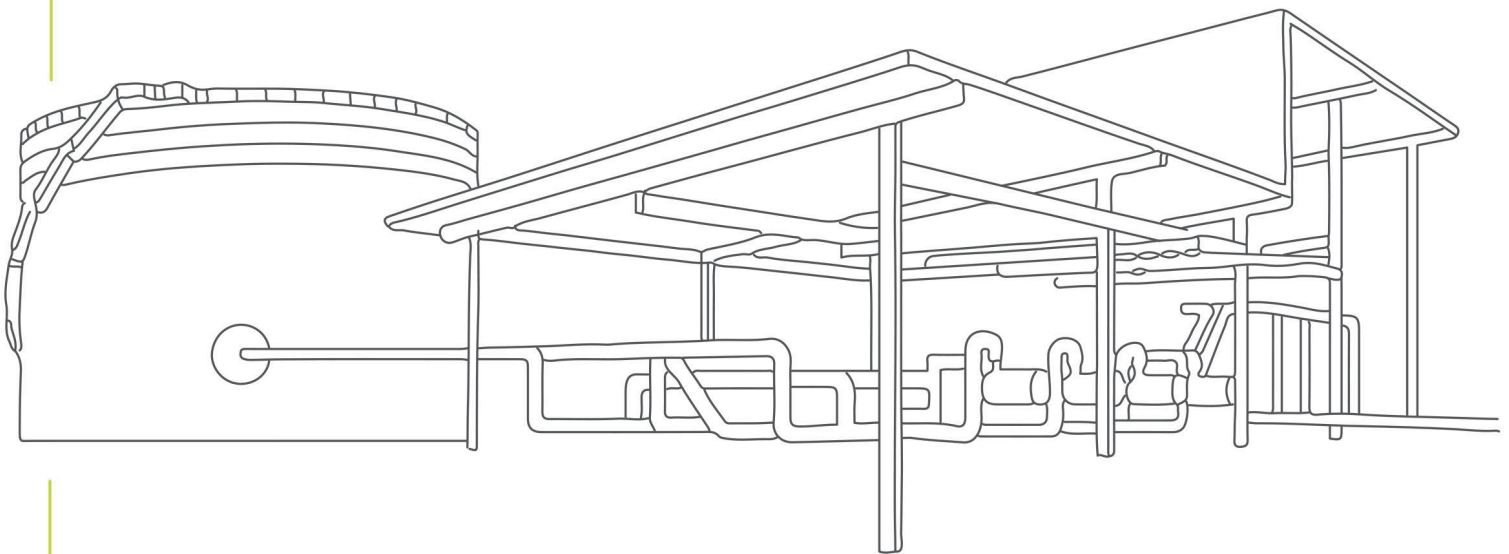


# ENVIRONMENTAL IMPACT STATEMENT

MANILDRA - PORT KEMBLA

PROPOSED STATE SIGNIFICANT DEVELOPMENT FOR A BULK LIQUID STORAGE AND EXPORT FACILITY



CREATE • PLAN • DELIVER

PROJECT MANAGERS | PLANNERS | DESIGNERS | ENGINEERS

**ENVIRONMENTAL IMPACT STATEMENT**

Manildra - Port Kembla

Proposed State Significant Development for a Bulk Liquid Storage and Export Facility

**CLIENT:** Manildra Group (Manildra)

**ADDRESS:** Foreshore Road, Port Kembla NSW 2505

**TFA REFERENCE:** 20399

**TFA CONTACT:** Jacob McRae

**Document Control**

REVISION	DATE	PREPARED BY	REVIEWED BY	COMMENTS
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## DECLARATION

Project Details	
Project Name	Manildra - Port Kembla Bulk Liquid Terminal
Application Number	SSD-33042483
Subject Site	Foreshore Road, Port Kembla NSW 2505 – Described as lot 6 on DP1236743 and lot 2 on DP1236743
Prepared by	
Name	Jacob McRae –Town Planner – TfA Project group
Address	166 Knapp Street, Fortitude Valley QLD 4006
Professional Qualifications	Bachelor of Regional and Town Planning – The University of Queensland Planning Institute of Australia - Member
Reviewed By	
Name	John Rowell – Principal Town Planner – TfA Project Group
Address	166 Knapp Street, Fortitude Valley QLD 4006
Professional Qualifications	Bachelor of Arts (Geographical Science & Planning and Modern History) – The University of Queensland Masters of Urban and Regional Planning – The University of Queensland Planning Institute of Australia - Member
Declaration	
<p>The undersigned declares that this EIS:</p> <ul style="list-style-type: none"> <li>• Has been prepared in accordance with Section 190 of the Environmental Planning and Assessment Regulation 2021;</li> <li>• Contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates;</li> <li>• Does not contain information that is false or misleading;</li> <li>• Addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project;</li> <li>• Identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments;</li> <li>• Has been prepared having regard to the Department's State Significant Development Guidelines - Preparing an Environmental Impact Statement;</li> <li>• Contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development;</li> <li>• Contains a consolidated description of the project in a single chapter of the EIS;</li> <li>• Contains an accurate summary of the findings of any community engagement; and</li> <li>• Contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.</li> </ul>	
 Jacob McRae <b>Town Planner</b> BRTP, MPIA For and on behalf of TfA Project Group	 John Rowell <b>Principal Town Planner</b> BA, MURP, MPIA For and on behalf of TfA Project Group
Date: 24 June 2022	Date: 24 June 2022

## EXECUTIVE SUMMARY

### Proponent

<b>Proponent Details</b>	Shoalhaven Starches Pty Ltd (94 000 045 045) A subsidiary of Manildra Group (Manildra) 6 Frank Street GLADESVILLE NSW 2111
<b>Contact Details</b>	C/- Jacob McRae (Town Planner) TfA Project Group PO Box 2339 FORTITUDE VALLEY QLD 4006

### Site

<b>Address</b>	Foreshore Road, Port Kembla NSW 2505
<b>Site Details</b>	Lot 6 on DP1236743 and Lot 2 On DP1182823
<b>Site Area</b>	Partial Lot Area – 17,690m <sup>2</sup> (approx.)
<b>Current Land Use</b>	Vacant/ Storage

### Proposal

<b>Proposal Description</b>	Development for Port Services, Bulk Liquid Storage & Pipeline
<b>Application Type</b>	Development Application for a State Significant Development
<b>Determining Authority</b>	NSW Department of Planning Industry and Environment (DPIE)

## 1.0 SUMMARY

The proposed development is for a port terminal, involving the establishment of a bulk liquid storage facility, with associated pipelines and buildings at Foreshore Road, Port Kembla. The proposed development is intended to receive, store and export potable ethanol, produced by Manildra's Bomaderry Plant in Nowra. The works to be undertaken as part of this proposal are as follows:

- Six (6) x 4ML Potable Ethanol Storage tanks, with a combined capacity of approximately 24ML;
- 1.8m high bund walls, and 600mm high intermediary bund walls;
- Two (2) x 300mm diameter pipelines, running between the subject site and berth 206 of the existing wharf structure;
- Architecturally designed on-site office/administration building;
- Ancillary Workshop/ Storage, drivers hut, switch room and substation buildings;
- Loading/ Unloading Gantry Structure (2-Bay) and Washdown area with associated gantry structure;
- 5m wide landscape buffer along the Foreshore Road frontage;
- Site access and manoeuvrability for up to a A-Double service vehicle; and
- Car parking for up to eight (8) cars, including 1 PWD space;

The overall site layout of the premises is outlined in Figure 7. An elevated perspective of the site is also provided within Figure 8.

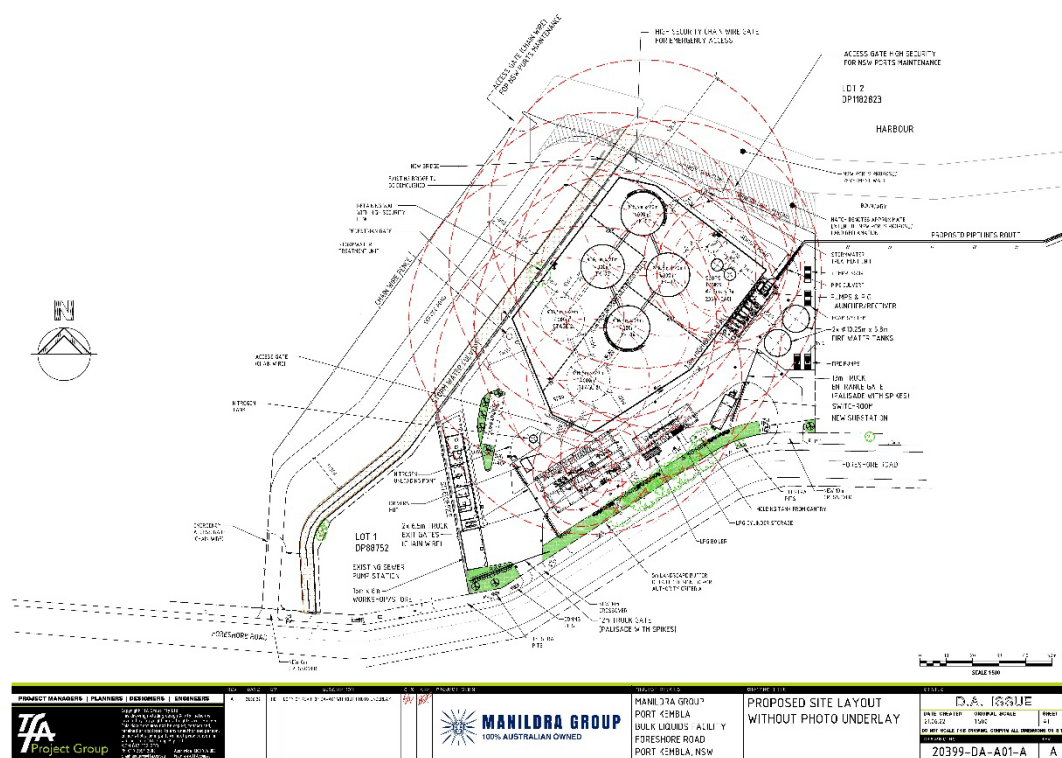


Figure 1: Proposed site layout (excerpt from TFA drg no. 20399-DA-A01-A)

In assessing the suitability of the proposed development at the subject site, extensive environmental, hazard and operational assessment have been prepared in order to determine the suitability of the proposed development at the subject premises. In summary of the assessment undertaken with respect to the proposed development, the following is noted for consideration:

- The proposed development is determined to be defined as 'Port Services', which is permitted with consent within the SP1 – Special Facilities Zone under Chapter 5 of the Transport and Infrastructure SEPP;



- The potential hazards associated with the storage and distribution of ethanol have been appropriately considered and mitigated as much as practical. Overall, it is determined that the proposed development would pose a low risk to the locality;
- The potential odour impacts associated with the proposed development have been considered and addressed through the implementation of air scrubbers, as to minimise the infiltration of ethanol emissions to nearby land uses;
- All noise and vibration expected to be generated by the proposed development is not considered to impact upon the nearby land uses, given the separation of the subject premises;
- The proposed development has been designed to permit the efficient access and manoeuvrability of vehicles from within the subject premises, without posing significant impact to the surrounding road network;
- The expected increased shipping movements within the harbour, as generated by the proposed development, are within the expected port capacity and do not impact upon any existing or proposed development within the harbour;
- All stormwater generated within the subject premises is to be appropriately collected, treated and discharged as to ensure that the development does not pose any environmental risk to the locality;
- The proposed development is to be filled to a height to ensure that an adequate degree of flood immunity is achieved throughout the premises;
- The soil and groundwater contamination status of the proposed development is considered to be capable of being sufficiently managed and remediated for the proposed development to occupy the subject premises;
- All waste expected to be generated by the proposed development is capable of being stored and collected from within the subject premises;
- All aboriginal or non aboriginal cultural values are not considered to be impacted as a result of the proposed development;
- The subject premises is not identified to comprise of any biodiversity values that would need protection;
- Any greenhouse gas emissions potentially generated by the proposed development are considered to be inherently low and capable of being minimised over time, as technology further improves with regards to transport options and electricity sources;
- The proposed development is considered to be a logical inclusion into the existing port environment of Port Kembla and therefore is not considered to result in any significant visual amenity impacts;
- The social impacts associated with the proposed development are on average considered to be a medium impact to the locality and of which are capable of being appropriately managed with regard to the proposed development;
- The proposed development is considered to achieve the principles of Ecologically Sustainable Development; and
- The Port Kembla lease area is subject to a development contributions exemption in accordance with section 7.17 of the EP&A Act.

A more detailed assessment of the proposal is considered throughout this report and within the provided supporting reports.

## 2.0 INTRODUCTION

This Environmental Impact Statement has been prepared on behalf of Shoalhaven Starches Pty Ltd, a subsidiary of Manildra Group (proponent) as part of an application for a State Significant Development, triggered under clause 5.27 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP), at Foreshore Road, Port Kembla NSW 2505, described as Lot 6 on DP1236743 and Lot 2 On DP1182823. For reference, the proposed development will only form part of the total site area associated with the subject allotments, with appropriate lease and subdivision arrangements to be made between the proponent and the relevant land holders (NSW Ports and TfNSW), prior to finalising works on the subject premises.

In support of this Environmental Impact Statement the following additional documentation is provided:

- **Appendix A** - Certificate of Title;
- **Appendix B** - Permission to Lodge;
- **Appendix C** - Cost Estimate;
- **Appendix D** - Secretary's Environmental Assessment Requirements;
- **Appendix E** – Port Kembla Development Code Assessment;
- **Appendix F** – Wollongong Development Control Plan Assessment;
- **Appendix G** - Development Drawings;
- **Appendix H** - Development Perspectives;
- **Appendix I** - Site Survey;
- **Appendix J** – Erosion and Sediment Control Plan;
- **Appendix K** – Consultation Supporting Material;
- **Appendix L** – Green Ports Checklist;
- **Appendix M** - Preliminary Geotechnical and Contamination Assessment;
- **Appendix N** – Groundwater Assessment and Management Report;
- **Appendix O** - Remedial Action Plan;
- **Appendix P** - Acid Sulfate Soil Management Plan;
- **Appendix Q** - Site Based Stormwater Management Plan;
- **Appendix R** - Air Quality Assessment;
- **Appendix S** - Greenhouse Gas Assessment;
- **Appendix T** - BDAR Waiver;
- **Appendix U** - Noise Impact Assessment;
- **Appendix V** - Piling Test Noise and Vibration Report;
- **Appendix W** - Aboriginal Cultural Heritage Assessment;
- **Appendix X** - Cultural Heritage Assessment;
- **Appendix Y** – Social Impact Assessment;
- **Appendix Z** - Traffic Impact Assessment;
- **Appendix AA** – Port Navigation Assessment;
- **Appendix BB** - Construction Traffic Management Plan;
- **Appendix CC** - Preliminary Hazard Analysis;
- **Appendix DD** - Hazop Report;
- **Appendix EE** - Fire Safety Study;
- **Appendix FF** - Transport Study;
- **Appendix GG** – Transport Emergency Response Plan; And
- **Appendix HH** - Roads Act Consent.

To assist in the department's determination of this application, this scoping report comprises of the following elements:

- **Section 1:** A summary of the proposed development and the Environmental Impact Statement;
- **Section 2:** an introduction into the Environmental Impact Statement, including a summary of the proponent and the background of the project;
- **Section 3:** a review of the strategic context of the subject site, the justification and demand of the project and the potential alternatives;
- **Section 4:** a description of the proposed development and project demand;
- **Section 5:** a review of the statutory context relevant to the proposed development;
- **Section 6:** a review of the community engagement undertaken for the proposed development; and
- **Section 7:** an assessment of the key impacts identified for the proposed development;

## 2.1 Proponent

In 1952, Manildra Group began with the Honan family's purchase of a flour mill in the central west New South Wales country town of Manildra. Since then, they have become a diverse agribusiness bringing the finest Australian food and industrial products to the world.

Manildra Group is committed to regional development, employing more than 1000 people in regional Australia, plus international staff. Their business is backed by strong family values. Their team is led by Chairman Dick Honan alongside his children, Directors John Honan, Caroline Honan, and Samantha Honan, driving growth at home and globally.

With Manildra Group's heritage rooted in rural Australia, reinvestment is central to their commitment to the sustainability of locally grown and manufactured products. For more than 70 years Manildra Group has partnered with thousands of farming families to produce Australian-grown and made premium products. From the heartland of the wheatbelt in central west New South Wales to the lush northern sugarcane farms and the golden fields of canola, Manildra Group is fortunate to work with farmers to add value to Australian agriculture.

The ongoing expansion and integration of world-class facilities in regional Australia, coupled with pioneering product innovation, ensure Manildra Group remains internationally competitive amid shifting market demands. Here they produce a range of food and industrial products from flours and bakery mixes, fats and oils, liquid and dry sugars, syrups, wheat starches, gluten and modified proteins, ethanol, and stockfeed.

Manildra Group supplies a range of domestic and global customers including food, beverage, pharmacy, fuel, farming, confectionary, paper, packaging, and alcohol industries. Today they are one of the largest exporters of food and industrial products in containers from Australia's biggest container port, Port Botany.

Manildra Group prides themselves on being unrivalled in quality for a global market and their Australian grown and made ingredients are supplied to customers of all sizes from small bakeries to major corporations with some of the most recognized brands in the world.

## 2.2 Background

An application for the proposed development was initially lodged with Wollongong City Council on 5 November 2021, seeking approval for a complying development certificate to undertake the proposed works, as was accepted under the Three Ports SEPP at the time of lodgement. In lieu of changes made to the Three Ports SEPP by the Department of the Planning, Industry and Environment, dated 12 November 2021, the proposed development was no longer consistent with the requirements for complying development and was withdrawn by Wollongong City Council on the proponent's behalf on 16 November 2021.

In accordance with all of the above, as part of the application for Complying Development, as well as the future Environmental Protection Licence that would be required for the proposed development, a number of Environmental

Assessment reports had already been prepared assessing the suitability of the proposed development. For the purpose of lodging the EIS, these reports have been amended to account for potential cumulative impacts associated with the proposed development and other existing and proposed land uses within the Port Kembla locality.

## 2.3 Site History

A detailed Site history has been undertaken for the proposed development as part of the Preliminary Geotechnical and Contamination Investigation provided in **Appendix M**.

In summary, the history of the subject premises is determined to comprise the following:

- Pre 1938 – Former Estuarine/lagoon environment associated with Tom Thumb Lagoon (Port Kembla Inner Harbour);
- 1948-1977 – land reclamation works (ie. filling of estuarine area) and realignment and sealing of existing stormwater drain;
- 1977-1993 – Scrap Metal Yard, Quarantine Facility and timber sale yard;
- 1993-present – Equipment laydown yards (within western most extent of the premises); and
- 2014-present – Sandstone Stockpile (within central and eastern extent of the premises).

## 2.4 Associated Approvals/Works

### 2.4.1 Shoalhaven Starches

The Shoalhaven Starches facility, as discussed in section 2.1, was originally approved by the department under superseded part 3A of the Environmental Planning & Assessment Act 1979 in 2009 (Ref: MP06\_0228).

