
| SD03 | Stormwater Schedules and Details Sheet 2 | DA1 |
| | | |
| CMP01 | Construction Management Plan | DA1 |
| CMP02 | Construction Management Plan Notes and Details | DA1 |

## 3.1 Overview of Operations

The following operations are proposed to be performed at the depot:

- LPG (propane) is delivered by single or B-double road tankers from the ELGAS Cavern facility at Port Botany. The LPG is transported in a liquefied state;
- The product is unloaded from an unloading bay into the storage tank using a gas compressor;
- LPG from the storage tank is loaded onto 6-9 tonne road tankers (Bobtails) using the depot pump;
- Cylinder filling occurs for the delivery to customers (8.5, 15, 18, 45 kg cylinders);

In terms of product movement, the following is envisaged:

- B Double Tanker- 5 deliveries per week;
- Bobtails (6 and 9 tonnes) – distribution 3 per day Monday to Friday; and
- Cylinder trucks (Flat top) – 5 per day.

## 3.2 LPG Storage Vessel

The main LPG storage vessel is approximately 20m long with 2.6m outside diameter, with a water capacity of 100kl. The size of the vessel is below that requiring the site to be classified as a Major Hazard Facility. The vessel will contain odourised LPG and has the following piping connections:

- 50mm nozzle for liquid flow to cylinder filling;
- 50mm nozzle for liquid flow to tanker loading bay;
- 50mm nozzle for vessel draining;
- 4 x 50mm nozzles for relief valve connection;
- 1 x 50mm nozzle for vapour return line from tanker loading bay.

The protection systems provided on the storage vessel consist of the following:

- Fendolite M11 (cementitious fie proofing material) coating in storage vessel;
- Multiport pressure relief valves located on top of the vessel;
- Excess flow valves and back check valves for primary shutoff;
- Manual globe valves for secondary shutoff;
- Air operated fire safety isolation valves for tertiary shutoff, with remote emergency isolation provision;
- High level protection shutdown (set at 88% tank level).

## 3.3 Site Security/Access

The following security measures are proposed:

- The site is to be fenced with 1800mm high colourbond security fence with 3 rows of barbed wire above;
- Vehicle entry and exit to the facility is to be via Egret Street, and is to controlled by 1800mm high electrically operated palisade sliding security gate;
- A personnel access gate is to be located at the office building and can only be opened by ELGAS personnel issued with identity password cards;
- The site will also be well lit and clearly visible from the road;
- The office building is to be alarmed with no cash or stock of any value kept on the premises;
- There will also be an after-hours security patrol.

## 3.4 Staffing

- The office building is to be staffed during the day time Monday to Friday. The maximum number of staff in the main office will be up to 9. A small number of staff may work on Saturdays on an as needs basis.
- Tanker unloading will usually occur during daylight hours. The frequency of tanker loading and unloading activities vary during summer and winter. Tanker unloading is performed by the tanker driver (contractor to ELGAS). Bobtail loading is carried out by ELGAS Drivers.
- There will be a total of 8 drivers for the Bobtails as well as cylinder flat top trucks.

- Cylinder filling is to be carried out by ELGAS Employees, with two people being involved in each cylinder filling operation.
- Maintenance contractors are not permanently present, but will be available on call for pre-arranged preventative maintenance.

## 3.5 Hours of Operation - ELGAS

The proposed development is to operate between the hours of 8am and 5:30pm Monday to Friday. Future demand may require the facility to increase operating hours to 24 hours a day 7 days a week.

## 3.6 Hours of Operation - Construction

Construction activities on the site would occur from 7am to 6pm Monday to Friday and from 8am to 1pm on Saturdays. No construction activities would occur on Sundays or public holidays.

## 3.7 Overnight Parking of Laden Tankers/Trucks

The storage of laden LPG 6 and 9 tonne Bobtail tankers may occur overnight. Tankers may be filled at the end of the day and left in a designated laden tanker parking bay overnight ready for early dispatch the following morning. There is also the potential for laden tankers to be parked on site over the weekend.

Cylinder trucks may also be loaded in the afternoon and parked full at the site overnight for early dispatch the following morning. Cylinder trucks will be parked in the dedicated parking area close to the south-east corner of the site.

The maximum number of laden tankers/trucks envisaged to be parked at the site at any time is:

- Up to two bobtails/tankers (1x 6 tonne and 1 x 9 tonne); and
- Up to two cylinder trucks (1x8.5kg truck and 1x 18 kg truck assumed (10 tonnes).

The total overnight storage comes to 25 tonnes.

Further operational details are provided in the Preliminary Hazards Analysis (PHA) and Quantitative Risk Assessment (QRA) which has been prepared in support of the proposed development by Arriscar Risk Engineering Solutions- refer **Appendix 5**.

## 3.8 Truck Movements

- B Double Tanker - 5 deliveries per week;
- Bobtails (6 and 9 tonnes) – distribution 3 per day Monday to Friday;
- Cylinder trucks (flat top) - 5 per day;
- B-Double line-haul cylinder distribution – 5 per week;
- Some after-hours deliveries will be required;

Total truck movements per day will be 20 (10 inbound and 10 outbound).

## 3.9 Infrastructure and Services

The site will have reticulated water, sewer electricity and communications. A Practical Completion certificate issued by Hunter Water for sewer and water works relating to Lot 1 DP 1195449 is included at **Appendix 10**. The engineering, design, sizing and installation of all the electrical, sewer, stormwater, reticulated water and communications were all completed and approved during the development approval process for Stage 1 Fuel & Food Offers. The bulk of these infrastructures and services for all of Lot 1 (21,000m$^2$) have now been

installed and now each stage that is completed, already has the bulk of the utility installed and the next offer (ELGAS) will connect into existing installations located on sites."

## 3.10 Waste Management

A Waste Management Strategy has been prepared to assess potential waste streams generated from the project, likely volumes of waste produced during construction and operation, and proposes management measures to reduce waste, refer to Section 8.6. A Waste Management Plan (WMP) has also been prepared as part of the Waste Management Strategy and is provided at **Appendix 16.**

# 4.0 Project Need and Alternatives

## 4.1 Need for the Proposed Development

### 4.1.1 Strategic

ELGAS is Australia's largest marketer of LPG, with a local presence across more than 40 service centres and is a member of the Linde Group. ELGAS service and supply 12,000 domestic and 3,000 commercial customers across the Newcastle and Hunter Region, and the forecast is for further growth over the next 3-5 years.

ELGAS deliver and exchange gas bottles and offer a refilling service to homes and businesses across all of Newcastle, Lake Macquarie, Hunter Valley regions including Muswellbrook, Singleton, Maitland, Cessnock, Nelson Bay surrounding areas.

ELGAS previously operated from one central location at 1 Chatham Road, Hamilton, but due to expired tenure and potential re-zoning issues, ELGAS was forced to find alternate premises and is now currently operating from 2 smaller sites located at Warners Bay and Kooragang (not the proposed site). Both these sites are not suitable for long term tenure.

Due to the projected growth in the Newcastle market and with the sites ELGAS are currently trading from not being suitable in the long term, a decision has been made to source a greenfield site where a new purpose built facility could be constructed. The new site needs to meet the requirements to service the existing Newcastle and Hunter customer base and allow for growth, as well as address logistical demands and be zoned appropriately.

The proposed offer at Kooragang will be integral to the current ELGAS offer north of Sydney, and will allow the company the opportunity to continue the delivery of a secure energy source while continuously providing a strong commitment to safety and a reliable level of service.

## 4.2 Project Options

### 4.2.1 Preferred and Alternate Locations

ELGAS has reviewed various locations in the Central Coast and Newcastle regions. The current site is zoned appropriately, is located in an established industrial precinct well away from sensitive receivers, and best meets the long terms goals of servicing and growing the existing Hunter Customer base. In particular, the Kooragang site has been chosen for the following reasons:

- Site Zoning
- Current and Future Separation from Residential areas
- Long Term Tenure
- Access to Road Transport
- Ingress & Egress
- Industrial Area (Noise & Amenity)
- Developer can offer full design and build facility
- Commercial arrangement
- Site shape and size

### 4.2.2 Do Nothing Option

The do nothing option will mean that ELGAS continue to operate from two smaller unsuitable sites located at Warners Bay and Kooragang, and will not have the ability to consolidate their operations and continue to provide a secure energy source for a growing market.

# 5.0 Relevant EPIs, Policies and Guidelines

There is a number of State Environmental Planning Policies (SEPP) which relate to the site and the relevant statutory provisions applying to the site are addressed below.

## 5.1 State Environmental Planning Policy (Three Ports) 2013

### 5.1.1 Permissibility

The site is zoned SP1 Special Activities pursuant to the Three Ports SEPP- refer zoning plan at **Figure 7**. The proposed development falls within the definition of heavy industrial storage establishment, is not prohibited, and is therefore permitted with consent in the SP 1 zone.

The Standard Instrument - Principal Local Environmental Plan defines heavy industrial storage establishment as:

> *heavy industrial storage establishment means a building or place used for the storage of goods, materials, plant or machinery for commercial purposes and that requires separation from other development because of the nature of the processes involved, or the goods, materials, plant or machinery stored, and includes any of the following:*
>
> *(a) a hazardous storage establishment,*
>
> *(b) a liquid fuel depot,*
>
> *(c) an offensive storage establishment.*

The Standard Instrument - Principal Local Environmental Plan further defines liquid fuel depot as:

> *liquid fuel depot means premises used for the bulk storage of petrol, oil, petroleum or other inflammable liquid for wholesale distribution and at which no retail trade is conducted.*

### 5.1.2 State Significant Development

The application is a designated development pursuant to Schedule 3 of the *Environmental Planning and Assessment Regulation 2000.* Clause 10(b)(ii) of Schedule 3 – Chemical storage facilities- includes locational requirements that relate to areas of high water table or highly permeable soil. The definition of "high watertable" is described in the Regulation as being "areas where groundwater depth is less than 3 metres below the surface at its highest seasonal level. The Geotechnical Report prepared by RCA for the whole of Lot 1 DP 1195449, as contained in **Appendix 6,** confirms that the depth of the water table varies from 2.5m to greater than 3.2m across the site.

Clause 27(1) of the Three Ports SEPP sets out that development within the lease area of the port (which includes Lot 1 DP 1195449) and that is not permitted without development consent under Part 4 of the EP&A, Act and is designated development pursuant to Schedule 3 of the EP&A Regulations, is declared to be State significant development for the purposes of the EP&A Act.

It should however be noted that Schedule 1 (10)(2) State Environmental Planning Policy (State and Regional Development) 2011 of sets out a capital investment value (CIV) threshold of more than $30 million for gas storage facilities before they are considered as State significant development. The gas storage facility which is the subject of this EIS has a CIV of less than $2 million.

### 5.1.3 Heritage

Clause 30 sets out requirements in relation to conserving the heritage significance of a heritage conservation area, conserving archaeological sites, Aboriginal objects and Aboriginal places of heritage significance. The site is not located in a heritage conservation area, nor does it contain any Aboriginal objects or Aboriginal places of heritage significance. No archaeological items were discovered during extensive excavation and

site works for the construction of the service station and car wash. European and Aboriginal Heritage matters are discussed in further detail in Chapter 8.

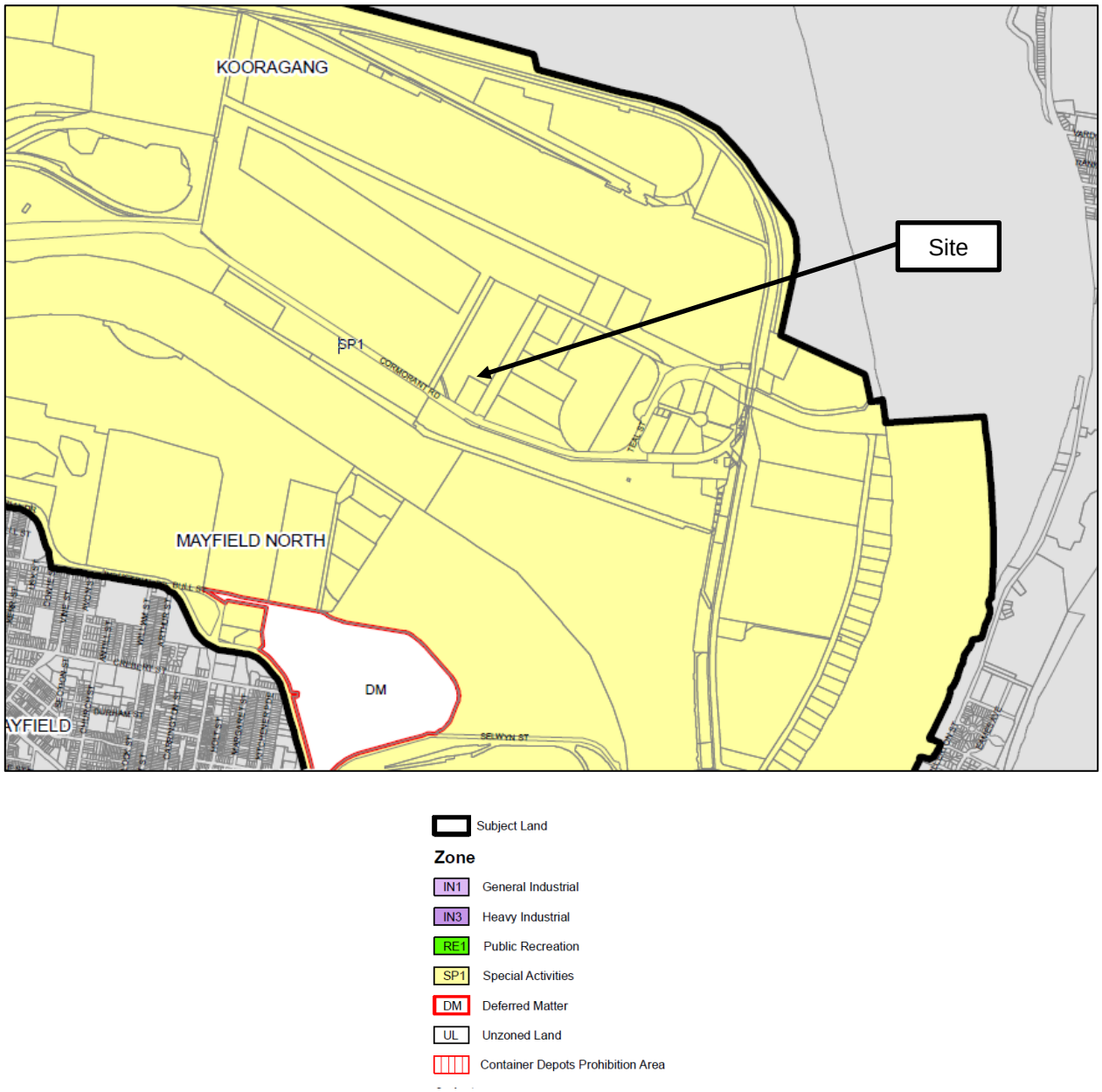


**Figure 7 Zoning Plan – Three Ports SEPP**

## 5.2 State Environmental Planning Policy (State and Regional Development) 2011

SEPP (*State and Regional Development*) 2011 aims to identify development that is State Significant Development (SSD), identify development that is state significant infrastructure; and aims to identify critical state significant infrastructure.