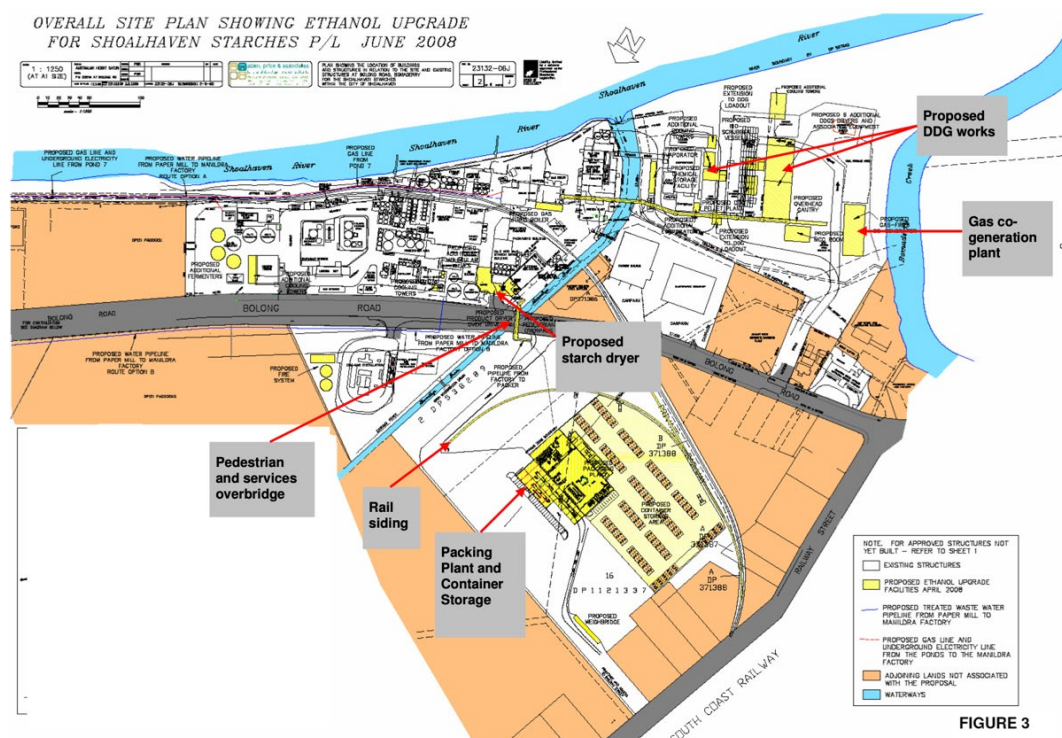


Figure 2: Shoalhaven Starches - Approved Layout Plan

The facility has been subsequently upgraded by the proponent of multiple occasions, as evidenced by the modification applications/approvals associated with the Part 3A approval.

The operation of this facility is directly associated with the proposal, having regard to the following:



- The operation of the subject premises is to be unmanned, with day-to-day operations to be handled off-site at the Bomaderry plant, with only loading and un-loading operations being handled at the Port Kembla facility;
- All ethanol proposed to be shipped to and stored at the subject premise is generate at the Shoalhaven Starches facility;

It is noted that since its original approval, this approval has been modified on multiple locations, facilitating expansions to the ongoing operation of the facility.

#### 2.4.2 Port Kembla Outer Harbour Approval

The premises forms part of the Port Kembla Outer Harbour Part 3A approval (MP08\_0249) that was approved by the Department on 3 March 2011 and later modified on 8 September 2011.



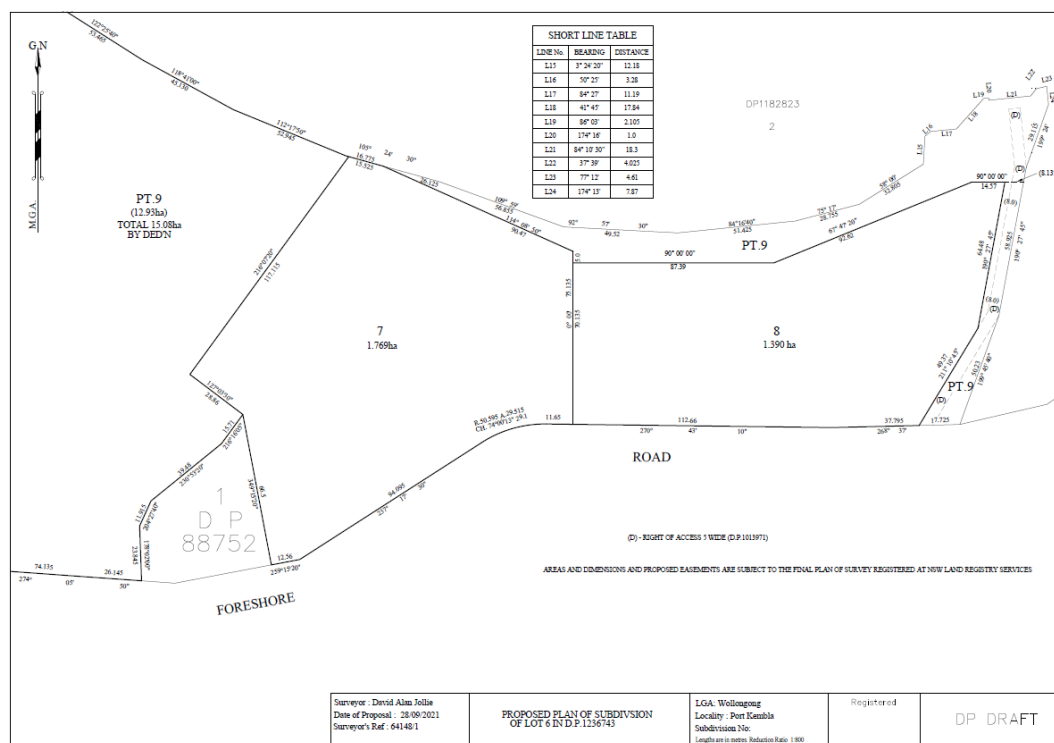
Figure 3: Port Kembla Outer Harbour – Approved Concept Plan

The primary concept plan that forms part of this approval provides a framework for the redevelopment of the port Kembla outer harbour to increase the handling capacity of existing cargoes and expand the existing trade capability of the existing port. This is to comprise of the creation of approximately 42 hectares of hardstand land, with 40 hectares of reclaimed dredged land and 2 hectares of piled structures.

### 2.4.3 Subdivision of Subject Site

In association with the proposed development, lot 6 on DP1236743 is to be subdivided in order to allow the primary development site to be leased by NSW Ports (the landowner). As is detailed by Figure 4, lot 6 on DP1236743 is to be split as follows:

- Manildra Site – 1.769ha;
- Vacant Land (East) – 1.390ha; and
- Balance Land – 12.93ha.



*Figure 4: Proposed Subdivision*

The lot arrangements are generally reflective of the development footprint associated with the subject development. It should be noted that part of the development site, namely the access driveway proposed to the western extent of the site, is not encapsulated within the above lot boundaries, but is encapsulated by with lease arrangement agreed between the proponent and the landowner.

The above subdivision is being undertaken by NSW Ports as exempt development in accordance with section 32 of Schedule 10 of the Transport and Infrastructure SEPP and therefore does not form part of this development application.



## 3.0 STRATEGIC CONTEXT

### 3.1 Subject Site

The subject site is located at Foreshore Road, Port Kembla NSW 2505, described as Lot 6 on DP1236743 and Lot 2 on DP1182823. The subject site will form part of a lease area agreed to by the NSW Port Authority and will comprise a total area of approximately 17,690m<sup>2</sup> or 1.769ha.

The site is predominately vacant, with the primary purpose of the site being associated with the storage of fill and other port related equipment. The site is predominately free of vegetation, with some existing mature trees located adjacent to the foreshore road frontage of the premises. The actual levels of the site are unconfirmed, noting the presence of the existing fill pile on the subject site, however, as noted by the survey prepared by Masters Surveying, the levels of the site outside of the fill pile area range from approximately 2.5m to 4.1m PKHD.

The context of the subject site is illustrated in Figure 5 below.



Figure 5: Aerial Image of Subject Site (Near Map, accessed January 2022)

#### 3.1.1 Site Hazards

In preliminary review of the context of the subject site, it is determined that the following hazards are present to the site:

- Flooding – this is assessed as part of the prepared site-based stormwater management plan;
- Coastal/Sea Level Rise – This is assessed as part of the Site Based Stormwater Management Plan; and



- Contamination – this is assessed as part of the Preliminary Geotechnical and Contamination Assessment.

### 3.2 Surrounding Land Uses

The subject site forms part of Port Kembla, for which site operations are largely industrial in nature, associated with shipping and receiving. Notably, the identified nearby land use for the site are identified as follows:

- North – Port Kembla Harbour;
- South – IXOM Sulfuric Acid Plant and Morgan Cement International, located on the opposite side of Foreshore Road;
- East – Vacant Land/Storage; and
- West – Vacant Land/Storage.

Further to above, the context and surrounding land uses in relation to the site are illustrated in Figure 6 below.



Figure 6: Surrounding Land Uses (NearMap, accessed February 2022)

In consideration of the surrounding locality, it is determined that the following will need to be assessed as part of the preparation of an EIS for the proposed development:

- The potential impact of the proposed development on the nearby sensitive land uses with regard to the air quality, noise and vibration;
  - This has previously been assessed as part of the technical reporting prepared as part of the complying development certificate, as outlined in section 1.2 of this report;
- The cumulative impacts of the proposed development with other nearby proposed potentially harmful land uses on the nearby community of port Kembla;



### 3.3 Illawarra Shoalhaven Regional Plan 2041

The subject site forms part of the Illawarra Shoalhaven Regional Area and is therefore subject to consideration against the Illawarra Shoalhaven Regional Plan 2041.

Table 1: Consideration of Regional Plan Objectives

OBJECTIVES	CONSIDERATION
<b>A PRODUCTIVE AND INNOVATIVE REGION</b>	
<b>Objective 2:</b> <i>Grow the region's Regional Cities</i>	<p>As specified previously, the subject development is directly associated with ongoing operations at the proponents Shoalhaven Starches facility in Bomaderry, of which forms part of the employment land identified within Map 3 of the regional plan.</p> <p>Accordingly, the proposed development is determined to further promote economic growth within the Nowra City centre.</p>
<b>Objective 3:</b> <i>Grow the Port of Port Kembla as an international trade hub</i>	<p>The subject premises forms part of the Port Kembla port area and as such contributes to the growth of the port as a major trade hub. The intent of the proposed development is predominately for the export of ethanol to international markets, contributing to international trade and the regional economy associated with Port Kembla.</p> <p>In accordance with strategy 3.1 and 3.2 under the regional plan, the following is noted:</p> <ul style="list-style-type: none"> <li>• The proposed development does not comprise of any land uses that would conflict with the intended operation of the port;</li> <li>• The traffic generation of the proposal has been assessed within <b>Appendix Z</b>, and is not determined to generate significant traffic; and</li> <li>• The proposed development is to incorporate a number of sustainability initiatives, as indicated within the Green Ports Checklist and Greenhouse Gas Assessment provided in <b>Appendix L</b> and <b>Appendix S</b> respectively.</li> </ul>
<b>Objective 4:</b> <i>Activate regionally significant employment precincts to support new and innovative economic enterprises</i>	<p>In accordance with Map 5 under this objective, Port Kembla is identified as Regionally Significant Employment land item 1.</p> <p>The proposed development is determined to promote economic growth throughout the Regional Plan Area, through supporting operation within the existing facility in Bomaderry and promoting additional job growth associated with the direct operation of the facility.</p>
<b>A SUSTAINABLE AND RESILIENT REGION</b>	
<b>Objective 15:</b> <i>Plan for a Net Zero region by 2050</i>	<p>The potential green house gas generation associated with the proposed development is assessed within the Greenhouse Gas Assessment provided within <b>Appendix S</b>.</p> <p>As outlined within this report, the potential Greenhouse gasses generated by the proposed development are not considered to impact upon the 2050 targets.</p> <p>In order to minimise the generation of greenhouse gasses, the following is noted:</p>

OBJECTIVES	CONSIDERATION
	<ul style="list-style-type: none"> <li>Greenhouse gasses generated in association with electricity usage is largely associated with the dirtiness of the electricity grid, which is outside of the proponent's control, given that the subject premises has limited capacity to allow for renewable energy sources to be located on the premises; <ul style="list-style-type: none"> <li>Where feasible, it will be sought to purchase power from renewable sources, as to offset greenhouse gas generation in association with the proposal.</li> </ul> </li> <li>Greenhouse gas emissions generated by personal vehicles accessing the site during construction and operation of the premises is not something that is in the proponent's control, given the limited availability or accessibility of low carbon vehicles within NSW and Australia;</li> <li>The use of low carbon alternative heavy vehicles (Electric or Hydrogen) is something that has been extensively reviewed in the planning of the project. Given that the cost of purchasing and maintaining these vehicles is significantly greater than that of their diesel counterpart, it is not feasible at this stage to prioritise the use of these vehicles. As such, once this technology is further refined to a point where it is more feasible, it will be considered more fully to integrate these vehicles into the operation of the premises.</li> <li>In the planning of construction of the subject premises, it will be sought to implement sustainable construction procedures, where feasible, such as: <ul style="list-style-type: none"> <li>Efficient construction procedures that reduce demand of heavy vehicles;</li> <li>Regularly servicing of construction equipment; and</li> <li>Use of low carbon and carbon embodied building materials within the premises.</li> </ul> </li> </ul>
<b>A REGION THAT VALUES ITS PEOPLE AND PLACES</b>	
<b>Objective 22:</b> <i>Embrace and respect the region's local character</i>	The proposed development is determined to be consistent with the expected character of the locality, considering the industrial and port focus within the locality.
<b>Objective 23:</b> <i>Celebrate, conserve, and reuse cultural heritage</i>	Both Aboriginal and Non-Aboriginal Cultural Heritage Assessments have been prepared with respect to the proposed development. As is detailed within these assessments, the proposed development is not determined to cause any impact to existing heritage elements and is overall considered to be consistent with the maritime environment that has historically operated within the locality.
<b>A SMART AND CONNECTED REGION</b>	
<b>Objective 27:</b> <i>Protect major freight networks</i>	The proposed development is not directly located on any existing major freight networks; however, it is determined directly benefit from the use of the freight network. The operation of the freight routes is not expected to be

OBJECTIVES	CONSIDERATION
	impacted by the function of the proposed development, noting that the development is expected to generate minimal truck movements. Additionally, the route selected for the shipping of the ethanol has both been assessed on a risk perspective within <b>Appendix FF</b> and has been approved by the National Heavy Vehicle Regulator.

### 3.4 Project Demand & Justification

This project is directly associated with the Shoalhaven Starches facility in Bomaderry, particularly in relation to the Shoalhaven Starches Expansion Project originally granted by the Minister for Planning in 2009. This SSD has been modified on multiple occasions to implement further capabilities of the facility in response to ever expanding markets.

The purpose of this storage facility is to facilitate storage and export of Shoalhaven Starches Beverage Grade Ethanol produced at its Bomaderry facility. The proposed Bulk Liquids Facility provides efficient additional storage and shipping capacity.

Overall, the objectives and benefits of the proposed development are as follows:

- Contribute to the strengthening of the Port of Port Kembla as an international trade hub, as per objective 3 of the Illawarra Shoalhaven Regional Plan 2041;
- In accordance with the studies and assessments prepared to date, it is determined that the proposed development would not result in any significant adverse impacts to the environment or amenity of the surrounding locality;
- Achieve a more sustainable method of shipping ethanol produced by the proponent on the following grounds:
  - The subject site would comprise a reduced road transportation distance from Bomaderry for shipments, as all shipping is currently undertaken from Port Botany. Thereby reducing the potential greenhouse gasses emitted from tankers through the transportation process and reducing the potential population impacted by the transportation of a dangerous good;
  - Transporting ethanol by purpose built A-double tankers, with a capacity of 74,000 litre capacity, reducing truck movements by about 30 percent. Also prime movers with the latest diesel engine technology will reduce greenhouse gas emissions;
    - Manildra considered trucks powered by batteries, hydrogen enhanced diesel and hydrogen fuel cell/electric engines. Each of these technologies is in its early stages and is not considered suitable for this development.
  - The sites port locale enables a streamlined transfer from the proposed storage tank to the shipping vessel, without the need for heavy vehicles.
- Increase the proponent's storage capabilities with respect to increased beverage grade ethanol production at their Bomaderry facility;
- Supplementing the increased production at the facility in Bomaderry further promotes the proponents ongoing investment into rural NSW and the Australian Agriculture Industry;
- The proposed development is expected to generate up to 15.2 full time equivalent positions directly associated with the operation of the development. These positions are determined to comprise of the following:
  - Truck Driver – 8 Full Time Equivalent Positions;
  - Ship Loading – 1.2 Full Time Equivalent Positions;
  - ISO Tank Filling – 3.6 Full Time Equivalent Positions;
  - Maintenance – 0.4 Full Time Equivalent Positions;
  - Lab Technician - 1 Full Time Equivalent Positions; and

- Administration/Management - 1 Full Time Equivalent Positions.

### 3.5 Project Alternatives

In considering potential alternatives to the subject project, there are a number of key aims needing to be achieved by the proponent in order to be able to store and ship the Potable Ethanol produced in the Bomaderry Facility. These key objectives are as follows:

- Quality control over storage tanks and pipelines, in order to ensure that ethanol can retain its beverage grade quality;
- Capability to ship bulk liquids from existing Berth/Jetties;
- Maximisation of efficiency in the Loading/unloading process associated with shipping;
- Minimisation of trucking distance from Bomaderry facility, in order to:
  - Reduce the potentially impacted population in the trucking process of hazardous goods;
  - Minimisation cost associated with the transport of goods via road; and
  - Reduce the potential greenhouse gas production in the transportation of ethanol.

#### 3.5.1 'Do Nothing' Option

The consideration of the on-going expansion and utilisation of the proponents Shoalhaven Starches facility is not congruent with the 'do nothing' option for the proposed project. The impacts of doing nothing are determined to comprise the following:

- The increased potable ethanol production capabilities at the Shoalhaven starches facility would likely go unutilised, noting:
  - Operations at the Bomaderry facility are directly associated with 3 of the proponent's flour mills within NSW, directly influencing and benefitting the rural and agricultural economy of NSW.

#### 3.5.2 Other Existing Ports

The proponent currently ships all ethanol produced at the Bomaderry plant through Port Botany, within inner Sydney, through use/hiring of established multi-purpose bulk liquid storage facilities located within the port environment. The major concerns with the continuation of using multi-purpose terminals at port botany for the proposed development include:

- The product currently stored and shipped from Port Botany is loaded onto ships using pipelines that are also utilised to load other products, causing a risk to beverage grade ethanol quality and incurring costs due to cleaning of the pipelines and reprocessing product which has been contaminated;
- In consultation with NSW Ports, Port Botany currently has limited land availability within the port environment and particular land within proximity to useable bulk liquid wharfs that would enable the establishment of the proposed development;
- Given the expected number of vehicle movements associated with the transportation of ethanol from Bomaderry, shipping from Sydney is determined to result in the following concerns:
  - Port Botany is located approximately 155km from the Shoalhaven Starches, compared to an approximately 65.8km to the site in Port Kembla. Shipping to Port Kembla is therefore significantly more efficient than shipping to Port Botany and would therefore reduce potential greenhouse gas impacts associated with the proposal; and
  - The transport route to Port Botany is expected to cause a greater number of impacted persons, as indicated within the Transport Study provided in **Appendix FF**, conducted in accordance with HIPAP 11.

### 3.5.3 Port Kembla Alternatives

Port Kembla, as existing, is a highly developed port environment with limited available land for use. Accordingly, in consultation with NSW Ports in the when the project was initially conceived, in addition to the subject premises, the following sites were identified as potentially developable sites for the purposes of the proponent:

- Land directly to the east of the subject premises;
- Land Directly to the west of the Subject Premises, which has been allocated for storage of fill material to be used as fill for the Port Kembla Outer Harbour Development (refer fig. 2); and
- Land to the South of the site, on the southern side of Darcy Road, which has been previously occupied by a fertiliser plant and copper processing plant.

In consideration of the viability of the abovementioned options, it is determined that the subject premises was the most viable on the following grounds:

- While the land to the east has been received with regard to the potential design of the facility, for which it was determined that it would not be possible to accommodate the required storage capacity for the premises;
- The potential land to the West of the premises is located in a less convenient location in relation to the Port Kembla bulk liquid berth, therefore requiring a greater pipeline distance in order to export ethanol; and
- As previous, the land along the southern side of Darcy Road would require a greater pipeline length in order to export ethanol. Additionally, this land is expected to be located within closer proximity to sensitive land uses, when compared to the subject premises. It is therefore considered that additional works and infrastructure may be required in order to offset the potential air quality or noise impacts generated by the proposed development.

### 3.5.4 Preferred Option

In accordance with all the above, the subject site is determined to be the preferred option for the purposes of the proposed development on the following grounds:

- Port Kembla as a whole is the most closely located international shipping port to the proponent's facility in Bomaderry, minimising the required road-based shipping distance and reducing the potential sensitive receivers;
- The subject premises is the closest available site to the bulk liquid berth within Port Kembla, minimising the potential pipeline distance; and
- The development of the site per the proponents' specifications allow for the quality of the ethanol to be controlled through all stages of the process, being the production, transportation, storage and shipping.

## 4.0 PROPOSED DEVELOPMENT

### 4.1 Staging

As can be noted from the provided drawing package, the proposed development is to be undertaken in two stages, as generally described below.