Clause 8 (1) of SEPP (State and Regional Development) 2011 sets out the following:

> ***8 Declaration of State significant development: section 89C***
>
> *(1) Development is declared to be State significant development for the purposes of the Act if:*

*(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*

*(b) the development is specified in Schedule 1 or 2.*

Schedule 1 (10)(2)sets out a capital investment value threshold of more than $30 million for gas storage facilities. The proposed development is not identified as SSD pursuant to SEPP (State and Regional Development) 2011, but rather is SSD pursuant to Clause 27(1) of the Three Ports SEPP.

## 5.3 State Environmental Planning Policy 33 – Hazardous and Offensive Development

SEPP 33 Hazardous and Offensive Development aims to ensure that the consent authority has sufficient information to assess whether a development is hazardous or offensive, and is able to impose conditions to reduce or minimise any adverse impact.

Clause 13 of SEPP 33 sets out the following matters for consideration by consent authorities prior to determination

*(a) current circulars or guidelines published by the Department of Planning relating to hazardous or offensive development, and*

*(b) whether any public authority should be consulted concerning any environmental and land use safety requirements with which the development should comply, and*

*(c) in the case of development for the purpose of a potentially hazardous industry—a preliminary hazard analysis prepared by or on behalf of the applicant, and*

*(d) any feasible alternatives to the carrying out of the development and the reasons for choosing the development the subject of the application (including any feasible alternatives for the location of the development and the reasons for choosing the location the subject of the application), and*

*(e) any likely future use of the land surrounding the development:*

A Preliminary Hazards Analysis (PHA) and Quantitative Risk Assessment (QRA) has been prepared in support of the proposed development by Arriscar Risk Engineering Solutions- refer **Appendix 5**. The PHA has been prepared in accordance with Hazardous Industry Planning Advisory Paper (HIPAP) No 6, “Guidelines for Hazard Analysis”. The QRA has been prepared in accordance with Hazardous Industry Planning Advisory Paper (HIPAP) No 4, “Risk Criteria for Land Use Safety Planning.”

The following recommendations arise from the PHA:

- Ensure that night time surveillance patrol of the site includes the parked Bobtail area to detect possible presence of LPG Gas (can be detected by odour);
- The cylinder storage and stacking arrangements on site must comply with Figure 4 Table 2 of the PHA report, to ensure compliance with target risk levels;
- The stacking of cylinder cages must not exceed 2m high for 8.5 and 15-18kg cylinders;
- A hazardous area classification diagram must be prepared for the site during detailed design;
- Tanker loading/unloading liquid and vapour hoses and cylinder filling hoses must be pressure tested annually;
- Adequate lighting is to be provided for after-hours access by tanker drivers;
- A traffic management system must be developed on site to prevent vehicle collisions;
- All cylinder storage areas, tanker loading/unloading area and Bobtail parking areas must be clearly marked;

- Appropriate workplace safety signs and Hazmat signs are to be installed on site as required by the codes.

## 5.4 State Environmental Planning Policy 55 – Remediation of Land

SEPP 55 regulates contamination by requiring all consent authorities to consider any contamination when determining a DA.

Under Clause 7(1) of the SEPP a consent authority must not consent to the carrying out of any development on land unless:

- It has considered whether the land is contaminated;
- If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out.
- If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

A Baseline Environmental Site Assessment for Lot 1 DP 1195449 has been prepared by RCA Australia in support of the proposed development, as contained in **Appendix 7**. The purpose of the assessment was to develop a comprehensive baseline soil and groundwater contaminant profile of the site prior to the development. The scope of work at the site consisted of thirty two (32) test pit locations systematically distributed on a 20x20m grid and the installation of three (3) groundwater bores, however one (1) existing groundwater bore was observed during fieldwork and incorporated into the sampling programme. Soil and groundwater sampling locations were positioned so as to effectively assess the site contaminant profile and the extent and distribution of potential contaminants.

A total of seventy eight (78) soil samples were selected from samples collected from the thirty two (32) locations and sent for laboratory analysis. Soil samples sent for laboratory analysis were selected based upon visual and/or olfactory evidence of contamination and to effectively assess the overall site soil contaminant profile. A total of four (4) groundwater samples were collected from across the site and sent from laboratory analysis.

The results show low levels of metals were identified below the human health and ecological criteria. Overall, the site is considered suitable for the proposed use.

## 5.5 State Environmental Planning Policy 71 – Coastal Protection

*State Environmental Planning Policy No. 71 – Coastal Protection* (SEPP No. 71) applies to, inter alia, land (the whole or part of which) is within the "coastal zone". The coastal zone is defined in the *Coastal Protection Act 1979* and has been mapped for the Newcastle local government area. The site is located within the coastal zone pursuant to SEPP 71. Clause 7 of SEPP No. 71 states that the matters for consideration set out in Clause 8 are to be taken into account by a consent authority when it determines a development application to carry out development on land to which SEPP No. 71 applies. The relevant matters outlined in Clause 8 have been summarised in the table below (**Table 6**) and compliance of the proposed development with these matters has been indicated accordingly:

**Table 6 SEPP 71 Consideration**

| Clause 8 Matters for Consideration | Comment |
|---|---|
| *(a) The aims of SEPP No. 71 set out in Clause 2,* | The proposed development is consistent with these aims as it comprises development with no significant impacts on the coastal or lake foreshore environment. |
| *(b) existing public access to and along the coastal foreshore for pedestrian or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,* | There will be no change to any public access arrangements along the foreshore as a result of the proposed development. |
| *(c) opportunities to provide new public access to and along the coastal foreshore for pedestrian or persons with a disability* | There will be no change to any public access arrangements along the foreshore as a result of the proposed development. |
| *(d) the suitability of development given its type, location and design and its relationship with the surrounding area,* | Given the sites attributes and zoning of both the subject site and surrounding areas, this type of development is suitable for this site, as detailed in the EIS. The site is predominately cleared and disturbed. |
| *(e) any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,* | This proposal will have no impact on the coastal foreshore. |
| *(f) the scenic qualities of New South Wales coast, and means to protect and improve these qualities,* | The visual amenity of the coast will not be affected and the visual impact of the development from the surrounding public areas will be minimal. |
| *(g) measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995 ) and plants (within the meaning of that Act), and their habitats,* | The impact of the development on biodiversity has been assessed under 8.7 below. This proposal will not affect any threatened species or their habitats. |
| *(h) measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994 ) and marine vegetation (within the meaning of that Part), and their habitats* | The proposed development will not compromise the health of any marine systems in the area. |
| *(i) existing wildlife corridors and the impact of development on these corridors,* | The proposed development will not impact on any wildlife corridors. |
| *(j) the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,* | N/A |
| *(k) measures to reduce the potential for conflict between land-based and water-based coastal activities,* | The proposal does not involve any activities nor will it lead to any activities that may lead to conflict between land and water based activities. |
| *(l) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals* | This proposal will not compromise any cultural places, values, customs or beliefs that Aboriginal people may have. A discussion of the likely impact on Aboriginal Heritage is included under 8.8 below. |
| *(m) likely impacts of development on the water quality of coastal waterbodies,* | There will be no impact on the existing water quality of The Hunter River as a result of the proposed development. |

| Clause 8 Matters for Consideration | Comment |
|---|---|
| *(n) the conservation and preservation of items of heritage, archaeological or historic significance,* | This proposal will not impact on the preservation of any existing items of heritage or archaeological significance. A discussion of the likely heritage impact is included under 8.8 below. |
| *(o) only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,* | N/A |
| *(p) only in cases in which a development application in relation to proposed development is determined:*<br>*(i) the cumulative impacts of the proposed development on the environment, and*<br>*(ii) measures to ensure that water and energy usage by the proposed development is efficient.* | The will be no adverse cumulative impacts on the environment as a result of this proposed development. This proposal seeks to ensure that existing water quality is maintained and energy usage is efficient. |

## 5.6 State Environmental Planning Policy (Infrastructure 2007)

Schedule 3 of SEPP (Infrastructure 2007) sets out categories of development to be referred to the RMS and includes liquid fuel depots with an area of 8000m$^2$. The site has an area of 7,984m$^2$, which is below this threshold.

## 5.7 Hunter Regional Plan 2036

The *Hunter Regional Plan 2036* guides the NSW Government's land use planning priorities and decisions over the next 20 years. The site is located in the Port of Newcastle Global Gateway. The proposed development is compatible with surrounding industrial uses and will reinforce the vitality of the port as an economic asset by utilising strategically located, serviced, accessible industrial land.

## 5.8 Newcastle Local Planning Strategy

The *Newcastle Local Planning Strategy* (LPS) is a comprehensive land use strategy that will guide the future growth and development of Newcastle to 2030 and beyond. The LPS recognises the importance of the Port of Newcastle to both the State and Regional economy. The site constitutes a small parcel of land in the context of Newcastle Port, and is separated from waterfront land by Cormorant Road. The proposed development will not hinder the future use of waterfront land for port related uses, and will reinforce the economic vitality of the port.

## 5.9 Port of Newcastle Port Development Plan

The Port of Newcastle is a key strategic and economic asset for New South Wales and has been identified as a global gateway in the *Hunter Regional Plan 2036*. The purpose of the Port Development Plan (PDP) is to inform the NSW State Government, Government Agencies and the local community of Port of Newcastle's development objectives over a forward rolling five year period. The PDP sets out that the Kooragang Precinct will remain primarily dedicated to coal exports over both the 2015-2020 period and the longer term due to the substantial existing coal export infrastructure in the precinct. However, other than land for the existing coal terminals, there is no need to allocate further land for coal use in the next five years.

The site constitutes a small parcel of land in the context of Newcastle Port, and is separated from waterfront land by Cormorant Road. Its development will not hinder the future use of waterfront land for port related

uses, and will reinforce the economic vitality of the port in a sustainable manner which is a key element of the PDP.

## 5.10 Newcastle Development Control Plan 2012

DCP 2012 applies to all land within Newcastle local government area to which Newcastle LEP applies, and to land outside the Port of Newcastle lease area to which SEPP (Three Ports) 2013 applies. The site falls **within** the Port of Newcastle lease area, therefore DCP 2012 does not apply.

In this regard, the DCP is not a matter for consideration under Section 79C(1)(a)(iii). However, for the purpose of assessing the impact of the development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality in accordance with Section 79C(1)(b), it is reasonable to provide an assessment of the development's compliance with the DCP. The relevant planning considerations outlined by the DCP are addressed in the table overleaf (**Table 7**).

**Table 7 Newcastle Development Control Plan 2012 Compliance**

| Section | Objectives | Control | Likely Compliance |
|---|---|---|---|
| **3.13 Industrial Development** | | | |
| **3.13.01 Site Coverage** | 1. Ensure that sites are developed to a level that maintains their efficient operation. | 1. Site coverage of development is determined having regard to the following:<br>a. landscaping requirements<br>b. car parking and manoeuvring<br>c. loading areas<br>d. setbacks. | The proposal has been designed to ensure its efficient and safe operation as a gas storage facility through its layout, storage and manoeuvring areas. Operational activities will occur at the rear of the site, with the office building, car parking and landscaping being located at the front portion. |
| **3.13.02 Character and Amenity** | 1. Promote development that is both functional and attractive in the context of its local environment through appropriate design.<br>2. Ensure new development is sympathetic with the streetscape character and amenity of any adjoining residential precinct.<br>3. Ameliorate any potential adverse amenity, noise privacy or overshadowing impact upon any adjoining residential zoned land from any proposed new building or proposed alterations and additions to an existing building.<br>4. Minimise the potential impact of development, visual or otherwise through careful site planning and ensure that adequate environmental safeguards are implemented.<br>5. Ensure that development proposed in close proximity to residential areas does not have materially detrimental effects on such areas | 1. Buildings meet a high standard of building design to achieve a suitable level of visual and environmental quality. Attractive building design can, in most cases, be achieved simply and at comparatively low cost, and applicants are encouraged to consider variations in fascia treatments, roof lines and selection of building materials to achieve an attractive design.<br>a. Elevations of buildings which are visible from a public road, reserve or railway are constructed using brick, masonry, pre-coloured metal cladding, and appropriately finished 'tilt-slab' concrete or a combination of a number of these materials. Large unrelieved expanses of wall or building mass are avoided, and such should be broken up by the use of suitable building articulation, fenestration or alternative architectural enhancements.<br>b. Roofing materials consist of low-reflective materials particularly when visible from a public place or adjoining residential areas. | The proposed development has been designed to be visually sympathetic with the industrial nature of the locality.<br>The office building, which will be the most visible part of the development from Egret Street, is to be constructed of colourbond FC sheeting, powder coated aluminium windows with colourbond roof.<br>Landscaping at the Egret Street frontage will soften the visual interface of the development with the street. |