Table 2: Staging Summary

STAGE 1	STAGE 2
<ul style="list-style-type: none"><li>• Footings for Six (6) x 4ML Potable Ethanol Storage tanks;</li><li>• Four (4) x 4ML Potable Ethanol Storage tanks;</li><li>• Associated bunding around the storage tanks to support both stage 1 and 2 tank capacity;</li><li>• Two (2) x 300mm diameter pipelines;</li><li>• Office/administration building;</li><li>• Workshop/ Storage Building;</li><li>• Loading/ Unloading Gantry Structure (2-Bay) and washdown area;</li><li>• Site access and manoeuvrability for up to a A-Double service vehicle; and</li><li>• Car parking for up to eight (8) cars, including 1 PWD space.</li></ul>	<ul style="list-style-type: none"><li>• An additional two (2) x 4ML Potable Ethanol Storage Tanks.</li></ul>

Accordingly, this development application is to be for the entirety of the proposed works on the site, with the tanks intended to be constructed in separate stages.

### 4.2 Development Description

Overall, the proposed development is for a port terminal, involving the establishment of a bulk liquid storage facility, with associated pipelines and buildings. The proposed development is intended to receive, store and export potable ethanol, produced by Manildra's Bomaderry Plant. The works to be undertaken as part of this proposal are as follows:

- Six (6) x 4ML Potable Ethanol Storage tanks, with a combined capacity of approximately 24ML;
- 1.8m high bund walls, and 600mm high intermediary bund walls;
- Two (2) x 300mm diameter pipelines, running between the subject site and berth 206 of the existing wharf structure;
- Architecturally designed on-site office/administration building;
- Ancillary Workshop/ Storage, drivers hut, switch room and substation buildings;
- Loading/ Unloading Gantry Structure (2-Bay) and Washdown area with associated gantry structure;
- 5m wide landscape buffer along the Foreshore Road frontage;
- Site access and manoeuvrability for up to a A-Double service vehicle; and
- Car parking for up to eight (8) cars, including 1 PWD space.

The overall site layout of the premises is outlined in Figure 7. An elevated perspective of the site is also provided within Figure 8.



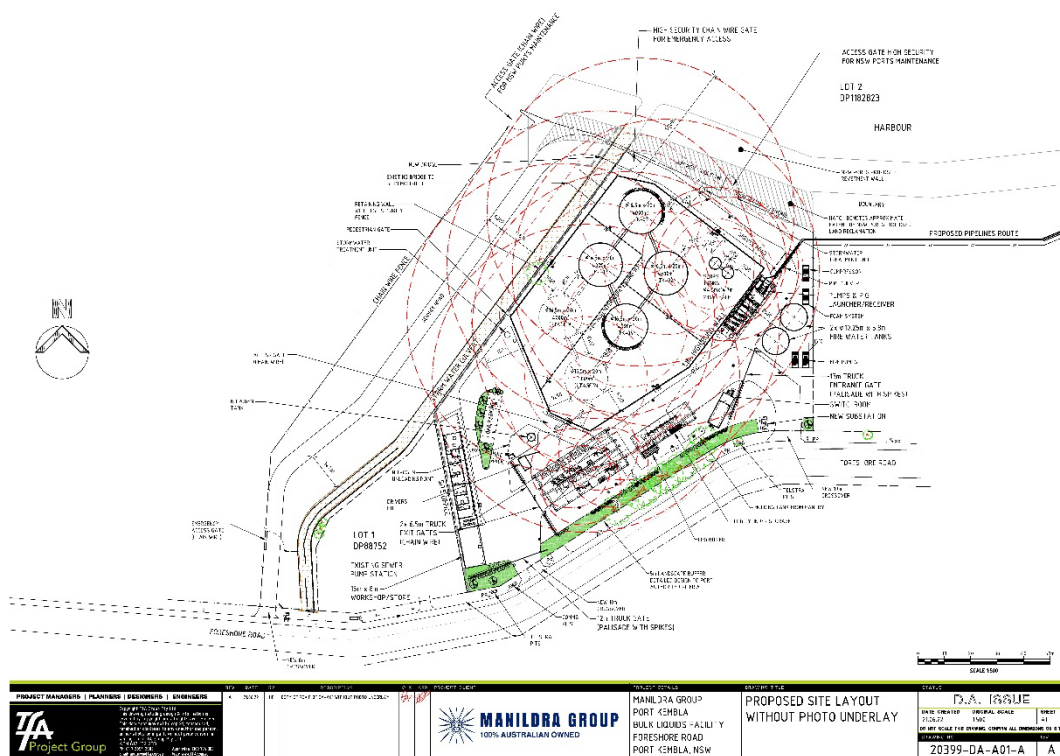


Figure 7: Proposed site layout (excerpt from TfA drg no. 20399-DA-A01-A)



Figure 8: Elevated Perspective of Premises

#### 4.2.1 Site Operations

The proposed facility is to operate 24 hours per day and is to be largely unmanned, with monitoring of the facility being undertaken remotely from the proponent's facility in Bomaderry. Personnel are predominately required on the site for maintenance and delivery purposes, for which it is intended that approximately 1-3 persons would be located on site at any one time. Additional people may be found on site during periods surrounding shipping of the product, associated with testing the product and loading the product to the ship for export.

Ethanol is to be delivered to the site from the proponent's facility in Bomaderry approximately 65 times per week. Each load is to comprise an average capacity of 74,000L, with an in-loading estimate of 250 million litres of ethanol

passing through the site per year. The unloading process is to be entirely automated, as to enable delivery drivers to effectively operate the system without need for on-site operators.

The premises is intended to distribute ethanol via both the ISO tanks (approx. 50 million litres per year) and the wharf, via the proposed pipeline (approx. 200 million litres per year). ISO tank distribution is to be either transported to Port Botany for shipping or utilised locally. Distribution from Berth 206 at the Port Kembla Wharf is to occur every one to two weeks and loading is to occur via a proposed pipeline that runs between the subject site and the wharf. The pipeline route is to generally conform to the existing and proposed routes currently running along the foreshore to the wharf.

#### 4.2.2 Built Form

The overall built form of the proposed development is to comprise of multiple separate building elements, noting the proposed establishment of an office space, as well as ancillary operational structures, including:

- Workshop;
- Drivers hut;
- Loading/unloading area;
- Washdown area;
- Pumps & Pig Launcher/Receiver (associated with pipeline operation);
- Switch room;
- Substation;
- Fire water tanks; and
- Nitrogen Tank.

The overall design of the proposed development has had particular regard to the maritime nature of the surrounding locality, seeking to utilise materials and finishes that improve the visual articulation of the premises and reduce the potential maintenance cost that would otherwise be associated with seaside developments.

The view of the subject development from the foreshore road frontage of the site is illustrated in Figure 9 below.



*Figure 9: Foreshore Road Perspective of Premises*

The office space is largely intended to serve as meeting space, where the proponent would hold meetings with prospective buyers and all for testing of the product to be undertaken on the premises, as well as other ancillary functions associated with the operation of the premises. Notably, the office is to support the following facilities:

- 1 Office, seating up to 2 persons;
- A meeting room;
- A sensory room (for ethanol testing);
- A laboratory;
- Unisex amenities;



- A store room;
- A client lounge; and
- Outdoor entertainment space.

The design intent of the office space is intended to maximise internal and external sightlines that will benefit the site, while also softening the overall appearance of bulk. Particularly, the meeting room is to include a large feature window toward the east framing views of the entry & high-traffic functional areas of the site. This window provides architectural relief in the façade, combining with the wrap-down roof to visually separate the greater Office Building & Workshop elements & provide a balanced overall composition of the east elevation. The client lounge is to run in the north-south direction to allow this room & eastern veranda/corridor to open out to a roofed outdoor area (effectively extending the end room) to the northern outlook of the bay.

Window blades are supported along the eastern elevation of the building, to provide sun protection during summer months, while also improving the overall articulation of the eastern façade. The blades also alter in frequency as they approach the outdoor entertainment space, providing visual separation between the carpark and the terminal, while also providing an uninterrupted view of the harbour.

The selection of colour and material used throughout the office development are intended to be generally in accordance with the requirements of the Port Kembla Development Code.

#### **4.2.3 Bulk Liquid Storage/Handling**

Six storage tanks are proposed for the development. Each tank will be 16.5m in diameter and 20m high, with a capacity of 4ML. Total storage capacity will be 24 ML. The proposed tanks are to be designed to a storage classification of 3PGII under the Australian Dangerous Goods Code. The tanks are to be constructed of stainless steel and fully sealed, as to ensure that the ethanol maintains the highest potential level of quality. The space above ethanol in the tanks will be blanketed by nitrogen as a safety measure.

The proposed pipeline that runs between the subject site and berth 206 is to comprise of 2 x 300m diameter lines, running between the terminal site and the wharf at jetty no. 4, for an approximate distance of 745. The pipelines are to be constructed of stainless steel and are to run above ground from the terminal to the area controlled by RMS NSW where it will run underground until it emerges to traverse berth 206 above the berth deck. One of the proposed lines are to be utilised as the feed line to the ships, with the other operating as the return line to the storage facility, allowing the system to be flushed of unutilised ethanol. Any flushed ethanol produced through the return line is to be stored separately to the primary ethanol store, in slops tanks and returned to the Bomaderry facility for re-processing/repurposing. The pipelines will be nitrogen filled when not in use as a safety measure.

#### **4.2.4 Access and Parking**

The proposed development provides a total of 3 crossovers, supporting access for both light vehicles and service vehicles up to A-double in size. A description of the proposed crossovers are as follows:

- Western Crossover: 6 wide crossover, supports egress only for vehicles utilising the service road (Vehicles up to HRV in size);
- Central Crossover: 10 wide crossover, supports access and egress for light vehicles and will be egress only for heavy vehicles; and
- Eastern Crossover: 10 wide crossover, supports access only for heavy vehicles.

The internal access arrangement supports the primary service vehicle access being via the eastern most crossover and passing through the access gates for deliveries before exiting the site via the central crossover. The site also supports a minimum 6m access road located along the perimeter of the site, supporting unobstructed access for firefighting emergency vehicles, being the largest expected vehicle utilising this road.

As specified previously, the operation of the site will be predominantly handled 1-5 people at any one time. In accordance with the Port Kembla Development Code, parking is to be provided at a rate of 1 space per member of staff or contractor plus 10%: plus an additional space for visitors, for operations with less than 10 members of staff. In

terms of the proposal, this would require the provision approximately 6.5 or 7 spaces, through rounding up, of which a total of 8 spaces, including 1 PWD space has been provided.

#### 4.2.5 Stormwater and Drainage

As outlined within the Conceptual Stormwater Management Plan, provided in **Appendix Q**, the stormwater management of the subject site has been split into the ethanol storage areas and the balance of the site.

As shown on the development plans provided in **Appendix G**, the proposed bulk liquid storage tanks have been fully bunded by a 1.8m high wall around the perimeter of the storage tanks, with 0.6m high intermediate walls established within the overall bunding area, effectively splitting the treatment area into 3 separate areas with the potential for two tanks per area. Ethanol spills collected within the bunding area will be pumped to 2 x 236kL Slops tanks for storage and subsequent removal. Generated stormwater that has been confirmed to not contain any ethanol will be directed to the on-site stormwater system.

The ethanol loading gantries and pig launcher will also be bunded and covered, as to prevent stormwater runoff. Potential spills will be conveyed to gully pits which will convey spills to a 30KL holding tank. The contents of the holding tank will then be pumped to the abovementioned slops tanks for further handling.

Within the primary development area, any stormwater generated outside the bunded area will be collected and directed towards a Gross Pollutant Trap unit for treatment, before discharging to the identified lawful points of discharge. Stormwater captured from roofed areas (Office, Workshop, etc.) will be stored in stormwater tanks for re-use within the site, predominately for irrigation in the proposed landscaping areas.

The proposed service road to the west of the drainage channel is to be graded to direct stormwater to the drainage channel and/or divert generated stormwater to the outer harbour area.

In addition to above, the site is identified to comprise a flood inundation level of approximately 3.0m AHD (3.9m PKHD) during a 1% AEP flood event. As such, ground levels of the high-risk spill areas and habitable buildings will be raised to a minimum level of 3.0m AHD (3.9m PKHD), as to ensure that a level of flood immunity is achieved for these identified areas. The trafficable areas will additionally be raised, but to a level maintaining a maximum inundation level of 300mm during a 1% AEP flood event.

#### 4.2.6 Landscaping/Vegetation

As can be noted from the proposed design, the proposed development is provided with landscaping adjacent to the frontage of the subject site, for width of 5m, and around the perimeter of the proposed carparking area. The front façade of the proposed workshop is additionally intended to support a vegetation climbing structure, allowing for the establishment of a 'green wall' on the subject site. The planting types indicated comprise of ground covers, accent plantings and shade trees which conforms to the Port Kembla Development Code throughout the premises, softening the overall built form of the development, and increasing the overall amenity of the site.

The existing mature trees located on the subject site are largely to be retained for the purposes of the proposed development works. However, some existing vegetation is proposed for removal on the site, as to facilitate the overall development of the subject site. The removal of this vegetation is overall considered to be minor in nature and ancillary to the overall development of the site.

#### 4.2.7 Signage

As can be noted on the provided drawing package, business identification signage is proposed on the facades of the bulk liquid storage tanks and the loading/unloading gantry, as well as a directional sign adjacent to the frontage of the subject site. The proposed signage is to be for business identification signage purposes, illustrating 'Manildra Group' as the operator of the premises. The proposed gantry sign is to comprise dimensions of 2m x 8.4m and a total sign face area of 16.8m<sup>2</sup>. The location of the sign is illustrated in Figure 10 below.

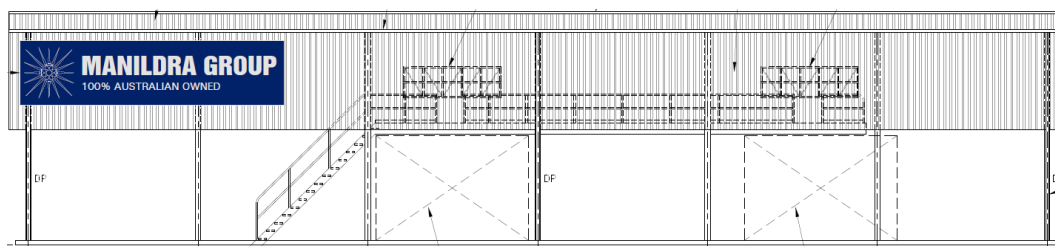


Figure 10: Gantry – Indicative Sign Location

Tank signage is to be located on proposed tanks 1 & 3 and is to be orientated towards the north-eastern and western elevations respectively. Each of the individual signs are to comprise dimensions of 6m x 4.8m and a total area of approximately 28.8m<sup>2</sup>. An indicative tank sign location, as shown on tank 1, is outlined in Figure 11 below.

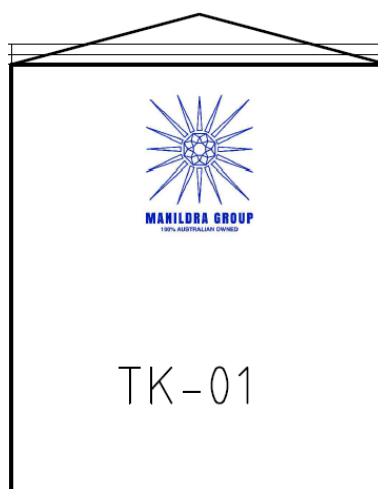


Figure 11: Tank – Indicative Sign Location

The directional signage is to be located adjacent to the central and western crossovers proposed for the subject site. Both directional signs are to be an NSW Ports Blade sign, comprising dimensions of 4.86m x 2.45m.

Additional personnel signage is also to be located at the perimeter road gate, to the west of the drainage corridor, as to inform of access arrangements to the site.

#### 4.2.8 Servicing

The site is currently benefited with access available to Council's reticulated water and sewer network, located beneath Foreshore Road. Accordingly, the site will be provided with connection to the reticulated water and sewer network, as to facilitate proper management of water and sewer on the subject site.

Operational waste generated on the subject site is largely expected to be minimal considering that the premises will largely be unmanned, with maintenance waste expected to be disposed of off-site site. The site is to support a small waste enclosure within proximity to the parking area on the site, which is of a size to support the housing of 2 x 240L wheelie bins. The waste store is cable of being accessed by a service vehicle, however, given that that direct access to the site is generally blocked by an access gate, access allowances (access cards) will need to be provided to the preferred waste contractor.

#### 4.2.9 DA Drawings

Refer to **Appendix G** for the design DA drawing package of the proposal. For reference, the drawing titles and plan numbers are shown in Table 3 below.

Table 3: Drawing Reference List

DRAWING NAME	DRAWING NUMBER
Proposed Pipeline Route & Key Plan	20399-DA-P01
Proposed Site Operations	20399-DA-P02
Proposed Pipeline Route Sheet 1	20399-DA-P03
Proposed Pipeline Route Sheet 2	20399-DA-P04
Proposed Pipeline Route Sheet 3	20399-DA-P05
Proposed Site Layout	20399-DA-A01
Truck Movement Swept Paths 25m B-double	20399-DA-A02
Truck Movement Swept Paths 32m A-double	20399-DA-A03
Proposed Tank Farm Layout	20399-DA-A04
Proposed Tank Farm Elevations	20399-DA-A05
Truck Movement Swept Paths 19m Nitrogen Tanker	20399-DA-A06
Truck Movement Swept Paths 12.5m Fire Service Vehicle	20399-DA-A07
Demolition Plan	20399-DA-A08
As 1940 Separation to Boundary & Off Site Protected Places	20399-DA-A09
Proposed Site Location Fire Services	20399-DA-F01
Proposed Fire Services and Manifest Layout	20399-DA-F02
Proposed Berth Fire Protection System	20399-DA-F03
Site Signage Drawing	20399-DA-Y01
Site Office & Workshop Floor Plan	20399-DA-B01
Site Office & Workshop Elevations	20399-DA-B02
Load in/Out Gantry Floor Plan	20399-DA-B11
Load in/Out Gantry Roof Plan	20399-DA-B12
Load in/Out Gantry Elevations	20399-DA-B13
Drivers Hut Plan & Elevations	20399-DA-B21
Wash Bund Canopy Plans	20399-DA-B31
Wash Bund Canopy Elevations	20399-DA-B32
Pump and Pig Station Plans	20399-DA-B41
Pump and Pig Station Elevations	20399-DA-B42
Conceptual Stormwater Management Plan	20399-DA-C01
Security Fencing Details	20399-DA-C90
Proposed Landscaping Plan	20399-DA-L01

DRAWING NAME	DRAWING NUMBER
Site Hazardous Areas	20399-DA-Z01
Gantry Hazardous Areas	20399-DA-Z02
Wharf Hazardous Areas	20399-DA-Z03

## 5.0 STATUTORY CONTEXT

The statutory considerations made with respect to the proposed development are relative to the matters outlined within Environmental Planning and Assessment Act, the scoping report prepared in order to receive the SEAR's and the relevant guidelines provided for the preparation of an application for a State Significant Development. A summary of the statutory considerations applied to the assessment of the proposed development have been provided within Table 4 below.