| Section | Objectives | Control | Likely Compliance |
|---|---|---|---|
| **3.13.03 Open Storage and Work Areas** | 1. Ensure open storage and work areas are suitably screened from public view. | 1. Where any work or storage of materials is proposed to be undertaken outside the confines of a building, full details of those parts of the site to be so used, and of the materials to be stored, are provided with the application.<br>2. Approved open work and storage areas are located at the rear of industrial developments and screened from view by the use of landscaping and screen fencing. Such fencing is constructed of masonry materials or pre-coloured metal cladding, having a minimum height of 2m. | Open storage and work areas are screened from view on the western half of the site behind the office building. A 1800mm high colourbond security fence will provide further screening around the permitter of the site.<br>Project plans showing the layout of the site are included at **Appendix 1**. |
| **3.13.04 Building Setbacks** | 1. To ensure that adequate area is available at the street front of development to accommodate satisfactory landscaping, access, parking and manoeuvring of vehicles.<br>2. To reduce the visual impact of development on the streetscape and to provide adequate area for landscaping. | 1. Development is setback 5m from the front property boundary, however, this setback may be reduced by up to 50% for half the width of the site (refer Figure 1), provided that:<br>a. the remaining portion of the development is setback a distance equivalent to the concession taken<br>b. the building design contributes to the enhancement of the streetscape<br>c. the setback area is landscaped<br>d. the front setback does not have any car parking spaces. | Development is set back at least 5m from the front property boundary and incorporates landscaping to soften the visual impact of the proposal from Egret Street.<br>The car park is located at the front of the site for operational efficiency and safety reasons. |
| **3.13.05 Loading, unloading and servicing areas** | 1. Provide for the design of loading and servicing areas in a functional and aesthetically pleasing manner. | 1. All loading and servicing areas are located to the side or rear of buildings and effectively screened from any street frontage, adjoining buildings and residential areas.<br>2. Each individual allotment provides sufficient on-site loading facilities to accommodate its activities within the allotment. All loading movements, including turnaround areas, are accommodated within allotments. Sharing of loading facilities and manoeuvring areas between sites will be considered on merit. | Loading and unloading will occur predominately within the site. The overall internal area within the site provides for the movements of large trucks including B-double.<br>A designated delivery bay and truck turning area is also located on the northern side of the office building to ensure that all vehicles can enter and exit the site in a forward direction. A Traffic |

| Section | Objectives | Control | Likely Compliance |
|---|---|---|---|
| | | | Impact Assessment in support of the proposed development is provided at **Appendix 15.** |
| **3.13.06 Parking and vehicle access** | 1. Ensure adequate provision is made for on-site car parking and for employees and visitor's vehicles.<br>2. Create attractive landscaped car parking throughout the development. | 1. Car parking provided on site in accordance with the requirements of Section 7.03 Traffic, Parking and Access of this DCP.<br>2. All car parking required by Council is provided 100% on site.<br>3. Off-street parking is provided behind or at the side of the building area from street frontage.<br>4. Loading docks are positioned so they do not interfere with visitor and employee parking spaces and to ensure delivery vehicles do not stand on any public road, footway or laneway.<br>5. Where possible separate heavy and light traffic movements. | 19 car spaces are proposed at the front of the site along with 8 overnight truck parking spaces available in the restricted access section of the facility.<br>Traffic management within the site is to be controlled by on-site WHS requirements. |
| **7.03 Traffic, Parking and Access** | | | |
| **7.03.02 Parking Provision - Industrial Activity** | | 1. space per 100m2 GFA or 1 space per 2 staff, whichever is the greater. | Applying the NDCP rate of 1 space per 2 employees, the proposed development is required to provide 10 parking spaces. The proposal to provide 19 spaces exceeds the DCP requirement. |
| **7.03.04 Design and Layout of Parking and Access**<br><br>**A-Siting** | Ensure that car parking areas and/or structures are well-sited and designed as an integrated component of the total development. | 1. Parking facilities are sited and designed to be properly integrated within the overall development/building to minimise their visual impact and any adverse impact on the continuity and amenity of street frontages.<br>2. Parking is located so that it is within a reasonable distance of access to the premises it serves.<br>3. Parking spaces are not positioned so as to obstruct access to the premises by | The car park is located at the front of the site, close to the office building for operational efficiency and safety reasons, and will be landscaped to minimise its visual impact.<br>Car parking is to be set back a minimum of 5.5m from the frontage to Egret Street. |

| Section | Objectives | Control | Likely Compliance |
|---|---|---|---|
| | | pedestrians or cyclists.<br>4. Loading areas are situated so that when in use, they do not interfere with pedestrian, cyclist or vehicular circulation.<br>5. Generally, car parking structures are set back a minimum distance of 5.5m from the street frontage providing access to the car parking space. | |
| **B- Parking Areas and Structures** | 1. Ensure that parking and vehicular access do not dominate the streetscape or detract from the character of the area.<br>2. Ensure that parking does not detract from the overall appearance or the continuity of streetscapes or streetscape elements, including street tree planting.<br>3. Ensure parking areas and structures are designed to be easily and safely negotiated by vehicles and pedestrians. | 1. Design and construction of parking, set down areas and loading facilities comply with the provisions of AS2890 Parking facilities.<br>2. Wherever possible, car parking structures such as multi-level car parks, enclosed half-basement or single-storey car parks, incorporate active uses along the ground level frontage.<br>3. Car parking provided at or above ground level has horizontal flooring and a minimum floor to ceiling height of 3.6m at the ground level and 3.3m for the next two floors above, to enable it being adapted to an alternative use in future.<br>4. The facade of an above ground parking structure is:<br>a. designed and finished to complement the architecture of the building<br>b. designed to avoid domination of ramps or strong horizontal and/or vertical features.<br>5. Covered or enclosed parking areas have adequate provision of lighting and ventilation. Natural lighting is preferred.<br>6. Parking layout facilitates efficient parking search patterns. Dead-end aisles are avoided.<br>7. Where development is expected to generate vehicle movements during hours of darkness, self-illuminated and/or reflective signage and | Parking is to be at-grade at the front of the site. Design and construction of parking, set down areas and loading facilities are to comply with the provisions of AS2890 Parking facilities. |

| Section | Objectives | Control | Likely Compliance |
|---|---|---|---|
| | | pavement markings are provided. | |
| **C- Access** | 1. Maintain the pedestrian amenity of streets.<br>2. Protect the significance of heritage conservation areas.<br>3. Ensure that vehicular access is appropriately located. | 1. Vehicular crossings are designed and located in accordance with the current relevant Australian Standard (AS2890 Parking facilities) and Council's requirements.<br>2. Vehicular crossings are located having regard to driver and pedestrian safety, and impacts on traffic movement. Vehicular crossings are avoided in the following areas:<br>a. in areas of high pedestrian movement<br>b. on major roads<br>c. close to intersections<br>d. where the use of the driveway may significantly obstruct through traffic or the operation of bus stops.<br>3. Direct vehicle access to a classified road is not provided wherever alternate access is available. Refer to SEPP (Infrastructure) 2007.<br>4. Direct access (vehicle or pedestrian) to a classified road requires the separate approval of the Roads and Traffic Authority pursuant to s138 of the Roads Act 1993.<br>5. Vehicular crossings are located to provide adequate sight distance to traffic on the frontage road and to pedestrians on the frontage road footpath. Sight distances are in accordance with Australian Standards (AS2890 Parking facilities).<br>6. Access ways and structures are designed so that vehicles are able to enter or exit in a single turning movement in a forward direction. | The driveway on Egret Street is to be located approximately 150 metres north of the intersection with Cormorant Road. Site access will be available from both directions along Egret Street.<br>Exit onto Cormorant Road is available as left turn only. Visibility for exit onto Cormorant Road exceeds 170m, allowing safe exit movements for cars and trucks for a posted speed limit of 80km/hr.<br>A two way driveway is proposed, providing for all movements including B-double trucks. The size of the site, together with its configuration, ensures that all vehicles can enter and exit the site in a forward direction.<br>A Traffic Impact Assessment in support of the proposed development is provided at **Appendix 15.** |

# 6.0 Consultation

**Table 8** provides responses to matters raised by Public Authorities during the preparation of the SEAR's, as well as matters raised by Public Authorities, service providers and affected landowners during the preparation of the EIS.

The following parties were contacted during the preparation of the EIS by letter / email, individual agency meeting where considered appropriate:

- Newcastle City Council;
- Port of Newcastle;
- Department of Primary Industries - Water;
- Fire and Rescue NSW;
- Safe Work NSW;
- Roads and Maritime Services; and
- Nearby land owners and occupiers that may be affected by the proposal.

A list of the agencies consulted and a summary of the responses received and raised are identified in **Table 8**. A record of stakeholder responses is also contained in **Appendix 4**.

**Table 8 Summary of Responses Received**

| Agency/party | Date and Type of Consultation | Issues Raised | Responses to Issues Raised |
|---|---|---|---|
| Newcastle City Council | Letter from NCC dated 6 June 2017 | ■ Characterisation of the proposed development in terms of land uses permitted with consent in SP1 Special Activities zone under three Ports SEPP<br>■ Consideration of the provisions of SEPP 33 Hazardous and Offensive Development<br>■ Consideration of the relevant provisions of SEPP 71 Coastal Protection<br>■ Contamination including demonstrating that the site is suitable for the proposed use pursuant to the provisions of SEPP 55 Remediation of Land<br>■ Consideration of the likely impact of development on Acid Sulphate Soils<br>■ Consideration of the relevant sections of Newcastle Development Control Plan 2012<br>It is recommended that vehicle access to part Lot C be finalised in association with this application. In this regard, Council has significant safety concerns in relation to the proposed access to Part Lot C and its proximity to Cormorant Road as well as the practicalities of vehicles exiting onto Egret Street through the truck fuel area. It is recommended that a stand-alone drive entry/exit be provided to Lot C off Egret Street immediately north of the service station site.<br>■ Consideration of traffic vehicle access and parking including potential vehicular conflict between vehicles using the loading bay and cars entering and leaving the car park, as well as consideration of proximity of existing power pole on Egret Street<br>■ Providing details of compensatory street tree planting | Refer section 5.1<br>Refer section 5.3<br>Refer section 5.5<br>Refer section 5.4<br>Refer section 8.2.6<br>Refer section 5.10<br>Lot C is currently the subject of a DA for industrial units, on the western side of the service station. At this stage the applicant proposes to withdraw this DA and change the proposed use to self-storage units and amend the access arrangements. This less intensive use along with amended access arrangements will ensure that vehicles do not exit onto Egret Street through the truck fuel area.<br>Refer section 8.3 and TIA at **Appendix 15**<br>Landscaping at the front of the site has been prepared in conjunction with Port of Newcastle. NCC have no jurisdiction since |

| Agency/party | Date and Type of Consultation | Issues Raised | Responses to Issues Raised |
|---|---|---|---|
| | | | DCP 2012 does not apply over lease area. |
| | | ■ Clarification of proposed sewage management | Sewer for the proposed development will be connected to the existing system that was approved and installed in Stage 1. The system was designed with the knowledge of future users – refer **Appendix 10, 11 and 12.** |
| | | ■ Details of crime prevention measures | Refer section 3.3 and **Appendix 1** |
| | | ■ Submission of detailed cost report prepared in accordance with Section 94A Development Contribution Plan 2009 | To be attached separately |
| Newcastle City Council | e-mail sent to NCC on 27 July 2017 seeking further comments | NCC advised re preference to address previously raised access to Lot C once the DA for the new LPG facility has been determined by DP&E, by either:<br>1. withdrawing the DA for industrial units on Lot C, or<br>2. changing the proposed use to self-storage units (less intensive use).<br>This change would also involve amending the current access arrangements to ensure a single ingress/egress point further away from Cormorant Road. The new access point would also ensure that vehicles do not have to exit the site onto Egret Street through the truck fuel area - a concern previously raised by Council. | No response to date |
| Port of Newcastle | e-mail from PON dated 30 May 2017 | ■ EIS should consider Port of Newcastle Development Plan 2015-2020<br>■ Traffic Assessment should demonstrate that all required vehicle queueing and parking can be | Refer section 5.9<br>Refer section 8.3 and **Appendix 15** |

| Agency/party | Date and Type of Consultation | Issues Raised | Responses to Issues Raised |
|---|---|---|---|
| | | contained within the site<br>■ The engineering design of the proposed drainage system should include an assessment of the capacity of the existing stormwater system and be undertaken in consultation with Port of Newcastle<br>■ Landscaping should enhance the appearance of the development and increase the visual amenity of the port, be compatible with and not compromise the safety and security of facilities and ensure select species that are suited to the environment. Landscaping should also not prejudice future development including the operation of the site or adjoining sites.<br>■ The PHA should take into account the hazardous facilities on adjoining land, including BOC gasses opposite, the adjoining service station and Origin Energy to the north. | Refer to Hydraulic drawings at Appendix **10**<br>Refer A**ppendix 1**<br>Refer section 8.1 |
| Port of Newcastle | Telephone conversation with PON representative on 14 July 2017 | Review of matters raised in PON e-mail of 30 May 2017, discussion re stormwater and landscaping | The Stormwater system has been designed to accommodate the stormwater from all of Lot1. The design was submitted with the previously accepted and approved service station, food outlet and carwash. There will be further information in the EIS which can be reviewed.<br>PON satisfied with the proposed landscape design as it is a continuation of what has been previously approved and installed.<br>A full copy of the EIS and supporting documents will be sent to PON prior to lodgement. |
| Department of Primary Industries | Letter from DPI dated 26 May 2017 | ■ The EIS should include an assessment of impacts to surface and groundwater sources including water use, water licensing arrangements, impacts on water users, waterfront land and aquifers, as | Refer section 8.2 and **Appendix 7** |