Table 4: Summary of Mandatory Statutory Considerations

STATUTORY REFERENCE	CONSIDERATIONS
<b>Environmental Planning and Assessment Act 1979</b>	
Section 1.3	<p>This section outlines the object of the act. In consideration of these object, the following are determined to be relevant to the proposed development:</p> <ul style="list-style-type: none"> <li>• <i>To promote the social and economic welfare of the community and a better environment by the proper management, development, and conservation of the State's natural and other resource;</i></li> <li>• <i>To facilitate ecologically sustainable development by integrating relevant economic, environmental, and social considerations in decision-making about environmental planning and assessment;</i></li> <li>• <i>To promote the orderly and economic use and development of land;</i></li> <li>• <i>To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities, and their habitats;</i></li> <li>• <i>To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage);</i></li> <li>• <i>To promote good design and amenity of the built environment; and</i></li> <li>• <i>To provide increased opportunity for community participation in environmental planning and assessment.</i></li> </ul>
Section 4.15	<p>The following under this section is determined to be relevant to the proposed development:</p> <ul style="list-style-type: none"> <li>• Relevant Environmental Planning Interests, including: <ul style="list-style-type: none"> <li>○ <i>State Environmental Planning Policy (Planning Systems) 2021;</i></li> <li>○ <i>State Environmental Planning Policy (Resilience and Hazards) 2021;</i></li> <li>○ <i>State Environmental Planning Policy (Transport and Infrastructure) 2021; and</i></li> <li>○ <i>State Environmental Planning Policy (Industry and Employment) 2021.</i></li> </ul> </li> <li>• Relevant Development Control Plans; <ul style="list-style-type: none"> <li>○ Section 2.11 of the Planning Systems SEPP prevents the application of Development Control Plans to State Significant Development.</li> </ul> </li> <li>• The regulations;</li> <li>• Social, economic and environmental impacts;</li> <li>• Any Submission made in accordance with the act or regulation; and</li> <li>• Public interest.</li> </ul>
Section 4.24	<p>The premises forms part of land that is subject to a part 3A concept approval for the Port Kembla Outer Harbour (MP08_0249).</p> <p>Consistency with this concept approval is reviewed in subsequent sections on this report.</p>

STATUTORY REFERENCE	CONSIDERATIONS
<i>Section 4.42</i>	<p>This section outlines the relevant approvals that are not required for developments classified as state significant developments. Upon consideration of the types of approvals applied under this part, the following permits were determined to be applicable to the proposed development:</p> <ul style="list-style-type: none"> <li>• <i>An environment protection licence under Chapter 3 of the Protection of the Environment Operations Act 1997 (for any of the purposes referred to in section 43 of that Act); and</i></li> <li>• <i>A consent under section 138 of the Roads Act 1993.</i></li> </ul>
<b>Environmental Planning and Assessment Regulation 2021</b>	
<i>Schedule 3</i>	Proposed development is to comprise of storage and shipping capabilities in excess of the identified Designated Development thresholds.
<b>Other Relevant Legislation</b>	
<i>Coastal Management Act 2016</i>	The subject site is identified to be located within the Coastal Environment and Coastal Use area under the Act. As the coastal management SEPP (now chapter 2 of the Resilience and Hazards SEPP) has been prepared to forward the objectives of this act, it is considered that assessment against this Environmental Planning Instrument would sufficiently satisfy the aims of this act.
<i>Protection of the Environment Operations Act 1997</i>	The proposed development is identified to require an Environmental Protection Licence (EPL) under the Protection of the Environment Operations Act 1997. Consideration of the of the relevant environmental matters of the proposed development is considered within this report and the appropriate EPL will be sought upon approval of this application.
<i>Roads Act 1993</i>	Consent for the establishment of road openings in association with the development has been sought from Wollongong City Council and has been provided within <b>Appendix HH</b> .
<b>Environmental Planning Instruments</b>	
<i>State Environmental Planning Policy (Planning Systems) 2021</i>	<p>Chapter 2 – State and Regional Development</p> <ul style="list-style-type: none"> <li>• This part of the SEPP applies to State Significant Development declared under the chapter 5 of the Transport and Infrastructure SEPP as though it was declared under this SEPP;</li> <li>• Section 2.8A – Applicability of Independent planning commission as consent authority to be confirmed upon finalisation of application exhibition; and</li> <li>• Section 2.11 – this section of the SEPP excludes the application of development control plans in the assessment of state significant development.</li> </ul>
<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>	<p>Chapter 2 – Coastal Management</p> <ul style="list-style-type: none"> <li>• Section 2.10 – Subject site is identified to be located within the coastal environment area identified under this part; and</li> <li>• Section 2.11 – The subject site is identified to be located within the coastal use area identified under this part.</li> </ul> <p>Chapter 3 – Hazardous and Offensive Development</p> <ul style="list-style-type: none"> <li>• Section 3.7 – consideration of departmental guidelines: <ul style="list-style-type: none"> <li>○ Applying SEPP 33;</li> <li>○ HIPAP No. 2 – Fire Safety Study Guidelines;</li> <li>○ HIPAP No. 4 – Risk Criteria for Land Use Planning;</li> <li>○ HIPAP No. 6 – Guidelines for Hazard Analysis;</li> </ul> </li> </ul>

STATUTORY REFERENCE	CONSIDERATIONS
	<ul style="list-style-type: none"> <li>○ HIPAP No. 8 – HAZOP Guidelines; and</li> <li>○ HIPAP No. 11 – Route Selection.</li> </ul> <p>Chapter 4 – Remediation of Land</p> <ul style="list-style-type: none"> <li>• Section 4.7 – The proposed development involves a change of use and has historically operated as a type referred to in table 1 of the Contaminated land guidelines.</li> </ul>
<p><i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i></p>	<p>Chapter 2 – Infrastructure</p> <ul style="list-style-type: none"> <li>• Section 2.96 – the proposed development comprises an increase to vehicle movements over a level crossing;</li> <li>• Section 2.97 – subject site is located adjacent to land dedicated to a rail corridor; and</li> <li>• Section 2.121 – proposed development is a potentially traffic generating development.</li> </ul> <p>Chapter 5 – Three Ports – Port Botany, Port Kembla, Newcastle</p> <ul style="list-style-type: none"> <li>• Section 5.22 – Proposed development comprises of earthworks;</li> <li>• Section 5.27 – proposed development is classified as state significant development; and</li> <li>• Section 5.29 &amp; 5.30 – proposed development comprises the removal of existing on-site vegetation.</li> </ul>
<p><i>State Environmental Planning Policy (Industry and Employment) 2021</i></p>	<p>Chapter 3 – Advertising and Signage</p> <ul style="list-style-type: none"> <li>• Section 3.6 – The proposed development comprises signage that can be displayed with development consent and is visible from the public realm.</li> </ul>
<p><b>Development Control Plans</b></p>	
<p><i>Wollongong Development Control Plan 2009</i></p>	<p>The following sections of the Wollongong DCP were identified as relevant to the assessment of the proposed development by Wollongong City Council, as part of their response to the SEAR's request.</p> <ul style="list-style-type: none"> <li>• Chapter E03 - Car Parking Access Servicing Loading Facilities;</li> <li>• Chapter E07 - Waste Management;</li> <li>• Chapter E10 - Aboriginal Heritage;</li> <li>• Chapter E11 - Heritage Conservation;</li> <li>• Chapter E12 - Geotechnical Assessment of Slope Instability;</li> <li>• Chapter E13 - Floodplain Management;</li> <li>• Chapter E14 - Stormwater Management;</li> <li>• Chapter E16 - Bushfire Management;</li> <li>• Chapter E17 - Preservation and Management of Trees and Vegetation;</li> <li>• Chapter E18 - Threatened Species Impact Assessment;</li> <li>• Chapter E19 – Earthworks;</li> <li>• Chapter E20 - Contaminated Land Management;</li> <li>• Chapter E22 - Soil Erosion and Sedimentation; and</li> <li>• Chapter E23 - Riparian Land Management.</li> </ul> <p>However, in accordance with section 2.10 of the Planning Systems SEPP, it is specified that:</p> <p><i>Development control plans (whether made before or after the commencement of this Policy) do not apply to –</i></p> <ol style="list-style-type: none"> <li><i>State Significant Development, or</i></li> <li><i>development for which a relevant council is the consent authority under section 4.37 of the Act.</i></li> </ol>



STATUTORY REFERENCE	CONSIDERATIONS
	Accordingly, as the proposed development is classified as state significant development, assessment against the Wollongong DCP is not considered to be applicable to the proposed development. However, it has been sought to provide an assessment against the relevant sections of the DCP in order to demonstrate consistency with local planning policy.
<b>Other Relevant Considerations</b>	
<i>Port Kembla Development Code</i>	Assessment against the port Kembla Development code is a requirement in order to receive landowners' consent/permission to lodge from NSW Ports.

## 5.1 Environmental Planning & Assessment Act 1979 (EP&A Act)

Section 4.2 of the EP&A Act states that if an environmental planning instrument specifies development may not be carried out except with development consent, consent must be obtained from a consent authority under Part 4 of the Act. As is outlined under chapter 5 of the State Environmental Planning Policy (Transport and Infrastructure) 2021, the proposed development is determined to require development consent for State Significant Development, as described under section 5.5.2 of this report.

For the purpose of assessing an application for State Significant Development, division 4.7 of the act outlines the relevant assessment requirements in considering development these types of development applications. Section 4.40 outlines that assessment under section 4.15 is applied, as is applicable to all other development consents. Assessment against matters applied under section 4.15 is considered to be appropriately considered and assessed within section 7.0 of this report.

### 5.1.1 Outer Harbour Concept Approval

As outlined within section 2.4.2 of this report, the subject site is identified to be subject to a Part 3A approval for the Port Kembla Outer Harbour. In accordance with section 4.24 (2) of the EP&A Act requires that any subsequent development application on land subject to an in-force concept approval must not be inconsistent with the consent granted for the concept approval. In accordance with this, it is considered that the proposed development would be consistent with the outer harbour approval on the following grounds:

- The outer harbour concept approval allows for land to be utilised for multipurpose terminals, including for the export of bulk liquid cargoes, as is the subject of the proposed development;
  - The concept plan for the project additionally does not provide and demarcation between the multi-purpose and container terminals proposed for the purpose of the development.
- The traffic limits applied under the outer harbour approval have been considered as part of the Traffic impact Assessment provided in **Appendix Z**, for which the proposed development is considered to be consistent with;
- Noise generated by the proposed development must be in accordance with the New South Wales Industrial Noise Policy;
  - This policy has subsequently been superseded by the Noise Policy for Industry 2017, of which has been assessed as part of the Noise Impact Assessment provided in **Appendix U**.
- Any project within the outer harbour approval area is required to prepare and submit a Noise Verification Monitoring Program to the director general. This is something that can be undertaken post approval of the subject SSD;
- The safeguards listed within appendix A of the Outer Harbour PHA must be incorporated into any future facility. These matters will be ensured to be implemented on the subject premises;

- Condition 2.28 of the outer harbour approval requires that a comprehensive hazard audit be carried out within 12 months of the commencement of operations of each project. This will be undertaken, and appropriate conditioning is able to be provided as part of this development consent to ensure this; and
- The proposed pipeline route, while proposed to run to Jetty No.4 which is proposed for demolition, are not considered to be inconsistent with the outer harbour approval, as the outer harbour approval does not preclude the proposed pipelines;
  - Additionally, it should be noted that it has been confirmed by NSW Ports that Jetty No.4 is not intended to be demolished for the life of the proponent's lease at the subject premises. Should the proponent wish to extend their lease and NSW Ports wish to act on this part of the Outer Harbour Approval, suitable measures would be established to relocate the pipeline to run to any multi-purpose berths established as part of the outer harbour approval.

Overall, given the above, it is considered that the proposed development is consistent with the relevant matters applied as part of the outer harbour concept approval and no modification to the outer harbour approval is considered to be necessary to facilitate the undertaking of the proposed development at the subject premises.

## 5.2 Environmental Planning and Assessment Regulation 2021 (EP&A Regs)

Schedule 3 of the EP&A Regs outlines types of development that are considered to be Designated Development. Under this schedule, 'Chemical Storage Facilities' and 'Shipping Facilities' are identified as designated development where exceeding the thresholds identified below.

- Chemical Storage Facilities**
- (1) *Development for the purposes of a chemical storage facility is designated development if the facility-*
    - (a) *stores or packages chemical substances in containers, bulk storage facilities, stockpiles, or dumps, and*
    - (b) *has a total storage capacity of more than—*
      - (i) *20 tonnes of pressurised gas, or*
      - (ii) *200 tonnes of liquefied gases, or*
      - (iii) *2,000 tonnes of chemical substances.*
  - (2) *Development for the purposes of a chemical storage facility is designated development if the facility is located—*
    - (a) *within 40 metres of a natural waterbody, or*
    - (b) *within 100 metres of a wetland, or*
    - (c) *in an area of high watertable or highly permeable soil, or*
    - (d) *in a drinking water catchment, or*
    - (e) *on a floodplain.*

- Shipping Facilities**
- Development for the purposes of a wharf or wharf-side facility is designated development if cargo is loaded onto or unloaded from vessels, or temporarily stored, at the wharf or facility at a rate of more than—*
- (a) *for a wharf or facility handling goods classified in the ADG Code—*
    - (i) *150 tonnes per day, or,*
    - (ii) *5,000 tonnes per year, or*

(b) otherwise—

(i) 500 tonnes per day, or

(ii) 50,000 tonnes per year.

To this extent, the proposed development is determined to constitute designated development, considering that:

- The total storage capacity of the premises is 24ML or 18,943 tonnes;
- The subject site directly abuts the Port Kembla outer harbour and is identified to be subject to flooding; and
- It is estimated that the development would result in the shipping of up to 200ML or 157,860 Tonnes of ethanol per year via the pipeline running to the Berth.

To this extent, it is determined that the proposed development would be classified as designated development in accordance with Part 4 of the EP&A Act.

### 5.3 State Environmental Planning Policy (Planning Systems) 2021

The State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP) comprises the environmental planning provisions associated with the pathway for certain planning pathways under the act and operates as the consolidation of the now superseded State and Regional Development SEPP, Aboriginal Land SEPP and Concurrences and Consents SEPP. The Planning System SEPP comprises of 3 parts, as outlined below:

- Chapter 2 – State and Regional Development;
- Chapter 3 – Aboriginal Land; and
- Chapter 4 – Concurrences and Consents;

For the purpose of this report, review and assessment of the provisions applied under chapter 2, associated with State and Regional Development, has been undertaken for the proposed development. This assessment has been undertaken within section 5.3.1 of this report.

#### 5.3.1 State and Regional Development

Chapter 2 of the Planning Systems SEPP relates to the identification and assessment of development that is potentially identified as being state and regionally significant development.

For the purpose of the proposed development, as the subject premises is located within the lease area under Chapter 5 of the Transport and Infrastructure SEPP, the identification of State Significant Development is determined to fall into this SEPP. Accordingly, as is outlined within section 5.27 of the Transport and Infrastructure SEPP and sections 5.1 and 5.5.2 of this report, the proposed development is determined to trigger State Significant Development. As such, in accordance with section 5.27 (2) of the Transport and Infrastructure SEPP, this chapter of the planning systems SEPP applies to all state significant development as though it was declared under this SEPP.

### 5.4 State Environmental Planning Policy (Resilience and Hazards) 2021

The State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP) comprises the environmental planning provisions associated with the management of risk and hazard associated with certain developments and land features and operates as the consolidation of the now superseded Coastal Management SEPP, SEPP 33, and SEPP 55. The Resilience and Hazards SEPP comprises of 3 parts, as outlined below:

- Chapter 2 – Coastal Management;
- Chapter 3 – Hazardous and Offensive Development; and
- Chapter 4 – Remediation of Land;

For the purpose of this report, review and assessment of the provisions applied under all sections of the SEPP has been undertaken for the proposed development. This assessment has been undertaken within section 5.4.1, 5.4.2 & 5.4.3 of this report.

### 5.4.1 Coastal Management

Chapter 2 of the Resilience and Hazards SEPP aims to manage development and protect the environmental assets associated with coastal environments, as to forward the objectives of the Coastal Management Act. This chapter ensures that all development within a coastal environment is appropriately located, designed, and managed to minimise impacts to coastal locales.

#### 5.4.1.1 Coastal Environment Area

In accordance with the coastal environment area map under chapter 2 of the Resilience and Hazards SEPP, the subject premise is identified to be located within the Coastal Environment Area, as identified by Figure 12 below.

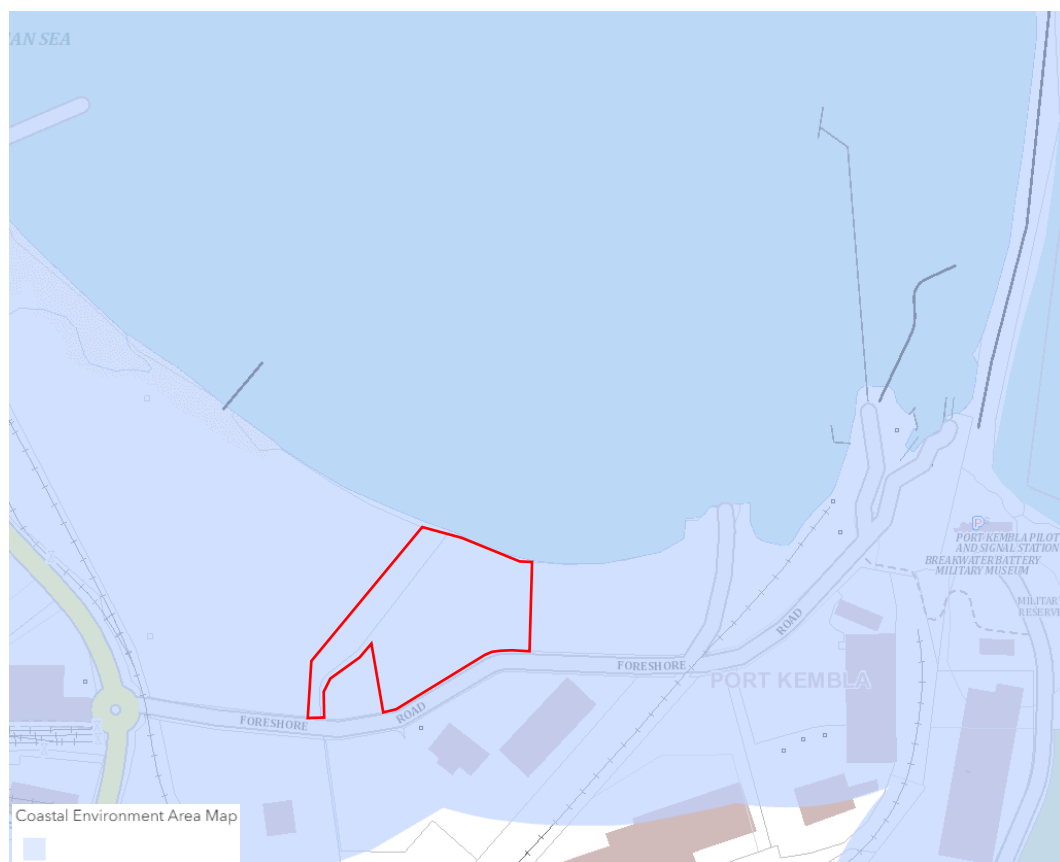


Figure 12: Coastal Environment Area Extract

In accordance with this designation, section 2.10 of the SEPP specifies that development consent must not be granted without due consideration of the adverse impacts of the proposed development on the coastal environment. The particular matters for consideration have been assessed in Table 5 below.

Table 5: Assessment of Coastal Environment Area Principals

PRINCIPLES	RESPONSE
(1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has considered whether the proposed development is likely to cause an adverse impact on the following—	

PRINCIPLES	RESPONSE
(a) <i>the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,</i>	The proposed development has been designed to minimise any potential offsite impacts in association with the development. All potential contaminants generated by the development will be appropriately captured and treated.
(b) <i>coastal environmental values and natural coastal processes,</i>	The proposed development is consistent with the existing values of the subject coastal environment, having regard to the fact that the intent for the subject and adjoining sites are for the purpose of port operations. Additionally, the proposed development is determined to be located outside of the direct coastal foreshore of the harbour, minimising the impact of the natural coastal processes. It is noted that as part of the Stormwater Management Plan provided in <b>Appendix Q</b> , an assessment of the expected climate change impacts on the proposed development has been considered.
(c) <i>the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,</i>	The marine estate identified to be potentially impacted by the proposed development is determined to be the Port Kembla outer harbour. As has been outlined previously, in order to protect the water quality of the outer harbour, the proposed development is to collect and treat all stormwater generated at the site prior to discharge to the adjoining drainage channel. Additionally, all areas with potential for ethanol spills are to be bunded, with stormwater generated within the bunded areas to be tested before being directed to the stormwater network, or where ethanol is detected, to the Slops tanks for reprocessing at Bomaderry.
(d) <i>marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands, and rock platforms,</i>	As supported by the provided stormwater management plan, the proposed development will not pose any significant impacts to the viability of the marine environment. Further, the Port Kembla Outer Harbour Concept approval indicates that the Port Kembla outer harbour adjacent to the subject premises is to be filled in and reclaimed for the purpose of expanding container operations within the port. Accordingly, the proposed development is not considered to cause any greater impact to the marine habitat in comparison to the approved expansion of the port.
(e) <i>existing public open space and safe access to and along the foreshore, beach, headland, or rock platform for members of the public, including persons with a disability,</i>	In its current form, the primary development site is entirely fenced, preventing existing access to the Port Kembla Harbour foreshore associated with the subject premises. Further, as is indicated in the provided drawing package provided within <b>Appendix G</b> , the land associated with the proposed ethanol pipeline runs along the foreshore associated with the proposed development and the proposed bitumen plant adjacent to the premises. As can be noted by the proposed route, part of the pipeline corresponds with publicly accessible land within proximity to the bulk liquids berth. This part of the pipeline is to be located underground and therefore not expected to impact upon public accessibility to the foreshore.
(f) <i>Aboriginal cultural heritage, practices, and places,</i>	As per the outer harbour approval relevant to the subject premises and the heritage mapping relevant to the site, there are not identifiable heritage places within the subject premises.  Further, an aboriginal cultural consultation report has been prepared for the proposed development and is provided in <b>Appendix W</b> . As per this report, there are no identified issues

PRINCIPLES	RESPONSE
(g) the use of the surf zone.	<p>with the proposed development with respect to ongoing aboriginal cultural heritage practices.</p> <p>The subject premises is not identified to be within proximity to any identified surf zones.</p>

#### 5.4.1.2 Coastal Use Area

In accordance with the coastal environment area map under chapter 2 of the Resilience and Hazards SEPP, the subject premise is identified to be located within the Coastal Use Area, as identified by Figure 13 below.