| Agency/party | Date and Type of Consultation | Issues Raised | Responses to Issues Raised |
|---|---|---|---|
| | | well as compliance with relevant policies.<br>■ Annual volumes of surface water and ground water proposed to be taken by the activity (including through inflow and seepage) from each surface and groundwater source as defined by the relevant water sharing plan;<br>■ Assessment of any volumetric water licensing requirements (including those for ongoing water take following completion of the project);<br>■ The identification of an adequate and secure water supply for the life of the project. Confirmation that water can be sourced from an appropriately authorised and reliable supply. This is to include an assessment of the current market depth where water entitlement is required to be purchased;<br>■ A detailed and consolidated site water balance;<br>■ Assessment of impacts on surface water and ground water sources (both quality and quantity), related infrastructure, adjacent licensed water users, basic landholder rights, watercourses, riparian land, groundwater dependent ecosystems and measures proposed to reduce and mitigate these impacts;<br>■ Full technical details and data of all surface and groundwater modelling;<br>■ Proposed surface and groundwater monitoring activities and methodologies;<br>■ Assessment of any potential cumulative impacts on water resources, and any proposed options to manage the cumulative impacts;<br>■ Consideration of relevant policies and guidelines;<br>■ A statement of where each element of the SEARs is addressed in the EIS | Not applicable<br>Not applicable<br>Refer section 3.8 and **Appendix 10** and **12**<br>All rainwater runoff from buildings is to be collected for use in selected stormwater pits to ensure that LPG does not accumulate below ground level. All other site areas are hardstand with surface water to be collected and sent to the stormwater system.<br>Not applicable<br>Not applicable<br>Not applicable |

| Agency/party | Date and Type of Consultation | Issues Raised | Responses to Issues Raised |
|---|---|---|---|
| Department of Primary Industries | e-mail sent to DPI on 27 July 2017 seeking further comments with following attachments:<br>Community consultation letter, notification plans and site photographs- refer details at **Appendix 4.** | | No response to date |
| Water NSW | e-mail sent to Water NSW on 27 July 2017 seeking further comments with following attachments:<br>Community consultation letter, notification plans and site photographs- refer details at **Appendix 4.** | No response to date | |
| Fire and Rescue NSW | e-mail sent to Fire and Rescue NSW on 27 July 2017 seeking further comments with following attachments:<br>Community consultation letter, notification plans and site photographs- refer details at **Appendix 4.** | No response to date | |
| Safe Work NSW | e-mail sent to Safe Work NSW on 27 July 2017 seeking further comments with following attachments:<br>Community consultation letter, notification plans and site photographs- refer details at **Appendix 4.** | No issues raised to date. E-mail has been acknowledged on 7 August 2017 and forwarded to Hazardous Chemicals team. | |
| Roads and Maritime Services | Letter from RMS dated 29 May 2017 | The EIS should refer to the following guidelines:<br>Road and Related Facilities within the Department of Planning EIS Guidelines and Section 2 *Traffic Impact Studies* of RMS Guide to Traffic Generating Development 2002.<br>A traffic and transport study shall be prepared in accordance with the RMS Guide to Traffic Generating Developments 2002 | TIA prepared in support of the proposed development addresses matters raised. Refer section 8.3 and **Appendix 15** |

| Agency/party | Date and Type of Consultation | Issues Raised | Responses to Issues Raised |
|---|---|---|---|
| Roads and Maritime Services | Contacted by traffic consultant during preparation of TIA to gain information re traffic numbers and accident history. Projected traffic numbers are extremely low and TIA addresses matters raised. | | Refer section 8.3 and **Appendix 15** |
| Nearby Landowners including:<br>Port Waratah Coal Services<br>Newcastle Coal Infrastructure Group<br>Boral Cement Works<br>Cleanaway Waste Management Service<br>Sims Metal Management<br>Baywash Carwash<br>Coles/Shell Service Station<br>Coolabah Tree Café | Neighbouring businesses were initially contacted by phone and the appropriate contact person was advised of the proposed ELGAS Facility detailing the extent of the development and the need for the notification due to the fact that the facility was deemed a State Significant Development (SSD). Further to this initial contact, all those contacted were then sent a follow-up email communication outlining the following;<br>1. Introduction and details of the proposed development<br>2. Site Notification Plans<br>3. Feedback questionnaire<br>4. Site location photos<br>The Consultation Summary Table at **Appendix 4** details the company that was contacted, as well as the contact name and date. | Issued raised/ comments are included in the Summary Consultation Table at **Appendix 4**. | |

# 7.0 Environmental Risk Assessment

## 7.1 Environmental Risk Assessment

To assist in identifying the key environmental and social impacts associated with the project and the likely severity, an Environmental Risk Assessment (ERA) was undertaken in accordance with Australian Standard AS/NZS ISO 31000:2009 Risk Management Principles and Guidelines. The methodology used for the ERA process, and a summary of the results, are outlined below in the following sections.

## 7.2 Methodology

### 7.2.1 Key Environmental and Social Impacts

The key environmental and social impacts associated with the Project and requiring further assessment and reporting were identified through:

- The existing environmental context of the site and surrounding locality (**Section 2**);
- The outcomes of consultation undertaken to date with government agencies and other relevant stakeholders (**Section 6**);
- Project SEARs (**Section 1**);
- Legislative and statutory framework (**Section 5**); and
- Specialist studies undertaken as part of the preparation of this EIS (**Section 8**).

The key environmental and social impacts identified for the project were:

- Hazards and risk;
- Surface water;
- Groundwater;
- Soils and contamination;
- Traffic and transport;
- Air quality and odour;
- Noise and vibration;
- Biodiversity;
- Heritage; and
- Visual amenity

### 7.2.2 Evaluating Likelihood

The key environmental and social impacts for the Project were assigned a likelihood between almost impossible and certain in accordance with **Table 9** (column 1). Column 2 provides a description that elaborates on the possible likelihood categories and column 3 provides the frequency.

**Table 9 Likelihood Table**

| Likelihood | Description | Frequency |
|---|---|---|
| **Certain** | Common Occurrence | At least daily |
| **Very Likely** | Expected to occur in most circumstances | Once per week |
| **Likely** | Probably will occur or has happened in the past | Once per month |
| **Unlikely** | Occurs Infrequently | Less than once per year |
| **Possible** | Could happen at some time | Less than once per 10 years |
| **Almost Impossible** | Not Likely to Occur | Less than 1 per 100 years |

### 7.2.3 Evaluating Consequence

The key environmental and social impacts were assigned a consequence between catastrophic and negligible in accordance with **Table 10** (column 1). Columns 2 to 7 provide a guide to the elements considered when evaluating a consequence and column 8 provides the severity level.

**Table 10 Consequence Table**

| | Health and Safety | Natural Environment | Community Relations & Cultural Heritage | Reputation/Media | Legal | Damage/Loss/business Interruption | Severity Level |
|---|---|---|---|---|---|---|---|
| **Catastrophic** | Multiple Fatality | Significant and irreversible impact on threatened species, habitat(s) or ecosystem(s) | Irreparable damage to sites of high cultural significance | Undeniably justified Government condemnation for illegal / unacceptable behaviour | Major prosecutions and fines resulting in incarcerations for senior executives | Significant Financial Loss. >$10 million | 6 |
| **Critical** | Fatality | Very serious long term environmental impairment of eco-system function | Very serious widespread social impact. Irreparable damage to valued cultural items | Prolonged condemnation by media and/or NGO (national outcry) | Significant prosecutions and fines. Very serious litigation, including class actions | Major $1 M - $10 M | 5 |
| **High** | Lost Time Injury | Serious medium term environmental effects | Ongoing serious social issues. Significant but repairable damages to structures/items of cultural significance | Serious public and/or media outcry | Major breach of regulation. Major litigation | High $100,000 - $1 M | 4 |
| **Moderate** | Medical Treatment required. Medical Treatment Injury | Moderate short term effects but not effecting overall ecosystem function | Ongoing social issues. Minor permanent damage to items of cultural significance. | Attention from media and/or heightened concern by local community | Moderate legal issues, non-compliances and breaches of regulation | Low financial Loss <$100,000 | 3 |
| **Minor** | First Aid Treatment | Minor effects on biological or physical environment | Minor medium term social impacts | Minor adverse local public or media attention and complaints | Minor legal issues, non-compliances and breaches of regulation. | Low Financial Loss <$10,000 | 2 |
| **Almost Impossible** | No medical attention. Report only | Limited damage to minimal areas of low significance | Low level repairable damage to commonplace structures | Public concern restricted to local complaints | Low level legal issues | Min Financial Loss <$1000 | 1 |

### 7.2.4 Risk Assessment Matrix

The key environmental and social impacts were assigned a risk ranking between negligible and catastrophic in accordance with **Table 11**, based on the assessment of likelihood and consequence as described above.

**Table 11 Risk Matrix Table**

| Likelihood | Consequence | | | | | |
|---|---|---|---|---|---|---|
| | Negligible | Minor | Moderate | High | Critical | Catastrophic |
| **6 – Certain** | 6 | 12 | 18 | 24 | 30 | 36 |
| **5 – Very Likely** | 5 | 10 | 15 | 20 | 25 | 30 |
| **4 – Likely** | 4 | 8 | 12 | 16 | 20 | 24 |
| **3 – Unlikely** | 3 | 6 | 9 | 12 | 15 | 18 |
| **2 – Possible** | 2 | 4 | 6 | 8 | 10 | 12 |
| **1 – Almost Impossible** | 1 | 2 | 3 | 4 | 5 | 6 |

**Risk Scores:** 1 - 3 = Low; 4 - 10 = Moderate; 12 - 16 = High; 18 - 24 = Very High; 25 - 36 = Extreme

### 7.2.5 Summary of Risk Rankings

**Table 12** below provides a summary of the risk rankings for the environmental and social impacts considered as part of the ERA. The risk assessment did not identify any aspects of the project with a residual risk of catastrophic or critical.

**Table 12 Summary of Environmental Risk Assessment**

| Category | Issue |
|---|---|
| **Extreme** | None |
| **Very High** | None |
| **High** | Traffic and transport |
| **Moderate** | Hazards and risk;<br>Air quality and odour |
| **Minor** | Noise and Vibration;<br>Surface water;<br>Ground water;<br>Soils and contamination;<br>Biodiversity;<br>Heritage;<br>Visual amenity. |

Where a knowledge gap was identified, specialist technical studies have been undertaken and additional mitigation measures and or management responses proposed. The following sections provide a detailed assessment of the key environmental and social impacts for the project as identified above.

# 8.0 Impact Assessment, Mitigation and Management

## 8.1 Hazards and Risk

### 8.1.1 Introduction

The SEARs for the project require the EIS to include an assessment of Hazards and Risk, incorporating the items listed below:

*A Preliminary Hazard Analysis (PHA) must be undertaken for the proposed development. The PHA shall be prepared in accordance with Hazardous Industry Planning Advisory Paper No 6 – Guidelines for Hazard Analysis (DOP, 2011) and must:*

- *Identify the hazards associated with the proposed development to determine the potential for offsite impacts;*
- *Provide information on whether the dangerous goods transport route would bypass neighbouring commercial operations and sensitive land uses such as residential and schools;*
- *Evaluate the impacts of transport of dangerous goods to and from the site if the transport route will bypass neighbouring commercial operations and sensitive land uses;*
- *Demonstrate that the proposed development complies with the criteria set out in Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning,*
- *Estimate the cumulative impacts from the site and the surrounding potentially hazardous developments in the area and demonstrate that the proposed development does not increase the cumulative risk of the area to unacceptable levels, and*

*Details of the proposed dangerous goods to be stored onsite, with a clear indication of quantity and location of all dangerous goods and hazardous materials associated with the development.*

A Preliminary Hazards Analysis (PHA) and Quantitative Risk Assessment (QRA) has been prepared in support of the proposed development by Arriscar Risk Engineering Solutions and is contained in **Appendix 5**. The PHA has been prepared in accordance with *Hazardous Industry Planning Advisory Paper* (HIPAP) *No 6*, *"Guidelines for Hazard Analysis*". The QRA has been prepared in accordance with Hazardous Industry Planning Advisory Paper (HIPAP) No 4, "Risk Criteria for Land Use Safety Planning."

Chapter 6 of the PHA identifies the hazards associated with the proposed development and recommends safeguards. A hazard identification and safeguards table is provided in Appendix A of the PHA. Chapter 11 includes a Cumulative Risk Assessment taking into account surrounding land uses.

In terms of product movement, the PHA sets out the following:

- B Double Tanker - 5 deliveries per week;
- Bobtails (6 and 9 tonnes) – distribution 3 per day Monday to Friday;
- Cylinder trucks (flat top) - 5 per day;
- B-Double line-haul cylinder distribution – 5 per week.

Total truck movements per day will be 20 (10 inbound and 10 outbound).

**Appendix 17** includes the approved B Double delivery route between Sydney and Newcastle.

### 8.1.2 Mitigation and Management Measures

The following recommendations arise from the PHA:

- Ensure that night time surveillance patrol of the site includes the parked Bobtail area to detect possible presence of LPG Gas (can be detected by odour). This activity is to be included in the procedures;
- The cylinder storage and stacking arrangements on site must comply with Figure 4 Table 2 of the PHA report, to ensure compliance with target risk levels;
- The stacking of cylinder cages must not exceed 2m high for 8.5 and 15-18kg cylinders;
- A hazardous area classification diagram must be prepared for the site during detailed design;
- Tanker loading/unloading liquid and vapour hoses and cylinder filling hoses must be pressure tested annually;
- Adequate lighting is to be provided for after-hours access by tanker drivers;
- A traffic management system must be developed on site to prevent vehicle collisions;
- All cylinder storage areas, tanker loading/unloading area and Bobtail parking areas must be clearly marked;
- Appropriate workplace safety signs and Hazmat signs are to be installed on site as required by the codes.

### 8.1.3 Conclusions

It is considered that the hazards and risks associated with the project can be appropriately managed using the mitigation measures outlined above.

## 8.2 Soil and Water

### 8.2.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the impacts of the development on soil and water, incorporating the items listed below:

- *A description of the local soils, topography, landscapes, drainage, watercourses, riparian lands and groundwater dependent ecosystems;*
- *A detailed site water balance, including details of water supply, licencing requirements and the measures to minimise water use;*
- *Details of the proposed erosion and sediment controls;*
- *Details of the existing and proposed stormwater management system, prepared in consultation with the Port of Newcastle;*
- *An assessment of the potential impacts to surface water, ground water, soils and flooding;*
- *An assessment in accordance with ASSMAC Guidelines for the presence and extent of acid sulphate soils (ASS) and the potential for acid sulphate soils on the site;*
- *Characterisation of the nature and extent of any contamination on the site; and*
- *Details of proposed mitigation, management and monitoring measures.*

A Geotechnical Investigation has been prepared by RCA Australia in support of the proposed development- refer **Appendix 6**. The report contains descriptions of the surface and subsurface conditions at the site together with recommendations for earthworks, foundation design, pavement design and acid sulphate soil potential.

### 8.2.2 Site Description

The site is relatively level with existing ground surface slopes across the site generally sloping to the south towards the river with slopes typically of the order of 0 to 1 degrees. The natural surface slopes across the site have been modified by extensive filling. It is understood that the area was originally Mangrove and that existing levels have been established by filling over an extended period of time. Drainage across the site is expected to comprise surface drainage with infiltration into the sandy fill. Vegetation on and adjoining the site comprises several mature trees to the north and several clusters of small shrubs and trees spread over the site. Grass covers the majority of the site.

### 8.2.3 Subsurface Conditions

In summary, the subsurface conditions encountered comprise:

- FILL/SAND to depths of approximately 3.2m, the density of the sand was variable but generally medium dense or better; overlying;
- CLAY 3.2 to 4.8m, generally in a soft to firm condition; overlying;
- SAND (includes SAND, silty SAND and SAND with silt) generally medium dense to dense to 14-18m depth; overlying;
- CLAY, generally stiff to very stiff to the limit of testing at 20m.

### 8.2.4 Site Earthworks

Excavation on the site is to be limited to footings for the office building, cylinder storage area and bulk storage vessel. Earthworks will be no greater than 2000mm below existing ground level.

It is expected that the soil profiles encountered at the site could be excavated by conventional earthmoving equipment such as bobcats, backhoes and excavators. It is unlikely that the sand soils above groundwater level would be stable at angles greater than about 30 degrees. Consequently, allowance should be made for either battering back or support of the sides of excavations above groundwater level.

Unsupported excavations could be expected to undergo slumping into the excavation where seepage or groundwater is encountered (groundwater was encountered on the site between 2.1m and 3.0m below ground level at the time of the field investigation work and may be shallower than this depending on tidal and climate influences). The RCA report sets out that if/where excavations are proposed below the groundwater level, the sand strata encountered at the site will not be stable and excavations below the groundwater level are expected to require support/shoring together with groundwater control/dewatering.

All long-term excavations should either be supported by properly designed and constructed retaining walls or alternatively battered at 2H:1V or flatter. The soils encountered at the site are judged to be susceptible to erosion and should be protected by vegetation or similar, together with adequate drainage where exposed.

### 8.2.5 Filling

Limited fill is to be imported on to the site. The RCA report recommends that any proposed filling on the site should be placed and compacted in accordance with AS 3798-2007, Guidelines on Earthworks for Commercial and Residential Developments.

Site preparation for the placement of fill should include the following:

- Removal of any existing topsoil and deleterious soils together with any surface vegetation, eg, grass/weeds, and heavily root affected soils, to expose a clean sand subgrade;
- Proof rolling of the exposed sand subgrade.

The RCA report recommends that clean sand fill should be used for any proposed filling at the site. The sand soils at the site are generally expected to be suitable for re-use as fill provided that any deleterious material

is removed prior to incorporation of the material into fill earthworks. Owing to the presence of the sands (including loose sands) together with groundwater, the effects of vibrations associated with proof rolling and compaction should be taken into consideration, with particular care given to the choice of compaction equipment and method. Observation and monitoring of existing adjacent development and structures for any signs of settlement or distress should be undertaken in conjunction with any proposed proof rolling and compaction.

### 8.2.6 Acid Sulphate Soils

The Newcastle Acid Sulphate Soil Risk map indicates that the area comprises disturbed ground. Neighbouring undisturbed areas are shown to be estuarine in nature and to have a high probability of acid sulphate soil within 1m of the soil surface and it might be expected that the natural clay under the sand fill would be of this character.

Reference to the ASSMAC Acid sulphate Soil Manual indicates the soil action criteria for soils according to their texture and the combined existing and potential acidity of the material.

Reference to the ASSMAC assessment guidelines indicate that test results of the estuarine clay sample exceed the ASSMAC action criteria, and hence the soils tested are classified as potential acid sulphate soils. The sand fill at the site was found to be alkaline in nature and showed only marginal propensity to acid formation. The results of the analysis indicate that an acid sulphate soil management plan will be required for all excavations that may disturb the clay soils at the site (typically at depths below 3m).

### 8.2.7 Water Supply and Measures to Minimise Water Use

Works to supply drinking and fire protection water, sanitary drains and Trade Waste facilities for Lot 1 DP1195449 have already been carried out - refer Hydraulic Design Documentation at **Appendix 11**, and practical completion certificate at **Appendix 10**. 6 x 5000 litre above ground poly rainwater harvesting tanks for landscape irrigation and onsite use are also proposed - refer stormwater drainage details at **Appendix 1**.

### 8.2.8 Proposed Erosion and Sediment Controls

Erosion and Sediment Control details are provided at **Appendix 1**. The site will be securely fenced during construction and will include a perimeter siltation fence and material stockpile areas.

### 8.2.9 Proposed Stormwater Management System

Lot 1 DP 1195449 is divided into 4 sub-sites for the purposes of stormwater management:

- Site A1 – 8292m$^2$ - Service Station and Food Offer;
- Site A2 – 1673m$^2$ – Car Wash;
- Site B – 7958m$^2$ – ELGAS Development;
- Site C – 3087m$^2$ – Self Storage Units

The service station, food offer and carwash have already been constructed. The service station includes a provisional stormwater pit on its northern side for future connection to the neighbouring ELGAS site. Proposed stormwater drainage details are included at **Appendix 1**. The stormwater system is designed to comply with the requirements of relevant Australian Standards, in particular AS3500, and the requirements of Newcastle City Council Stormwater management. Stormwater from roofed areas is to be directed to above ground poly rainwater harvesting tanks where possible. At ground level, stormwater is to be directed towards discharge control pits located across the site, then to a junction pit on the northern side of the service station. The proposed stormwater drainage management system has been prepared in consultation with Port of Newcastle.

### 8.2.10 Potential Impacts to Surface Water, Ground Water, Soils and Flooding

The Geotechnical Investigation prepared by RCA Australia in support of the proposed development- refer **Appendix 6** sets out that groundwater was encountered on the site between 2.1m and 3.0m below ground level at the time of the field investigation work, and may be shallower than this, depending on tidal and climate influences.

Excavation on the site is to be limited to footings for the office building, cylinder storage area and bulk storage vessel, and will not exceed a depth of 2.0 m. It should also be noted that the yard area on the western side of the office building and the car par park is to be concrete paved throughout. Permeable areas will be limited to the landscape zones at the front of the site.

A review of the potential impact on the water table and soils from accidental LPG release prepared by Arriscar is included at **Appendix 8**. The following design and operational measures for preventing LPG release into the soil or mitigating its effects are incorporated into the design:

- Tank and pipework design to required Australian Standards for integrity (AS 1210 for vessel and AS 1596 for pipework);
- Emergency shutdown (ESD) system to minimise LPG releases;
- Concrete paving of the entire yard, which prevents LPG ingress into ground;
- Inspection and maintenance program to ensure mechanical integrity of the plant and equipment to minimise accidental releases.

Further, the Arriscar report draws the following conclusions from the review:

- Only large LPG releases that are downward oriented and impinge on the ground can form a liquid pool with a potential for ground penetration (approximately 22% of the release);
- The ground is paved with concrete, which prevents ingress of LPG;
- Any penetration though the pores of the concrete would result in the freezing of trapped moisture in the concrete (propane pool is at -42 degrees C) and block ingress;
- The propane pool would vaporise and disperse into atmosphere;
- There would be no adverse impact on the water table at the site, provided the concrete surface integrity is maintained.

With respect to flooding, a flood information certificate has been obtained from Newcastle City Council- refer **Appendix 9**. The site is not affected by a floodway and no part of the site is affected by a flood storage area. The Estimated Probable Maximum Flood Level is 4.40m AHD.

### 8.2.11 Characterisation of the nature and extent of any contamination on the site

A Baseline Environmental Site Assessment for Lot 1 DP 1195449 has been prepared by RCA Australia in support of the proposed development – refer **Appendix 7**. The purpose of the assessment was to develop a comprehensive baseline soil and groundwater contaminant profile of the site prior to the development. The Environmental Site Assessment concludes that overall, the site is considered suitable for the proposed use.

### 8.2.12 Mitigation, management and monitoring measures

The following mitigation, management and monitoring measures (**Table 13**) are proposed in relation to limiting the impacts of the development on soil and water:

**Table 13 Mitigation Measures**

| Activity | Measure |
|---|---|
| **Earthworks** | All long-term excavations should either be supported by properly designed and constructed retaining walls or alternatively battered at 2H:1V or flatter. |
| **Fill** | Site preparation for the placement of fill should include the following:<br>■ Removal of any existing topsoil and deleterious soils together with any surface vegetation, eg, grass/weeds, and heavily root affected soils, to expose a clean sand subgrade;<br>■ Proof rolling of the exposed sand subgrade.<br>■ Clean sand fill should be used for any proposed filling at the site.<br>■ Observation and monitoring of existing adjacent development and structures for any signs of settlement or distress should be undertaken in conjunction with any proposed proof rolling and compaction. |
| **Acid Sulphate Soils** | An acid sulphate soil management plan should be required for all excavations that disturb the clay soils at the site (typically at depths below 3m). |
| **Erosion and Sediment Control** | Erosion and Sediment Control details are to be as per the submitted drawings provided at **Appendix 1.** The site should be securely fenced during construction and should include a perimeter siltation fence and material stockpile areas. |
| **Stormwater Management** | Proposed stormwater drainage details are to be as per the submitted drawings at **Appendix 1,** and shall connect to the existing stormwater infrastructure for Lot 1. |
| **Potential Impacts to Surface Water, Ground Water and Soils** | The following design and operational measures for preventing LPG release into the soil or ground water table should include the following:<br>■ Tank and pipework design to required Australian Standards for integrity (AS 1210 for vessel and AS 1596 for pipework);<br>■ Emergency shutdown (ESD) system to minimise LPG releases;<br>■ Concrete paving of the entire yard, which prevents LPG ingress into ground;<br>■ Inspection and maintenance program to ensure mechanical integrity of the plant and equipment to minimise accidental releases.<br>■ The ground is to be paved with concrete, which prevents ingress of LPG;<br>■ Any penetration though the pores of the concrete would result in the freezing of trapped moisture in the concrete (propane pool is at -42OC) and block ingress;<br>■ The propane pool would vaporise and disperse into atmosphere;<br>■ There would be no adverse impact on the water table at the site, provided the concrete surface integrity is maintained. |

### 8.2.13 Conclusions

It is considered that the likely impacts on the local soils and water environment can be appropriately managed using the mitigation measures outlined in **Table 13** above.

## 8.3 Traffic and Transport

### 8.3.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the impacts of the development on traffic and transport, incorporating the items listed below:

- *Details of all traffic types and volumes likely to be generated during construction and operation, including a description of haul routes;*

- *A traffic impact assessment of the predicted impacts of this traffic on road safety and the capacity of the road network, including consideration of cumulative traffic impacts at key intersections using SIDRA or similar traffic model;*
- *Detailed plans of the proposed layout of the internal road network and parking on site in accordance with the relevant Australian Standards, including demonstration that all vehicle queueing and parking can be contained within the site;*
- *Plans of any proposed road upgrades, infrastructure works or new roads required for the development; and*
- *Turning path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site.*

A Traffic Impact Assessment (TIA) has been prepared by SECA Solutions in support of the proposed development in accordance with Austroads Guidelines and Section 2.3 of the *RTA Guide to Traffic Generating Developments*, and is included at **Appendix 15**.

### 8.3.2 Existing Environment

The main road through the locality is Cormorant Road which is a state road (MR108). In the vicinity of the site, and at its connection with Egret Street, it provides a dual carriageway being the main thoroughfare between Newcastle and the region north of the Hunter River, including Stockton and Port Stephens. It is also the primary access between Newcastle airport, the RAAF base at Williamtown and Newcastle inner city. As a state road, it carries a mixture of both local traffic and regional through traffic movements including freight traffic associated with the port.

Cormorant Road forms a T-Intersection with Egret Street, with Cormorant Road being the priority road. Turning lanes off Cormorant Road provide access into Egret Street for both eastbound and westbound traffic. The posted speed limit is 80km per hour in the vicinity of the subject site.

Egret Street is a private road providing access to the subject site and other industry including, but not limited to Boral, Port Waratah Coal and Newcastle Coal Infrastructure Group. It provides a sealed surface with a single land of travel in both directions and a width of approximately 14 metres. No right turns are permitted from Egret Street which connects with Cormorant Road via a left turn out only. The relevant road authority for Cormorant Road is Newcastle City Council. Egret Street is a private road managed by the Port of Newcastle.

In accordance with the TIA, daily flows along Cormorant Road are in the order of 25,900 vehicles per day whilst daily flows on Egret Street are typically 1600 vehicles per day. Observations show that the road network in the vicinity of the site operates well, with few delays or congestion for existing users. Under current roadwork conditions, minimal queueing may be observed travelling west bound along Cormorant Road during peak periods. The duplication of Tourle Street bridge should provide a significant improvement to the current road network.

Cormorant Road, at the existing intersection with Egret Street, allows good visibility for drivers entering or exiting Egret Street. Exit onto Cormorant Road is available as left turn only. Visibility for exit onto Cormorant Road exceeds 170 metres, allowing safe exit movements for both cars and trucks. Entry into Egret Street from Cormorant Road is available in both directions, with visibility exceeding 170 metres allowing for safe turn movements.

On-street parking is currently available along the length of Egret Street. From observation, this on-street parking is primarily utilised by heavy vehicles.

### 8.3.3 Proposed Development

Vehicle access is to be provided off Egret Street with a two way driveway providing for all movements including B-double trucks. There is to be an electronically operated entry and exit security gate located internally on the site to gain entry to the rear yard approximately 50m from the edge of Egret Street. The size

of the site, together with its configuration, ensures that all vehicles can enter and exit the site in a forward direction.