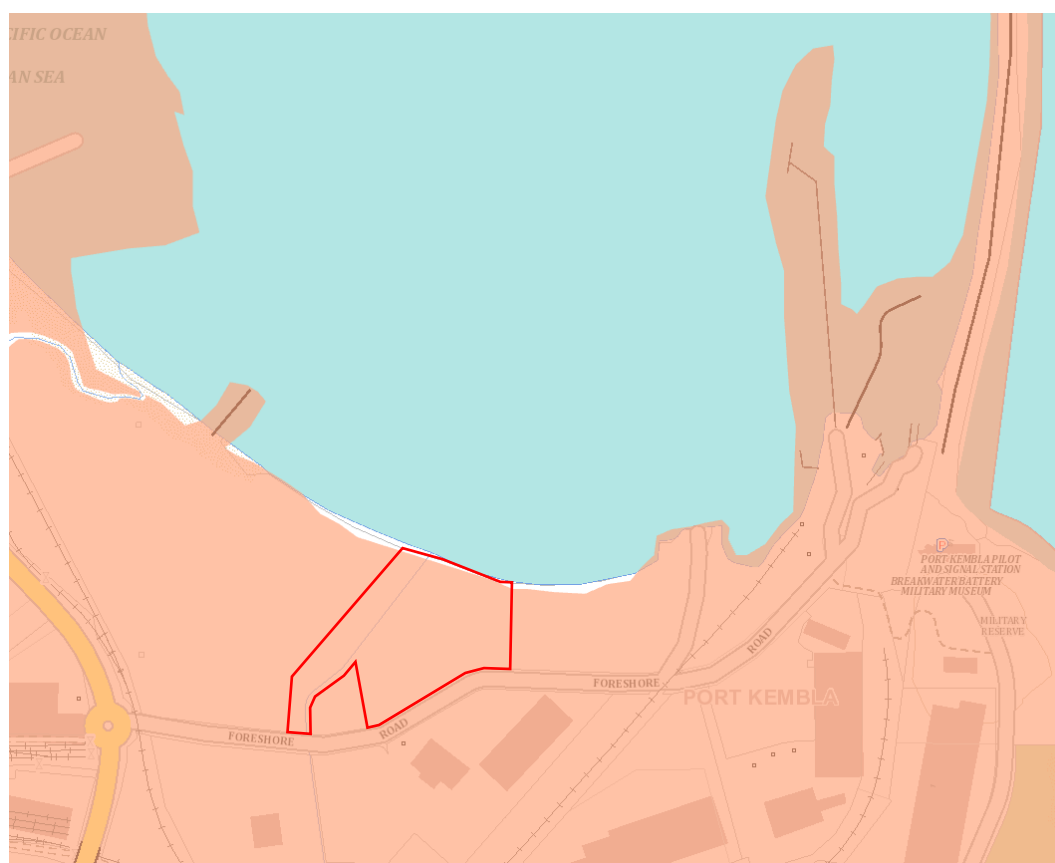


Figure 13: Coastal Use Area Map Extract

In accordance with this designation, section 2.11 of the SEPP specifies that development consent must not be granted without due consideration of the adverse impacts of the proposed development on the coastal environment. The particular matters for consideration have been assessed in Table 6 below.

Table 6: Assessment of Coastal Use Area Principals

PRINCIPLES	RESPONSE
<p>(1) Development consent must not be granted to development on land that is within the coastal use area unless the consent authority—</p> <p>(a) has considered whether the proposed development is likely to cause an adverse impact on the following—</p>	

PRINCIPLES	RESPONSE
<p>i. <i>existing, safe access to and along the foreshore, beach, headland, or rock platform for members of the public, including persons with a disability,</i></p> <p>ii. <i>overshadowing, wind funnelling and the loss of views from public places to foreshores,</i></p>	<p>This item has been previously addressed under table within section 5.4.1 of this report.</p> <p>Given the scale of the proposed development, it is determined that the proposed development has potential to cause overshadowing and impacts to views. This is considered to be suitable on the following grounds:</p> <ul style="list-style-type: none"> <li>• The foreshore of the port Kembla outer harbour is not considered to be a major public assembly area, and therefore any impacts associated with overshadowing are determined to be minimal;</li> <li>• From Foreshore Road, views to the port Kembla outer harbour are already partially obscured by the fill pile present on the site;</li> <li>• The primary public parking and assembly point within proximity to the site is determined to be around the breakwater museum, of which the proposed development is not determined to impact upon existing views;</li> <li>• Any other major viewpoints within the area (ie. Mount Kembla) are considered to be located a sufficient distance from the site to minimise potential obstructions to views to the coastal area.</li> </ul> <p>With respect to wind funnelling, as the proposed tanks are to be separated by approximately 8.5m and that they are to be surrounded by 1.8m high bund walls, the wind funnel impact at ground level is considered to be minimal.</p>
<p>iii. <i>the visual amenity and scenic qualities of the coast, including coastal headlands,</i></p>	<p>The coast for which the subject site relates forms part of an existing industrial/port area. Accordingly, the proposed development is not considered to result in any impact to the existing amenity of this subject coastline.</p>
<p>iv. <i>Aboriginal cultural heritage, practices, and places,</i></p>	<p>This item has been previously addressed under table within section 5.4.1 of this report.</p>
<p>v. <i>cultural and built environment heritage, and</i></p>	<p>An assessment of the cultural and built environment heritage of the locality has been reviewed within <b>Appendix X</b> of this report. Overall, given the separation of the proposed development from identified heritage sites, the proposed development is not determined to impact upon any items of cultural or built environment heritage.</p>

#### 5.4.2 Hazardous and Offensive Development

Chapter 3 of the Resilience and Hazards SEPP aims to ensure that measures proposed to be employed to reduce the impact of a hazardous or offensive industry development are taken in to account and that the consent authority has sufficient information in order to assess that development. This chapter of the SEPP also ensures that only those proposals which are suitably located, and able to demonstrate that they can be built and operated with an adequate level of safety and pollution control, can proceed.

For the purpose of the proposed development, all the necessary hazard reporting has been prepared to assess the viability of the proposed development in accordance with the relevant HIPAP guidelines published by NSW Planning. Namely, these reports include the following:

- Preliminary Hazard Analysis, provided in **Appendix CC**;

- HAZOP Report, provided in **Appendix DD**;
- Fire Safety Study, provided in **Appendix EE**; and
- Transport Study, provided in **Appendix FF**.

### 5.4.3 Remediation of Land

Chapter 4 of this SEPP aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

Section 4.7 of the Resilience and Hazards SEPP states:

- 1) *A consent authority must not consent to the carrying out of any development on land unless:*
  - (1) *it has considered whether the land is contaminated, and*
  - (2) *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, and*
  - (3) *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.*

In accordance with the above, a preliminary Geotechnical and Contamination Assessment has been prepared with respect to the subject premises, as provided in **Appendix M**. The conclusions of the report have outlined that the subject premises is not to comprise of some soil and ground water contaminants. An extract from the abovementioned study states:

*SMEC consider the Site can be made suitable for the proposed development subject to implementation of a Remedial Action Plan (RAP) which outlines the further assessment and management of contamination issues during construction stage. As part of the RAP, additional investigations during DSI part 2 are required within the eastern portion of the Site (including AEC3) to supplement existing data and allow characterisation of the Site as a whole. Based on discussions with Manildra, onsite containment and a long-term management is seen as a preferred option to address site contamination encountered/disturbed during redevelopment of the Site to manage the human health risks. This option has a high likelihood of meeting remediation goals, and it would be unusual for this method not to be successful. Should the findings of additional investigations result in a material change to the preferred remedial strategy, contingencies could include:*

- *Avoiding ground disturbance through further amending design levels (where practicable – see note4); and*
- *Excavation and offsite disposal of contaminated soils unsuitable for onsite reuse or containment.*

*Using the above strategy, we consider the likelihood of the Site being able to be made suitable for the proposed development is high.*

Please refer to the Remedial Action Plan, provided in **Appendix O**, and the Acid Sulphate Soils management Plan, provided in **Appendix P**.

In order to satisfy section 5.7 of the SEPP, it is noted that the proposed development does not comprise of any sensitive land uses and any remediation undertaken as part of the development works will be undertaken before commencement of the proposed development.

## 5.5 State Environmental Planning Policy (Transport and Infrastructure) 2021

The State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP) comprises the environmental planning provisions associated with the regulation of infrastructure facilities and maintaining operability of transport corridors of the now superseded Infrastructure SEPP, Education and Childcare SEPP, Corridor SEPP, and Three Ports SEPP. The Transport and Infrastructure SEPP comprises of 4 parts, as outlined below:

- Chapter 2 – Infrastructure;



- Chapter 3 – Educational Establishments and Child Care Facilities;
- Chapter 4 – Major Infrastructure Corridors; and
- Chapter 5 – Three Ports-Port Botany, Port Kembla, and Newcastle.

For the purpose of this report, review and assessment of the provisions applied under chapter 2 & 5, associated with Infrastructure and Three Ports respectively, has been undertaken for the proposed development. This assessment has been undertaken within sections 5.5.1 & 5.5.2 of this report.

### 5.5.1 Infrastructure

Chapter 2 of the Transport and Infrastructure SEPP aims to facilitate the effective delivery of infrastructure throughout NSW. Namely, this chapter promotes the regulation and design of infrastructure provision and provides statutory considerations to be applied in the assessment of development application.

#### 5.5.1.1 Development Involving Access via Level Crossings

Section 2.84 of the Transport and Infrastructure SEPP relates to development which require vehicle access via level crossings. Particularly, section 2.96 (1) of the Transport and Infrastructure SEPP states that:

- (1) *This clause applies to development that involves—*
- (a) *a new level crossing, or*
  - (b) *the conversion into a public road of a private access road across a level crossing, or*
  - (c) *a likely significant increase in the total number of vehicles or the number of trucks using a level crossing as a result of the development.*

In accordance with the above, as the proposed development involves no new level crossing or the conversion of any private roads into public road, only sub-point (c) is determined to be potentially applicable. With respect to the proposed development, it is noted that the proposed development comprises of the establishment of 3 separate vehicle crossovers to Foreshore Road, of which directly intersects with a level crossover, as indicated within Figure 14 below.



Figure 14: Level Crossings Overview

As detailed within the Traffic Impact Assessment provided within **Appendix Z**, it is determined that the proposed development would generate up to 6 trucks and 8 vehicle movements per hour. In accordance with section 2.96 (1) (c) of the Transport and Infrastructure SEPP, as the potential number of vehicle movements over the level crossing associated with the operation of the proposed development are determined to be inherently low, it is not considered that further consideration under this part is necessary.

#### 5.5.1.2 Development Adjacent to Rail Corridors

Section 2.85 of the Transport and Infrastructure SEPP relates to development on land which is in or adjoins a rail corridor and has potential to impact upon the operability of this corridor. Particularly, section 2.97 (1) of the Infrastructure SEPP states that:

- (1) *This clause applies to development on land that is in or adjacent to a rail corridor, if the development—*
  - (a) *is likely to have an adverse effect on rail safety, or*
  - (b) *involves the placing of a metal finish on a structure and the rail corridor concerned is used by electric trains, or*
  - (c) *involves the use of a crane in air space above any rail corridor, or*
  - (d) *is located within 5 metres of an exposed overhead electricity power line that is used for the purpose of railways or rail infrastructure facilities.*

In accordance with the above, while the larger allotments which the subject development forms part of is located adjacent to identified rail corridors, the impact that the proposed development has on the long-term viability of the rail corridor is determined to be minimal on the following grounds:

- The area dedicated to the primary development site is determined to be located between 140m and 150m from the identified rail corridors;

- No crane is proposed to be established within the development site or within close proximity to the rail corridors; and
- The powerlines located within proximity to the site are not determined to be of a type used for the purpose of the railway.

Accordingly, it is not considered that the proposed development would not pose any significant impacts to the operability of the rail corridor in accordance with sub-point (1).

#### 5.5.1.3 Traffic Generating Development

Section 2.121 of the Transport and Infrastructure SEPP applies to new or enlarged premises that comprises a size or scale in excess of the traffic generation thresholds outlined within schedule 3 of the SEPP. In accordance with Schedule 3, it is determined that the proposed land use of 'Port Facilities' is not outlined within the column 1 and therefore is determined to revert to 'any other purpose' under this part. The threshold relevant to any other purpose is dependent on the proximity of the premises to any identified classified road, as outlined within Table 7 below.

Table 7: Traffic Generating Development

Development Purpose	Site with access to a Road (Generally)	Site with access to a Classified Road or a road that connects to a Classified Road (If access is within 90m of Connection)
Any Other Purpose	200 or more motor vehicles per hour	50 or more motor vehicles per hour

In accordance with this, it is identified that the closest classified road in relation to the subject premises is Old Port Road/Flinders Street, identified as State Road 295, located west of the subject premises. As is demonstrated by Figure 15 below, the subject premises is identified to be located over 90m from the identified state road, being approximately 170 from Old Port Road/Flinders Street.

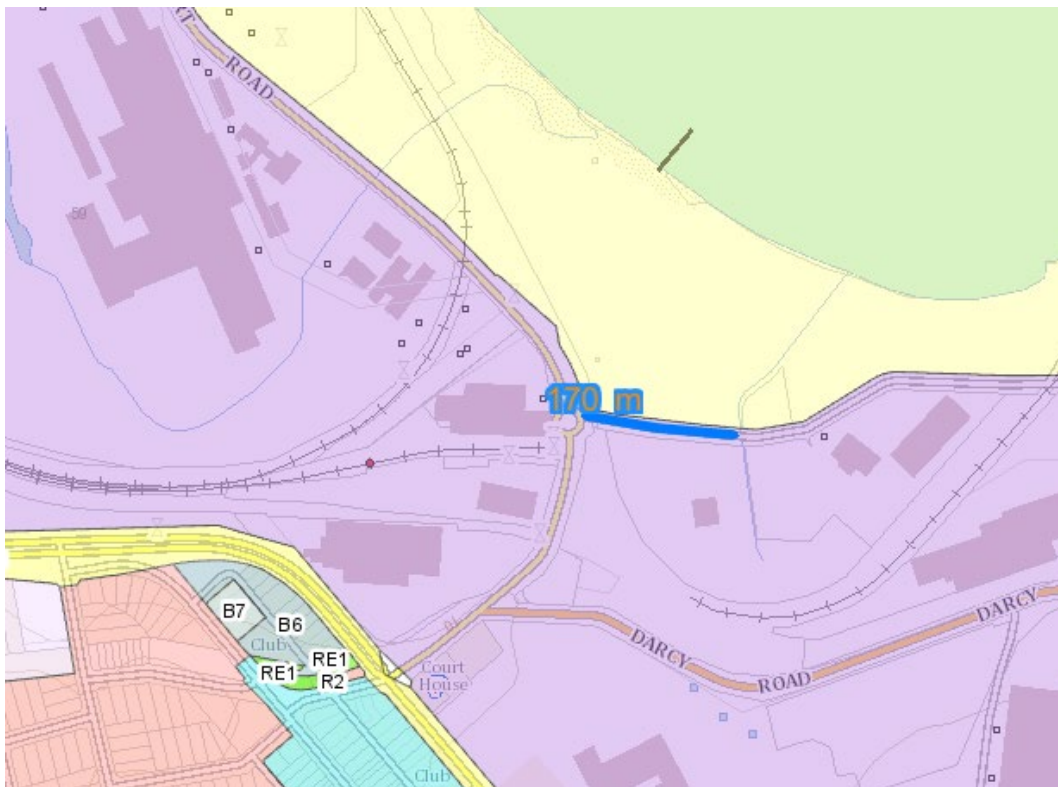


Figure 15: Distance to Classified Road

Therefore, it is determined that the relevant threshold for the proposed development is 200 or more motor vehicles per hour. As is outlined within the Traffic Impact Assessment provided within **Appendix Z**, the proposed development is expected to generate a maximum of 13 vehicle movements per hour, comprising of 6 truck movements and 7 light vehicle movements. Accordingly, it is determined that the proposed development would not be classified as a traffic generating development in accordance with section 2.121 of the Transport and Infrastructure SEPP.

### 5.5.2 Three Ports – Port Botany, Port Kembla, and Newcastle

Chapter 5 of the Transport and Infrastructure SEPP provides assessment details that applies to land within the identified port areas of Port Botany, Port Kembla, and Newcastle. Given that the subject site is located within the Port Kembla Port, assessment against the Chapter 5 of the Transport and Infrastructure SEPP is considered to be required.

Under the chapter 5 of the Transport and Infrastructure SEPP, the subject site is identified as being located within the SP1 Special Activities Zone, as demonstrated by the extract below.

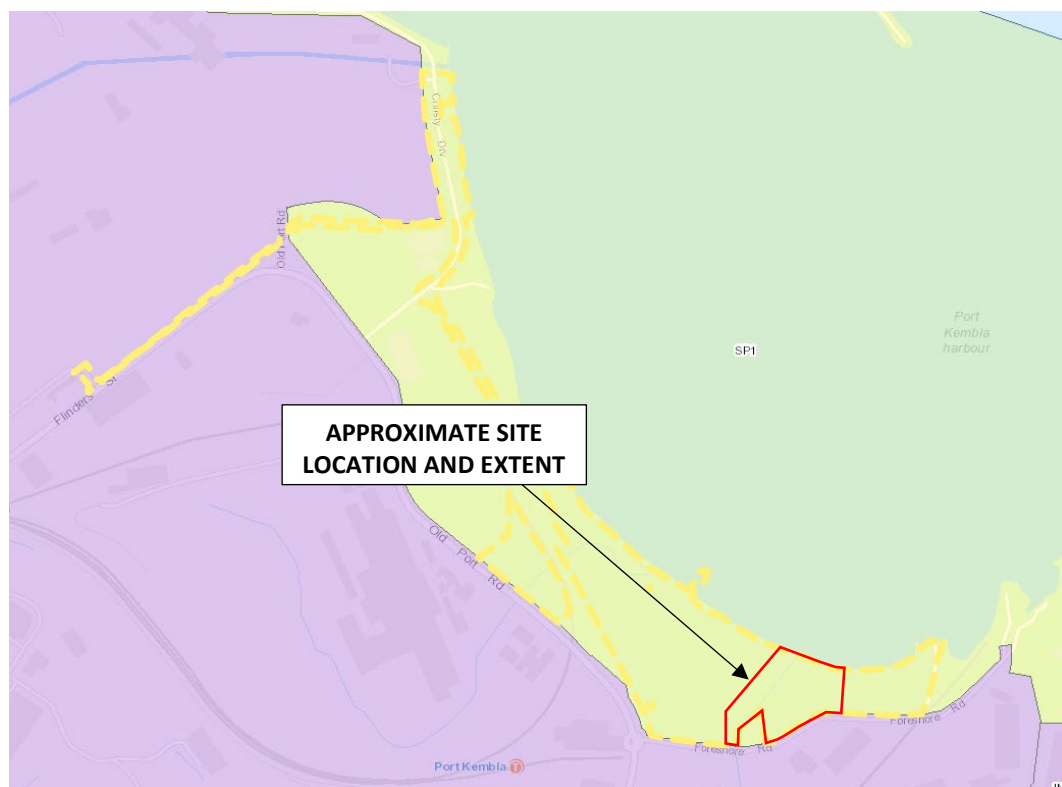


Figure 16: Zoning Map Extract (ePlanning Spatial Viewer, accessed May 2021)

Under the Three Ports SEPP, the objective of the Special Facilities Zone is outlined as follows:

#### **Zone SP1 Special Activities**

##### **1 Objectives of zone**

- To provide for special land uses that are not provided for in other zones.
- To provide for sites with special natural characteristics that are not provided for in other zones.
- To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.
- To maximise the use of waterfront areas to accommodate port facilities and industrial, maritime industrial, freight and bulk storage premises that benefit from being located close to port facilities.