The driveway on Egret Street is to be located approximately 150 metres north of the intersection with Cormorant Road. For a posted speed limit on Egret Street of 60km per hr, AS2890.1 indicates a minimum site distance requirement of 65 metres out of the access driveway, with an 83 metres desirable 5 second gap. This is to ensure that drivers exiting the subject site can see traffic along Egret Street and adjust their vehicle movements accordingly. Adequate visibility is available in both directions at the point of site access, with the road having a straight horizontal and vertical alignment. Visibility in both directions exceeds 83 metres, allowing for safe entry and exit movements for both cars and trucks.

### 8.3.4 Impact Assessment

The following vehicle movements are anticipated during the operation of the site:

**Heavy Vehicle Flows**

- B Double Tanker - 5 deliveries per week;
- Bobtails (6 and 9 tonnes) – distribution 3 per day Monday to Friday;
- Cylinder trucks (flat top) - 5 per day;
- B-Double line haul cylinder distribution – 5 per week.

Total truck movements per day will be 20 (10 inbound and 10 outbound).

**Light Vehicle Flows**

- Maximum office staff of 9 per day;
- 2 depot drivers for cylinder filling;
- 8 delivery drivers to drive Bobtails/cylinder flat top trucks;

Total 38 movements per day (19 inbound and 19 outbound).

There is also the need for maintenance contractors to access the site on an as needs basis. This will be an infrequent occurrence, and as such, any associated vehicle movements will have negligible impact upon the local road network.

The approved B-Double route for delivery of LPG, from ELGAS Cavern facility in Port Botany, to the proposed development site involves approach from the west off the M1, John Renshaw Drive, through Hexham to Industrial Drive, left at Tourle Street with left turn off Cormorant Road onto Egret Street and then left turn into the site.

### 8.3.5 Proposed Mitigation Measures

For the key intersection of Cormorant Road and Egret Street it is recommended that:

- Left turn only on to Cormorant Road be reviewed to ensure the safe operation of this intersection through the physical restriction of right turn movements;
- From the Sidra assessment of future traffic flow (in 2027) assuming 12% growth along the Cormorant Road corridor, the right hand turn onto Egret Street may fail Level of Service requirements. In order to maintain intersection safety this turn movement should be monitored over time.

It should be noted however that drivers approaching from the east have the option to avoid this right turn by using an alternative access route, available via Raven Street (off Teal Street).

### 8.3.6 Conclusions

The TIA concludes that from the site work undertaken and the review of the development proposal and associated plans against the requirements of the RMS *Guide to Traffic Generating Developments and Austroads Guide to Traffic Management,* the proposed development will have minimal impact on the surrounding road network. Parking for the proposed development exceeds Newcastle DCP requirements, and access and circulation for the site is appropriate for the development, providing for the swept paths of heavy vehicles including B-Doubles.

## 8.4 Air Quality and Odour

### 8.4.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the impacts of the development on air quality and odour, incorporating the items listed below:

- *A quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environmental Protection Authority Guidelines;*
- *A greenhouse gas assessment; and*
- *Details of proposed mitigation, management and monitoring measures.*

A letter prepared by ELGAS in relation to odour emissions from the new LPG depot is included at **Appendix 19.**

### 8.4.2 Existing Environment

Air quality at Kooragang Island and surrounding areas is influenced by dust and emissions from industrial and non-industrial sources. Industry in the general area of the subject site generate emissions from fuel combustion, coal loading and storage and energy use, including nitrogen oxides, sulphur oxides and carbon dioxide. Third party emissions from ships in the port are also a source of emissions, particularly sulphur dioxide, which is generated by the combustion of heavy bunker oils.

There is a network of air monitoring equipment in and around Kooragang, operated by DECCW, PWCS and other industrial facilities, which provides data on existing air quality in the local area. Dust deposition gauges monitor the levels of dust deposition, and high volume air samplers monitor particulate matter concentrations. There are also two weather monitoring stations operated within two kilometres of the subject site. This data, in conjunction with air dispersion modelling and assessment undertaken for existing and proposed industrial developments provide a good understanding of existing air quality and dispersion characteristics in the local area.

### 8.4.3 Impact Assessment

In terms of likely impacts, it is important to note the following:

- There will be no products manufactured on site;
- There is no heat, naked flames, exhaust fumes on site;
- No burning of any product, timber, rubber etc. on site;
- No Steam, smoke or similar exhaust fumes on site;
- No loading, movement or storage of any bulk waste material on site;
- Dust is kept to a minimum as all vehicles areas are paved with concrete.

In terms of odour, the following should be noted:

- LPG is required by legislation in Australia to be odourised prior to storage and use, as a fuel, on private and public property, for public safety reasons;
- LPG in its natural state is colourless and odourless. An odourant is added to the gas to enable detection down to 0.5% gas in air by volume. The dosage required in Australia to achieve this level of safety is 25 grams of Ethyl Mercaptan per tonne of LPG (1000kg). This level of dosing is consistent with international Occupational Health and Safety (OHS) guidelines as safe and adequate to provide detection of LPG presence by the public.

#### 8.4.3.1 On-Site Activities

##### 8.4.3.1.1 Cylinder Product Transfer and Re-Filling

Bulk LPG Transfer/Delivery:

- LPG is delivered to the site in specialised bulk delivery transport vehicles;
- LPG is transferred from the delivery tanker to the main onsite storage tank;
- The operational procedure followed is known as the “Wet Hose Method”
- This procedure complies with the “Wet Hose Method” (limited loss coupling) as per AS/NZS 60079.10.1:2009 “Explosives Atmospheres” See copy attached at **Appendix 20**. The potential for vapour/liquid loss is limited to the period during the disconnection of couplings between the tanker and the tank during refilling.

Cylinder Filling:

- Individual cylinder filling is one of the main operations completed on site;
- All cylinders required to be filled are connected to a filling system;
- During onsite cylinder filling the process that will be employed will comply with the “Filling by Mass (Electronic Scales) as per AS/NZS 1596:2014 “The Storage and Handling of LPG Gas” See copy attached at **Appendix 20.**
- During this filling process, the cylinder does not “vent” during filling and the pump will shut off via the automation of the electronic scales.
- This results in nil loss of liquid due to the valve controls and as such no odour should reach the atmosphere.

### 8.4.4 Proposed Mitigation Measures

- Cylinders that are found of to be ‘out of test’ are re-tested. If a cylinder fails the test, it is destroyed on site by hydraulic hole punching and placed in a separate dedicated yard for disposal.
- Prior to retest, the LPG is recovered into the recovery manifold and the cylinder valve is removed.
- Bulk LPG transfer/delivery should occur in accordance with AS/NZS 60079.10.1:2009 “Explosive Atmospheres”
- Cylinder filling should occur in accordance with AS/NZS 1596:2014 *The Storage and Handling of LPG Gas*

### 8.4.5 Conclusions

The proposed ELGAS facility will have no detrimental effect on air quality or emissions as the nature of the operation will not generate any significant odour emissions. A letter prepared by ELGAS representatives in support of the proposed development is included at **Appendix 19.**

## 8.5 Noise and Vibration

### 8.5.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the noise and vibration impacts of the development incorporating the items listed below:

- *A quantitative assessment of the potential construction, operational and transport noise and vibration impacts in accordance with relevant Environmental Protection Authority Guidelines; and*
- *Details and justification of the proposed noise mitigation and monitoring measures.*

An Operational Noise Impact Assessment has been prepared by Koikas Acoustics in support of the proposed development and is contained in **Appendix 21.** The Operational Noise Impact Assessment has been prepared in accordance with the assessment procedures of the EPA's *Industrial Noise Policy* (INP) and relevant Australian Standards.

### 8.5.1 Existing Environment

Development nearby to the site is not of a nature that is particularly sensitive to noise. Development as exists in the surrounding area is largely related to the functioning of the Port of Newcastle and is of a scale much larger than the proposed development as well as being typically industrial in nature.

The site is surrounded by:

- Port Waratah Coal Services (PWCS) and Newcastle Coal Infrastructure Group (NCIG) coal loading and berthing facilities on the southern boundary; and
- BOC Industrial Gases and Sims Metal Recycling on the eastern boundary.

The general ambient noise levels are dominated by road traffic along Cormorant Road, operational noise of the service station and carwash to the south (operating on a 24/7 basis), surrounding industrial noise from existing factories/warehouse and ships docking to the south of the subject premise.

### 8.5.2 Impact Assessment

#### 8.5.2.1 Construction

Construction noise management levels are provided in the NSW EPA *Interim Construction Noise Guidelines* (ICNG).The recommended standard hours as per the ICNG are as follows:

- Monday to Friday - 7.00 am to 6.00 pm;
- Saturday - 8.00 am to 1.00 pm; and
- No work on Sundays or Public Holidays.

The proposed hours of construction of the ELGAS facility will be inside the recommended hours and will not exceed the recommended levels.

Potential noise sources at the site during the construction activities are anticipated to include an excavator, crane and grader, trucks and light vehicles delivering materials and equipment. The only potential vibration impact will occur during construction as piling will be required for the proposed site building and tank foundation. The piling will occur within the recommended hours and will have limited impact due to the number of piles required and the depth of the piles.

#### 8.5.2.2 Operation

The proposed LPG storage facility will be used for the storage and filling of gas cylinders. Typical noise-generating activities may include:

- Truck deliveries with reversing alarms;
- Trucks idling;
- Trucks engine starting and stopping;
- Truck air brakes;
- Loading off and loading of goods with forklifts or cranes;
- Cars entering and leaving the site;
- Air compressor;
- Air conditioner condenser units; and
- The use of plant and equipment within the storage area including pumps, motors, cleaning, filling and storage of gas cylinders, and use of other general hand tools and power tools.

To characterise the potential noise impacts of the proposed development an attended noise survey was conducted within an existing ELGAS storage facility in Blacktown, NSW during normal operations. The purpose of the attended noise survey was to characterise the noise from the existing facility and apply the data to operations for the proposed facility at Kooragang.

The Operational Noise Impact Assessment identifies Noise Criterion for the site (LAeq, period dBA which apply over the whole day, evening or night period), are as follows:

- Commercial Premises – 65 dBA; and
- Industrial premises – 70 dBA.

The Operational Noise Impact Assessment concludes that the nominated noise criteria will be achieved at all surrounding premises and will comply with the INP at all noise-sensitive receiver locations. The Assessment also found that the nature of the operations and facility to be constructed as per the architectural drawings will ensure that noise levels do not exceed the designated noise criterion.

### 8.5.3 Proposed Mitigation Measures

No noise mitigation measures are suggested by the Operational Noise Impact Assessment. Provided the proposed development is constructed in accordance with the project drawings as contained in **Appendix 1** the proposed ELGAS facility will comply with the INP.

### 8.5.4 Conclusion

Surrounding development is not of a nature that is particularly sensitive to noise and certainly not to lower noise levels anticipated from the proposed development. The site exists in an area that is largely related to the functioning of the Port of Newcastle and is of a scale much larger than the proposed development.

The Operational Noise Impact Assessment concludes that the proposed development will comply with the INP.

## 8.6 Waste Management

### 8.6.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of waste management requirements for the development, incorporating the items listed below:

- *Details of the quantities and classification of all waste streams to be generated on site;*
- *Details of waste storage, handling and disposal;*
- *Wastewater predictions, and the measures that would be implemented to treat, reuse and/or dispose of this water; and*
- *The measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021*

A Waste Management Strategy (WMS) has been prepared to assess the potential waste streams generated from the project, likely volumes of waste produced during construction and operations, and propose management measures to reduce wastes. A Waste Management Plan (WMP) has also been prepared as part of this WMS which is provided in **Appendix 16.**

### 8.6.2 Methodology

#### 8.6.2.1 Guidelines and Policies

The WMS has been prepared to satisfy the principles of the waste hierarchy as detailed in the Waste Avoidance and Resource Recovery Act 2001. The WMS focuses on the waste generated by the proposed development during the construction and operational phases.

The following guidelines and policy documents were utilised in the development of the WMS to ensure consistency with the EPA's waste avoidance and resource recovery aims and objectives:

- EPA's Waste Avoidance and Resource Recovery (WARR) Strategy 2014-21;
- EPA's Waste Classification Guidelines (2014); and
- EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (2012).

The specific aims and objectives of the WMS are to:

- Encourage the minimisation of waste production;
- Ensure maximisation of resource recovery;
- Minimise the amount of waste being disposed to landfill; and
- Reduce the amount of waste generated per capita.

The likely types and quantities of waste were identified for both the construction and operational phases of the project, followed by measures to increase the recycling and re-use of materials, and mitigation strategies.

#### 8.6.2.2 Waste Hierarchy

Waste management for construction and operations will be undertaken consistent with the waste management hierarchy in the following order of priority from most desirable to least desirable:

- Avoid: Waste avoidance by reducing the quantity of waste being generated. This is the simplest and most cost-effective way to minimise waste. It is the most preferred option in the waste management hierarchy.

- Re-use: Reuse occurs when a product is used again for the same or similar use with no reprocessing. Reusing a product more than once in its original form reduces the waste generated and the energy consumed, which would have been required to recycle.
- Recycle: Recycling involves processing waste into a similar non-waste product consuming less energy than production from raw materials. Recycling spares the environment from further degradation, saves landfill space and saves resources.
- Dispose: Removing waste from worksites and dumping on a licensed landfill site, or other appropriately licensed facility.

The Operator will be responsible for handling, segregating and temporarily storing wastes on the site. Designated waste storage area(s) will be established and maintained to ensure wastes are appropriated managed.

#### 8.6.2.3 Waste Streams

Any wastes generated during project construction and operations will be classified in accordance with the NSW EPA *Waste Classification Guidelines* (2014), which classifies wastes into the following streams:

- Special waste (e.g. clinical and related waste, asbestos, waste tyres);
- Liquid waste (e.g. fuels, oils, chemicals and pesticides);
- Hazardous waste (e.g. lead-acid batteries and lead paint);
- Restricted solid waste (currently no wastes pre-classified as restricted by EPA);
- General solid waste (putrescible) (e.g. general litter and food waste); and
- General solid waste (non-putrescible) (e.g. glass, paper, plastic, building demolition waste, concrete).

#### 8.6.2.4 Waste Classification

Waste that cannot be avoided, re-used or recycled will be classified in accordance with the *Waste Classification Guidelines* (EPA, 2014) and disposed of at appropriately licensed facilities. The guidelines detail how to assess and classify waste and management options for disposal of the classified waste. A summary of the waste classification steps are included below:

- Establish if the waste should be classified as special waste;
- If not special waste, establish whether the waste should be classified as liquid waste;
- If not special waste or liquid waste, establish whether the waste is of a type that has already been classified. Note EPA has ‘pre-classified’ a number of commonly generated wastes;
- If the waste is not special waste, liquid waste or pre-classified waste, establish if it has certain hazardous characteristics and can therefore be classified as hazardous waste;
- If the waste does not possess hazardous characteristics, it needs to be chemically assessed to determine what class of waste it is. If the waste is not chemically assessed, it should be treated as hazardous waste; and
- If the waste is chemically assessed as general solid waste, a further test is available to determine whether the waste is putrescible or non-putrescible. This test determines whether the waste is capable of significant biological transformation. If the waste is not tested, it should be managed as general solid waste (putrescibles).

### 8.6.3 Waste Sources

#### 8.6.3.1 Construction

Major construction on the site will be limited to the site office building, the main gas storage tank, concrete hard stand, site drainage, and cylinder filling dock. Accordingly, construction activities are likely to generate the following types of waste:

- Excavation material from new building footings;
- General construction wastes (including metals and timber);
- Packaging waste (including shrink wrap and cardboard);
- Temporary ablutions waste;
- Waste water (pump out from existing sumps/drainage pits); and
- Greenwaste generated from vegetation removal on the site.

Waste generated during construction would be separated with the use of dedicated skips for timber, general waste, and recyclables. The frequency of waste removal would depend on volumes of material being generated. Skips would be checked every day and, if at or reaching capacity, removal would be organised within 24 hours.

#### 8.6.3.2 Operations

The operation of the development would generate the following general waste streams:

- General solid waste produced by onsite employees;
- Recyclable glass, aluminium, metal, and plastic containers (PET) produced form works and from packaging waste;
- Used toner cartridges; and
- Cardboard packaging and paper waste from general office activities.

### 8.6.4 Mitigation and Management

The following mitigation and management measures will be applied during construction and operation of the development:

- Ordering will be limited to only the required amount of materials;
- Materials will be segregated to maximise reuse and recycling;
- Routine checks would be undertaken of waste sorting and storage areas for cleanliness, hygiene and OH&S issues, and contaminated waste materials;
- Separate skips and recycling bins will be provided for effective waste segregation and recycling purposes;
- Training and awareness will be undertaken for site staff and contractors;
- Contaminated waste will be managed, transported, and disposed of in accordance with EPA requirements;
- Off-site waste disposal will be transported and disposed of in accordance with licensing requirements;
- Assessment of suspicious potentially contaminated materials, hazardous materials and liquid wastes will be undertaken; and
- Regular monitoring, inspection and reporting requirements will be undertaken.

### 8.6.5 Conclusions

Further to the above mitigation measures, a WMP has been prepared for the development which is attached in **Appendix 16.** The WMP details the type and volume of waste produced for each waste stream, its reuse or disposal, and the volume of waste reused or disposed.

## 8.7 Biodiversity

### 8.7.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the impact of the project on biodiversity, incorporating the items listed below:

- *A description of any potential vegetation clearing needed to undertake the proposal and any impacts to flora and fauna, including groundwater dependent ecosystems;*

### 8.7.2 Existing Environment

The site, which forms the northern part of Lot 1 DP1195449, is substantially clear of vegetation other than a row of pine trees along the northern boundary and limited scrub - refer aerial photograph at **Figure 3**. The site is located in an established industrial precinct, and is not identified as having any biodiversity values as set out on the Biodiversity Values map in Newcastle Local Planning Strategy, nor is it located in any major or local habitat corridors.

### 8.7.3 Impact Assessment

All vegetation is to be removed and the site concrete paved as part of the proposal. It should also be noted that a Shell Service Station and Coolabah Food Offer as well as a carwash facility have already been approved and constructed on Part of Lot 1. In this context, the proposed ELGAS development will occupy an area of approximately 7,984m$^2$, which represents 29% of the overall area of Lot 1 (2.1ha).

### 8.7.4 Proposed Mitigation Measures

Perimeter landscaping is proposed along the Egret Street frontage in the vicinity of the car park and office building as per the project drawings at **Appendix 1.**

### 8.7.5 Conclusions

The site is located in an established industrial precinct and is not identified as having any biodiversity values.

## 8.8 Heritage

### 8.8.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the impact of the project on heritage, incorporating the items listed below:

- *Aboriginal and non-Aboriginal cultural heritage items and values of the site and surrounding area.*

### 8.8.2 Existing Environment

A search of the NSW Office of Environment and Heritage Aboriginal Heritage Information Management System (AHIMS) records has shown that no Aboriginal sites are recorded and no Aboriginal places have been declared in or near the site.

In 2006 a Preliminary Aboriginal Heritage Assessment was undertaken in accordance with the DEC Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Consultation as part of the Environmental Assessment for the neighbouring Newcastle Coal Infrastructure Group (NCIG) Coal Export

Terminal. It was established that the locality falls within an area, which at the time of European settlement was inhabited by the Worimi tribal group. The Worimi area included the region north of the south arm of the Hunter River including Stockton Bight and the Williams and Paterson River Valleys. The neighbouring Awabakal tribal group occupied areas south of the Hunter River that extended across Maitland, Lake Macquarie, Dora Creek and Newcastle.

In terms of European History, the site is not located in a heritage conservation area, nor does it contain any heritage items as listed in the Three Ports SEPP. The project site is located in an established industrial precinct which has been heavily disturbed over time. The area was originally Mangrove, and existing levels have been established by filling over an extended period of time, with the land then being used for livestock grazing. A review of the site history based on historical aerial photographs included in Section 2.3.

### 8.8.3 Impact Assessment

All vegetation is to be removed and the site concrete paved as part of the proposal. It should also be noted that a Shell Service Station and Coolabah Food Offer as well as a carwash facility have already been approved and constructed on Part of Lot 1. Development on the lot to date has involved extensive excavation and site works which did not uncover any heritage objects. Excavation for the proposed development will also be substantially less than that already carried out across Lot 1. The proposed ELGAS development will occupy an area of approximately 7,984m$^2$, which represents 29% of the overall area of Lot 1 (2.1ha).

### 8.8.4 Proposed Mitigation Measures

For the purposes of the proposed development, no constraints have been identified at the proposed location with regard to Aboriginal heritage. Nevertheless a number of precautionary mitigation measures are proposed as follows:

- All relevant personnel, contractors and subcontractors should be made aware of their statutory obligations for heritage under the *National Parks and Wildlife Act 1974* at the site induction stage.
- If unrecorded Aboriginal object/s are identified in the project area during works, then all works in the immediate area must cease and the area should be cordoned off. OEH must be notified by ringing the Enviroline 131 555 so that the site can be adequately assessed and managed.
- In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, OEH must be contacted by ringing the Enviroline 131 555. An OEH officer will determine if the remains are Aboriginal or not; and a management plan must be developed in consultation with the relevant Aboriginal stakeholders before works recommence.

### 8.8.5 Conclusions

The site is located on Part of Lot 1 DP 1195449, the majority of which already accommodates a recently approved service station, food offer and carwash. The proposed development in its current form will not have any impact on Aboriginal and/or non-Aboriginal cultural heritage.

## 8.9 Visual

### 8.9.1 Introduction

The SEARs for the project require the EIS to contain a detailed assessment of the visual impact of the project, incorporating the items listed below:

- *An assessment of the potential visual impacts of the project on the amenity of the surrounding area; and*
- *Landscaping in consultation with Port of Newcastle.*

A landscape and visual impact assessment measures and assesses potential landscape and visual effects or impacts. The process ideally then uses this information to inform and influence the design or planning process, ultimately producing an outcome that has taken account of potential landscape and visual impacts and shaped the result to reduce negative impacts and enhance the existing landscape and visual environment.

The Landscape Institute and the Institute of Environmental Management and Assessment (2002) define these two effects as:

“Landscape effects derive from changes to the physical landscape, which may give rise to changes in its character and how it is experienced. This may in turn affect the perceived value ascribed to the landscape.”

“Visual effects relate to the changes that arise from the composition of available views as a result of changes to the landscape, to people’s response to the changes, and to the overall effects with respect to visual amenity.” A landscape and visual impact assessment is concerned with both of these effects or impacts.

### 8.9.2 Existing Environment

The site is substantially clear of vegetation other than a row of pine trees along the northern boundary and limited scrub. The site is situated in a locality which has a strong industrial/port related character with large scale industrial infrastructure in close proximity- refer **Figure 8** below. This includes Port Waratah Coal Terminal on the southern side of Cormorant Road, Boral Cement Works on the northern and north western side of the site and BOC gas storage facility opposite. These sites typically accommodate infrastructure such as, but not limited to, large scale conveyers, storage tanks, industrial sheds and vehicle parking/storage areas, and characterise the predominant visual context when travelling along the main thoroughfare through the area, being Cormorant Road. The new Shell Service station and carwash separates the site from Cormorant Road. The wide nature of Egret Street outside the site is characteristic of roads in Kooragang, which are geared towards accommodating heavy vehicles.

Further to west are large coal stockpiles, also visible when travelling along Cormorant Road. Further to the east are significant heavy industry establishments such as Cargill Australia. Orica and Incitec Pivot Fertilisers are also nearby and all of which have substantially sized industrial infrastructure/storage tanks which are visible from further afield including Stockton and the southern side of the South Channel of the Hunter River.

Overall, the site is located well away from any residential areas, the closest being Mayfield East on the southern side of the Hunter River and Stockton to the east. **Figure 8** below shows the site context, including its proximity to surrounding industrial uses and residential areas. Photographs showing the site and surrounding visual context are also included in Section 2 of the EIS.

### 8.9.3 Impact Assessment

The appearance of the site from Egret Street will be altered by the removal of all vegetation and the construction of the single storey office building with wall sign and associated car park, landscaping, fencing and sliding gates. The yard area on the western side of the office building is to be concrete paved throughout and fenced with 1800mm high colourbond security fence. The LPG storage vessel within the site will be substantially screened by the office building, gates and fencing.

The most direct visual impact on the locality will be from Egret Street, and will be that of a vacant site being developed to accommodate the proposal. The elements of the development are low scale in the context of surrounding structures. Views from Cormorant Road, the main thoroughfare through Kooragang, towards the development will be screened by the existing service station and car wash.

### 8.9.4 Conclusions

The scale of the development in the context of the large scale surrounding industry will ensure that likely landscape and visual impacts will be local. There will be no visual impacts when viewing the site from

sensitive receivers further afield. Overall, the proposal represents an appropriate visual fit, and will contribute to and enhance the existing industrial visual character of the area.

## 8.10 Social and Economic Impacts

### 8.10.1 Existing Environment

The proposed development is located within the Kooragang Industrial precinct within the Newcastle LGA. The precinct, which accommodates established port related and industrial uses, is identified in the Newcastle Local Planning Strategy as an inner industrial precinct which has existing infrastructure built to service future industrial uses. The Newcastle Local Planning Strategy forecasts a growth in the population of Newcastle from 163,100 (2016) to 175,700 (2031). As of 2011, 70,256 residents were employed. The top six industries in Newcastle as of 2011 were:

- Health care and social assistance – employing 11,200 residents or 16%of all employed residents;
- Retail trade – employing over 7,300 residents or 10% of all employed residents;
- Education and training – employing over 6,600 residents or 9% of all employed residents;
- Manufacturing – employing over 6,400 residents or 9% of all employed residents;
- Accommodation and food services – employing over 5,400 residents or 8% of all employed residents;
- Professional, scientific and technical services – generating close to 5,200 jobs or 7% of all Newcastle LGA's employed residents.

It is estimated that by 2031, the residents of Newcastle will generate demand for over 85,826 full or part time jobs. A key element of the Newcastle Local Planning Strategy is to provide capacity within employment zones, major centres and strategic centres to accommodate up to 85% of the anticipated jobs required by 2031.

#### Impact Assessment

The proposed development will generate employment both during its construction and operation. The maximum number of staff in the main office will be up to 9, with up to 8 drivers required for the Bobtails as well as cylinder flat top trucks. Maintenance contractors will also be required periodically for pre-arranged preventative maintenance.

#### Conclusions

Overall, the proposed development will have positive social and economic impacts by creating jobs in an established inner industrial employment zone, and reinforcing a key element of Newcastle Local Planning Strategy.

[Insert figure]

**Figure 8 Project Area**

# 9.0 Mitigation Measures – Statement of Commitments

The collective measures required to mitigate the impacts associated with the Project are detailed in **Table 14** below. These measures have been derived from the detailed discussion in Sections 5 and 6 and those detailed in the appended consultants' reports. Common mitigation measures between key environmental issues have been amalgamated.