- To enable the efficient movement and operation of commercial shipping and to provide for the efficient handling and distribution of freight from port areas through the provision of transport infrastructure.
- To provide for port related facilities and development that support the operations of Port Botany, Port Kembla, and the Port of Newcastle.
- To facilitate development that by its nature or scale requires separation from residential areas and other sensitive land uses.
- To encourage employment opportunities.

The proposed development is determined to achieve the objectives of the SP1 – Special Activities Zone on the following grounds:

- The proposed development is industrial in nature and is directly associated with the operation of the port, noting that the intent of the development is to support shipping from within the port environment;
- The intent of the development is to improve the efficiency of shipping ethanol produced by the proponent within the port environment, through use of a pipeline and reducing the trucking distance from Bomaderry; and
- The location of the premises provides adequate separation from nearby sensitive land uses.

#### 5.5.2.1 Land Use

The proposed development is determined to be defined as:

*“port facilities” means facilities on land in the Lease Area used in connection with the carrying of freight and persons by water from one port to another for business or commercial purposes, and includes any of the following—*

- facilities for the embarkation or disembarkation of passengers onto or from any vessels, including public ferry wharves,*
- facilities for the loading or unloading of freight onto or from vessels and freight receipt, processing, land transport and storage facilities,*
- wharves for commercial fishing operations,*
- refuelling, launching, berthing, mooring, storage or maintenance facilities for any vessel,*
- sea walls or training walls,*
- administration and port operations buildings and facilities,*
- communication, security and safety facilities,*
- utilities and services, road and rail infrastructure, pipelines and car parks.*

Chapter 5 of the Transport and Infrastructure SEPP also sets out permitted or prohibited development for sites zoned under the LEP. For the SP1 – Special Activities zone, the following land uses are identified to be permissible with consent:

#### **2 Permitted without consent**

*Jetties; Moorings; Roads*

#### **3 Permitted with consent**

*Capital dredging; Environmental facilities; Environmental protection works; Maintenance dredging; Navigation and emergency response facilities; Neighbourhood shops; **Port facilities**; Wharf or boating facilities; **Any other development not specified in item 2 or 4***

#### **4 Prohibited**

*Artisan food and drink industries; Business premises; Caravan parks; Cemeteries; Centre-based child care facilities; Crematoria; Educational establishments; Entertainment facilities; Function centres; Funeral homes; Garden centres; Hardware and building supplies; Medical centres; Office premises; Places of public worship; Recreation facilities (indoor); Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Shops; Specialised retail premises; Tourist and visitor accommodation; Vehicle sales or hire premises*

For the subject site, “Port Facilities” is identified as a being ‘permitted with consent’ within the SP1 Special Facilities Zone. The related ‘Bulk Liquid Storage Tanks’ land use would be classed as ‘any other development’ under the broader ‘permitted with consent’ classification.

#### **5.5.2.2 State Significant Development and State Significant Infrastructure**

Section 5.27 under Chapter 5 of the Transport and Infrastructure SEPP relates to State Significant Development and State Significant Infrastructure. Specifically, section 5.27 outlines the criteria for development to be classified as state significant development, for which is outlined to be as follows:

- (1) *Development is declared to be State significant development for the purposes of the Act if—*
  - (a) *it is carried out on land within the Lease Area or on unzoned land under this Policy, and*
  - (b) *it is, by operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
  - (c) *it has a capital investment value of more than \$100 million or it is designated development (other than development specified in clause 28 (c) or 30 (shipping facilities) of Schedule 3 to the Environmental Planning and Assessment Regulation 2000).*

In accordance with above, the Lease area is defined under the SEPP as follows:

**Lease Area** means the area shown edged in red and identified as “Port Botany Lease Area” or “Port Kembla Lease Area” or Port of Newcastle Lease Area on the Lease Area Map.’

The extent of the lease area for Port Kembla, as shown on the lease area map, is shown in Figure 17.

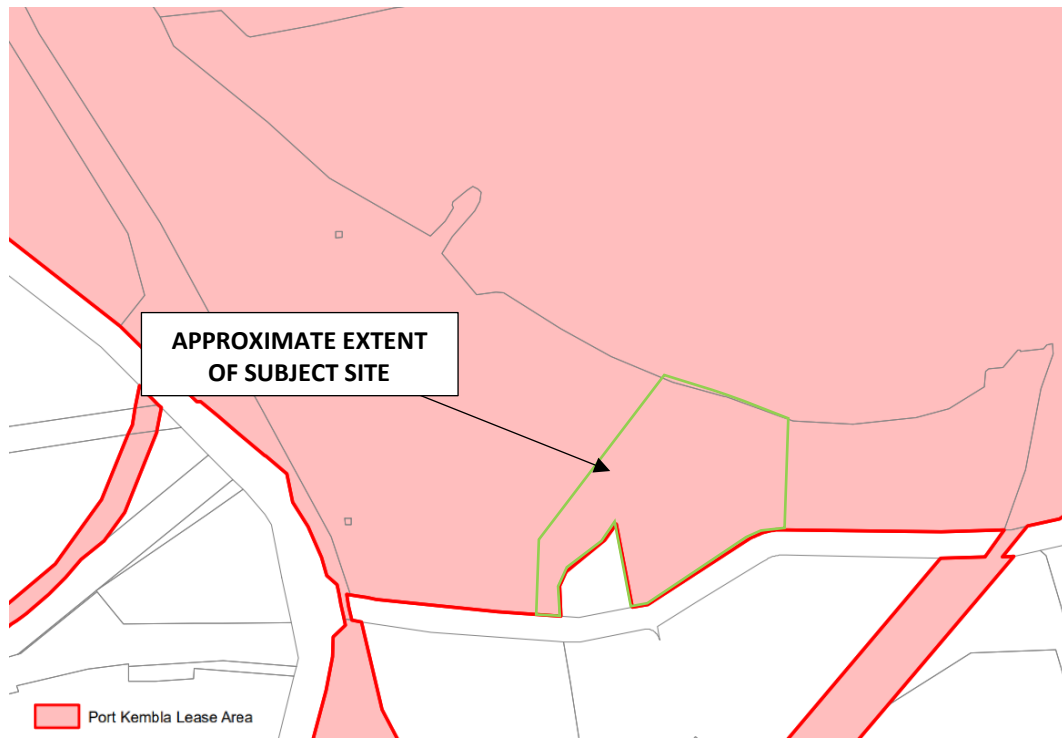


Figure 17: Port Kembla Lease Area (State Environmental Planning Policy (Three Ports) 2013, LES\_002A, Accessed October 2021)

Accordingly, the proposed development is determined to be located within the lease area, is not permissible without consent (refer section 5.5.2.1) and is classified as designated development (refer section 5.2). Therefore, the proposed development is determined to be classified as State Significant development.

### 5.5.2.3 Miscellaneous

Part 5.5 of the SEPP relates to miscellaneous requirements for consideration in the assessment of any development made on land to which the policy applies. Particularly, clauses 5.29 & 5.30 of the SEPP relate to the management of trees or vegetation within the Port Area. In particular, subsection (2) of section 5.29 and subsection (1) section 5.30 read as follows:

#### **Clause 29**

- (2) *This clause applies to species or kinds of trees or other vegetation on land to which this Policy applies (other than the Lease Area) that are prescribed for the purposes of this clause by a development control plan made by the Council of the area in which they are situated or by the Director-General.*

#### **Clause 30**

- (1) *This clause applies to any tree or other vegetation on land to which this Policy applies that—*
- (a) *is not of a species or kind prescribed for the purposes of clause 29 by a development control plan made by the Council of the area in which the tree or vegetation is situated or by the Director-General, or*
  - (b) *is situated within the Lease Area.*

For the purpose of the above sections, the proposed development is noted to be located within the lease area, as discussed previously. To this extent, the subject site and proposed development is determined to be subject to assessment under section 5.30 of the SEPP and not section 5.29. Accordingly, the balance of section 5.30 of the SEPP reads as follows:

- (2) *The ringbarking, cutting down, topping, lopping, removal, injuring or destruction of any tree or other vegetation to which this clause applies is permitted without development consent.*

Therefore, it is determined that any vegetation or tree removal undertaken on the subject site is 'permitted without development consent' due to the site forming part of the Port Kembla Lease Area.

## 5.6 State Environmental Planning Policy (Industry and Employment) 2021

The State Environmental Planning Policy (Industry and Employment) 2021 (Industry and Employment SEPP) comprises the environmental planning provisions associated with employment land in Western Sydney and the advertising devices and signage devices in all of NSW and operates as the consolidation of the now superseded Western Sydney Employment SEPP and SEPP 64. The Industry and Employment SEPP comprises of 2 parts, as outlined below:

- Chapter 2 – Western Sydney Employment Area; and
- Chapter 3 – Advertising and Signage.

For the purpose of this report, review and assessment of the provisions applied under chapter 2, associated with State and Regional Development, has been undertaken for the proposed development. This assessment has been undertaken within section 5.6.1 of this report.

### 5.6.1 Advertising and Signage

The development application proposes the following signage:

- 1 x gantry sign, comprising dimensions of 2m x 8.4m;
- 2 x tanks signs, comprising dimensions of 6m x 4.8m; and
- 2 x directional signs, comprising dimensions of 4.86 x 2.45.

The proposed signage is considered to be of a scale and quantity that is generally consistent with the expectations of an industrial development and is determined to be generally consistent with the expectations of the Port Kembla Development Code, acting as the general covenant for development within the lease area of Port Kembla.

#### 5.6.1.1 Part 3.2 – Signage Generally

Part 3.2 of State Environmental Planning Policy (Industry and Employment) 2021 states that a consent authority must not grant development consent for signage unless the consent authority is satisfied that the signage is consistent with both the objectives of this part of the SEPP and the assessment criteria of Schedule 5.

The proposed signage is compatible with the visual character of the site, provides effective communications for the site and is of a high-quality design and finish. The proposed signage is therefore consistent with the aims and objectives of this chapter.

The following section provides an assessment of the proposed signage against Schedule 5 (Assessment Criteria) of the SEPP. A proposed site signage plan is included in **Appendix G**.

##### 5.6.1.1.1 Character of the Area

- "Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?"
- Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?"

**Development Response** – The proposed signage is determined to be generally consistent with the expectations for the port environment of Port Kembla.

##### 5.6.1.1.2 Special Areas

- "Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas, waterways, rural landscapes, or residential areas?"



**Development Response** – As per the cultural heritage assessment provided in **Appendix X**, the subject premises is identified to be within proximity to the heritage areas, as well as a Port Kembla harbour to the north. Given that the subject premises forms part of an existing industrial area, with other port/industrial based land uses within proximity to the site, the views of the locality are not considered to be detracted as a result of the proposed development.

#### 5.6.1.1.3 Views and Vistas

- “Does the proposal obscure or compromise important views?
- Does the proposal dominate the skyline and reduce the quality of vistas?
- Does the proposal respect the viewing rights of other advertisers?”

**Development Response** – In consideration of existing important view corridors, the following major viewpoints are noted within the locality:

- Mount Kembla Lookout – Port Kembla Harbour is identified to be visible from this point;
- Mount Nebo Lookout - Port Kembla Harbour is identified to be visible from this point;
- Port Kembla Lookout Hill 60 – viewpoint orientated towards Five Island and away from the subject premises; and
- Port Kembla Eastern Breakwater – Viewpoint provides 360 view of port environment and out to the Pacific Ocean.

In consideration of the potential impacts of the proposed development upon existing viewpoints and the quality of vistas and skylines, it is determined that the proposed development comprises a built form that is predominately defined by the storage tanks. Overall, it is considered that these tanks comprise a built form that is generally consistent with other operations within the port area and comprise an extension to the existing skyline for which the locality is defined. Further, given that the subject premises is abutted by the Port Kembla harbour to one orientation, it is not considered that the proposal would impact upon the ability of other sites to advertise.

#### 5.6.1.1.4 Streetscape, setting or landscape

- “Is the scale, proportion, and form of the proposal appropriate for the streetscape, setting or landscape?
- Does the proposal contribute to the visual interest of the streetscape, setting or landscape?
- Does the proposal reduce clutter by rationalising and simplifying existing advertising?
- Does the proposal screen unsightliness?
- Does the proposal protrude above buildings, structures or tree canopies in the area or locality?
- Does the proposal require ongoing vegetation management?”

**Development Response** – The proposed development, including all signage has been assessed against the Port Kembla development code, for which it has been determined that the proposed development is generally consistent with the items raised under this code, noting that:

- The scale of the development is consistent with the expectations of the port;
- The proposal is determined to support high levels of visual interest, comprising an architecturally designed office building and landscaping to improve the visual amenity of the premises and contribute to the reduction of any perceived bulk and scale of the development; and
- The plant equipment associated with the proposed development has either been screened from the frontage or separated from the front boundary as to minimise visibility.

#### 5.6.1.1.5 Site and Building

- “Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located?
- Does the proposal respect important features of the site or building, or both?
- Does the proposal show innovation and imagination in its relationship to the site or building, or both?”

**Development Response** – The proposal signage is considered to be proportional to the scale of the proposed development, providing site identification and directional indications.

#### 5.6.1.1.6 Associated devices and logos with advertisements and advertising structures

- “Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?”

**Development Response** – No safety devices, platforms, lighting devices or logos are required as an integral element of the proposed signage.

#### 5.6.1.1.7 Illumination

- “Would illumination result in unacceptable glare?”
- Would illumination affect safety for pedestrians, vehicles, or aircraft?
- Would illumination detract from the amenity of any residence or other form of accommodation?
- Can the intensity of the illumination be adjusted, if necessary?
- Is the illumination subject to a curfew?”

**Development Response** – The proposed signage comprises no illumination elements.

#### 5.6.1.1.8 Safety

- “Would the proposal reduce the safety for any public road?”
- Would the proposal reduce the safety for pedestrians or bicyclists?
- Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?”

**Development Response** – all proposed signage is located outside of the road environment and comprises no illumination or flashing that would divert gaze. Accordingly, no impact to safety is expected.

On balance, the proposed signage is considered to satisfy the overall intent and relevant assessment criteria of chapter 3 of the SEPP.

### 5.6.1.2 Part 3 – Advertisements

Part 3.3 of the SEPP applies to all signage other than ‘business identification signs’ and ‘building identification signs’. These are defined under clause 4:

***building identification sign** means a sign that identifies or names a building, and that may include the name of a business or building, the street number of a building, the nature of the business and a logo or other symbol that identifies the business, but that does not include general advertising of products, goods or services.*

***business identification sign** means a sign:*

*(a) that indicates:*

- the name of the person, and*
- the business carried on by the person,*
- at the premises or place at which the sign is displayed, and that may include the address of the premises or place and a logo or other symbol that identifies the business, but that does not include any advertising relating to a person who does not carry-on business at the premises or place.*

The proposed signage is defined as business identification signage as per the above definitions.

Part 3.3 of the SEPP therefore does not apply to the proposed signage.

The proposed signage is considered to satisfy the overall intent and relevant assessment criteria of Chapter 3 of the Industry and Employment SEPP.

## 5.7 Port Kembla Development Code

The Port Kembla Development Code provides details and criteria for assessing development as it relates to Port Kembla. This section provides a brief commentary as to how the proposed development will fulfil the criteria under the Port Kembla Development code, with a full assessment provided in **Appendix E**.

Compliance with the Port Kembla Development Code (PKDC) is a minimum requirement in order to receive landowners' consent/permission to lodge for the purpose of development on land owned by NSW Ports. A copy of the permission to lodge is provided within **Appendix B**, demonstrating NSW Ports satisfaction with the assessment of the PKDC.

### 5.7.1 Development Footprint

The proposed development has been assessed against the relevant provisions of Section 2 – Development Footprint of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The proposed development has been designed to minimise the development footprint as much as possible, while still achieving the minimum design requirements of the proposal;
- The proposed pipeline is intended to maintain the existing pipeline route that currently exists within the common user area (Wharf). Accordingly, the proposed works are not expected to further impact upon the operation of the wharf; and
- The pipeline and services provided to the facility will be designed and implemented in accordance with the relevant Australian Standards.

### 5.7.2 Visual Amenity and Built Form

The proposed development has been assessed against the relevant provisions of Section 3 – Visual Amenity and Built Form of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The proposed development supports a highly attractive frontage address through the use of landscaping and building articulation elements;
- Passive surveillance associated with the development design is to be largely associated with the tanker unloading areas, considering that the office building would not have a high occupancy rate, as a result of the site operating largely unmanned;
- The proposed buildings integrate a complementary material and colour palette, that reinforces the maritime nature of the surrounding locality; and
- A garbage enclosure is provided within an accessible location within the site and is clearly screened from the frontage.

### 5.7.3 Sustainable Development

The proposed development has been assessed against the relevant provisions of Section 4 – Sustainable Development of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The proposed development has been assessed with respect to the green port's checklist, which has been provided in **Appendix L** of this report;
- The office development is to be designed to achieve a minimum 4-star green star rating;
- Natural ventilation has been maximised where possible, with mechanical ventilation to be incorporated
- As outlined in the Site Based Stormwater Management Plan within **Appendix Q**, the proposed development is to collect stormwater generated within the roofed areas of the site to be used predominantly for irrigation purposes throughout the site; and

- The proposed development is to reduce greenhouse gas emissions through the use of a pipeline running between the subject site and wharf for shipping.

#### 5.7.4 Access Parking and Loading

The proposed development has been assessed against the relevant provisions of Section 5 – Access, Parking and Loading of the Port Kembla Development Code, as it relates to parking and manoeuvrability. The key findings of this assessment have been summarised below:

- The proposed development is to utilise a pipeline as an alternative shipping method for ethanol to the wharf structure;
- The traffic impacts of the site have been assessed in the Traffic Impact Assessment provided in **Appendix Z**;
- The site is capable of queuing an A-double within the site, at the eastern most crossover;
- A total of 8 parking spaces, including 1 PWD space, is supported on the subject site;
- Sufficient space has been provided on-site for the storage and parking of bicycles;
- Landscaping is provided around the perimeter of the proposed car parking area; and
- All loading and unloading vehicles are capable of standing wholly within the subject site during loading/unloading procedures.

#### 5.7.5 Landscaping

The proposed development has been assessed against the relevant provisions of Section 5 – Access, Parking and Loading of the Port Kembla Development Code, as it relates to the provision of landscaping. The key findings of this assessment have been summarised below:

- A 5m landscape buffer is supported along the frontage of the subject site.
- The proposed development implements a planting palette in accordance with the road reserve planting palette under Appendix A of the Port Kembla Development Code;
- A layered bedding pattern is to be incorporated within the 5m landscape buffer proposed along the frontage of the subject site; and
- All proposed trees are sufficiently separated from the proposed fence line and will be pruned to a minimum of 2.5m above ground level.

#### 5.7.6 Security

The proposed development has been assessed against the relevant provisions of Section 6 – Security of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The proposed lease area is to be appropriately fenced;
- The proposed fencing will be constructed of chain wire or palisade and black in colour;
- Access areas are to be secured with durable gates; and
- A security system which will detect intruders and raise alarms to call security contractors will be incorporated in the terminal design. The security system will also be connected to the Bomaderry Ethanol Plant control room, which is attended around the clock.

#### 5.7.7 Signage

The proposed development has been assessed against the relevant provisions of Section 7 – Signage of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The proposed signage is considered to be generally unobstructive when viewed from all orientations of the facility;
- The signage is to be for business identification purposes, providing clear identification of the site for potential visitors and delivery staff; and

- All signage will be established in accordance with the relevant Australian standards.

#### 5.7.8 Lighting

The proposed development has been assessed against the relevant provisions of Section 8 – Lighting of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- Lighting fixtures associated with the development are yet to be confirmed, however, all lighting will be established in accordance with the requirements of this part of the Port Kembla Development Code.

#### 5.7.9 Heritage and Environmentally Sensitive Locations

The proposed development has been assessed against the relevant provisions of Section 9 – Heritage and Environmentally Sensitive Locations of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The premises abuts/contains an identified potentially environmentally sensitive location, being the drainage channel, which traverses the subject site; and
- The only identified impact to the channel is as a result of stormwater discharge to the channel. The quality of the stormwater discharged will be in accordance with WSUD standards.