**Table 14 Impact and Mitigation Measures – Draft Statement of Commitments**

| Mitigation Measures | |
|---|---|
| **1. General** | |
| A site-specific Construction and Environmental Management Plan (CEMP) will be prepared and implemented to ensure that the commitments made within the EIS are fully implemented and complied with. The EMP will establish the framework for managing and mitigating the potential environmental impacts of the development over the life of the operation. | |
| **2. Hazards and Risk** | |
| The potential hazards and risks will be managed through the adoption of the following measures arising from the PHA:<br>■ Ensure that night time surveillance patrol of the site includes the parked Bobtail area to detect possible presence of LPG Gas (can be detected by odour). This activity is to be included in the procedures;<br>■ The cylinder storage and stacking arrangements on site must comply with Figure 4 Table 2 of the PHA report, to ensure compliance with target risk levels;<br>■ The stacking of cylinder cages must not exceed 2m high for 8.5 and 15-18kg cylinders;<br>■ A hazardous area classification diagram must be prepared for the site during detailed design;<br>■ Tanker loading/unloading liquid and vapour hoses and cylinder filling hoses must be pressure tested annually;<br>■ Adequate lighting is to be provided for after-hours access by tanker drivers;<br>■ A traffic management system must be developed on site to prevent vehicle collisions;<br>■ All cylinder storage areas, tanker loading/unloading area and Bobtail parking areas must be clearly marked;<br>■ Appropriate workplace safety signs and Hazmat signs are to be installed on site as required by the codes;<br>■ Ongoing inspection and maintenance of the integrity of the concrete yard area;<br>■ Inspection and maintenance program to ensure mechanical integrity of the plant and equipment to minimise accidental releases. | |
| **3. Soil and Water** | |
| Earthworks | All long-term excavations should either be supported by properly designed and constructed retaining walls or alternatively battered at 2H:1V or flatter. |
| Fill | Site preparation for the placement of fill should include the following:<br>■ Removal of any existing topsoil and deleterious soils together with any surface vegetation, eg, grass/weeds, and heavily root affected soils, to expose a clean sand subgrade;<br>■ Proof rolling of the exposed sand subgrade;<br>■ Clean sand fill should be used for any proposed filling at the site; and<br>■ Observation and monitoring of existing adjacent development and structures for any signs of settlement or distress should be undertaken in conjunction with any proposed proof rolling and compaction. |
| Acid Sulphate Soils | An acid sulphate soil management plan should be required for all excavations that disturb the clay soils at the site (typically at depths below 3m). |
| Erosion and Sediment Control | Erosion and Sediment Control details are to be as per the submitted drawings provided at **Appendix 1.** The site should be securely fenced during construction and should include a perimeter siltation fence and material stockpile areas. |
| Stormwater Management | Proposed stormwater drainage details are to be as per the submitted drawings at **Appendix 1,** and shall connect to the existing stormwater infrastructure for Lot 1. |

| Mitigation Measures | |
|---|---|
| Potential Impacts to Surface Water, Ground Water and Soils | The following design and operational measures for preventing LPG release into the soil or ground water table should include the following:<br>■ Tank and pipework design to required Australian Standards for integrity (AS 1210 for vessel and AS 1596 for pipework);<br>■ Emergency shutdown (ESD) system to minimise LPG releases;<br>■ Concrete paving of the entire yard, which prevents LPG ingress into ground;<br>■ Inspection and maintenance program to ensure mechanical integrity of the plant and equipment to minimise accidental releases;<br>■ Only large LPG releases that are downward oriented and impinge on the ground can form a liquid pool with a potential for ground penetration (approximately 22% of the release); and<br>■ The ground is to be paved with concrete, which prevents ingress of LPG. |
| **4. Traffic and Transport** | |
| ■ Left turn only on to Cormorant Road be reviewed to ensure the safe operation of this intersection through the physical restriction of right turn movements; and<br>■ The right hand turn onto Egret Street shall be monitored over time. | |
| **5. Air Quality and Odour** | |
| ■ Cylinders that are found of to be 'out of test' are re-tested. If a cylinder fails the test, it is destroyed on site by hydraulic hole punching and placed in a separate dedicated yard for disposal.<br>■ Prior to retest, the LPG is recovered into the recovery manifold and the cylinder valve is removed. Due to the nature of this operation no gas/vapour is released therefore no odour will be present.<br>■ Bulk LPG transfer/delivery should occur in accordance with AS/NZS 60079.10.1:2009 “Explosive Atmospheres”<br>■ Cylinder filling should occur in accordance with AS/NZS 1596:2014 “The Storage and Handling of LPG Gas” | |
| **6. Noise and Vibration** | |
| ■ No mitigation measures required. | |
| **7. Waste Management** | |
| ■ Ordering will be limited to only the required amount of materials;<br>■ Materials will be segregated to maximise reuse and recycling;<br>■ Routine checks would be undertaken of waste sorting and storage areas for cleanliness, hygiene and OH&S issues, and contaminated waste materials;<br>■ Separate skips and recycling bins will be provided for effective waste segregation and recycling purposes;<br>■ Training and awareness will be undertaken for site staff and contractors;<br>■ Contaminated waste will be managed, transported, and disposed of in accordance with EPA requirements;<br>■ Off-site waste disposal will be transported and disposed of in accordance with licensing requirements;<br>■ Assessment of suspicious potentially contaminated materials, hazardous materials and liquid wastes will be undertaken; and<br>■ Regular monitoring, inspection and reporting requirements will be undertaken. | |
| **8. Biodiversity** | |
| ■ Perimeter landscaping along the Egret Street frontage in the vicinity of the car park and office building shall be constructed as per the project drawings at **Appendix 1**. | |
| **9. Heritage** | |
| ■ All relevant personnel, contractors and subcontractors should be made aware of their statutory obligations for heritage under the *National Parks and Wildlife Act 1974* at the site induction stage. | |
| ■ If unrecorded Aboriginal object/s are identified in the project area during works, then all works in the immediate area must cease and the area should be cordoned off. OEH must be notified by ringing the Enviroline 131 555 so that the site can be adequately assessed and managed. | |

| Mitigation Measures |
| --- |
| ■ In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, OEH must be contacted by ringing the Enviroline 131 555. An OEH officer will determine if the remains are Aboriginal or not; and a management plan must be developed in consultation with the relevant Aboriginal stakeholders before works recommence. |

# 10.0 Justifications

## 10.1 Ecologically Sustainable Development

Ecologically Sustainable Development (ESD) is a primary objective of environmental protection in NSW. The objectives of the EP&A Act include the encouragement of the principles of ESD. Supplementary to the EP&A Act objectives, section 7 (1(f)) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 requires a proponent to include in an EIS the reasons justifying the development, including the principles of ESD. Section 7(4) of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 defines the principles of ESD as follows:

(a) *The **precautionary principle,** namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*

*(i) Careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and*

*(ii) An assessment of the risk-weighted consequences of various options.*

(b) ***Inter-generational equity**, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.*

(c) ***Conservation of biological diversity and ecological integrity,** namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration.*

(d) ***Improved valuation, pricing and incentive mechanisms,** namely, that environmental factors should be included in the valuation of assets and services, such as:*

*(i) Polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*

*(ii) The users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*

*(iii) Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

### 10.1.1 The Precautionary Principle

The Precautionary Principle states that if there are threats of serious or irreversible environmental damage, the lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The Development has been assessed for impacts relating to hazards and risk, soil erosion, air quality and odour, noise, traffic and transport, visual amenity, flora and fauna, Aboriginal heritage, and non-indigenous heritage. This EIS, combined with the consultation undertaken with relevant government agencies, and local

stakeholders, has provided an understanding of the potential implications of the development and subsequently confirm the mitigation measures required.

Through the adoption of an anticipatory approach, each potential issue arising from the Project has been identified, evaluated and mitigated through a series of design or management solutions.

### 10.1.2 Social and Inter-Generational Equity

Intergenerational Equity is centred on the concept that the present generation should ensure the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. There is a moral obligation to ensure that today's economic progress, which would benefit current and future generations, is not offset by environmental deterioration.

Throughout the assessment, the type and extent of potential impacts caused by the Project have been analysed and mitigated. The assessment methodologies have adopted a risk-based and worst case scenario approach to ensure improved environmental, social and economic protection for current and future generations. The environmental management and mitigation measures have been developed to minimise the impact of the Project on the environment for future generations.

The management and mitigation measures proposed in Section 9 would assist in ensuring that the development does not pose any significant impact or risk to the surrounding environment and safeguards the environment for future generations.

### 10.1.3 Conservation of Biological Diversity and Ecological Integrity

The principle of Conservation of Biological Diversity and Ecological Integrity holds that the conservation of biological diversity and ecological integrity should be a fundamental consideration for development proposals.

The site is located in an established industrial precinct and is substantially clear of vegetation other than a row of pine trees along the northern boundary. The site is not identified as having any biodiversity values as set out on the Biodiversity Values map in Newcastle Local Planning Strategy, nor is it located in any major or local habitat corridors.

It was determined that the development does not pose any significant threat to local biological diversity or ecological integrity.

### 10.1.4 Improved Valuation and Pricing of Environmental Resources

The principle of Improved Valuation, Pricing and Incentive Mechanisms deems that environmental factors should be included in the valuation of assets and services. The cost associated with using or impacting upon an environmental resource is seen as a cost incurred to protect that resource.

Given that the development is not proposing to clear any native vegetation, and due to the nature of the proposed development and use, there will be no impact on the groundwater, waterways and environmental resources.

The Project optimises the valuation and pricing of natural resources by encouraging the use of LPG, thus encouraging use of alternative fuels. Further justification in this regard is provided in Section 4.1.

### 10.1.5 Project Need

The proposed development involves the construction and operation of a LPG facility. Much of the site is cleared of vegetation.

Kooragang Island is a major location for the export of coal and currently accommodates heavy industry and port related uses as well as associated loading, rail infrastructure and uses supporting road transport. To the north of the site is a Boral Cement facility which is accessed via a private road off Cormorant Road, and which runs close to the western boundary of the site.

When fully operational, the development will employ up to 17 staff including contract delivery drivers, which will provide jobs for the local community and surrounds. Associated supply businesses will also benefit from the operation of the site. The facility will be integral to the current ELGAS offer north of Sydney, and will allow the company the opportunity to address logistical demands associated with the delivery of a secure energy source, while providing a strong commitment to safety and a reliable level of service.

In addition to these social and economic benefits, the facility will service the increasing demand for LPG in the Newcastle region.

# 11.0 Conclusion

This Environmental Impact Statement (EIS) has been prepared to support a State Significant Development Application (SSD) application for the construction and operation of an ELGAS LPG facility, including bulk storage vessel, cylinder storage area, overnight truck parking and loading area, cylinder filling dock, office building and associated car park at 130 Cormorant Road Kooragang.

The purpose built facility is to be constructed on part of Lot 1 DP 1195449, which already accommodates substantial development, including a recently constructed Shell Service Station and Coolabah Food Offer as well as a carwash. The facility will assist ELGAS to meet growing demand in the Newcastle and Hunter Region. The facility will be integral to the current ELGAS offer north of Sydney, and will allow the company the opportunity to address logistical demands associated with the delivery of a secure energy source, while providing a strong commitment to safety and a reliable level of service. The proposed development will employ up to 17 staff during operation.

It should be noted that the proposed development has a CIV of less than $2 million in this instance, but is caught by locational requirements that relate to areas of high water table or highly permeable soil as set out in Clause 10(b)(ii) of Schedule 3 of the *Environmental Planning and Assessment Regulation 2000.* In contrast, Schedule 1 (10)(2) of SEPP (State and Regional Development) 2011 sets out a capital investment value (CIV) threshold of more than $30 million for gas storage facilities before they are considered as State significant development.

The proposed development has been shown to be consistent with the relevant local and State planning instruments. The site constitutes a small parcel of land in the context of Newcastle Port, and is separated from waterfront land by Cormorant Road. Its development will not hinder the future use of waterfront land for port related uses, and will reinforce the economic vitality of the port.

A range of environmental issues have been identified and assessed with appropriate mitigation and management measures proposed to be carried through to the construction and operational phase. Emphasis has been applied to the management of potential hazards and risk associated with the development as well as traffic impacts. In particular, the design of the development will result in an impervious concrete barrier preventing any LPG release into the soil or ground water table.

The site's location in an established industrial precinct, and with access to B-Double approved routes, also minimises the impacts of additional traffic on the capacity of the local road network and exposure to traffic related noise.

It has been demonstrated through this EIS that the proposal will not result in significant impacts to the environment through the implementation of management and mitigation strategies. Therefore the development is considered an appropriate use for the existing site, has positive economic benefits for the local area, and is in the best interest of the public, environment, and sustainability.

# 12.0 References


- Arriscar Pty Ltd, Proposed LPG Depot, Kooragang NSW, Preliminary Hazard Analysis
- Arriscar Pty Ltd, Review of potential impact on water table from accidental LPG releases at LPG Depot, Kooragang NSW
- DP&E (2015), Secretary's Environmental Assessment Requirements (SSD7401).
- DP&E, *Hunter Regional Plan 2036.*
- EPA (2014a). *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*.
- EPA (2014b). *Waste Classification Guidelines – Part 1: Classifying Waste (2014).*
- Newcastle City Council, *Local Planning Strategy – July 2015*
- RCA Australia, Geotechnical Investigation for Lot 10 and Part Lot 11 DP1195449, Cnr of Egret Street and Cormorant Road, Kooragang Island.
- RCA Australia, Baseline Environmental Site Assessment, Lot 1 DP1195449, Cnr of Egret Street and Cormorant Road, Kooragang Island.
- SECA Solution, Traffic Impact Assessment for Proposed ELGAS Storage Facility, 130 Cormorant Road Kooragang

# Appendix 1

# Project Drawings

# Appendix 2

# Secretary's Requirements

# Appendix 3

# Site Survey Plan

# Appendix 4

# Agency Responses

# Appendix 5

# Preliminary Hazard Analysis and Quantitative Risk Assessment

# Appendix 6

# Geotechnical Investigation

# Appendix 7

# Baseline Environmental Site Assessment

# Appendix 8

# Review of Potential Impact on Water Table from Accidental LPG Releases

# Appendix 9

# Flood Information Certificate and Explanation

# Appendix 10

# Hunter Water Installation of Sewer Mains Practical Completion Certificate and Signed Drawings

# Appendix 11

# Hunter Hydraulic Design Assessment

# Appendix 12

# Signed Major Works Contract in Respect of Sewer and Water Services

# Appendix 13

# Service Station Notice of Determination

# Appendix 14

# Car Wash Notice of Determination

# Appendix 15

# Traffic Impact Assessment

# Appendix 16

# Waste Management Plan

# Appendix 17

# Approved B-Double Route

# Appendix 18

# AHIMS Search

# Appendix 19

# ELGAS Odour Assessment

# Appendix 20

# AS/NZS Extracts re Explosive Atmospheres and Storage and Handling of LPG Gas

# Appendix 21

# Operational Noise Impact Assessment