#### 5.7.10 Safety, Risk and Hazard Management

The proposed development has been assessed against the relevant provisions of Section 10 – Safety, Risk and Hazard Management of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- A Preliminary Hazard Analysis and HAZOP Report has been prepared in respect to the proposed development, as provided in **Appendix CC** and **Appendix DD** respectively.
- The proposed pipeline is to be designed and maintained in accordance with AS2885 and is to comprise a generally similar route as the existing pipelines running along the harbour foreshore to the wharf, therefore posing minimal additional impact at the wharf;
- The bulk liquid storage area is to incorporate bunding complying with AS1940, which will properly manage spills on the subject site;
- A roadway is incorporated around the perimeter of the site, allowing for emergency vehicles to travel unobstructed around the bulk liquid storage area; and
- The proposed pipeline has been designed to minimise potential spills and hazards by fully welding the pipes between the terminal and the wharf. When not in operation the pipeline will be nitrogen filled.

#### 5.7.11 Water Quality and Stormwater

The proposed development has been assessed against the relevant provisions of Section 11 – Water Quality and Stormwater of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- The proposed water quality and stormwater management of the subject site has been included in **Appendix Q** of this application; and
- Overall, the stormwater management system will ensure that stormwater discharged to the channel meets the required standards.

#### 5.7.12 Air Quality

The proposed development has been assessed against the relevant provisions of Section 12 – Air Quality of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- An Air Quality Assessment has been provided in **Appendix R** of this application. This report concluded that:
  - Based on assumptions as outlined in the assessment, the proposal is predicted to comply with the relevant air quality assessment criteria when assessed in accordance with the Approved Methods.

### 5.7.13 Noise and Vibration

The proposed development has been assessed against the relevant provisions of Section 13 – Noise and Vibration of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- A Noise Impact assessment has been provided in **Appendix U** of this application. The report concluded that:
  - Noise emissions from all activities associated with the proposed development have been assessed at the worst affected nearest residential receiver with the predicted noise levels presented in Section 7.2. The results of our assessment indicate that operational noise from the site will fully comply with the noise emission requirements at the nearest residential, commercial, and industrial receivers for all time periods. Recommendations have been presented in Section 10 to ensure that noise impacts on the nearest residential receivers are minimised. Construction vibration comments have been provided based on the equipment that are to be used onsite. In addition, a preliminary construction noise impact assessment was carried out with noise levels predicting general compliance.
- A Pile Driving Test was also conducted on the subject site, please refer to **Appendix V**. This report concluded that:
  - Based on this assessment, noise emission from impact piling activities can generally meet the relevant noise emission levels at the nearest and most affected receivers. Vibration emissions from the site have been found to meet the nominated guidelines and standards.

### 5.7.14 Contamination and Potential Acid Sulfate Soils (PASS)

The proposed development has been assessed against the relevant provisions of Section 14 – Contamination and Potential Acid Sulfate Soils of the Port Kembla Development Code. The key findings of this assessment have been summarised below:

- A preliminary geotechnical and contamination assessment has been provided in **Appendix M**, in support of the proposed development;
- A remedial action plan was additionally prepared to support the works required on the subject premises, please refer to **Appendix O**; and
- The subject site is identified to comprise some contamination and Acid Sulfate Soils, as identified by the corresponding report, however, it is the consideration that the identified contaminants are capable of being properly managed for the purposes of the proposed development. Please refer Acid Sulfate Soils Management Plan provided in **Appendix P**.

## 5.8 Wollongong Development Control Plan 2009

As described previously, while state significant development is not considered to require assessment against a Development Control Plan in accordance with section 2.10 of the Planning Systems SEPP, in order to demonstrate consistency with the local planning policies, a precursory assessment of the DCP has been undertaken. An overview of the assessment of the relevant section has been provided within this report.

### 5.8.1 Car Parking Access Servicing Loading Facilities

The proposed development has been assessed against Chapter E03 - Car Parking Access Servicing Loading Facilities of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- A Traffic Impact Assessment for the proposed development has been provided within **Appendix Z** of this report;

- The parking numbers provided in association with the proposed development are determined to achieve the expected parking demand, in accordance with this chapter of the DCP;
- The expected bicycle parking demand is determined to be sufficiently catered for within the site; and
- All access points to the subject premises have been designed to allow for the efficient access and loading of heavy vehicles on the subject premises, without causing significant impact to the viability of the road network.

### 5.8.2 Waste Management

The proposed development has been assessed against Chapter E07 - Waste Management of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- An assessment of the waste generation and storage requirements associated within the proposed development has been provided under section 7.9 of this report;
- The proposed development is determined to be designed to sufficiently allow for the storage and collection of waste in accordance with the expected waste generation rates for the proposed development; and
- As required, a licenced waste collector will be utilised for the purpose of undertaking waste disposal for the proposed development.

### 5.8.3 Aboriginal Heritage

The proposed development has been assessed against Chapter E10 - Aboriginal Heritage of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- The potential aboriginal heritage impacts associated with the Aboriginal Consultation report provided within **Appendix W**; and
- Overall, the subject premises is not identified to comprise land that would be of significance to the aboriginal community, given the historic works undertaken within the subject premises.

### 5.8.4 Heritage Conservation

The proposed development has been assessed against Chapter E11 - Heritage Conservation of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- The potential heritage significance of the subject site has been reviewed within the **Appendix X**; and
- While the subject premises is identified to be located within proximity to identified heritage sites, the proposed development is not considered to significantly impact the value of these premises.

### 5.8.5 Geotechnical Assessment of Slope Instability

The proposed development has been assessed against Chapter E12 - Geotechnical Assessment of Slope Instability of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- The geotechnical status of the subject premises has been determined through the preparation of a Preliminary Geotechnical and Contamination Assessment provided within **Appendix M**.

### 5.8.6 Floodplain Management

The proposed development has been assessed against Chapter E13 - Floodplain Management of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- The expected flood impacts associated with the proposed development have been considered within the stormwater management plan provided within **Appendix Q**;



- The proposed development has been designed to provide a reasonable level of flood immunity in a 1% AEP Event;
- Given that the potential for a PMF event is considered inherently low, it is not expected feasible to design the premises to account for this potential flood risk; and
- Given that the surrounding road network is identified to be inundated within a flood event, it is not expected that the vehicles would be capable of accessing the premises, therefore limiting the potential harm to human life.

### 5.8.7 Stormwater Management

The proposed development has been assessed against Chapter E14 - Stormwater Management of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- Please refer to stormwater management plan provided within **Appendix Q**;
- The proposed development is not designed to provide any on-site stormwater detention infrastructure, given that it has been determined that the subject site is located at the bottom of the catchment and therefore is not considered to impact upon the operability of the stormwater network; and
- The proposed stormwater management for the site is designed to withstand a 20 year ARI event, with all stormwater in excess of a 20 year event to run as overland flow through the site.

### 5.8.8 Bushfire Management

The proposed development has been assessed against Chapter E16 - Bushfire Management of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- From consideration of bushfire mapping prepared for the state of NSW and Wollongong LGA, and with the absence of any significant vegetation surrounding the site, it is determined that the proposed development is not subject to any bushfire hazard. Accordingly, no further consideration has been given to bushfire management on the subject premises.

### 5.8.9 Preservation and Management of Trees and Vegetation

The proposed development has been assessed against Chapter E17 - Preservation and Management of Trees and Vegetation of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- All vegetation proposed for removal from the subject site is considered to be warranted in accordance with the BDAR Waiver, intended to be provided within **Appendix T**, and section 5.29 and 5.30 of the Transport and Infrastructure SEPP;
- Any trees intended to be preserved, will have appropriate protection measures installed as to ensure that they are not damaged throughout the construction process.

### 5.8.10 Threatened Species Impact Assessment

The proposed development has been assessed against Chapter E18 - Threatened Species Impact Assessment of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- The proposed development has been assessed to not comprise any land that may be considered to compromise threatened species, as evidenced by the BDAR Waiver to be provided within **Appendix T**.

### 5.8.11 Earthworks

The proposed development has been assessed against Chapter E19 – Earthworks of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:



- All expected earthworks are to be undertaken for the purpose of achieving adequate flood immunity and proper stormwater management, in accordance with the stormwater management plan provided within **Appendix Q**; and
- All earthworks are to be appropriately retained through implementation of a retaining wall running parallel to the drainage channel traversing the site.

#### **5.8.12 Contaminated Land Management**

The proposed development has been assessed against Chapter E20 - Contaminated Land Management of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- A Preliminary Geotechnical and Contaminated Land Assessment has been prepared for the subject site, and is provided within **Appendix M**; and
- In order to address the identified contamination, a remedial action plan has been provided within **Appendix O**.

#### **5.8.13 Soil Erosion and Sedimentation**

The proposed development has been assessed against Chapter E22 - Soil Erosion and Sedimentation of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- An Erosion and Sediment Control plan has been prepared for the proposed development and has been provided within **Appendix J**.

#### **5.8.14 Riparian Land Management**

The proposed development has been assessed against Chapter E23 - Riparian Land Management of the Wollongong DCP. The following conclusions have been drawn from the assessment against this section of the DCP:

- While the allotment which the subject site forms a part of is identified to comprise land that contains a riparian land corridor, the development site is not located within proximity to this land. Accordingly, no further consideration has been given to riparian land.

## 6.0 COMMUNITY/STAKEHOLDER ENGAGEMENT

This section provides a summary of consultation undertaken by Manildra Group with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners within proximity to the subject site. The community consultation of the subject project was undertaken in accordance with *the Undertaking Engagement for State Significant Guidelines for State Significant Project* (DPIE, July 2021) and the SEAR's, issued by DPIE on 23 December 2021. As was outlined within the SEAR's, Manildra Group were required to consult with the relevant local, State and Commonwealth Government authorities, infrastructure and service providers, community groups and affected landowners.

### 6.1 Community Engagement

#### 6.1.1 Scope of Engagement

This chapter covers community and stakeholder engagement carried out during the Environmental Impact Assessment of the Proposal. The scope of this engagement covered:

- To inform the community of the overall proposal to build and operate a beverage grade ethanol storage and handling facility on Foreshore Road at Port Kembla;
- To advise affected stakeholders of the overall proposal and its possible impacts during construction and operation; and
- To advise stakeholders on how they may obtain further information or communicate concerns, complaints or suggestions.

Figure 18 illustrates the planning steps and the engagement process to progress the proposal from announcement to determination. Additionally, a copy of the engagement materials is provided within **Appendix K** of this report.

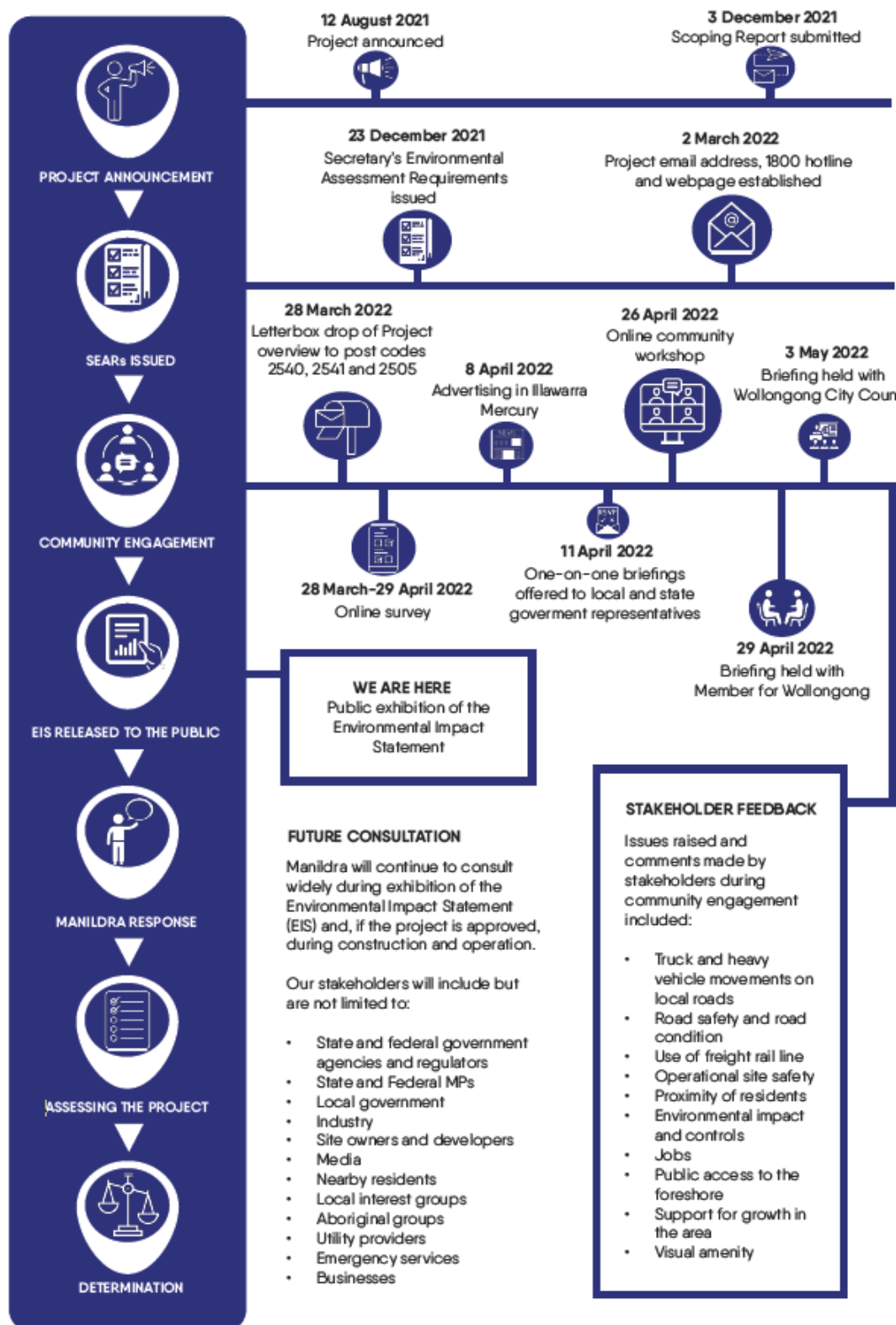


Figure 18: Consultation Summary (Spectrum Consulting, May 2022)

### 6.1.2 Community and Stakeholder Engagement Objectives

The objectives of the community and stakeholder engagement undertaken for the proposed development includes:

- To canvas with a range of stakeholders and community their thoughts on the proposal, to enable the environmental assessment to reflect their issues and concerns;
- To hold discussions with community members and local representatives regarding the proposal; and
- To engage using a range of tools to assist community access to the proposal – website; presentations; project overview newsletter; meetings with stakeholders, sessions with Indigenous groups; take a deeper dive into the proposal.

### 6.1.3 Engagement Approach

The proposal is considered to have a medium level of potential community and other stakeholder impact/interest.

Manildra Group used the International Association for Public Participation (IAP2) Spectrum of Engagement, shown below, to consider the level of engagement required for the development and consideration of the Proposal. The Spectrum provides a useful framework for community and stakeholder engagement and is a recognised quality standard by local Councils and State Government agencies across Australia.

INCREASING IMPACT ON THE DECISION					
	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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Figure 19: Public Participation Spectrum (International Association of Public Participation (IAP2), May 2022)

The level of engagement for this Proposal is also guided by Department Planning Industry and Environment guidelines, and the 'Approach to Engagement Worksheet' for preparing the Environmental Impact Statement (EIS). This worksheet is designed to assist Manildra Group with understanding the community and other stakeholders, their likely issues and to determine the approach to engagement during the preparation of the EIS.

The objectives of engagement for the Proposal fall into a combination of the IAP2 Spectrum levels of Inform, and Consult. The community was informed:

- About the proposal;
- Project rationale;
- About the relevant government policies, decisions, and strategic planning context; and
- About how they can provide feedback and how this will be used.

The tools sought to consult the community included:

- Reaching out to stakeholders directly to provide one-on-one briefings;

- A link to an online survey distributed with the project overview booklet; and
- An online community workshop to explore all potential community concerns.

The tools utilised intended to consider:

- The methods and tools for engaging with community and stakeholders;
- The identification of perceived impacts - to help inform the investigations for the environmental impact studies; and
- The management and mitigation of Proposal impacts and benefits.

#### 6.1.4 Stakeholder Identification

Manildra Group sought engagement with a wide range of stakeholders as part of the planning and environment assessment of the Proposal.

Manildra Group identified stakeholders who may have an interest in the proposal and stakeholders who may be impacted (positively or negatively) by the Proposal. New stakeholders are likely to be identified over time as the Proposal EIS is placed on exhibition and Manildra Group continues to engage with stakeholders and the community.

For the environmental assessment Manildra Group was required to consult with those stakeholders identified in the Proposal's Planning Secretary's Environmental Assessment Requirements. Table 8 outlines the stakeholders who have been approached by Manildra Group regarding the Proposal during the EIS stage.

*Table 8: Identified Stakeholders and Engagement*

STAKEHOLDER GROUP	STAKEHOLDER	ISSUE/INTEREST/CONCERN	ENGAGEMENT METHOD
<b>Landowner /operator</b>	NSW Ports	Land manager and leases Development within the Port	Briefing
<b>Community</b>	Landowners near the Project site	Roads and Traffic Environmental impacts Impacts to dwelling Impacts to land use Pollution and contamination Property values Safety and emergency management Noise and vibration Visual amenity	Project overview Advertising Website update Online survey Online workshop
	Neighbours to the Project site	Environmental impacts Visual amenity Noise and vibration Roads and traffic Land use Safety and emergency management Pollution and contamination	Project overview Advertising Website update Online survey Online workshop
	Recreation users of Port (land and water) and adjacent park	Noise and vibration Safety and emergency management Noise and vibration	Project overview Advertising Website update Online survey

STAKEHOLDER GROUP	STAKEHOLDER	ISSUE/INTEREST/CONCERN	ENGAGEMENT METHOD
		Environmental impacts Visual amenity Roads and traffic Pollution and contamination	Online workshop
	Port Kembla Harbour Environment Group	Environmental impacts	Briefing
	Illawarra Neighbourhood Forums (5 and 7)	Noise and vibration Safety and emergency management Noise and vibration Environmental impacts Visual amenity Roads and traffic Pollution and contamination	Project overview Advertising Website update Online survey Online workshop
	Wider community of Wollongong LGAs	Environmental impacts Property values Safety and emergency management Visual amenity Economic benefits Employment opportunities	Project overview Advertising Website update Online survey Online workshop
<b>Aboriginal communities</b>	Illawarra Local Aboriginal Land Council	Sites of significance or items of Aboriginal cultural heritage Grants and funding opportunities Environmental impacts Employment opportunities Recognition of Country	Consultation with the RAPs in accordance with the ACHCRs
	Illawarra Aboriginal Corporation	Grants and funding opportunities Employment opportunities Consultation with Traditional Owners	Consultation with the RAPs in accordance with the ACHCRs
	Coomaditchie United Aboriginal Corporation	Consultation with Traditional Owners Employment opportunities Environmental impacts Recognition of Country	Consultation with the RAPs in accordance with the ACHCRs
	Warrigal Employment	Employment opportunities Grants and funding opportunities	Consultation with the RAPs in accordance with the ACHCRs
	Wadi Wadi Coomaditchie Aboriginal Corporation	Recognition of Country Grants and funding opportunities	Consultation with the RAPs in accordance with the ACHCRs



STAKEHOLDER GROUP	STAKEHOLDER	ISSUE/INTEREST/CONCERN	ENGAGEMENT METHOD
		Consultation with Traditional Owners	
<b>Industry</b>	Port Manager	Safety and emergency management Economic benefits Navigation Port access	Port Kembla Harbour Environment Group
	Port users	Safety and emergency management Economic benefits Navigation Port access	Port Kembla Harbour Environment Group Project overview mail out Advertising Website update Online survey Online workshop
	Adjacent industry	Safety and emergency management Economic benefits Navigation Port access Roads and traffic	Project overview Advertising Website update Online survey Online workshop
<b>Business</b>	Port Kembla Chamber of Commerce	Employment opportunities Local supply and procurement Traffic and roads Safety and emergency management Grants and sponsorship opportunities	Project overview mail out
	Regional Development Australia – Illawarra	Employment opportunities Local supply and procurement	Advertising
	Illawarra Business Chamber	Employment opportunities Local supply and procurement Grants and sponsorship opportunities	Website update
<b>Federal government</b>	Member for Cunningham - The Hon Sharon Bird	Community impacts and benefits	Member for Cunningham - The Hon Sharon Bird
<b>NSW government</b>	Member for Wollongong - Paul Scully	Community impacts and benefits Environmental impacts Employment opportunities Local supply and procurement Media opportunities	One-on-one briefing
	Port Authority of NSW	Navigation, safety and security in Port Dangerous goods regulation Berthing and ship movement	Briefings via Port Kembla Harbour Master in preparation of Harbour Navigation Assessment

STAKEHOLDER GROUP	STAKEHOLDER	ISSUE/INTEREST/CONCERN	ENGAGEMENT METHOD
		Harbour Master	
	Transport for NSW (Referral Agency)	Port regulation and management Traffic and roads Railway network and station	Property tenancy arrangements for Port Licensed Area
	Fire and Rescue NSW (Referral Agency)	Emergency and safety	Briefings with agency regarding firefighting arrangements to meet ASO 1940 Standards
<b>Local government</b>	Wollongong City Council	Planning and assessment process Community impacts and benefits Environmental impacts Employment opportunities Local supply and procurement Voluntary Planning Agreement or similar	Project overview One-on-one briefing
<b>Education</b>	TAFE -Wollongong and Wollongong West	Employment opportunities Scholarships and training	Project overview Advertising Website update Online survey Online workshop
	University of Wollongong	Employment opportunities Scholarships and training	Project overview Advertising Website update Online survey Online workshop
	Port Kembla Public School	Grants and sponsorship opportunities Safety	Project overview Advertising Website update Online survey Online workshop
	Five Islands Secondary Collage	Employment opportunities Scholarships and training Safety	Project overview Advertising Website update Online survey Online workshop
	Port Kembla Community Preschool	Grants and sponsorship opportunities Safety	Project overview Advertising Website update Online survey Online workshop
	St Patricks Catholic Parish Primary School	Grants and sponsorship opportunities	Project overview Advertising

STAKEHOLDER GROUP	STAKEHOLDER	ISSUE/INTEREST/CONCERN	ENGAGEMENT METHOD
		Safety	Website update Online survey Online workshop
	Kemblawarra Public School	Grants and sponsorship opportunities Safety	Project overview Advertising Website update Online survey Online workshop

Community stakeholders include:

- Port owners, managers, and users;
- Impacted and nearby property owners (postcodes 2540, 2541 and 2505);
- Community and interest groups;
- Aboriginal groups;
- Businesses and industry;
- All levels of government;
- Utilities;
- Emergency services; and
- Media.

## 6.1.5 Community Engagement Tools

### 6.1.5.1 Project Overview Booklet

A 4-page booklet was utilised as a tool to consult with the community on the proposed project. The project overview booklet included the following information:

- A description of the project;
- A map showing the project's location in both its local and regional context, and at a scale that locates properties likely to be impacted;
- The rationale or reason for the project;
- The project's strategic planning context;
- Information about the proponent and its operations;
- The relevant matters for consideration in the EIA;
- A QR code to register for an online workshop;
- A QR code linked to an online survey to help inform the engagement and the Social Impact Assessment;
- The point of contact for the community and other stakeholders to obtain more information if needed;
- Information about how feedback from the community and other stakeholders will be considered in the EIS; and

- The opportunities for participation of the community and other stakeholders during the EIA.

The project booklet was delivered by Australia Post to households and businesses in the postcodes 2540, 2541, 2505 from 28 March 2022. The area codes were chosen based on geographic location of the facility, and to encompass the truck transportation route from the Manildra facilities in Bomaderry to the proposed new facility in Port Kembla.

#### 6.1.5.2 Project webpage

An existing company website was used to provide stakeholders and the community with broad information on the project, the technology proposed to be used for the plant, and the planning and approval process. Project contact details, a digital project overview booklet was published on the page.

The page is located at [Port Kembla Bulk Ethanol Storage Proposal - Manildra Group](#) and will be updated as the project progresses to EIS exhibition.

#### 6.1.5.3 Project email

A Project inbox [manildracommunity@spectrumcomms.net.au](mailto:manildracommunity@spectrumcomms.net.au) to assist stakeholder and community contact. Between 28 March and 11 May the project team received 4 emails from 4 stakeholders.

This inbox was used to provide specific answers to questions raised by to stakeholders.

#### 6.1.5.4 Project hotline (phone)

A free-call 1800 number for stakeholders to contact the project team commenced on 28 March. The project team received 1 phone call from an individual stakeholder. The stakeholder was confirming that the Manildra Group's Bomaderry site was not closing. No complaints were received via the 1800 number.

#### 6.1.5.5 Briefings and presentations

Invitations were sent to local MPs, Councillors and Council staff to attend one-on-one briefings with the project team to discuss the project proposal and raise any concerns about the project. An online community meeting was also advertised in the Illawarra Mercury. The project team held formal meetings/presentations with the below stakeholders who requested or responded to a meeting invitation.

These are listed in Table 9.

*Table 9: Stakeholder Meetings and Presentations*

DATE	STAKEHOLDER/ BRIEFING EVENT	TOPICS
<b>26 April 2022</b>	Online Community workshop	1 RSVP but no attendees
<b>29 April 2022</b>	Paul Scully MP	Visual amenity (height of storage tanks) Extent of EPA licence Truck and heavy vehicle movements Site and operation safety Project timeline
<b>3 May 2022</b>	Wollongong Council Executive team	Transportation route Facility design Truck and heavy vehicle movements Proximity of local residents Environmental regulations Rail congestion Employment opportunities By-products and water management

Details on government agency engagement can be found in Section 6.1.4.

Meeting presentations, project booklet, survey instrument and minutes for each meeting can be found in **Appendix K**.

## 6.2 Consultation Outcomes

### 6.2.1 Community Feedback

The issues raised by stakeholders and the community for consideration by the Proposal can be grouped under the headings:

- Construction and operational impacts
  - Traffic;
  - Impact on local roads; and
  - Safety – Storage, transportation, and management of hazardous materials.
- Environmental impacts:
  - Air quality; and
  - Water quality.

Questions, comments, and issues raised by the community are summarised below. This feedback is grouped by issue and Manildra Group's response and/or the reference to where this feedback has been addressed in the EIS.

Please refer to Section 5.4 for specific responses to agency and feedback and where this has been addressed in the EIS.

*Table 10: Stakeholder Meetings and Presentations*

ISSUE CATEGORY	ISSUE RAISED	MANILDRA GROUP'S RESPONSE	EIS REFERENCE
Construction and operational impacts	Utilisation of freight line instead of road network	Road transfer required due to limited capacity and shared passenger services on the South Coast rail corridor.	N/A
	Traffic increases	Dedicated construction routes will provide the shortest distances to and from the arterial road network. Trucks to enter and exit the site via Five Islands Road, Old Port Road, and Flinders Street. Vehicles will exit south to Bomaderry via King Street.	Section 7.5
	Impact on local roads	The road traffic route taken when transporting ethanol (via the A1) is an approved route. Traffic Guidance Scheme (TGS) submitted to Council and NSW Ports will appropriately manage the use of the designated construction routes of traffic which are not considered to cause any extensive impacts on the existing road network.	Section 7.5
	Safety – Storage, transportation, and management of hazardous materials	Completed HAZOP actions tracked, and dedicated truck vehicle routes developed to provide the shortest distances to and from the arterial road network, whilst minimising the impact of traffic on local streets.	Traffic Impact Assessment, Preliminary Hazard Analysis, HAZOP Study, Fire Safety Study <b>Appendix Z, Appendix CC, Appendix DD and Appendix EE.</b>

ISSUE CATEGORY	ISSUE RAISED	MANILDRA GROUP'S RESPONSE	EIS REFERENCE
	Retained access to public amenities (foreshore)	No requirement for an exclusion zone. All areas requiring controlled access are confined to the terminal boundaries.	Section 7.13.2
	Employment	It is estimated that the Proposal will employ up to 30 (Full Time Equivalent) people during a 12month construction period. The Proposal is expected to provide 15.2 (Full Time Equivalent) roles once operational. Construction labour sourced from local contractors.	N/A
Environmental Impacts	Air quality	Air quality dispersion modelling indicates proposal will comply with the relevant air quality assessment criteria.	Section 7.3
	Water quality	Fire water in the tank farm will be contained in the bunds and pumped to a slop tank for offsite disposal at Shoalhaven Starches facility.	Sections 7.7.2 & 7.9.3

### 6.2.2 Future Consultation

Manildra Group is committed to continuing its community engagement activities through the completion of the EIS process as well as during construction and operation should the proposal be approved. The following activities are proposed:

- A follow up project overview mail out to residents in the 2540, 2541 and 2505 postcodes to outline any changes made to the proposal following the EIS assessment;
- Updates in the Shoalhaven Starches Community Report, which is produced and mailed out twice yearly. The distribution will be increased to reach the Port Kembla district;
- Participation with NSW Ports and the Port Kembla Community in the Port Kembla Harbour Environment Group. This Group has representatives from Community Groups and local Institutions and Business Groups; and
- Community members can also make enquiries via the Manildra Group toll free phone number.



## 7.0 IMPACT ASSESSMENT

In accordance with the SEAR's document provided in **Appendix D**, this section undertakes an assessment against the key issues identified by the Department as being relevant to the proposed development. For the purpose of the Statutory and Strategic Context and Community and Stakeholder Engagement issues identified within the SEARS, these matters have been addressed in previous parts of this report and therefore will not be further review under this section.

In summary, a risk assessment of the key issues associated with the proposed development is reviewed undertaken within Table 11.

*Table 11: Risk Assessment of Key Issues*

MATTER	SPECIFIC MATTERS	POTENTIAL RISK	ASSESSMENT CONSIDERATIONS
<b>Hazards and Risk</b>	Hazard and risk	High	The potential hazards associated with the proposed development has been reviewed under section and is supported by associated hazard and risk assessment and minimisation documentation.
<b>Air Quality and Odour</b>	Greenhouse gas	Medium	Consideration of the potential greenhouse gas generation of the proposed development is reviewed under section 7.15
	Odour	Medium	Consideration of the potential air quality and odour impacts of the proposed development is considered under section 7.3.
<b>Noise and Vibration</b>	Noise	Medium	Consideration of noise and vibrational impacts associated with the proposed development is reviewed under section 7.4
	Vibration	Medium	
<b>Traffic and Transport</b>	Traffic Generation	Low	Consideration of traffic impacts of the proposed development is reviewed under section 7.5
<b>Port Navigation</b>	Port Navigation	Low	Consideration of the port navigation impacts of the development is reviewed under section 7.6
<b>Soils and Water</b>	Groundwater	Medium	Consideration of the groundwater of the premises is reviewed under section 7.7.1
	Stormwater	Medium	Consideration of stormwater management on the premises is reviewed under section 7.7.4
	Site Water Balance	Medium	Consideration of site water balance of the premises is reviewed under section 7.7.3.
	Acid Sulfate Soils	Medium	Consideration of acid sulfate soils of the premises is reviewed under section 7.7.2
	Flood and Sea Level Rise	Medium	Consideration of site water balance of the premises is reviewed under section 7.7.5
<b>Contamination</b>	Contamination	High	The contamination of the site and remediation measures is reviewed under section 7.8.
<b>Waste Management</b>	Waste Generation	Low	The expected waste generation and storage and management methods are illustrated under 7.9.1 and 7.9.2 of this report. Based on the assessment, the expected waste generation is expected to be

MATTER	SPECIFIC MATTERS	POTENTIAL RISK	ASSESSMENT CONSIDERATIONS
			manageable for the purpose of the proposed development
	Waste Minimisation	Low	Given the largely unmanned nature of the subject facility, the need for waste minimisation measures is not considered to be high. However, consideration of waste management has been included under section 7.9.3.
Heritage	Aboriginal Heritage	Low	The potential impacts to site of aboriginal heritage significance is reviewed under section 7.10.
	Non-Aboriginal Heritage	Low	The potential impacts to site of heritage significance is reviewed under section 0
Socio-Economic	Social	Medium	Given the context of the site, the potential social impact of the proposed development is considered to have relative merit and are appropriately considered under section 7.17.1.
	Economic	Low	The economic impact of the development is considered to be inherently minor and directly associated with other approved development. Consideration of economic impacts of the development is considered under section 7.17.2.
Biodiversity	Flora	low	In address of the potential biodiversity values of the subject premises, the proposed development has been assessed with the intention of seeking a waiver to any BDAR requirements. This waiver is provided within <b>Appendix T</b> .
	Fauna	low	
Aquatic Habitats and Recreational Fishing	Aquatic Biodiversity/Key Fish Habitat	Medium	given the coastal context of the development, it is considered relevant that there may be some perceived impact to the aquatic environment abutting the site. consideration of this impact is undertaken within section 7.13.1.
	Recreational Fishing	Low	The potential impact to recreational fishing in relation to the proposed development has been considered under section 7.13.2.
Infrastructure	Infrastructure impact	Low	Given the industrial context of the site, it is expected that the area is planned to provide sufficient capacity to the expected land uses. The potential impact to existing infrastructure is considered within section 7.14.
	Infrastructure Demand	Medium	Given the scale of the subject development, it is considered that there may be some infrastructure demand impacts that would require due consideration. The potential demand requirements are reviewed under section 7.14
Visual Amenity	Visual Amenity	Low	Given that the site forms part of an established port environment, the potential visual impact of the proposed development is considered to be low. However, a more detailed consideration of the visual amenity is undertaken within section 7.16.

MATTER	SPECIFIC MATTERS	POTENTIAL RISK	ASSESSMENT CONSIDERATIONS
<b>Ecologically Sustainable Development</b>	Ecologically sustainable Development	Medium	The nature of the subject premises has considered that the potential sustainability of the development 7.18.

## 7.1 Suitability of the Site

With respect to the suitability of the subject premises for the purpose of the proposed development has been reviewed in subsequent sections of this report and is reviewed in greater detail as part of this impact assessment. As is outlined in the SEAR's, the suitability of the premises is determined to be reflective of the potential environmental impact, the strategic context of the site, the constraints of the site and the permissibility. For the purpose of consistency, these matters will be further reviewed under this part in order to confirm the compatibility of the proposed development on the subject premises.

### 7.1.1.1 Strategic Context

As is detailed within section 3.0 of this report, the subject site form part of Port Kembla, within the Wollongong City Council LGA and Illawarra-Shoalhaven Regional Plan Area. As is outlined within this part, the proposed development is determined to be of a type that is consistent with the expected operations of the Port Kembla Port area, noting that:

- Regionally, Port Kembla is expected to be a major international shipping port, of which the proposed development is primarily expected to cater to; and
- The project is expected to be in suitable demand and is located within the most logical spot, in consideration of the other potential alternatives.

### 7.1.1.2 Use Permissibility

As is detailed within section 5.5.2 of this report, the subject site is identified to be subject to Chapter 5 of the Transport and Infrastructure SEPP. As is outlined within this SEPP, the subject site forms part of both the Lease Area and the SP1 – Special Activities Zone. Within the SP1 zone, a number of land uses are identified as being permissible with and without consent.

For the purpose of the development, the proposed land use of Port Facilities with associated bulk liquid storage is identified as permitted with consent. Additionally, the objectives of the zone, as reviewed in section 5.5.2, are determined to have been achieved with respect to the proposed development. Accordingly, the proposed development is determined to be consistent with the expectations of the zone.

### 7.1.1.3 Constraints

The subject site is identified to be subject to the following constraints:

- Flooding;
- Coastal Impacts/Sea Level rise; and
- Contamination.

In accordance with these constraints, it is expected that the proposed development has been suitably assessed in order to confirm the compatibility of the proposal with respect to the identified constraints. Particularly, the following should be regarded with respect to these constraints:

- The subject site is capable of being designed in order to achieve a suitable level of flood immunity, noting that:
  - All tanks are to be bunded to a height of 1.8m above ground level.

- Consideration of potential sea level rise resultant from climate change is reviewed within section 7.7.5 of this report;
- The proposed development does not comprise of any sensitive land uses that would be impacted by the presence of contamination of the premises, and in any case the subject site is to be predominately sealed, minimising accessibility to contaminants found within the soil and groundwater. Additionally, the contaminants present on the site have been assessed; and
- The proposed development is intended to be largely operated as an unmanned facility, with persons periodically accessing the site for loading/unloading activities, general maintenance, and meetings.

Accordingly, all constraints relevant to the subject site are determined to have been appropriately considered in the design of the proposed development as to ensure that minimal impact would result.

#### 7.1.1.4 Environmental Impacts

Extensive hazard and Risk report has been undertaken with respect to the proposed development, as can be found within the provided appendices. As can be noted from the reporting, it has been sought on all levels to ensure that any potential offsite impacts are minimised to the extent necessary as to not cause significant harm or nuisance to the surrounding area.

## 7.2 Hazards and Risk

In accordance with Chapter 3 of the Resilience and Hazards SEPP, the proposed development is determined to be classified as a potentially hazardous or potentially offensive development. For the purpose of the SEAR's issued by DPIE, risk assessment and hazard analysis is required to be undertaken to demonstrate compliance with Chapter 3 of the Resilience and Hazards SEPP and the relevant Hazardous Industry Planning Advisory Papers (HIPAP) applied under this SEPP. Particularly, the following considerations are required for the purpose of the proposed development:

- *The 'Applying SEPP 33' screening of the transport of dangerous goods movements and must evaluate the risks for the entire operation including but not limited to the following:*
  - *releases from storage of ethanol;*
  - *releases from loading and unloading of ethanol at the truck gantry;*
  - *releases from pipework within the site and pipeline from the site to the wharf until the ship loading point; and*
  - *activities of ethanol carrier ships at dock and in transit, in particular during adverse weather conditions, including the potential risk exposure to all shipping terminal activities at the port, including cruise shipping.*
- *Consideration of the requirements of the Work Health and Safety Act 2011 and associated Regulation 2017, consistent with Safework requirements;*
- *Address all relevant recommendations arising from the Buncefield fuel storage depot explosion;*
- *Proposed on-going maintenance and safety management of the project inclusive of pipeline infrastructure; and*
- *An assessment of the cumulative impacts from the overall site and the surrounding potentially hazardous developments in the area (if any) and demonstrate that the proposed development does not increase the cumulative risks of the area to unacceptable levels.*

In accordance with the above, the following hazard documents have been prepared to consider the potential hazards associated with the proposed development and the required mitigation and management measures.

- Preliminary Hazard Analysis, provided in **Appendix CC**;

- HAZOP Report, provided in **Appendix DD**;
- Fire Safety Study, provided in **Appendix EE**; and
- Transport Study/HIPAP 11 Study, provided in **Appendix FF**.

The above reports have been prepared in accordance with the relevant HIPAP's published by the department in order to address the requirements of now superseded SEPP 33. A review of the matters considered under these supporting documents has been undertaken within the following sections under this part of this report.

### 7.2.1 Ethanol Storage and Handling

As outlined within the PHA, the proposed development is expected to store hazardous goods on the subject premises, with ethanol being the primary hazardous good (as outlined previously), with LPG additionally expected to be stored on the subject premises. In terms of potential hazards associated with the development, a number of key hazards were identified as what may occur at the subject site, with appropriate management measures to be implemented to ensure that the potential impact be reduced. Namely, the key mitigation measures to be implemented on the subject site to minimise the potential risk associated with the proposed development includes:

- Full bunding of all potential ethanol release points within the subject premises, in accordance with the capacity requirements under AS1940;
- Design of pipework in accordance with AS4041 and AS2885, and limiting the number of flanges with potential for release of containment;
- Design of tanks in accordance with API 620;
- Implementation of appropriate fire mitigation and management methods in and around tanks, including;
  - Nitrogen blanketing;
  - Earthing of tanks; and
  - Establishment of sufficient firefighting equipment (fire water and foams, etc).
- Maintenance and operating procedures to minimise potential risk on the subject premises.

The PHA provides additional risk management measures to ensure that the potential hazards associated with the proposed development. Overall, with consideration of all required risk management procedures expected to be implemented on the subject premises, the potential risk associated with the establishment of the proposed terminal is expected to be inherently low. Additionally, given that the development has been designed to contain potential risk point outside of publicly accessible areas, and within the development site, it is not considered that any significant societal risk would be caused by the proposed development.

### 7.2.2 Transportation of Ethanol

In consideration of the potential risks associated with the transit of ethanol from Bomaderry to Port Kembla, a Transport Study has been prepared in accordance with HIPAP 11 and has been provided within **Appendix FF**.

As is outlined within the transport study, the viable transport routes were selected based on mandatory factors, which includes general heavy vehicle capacity factors (height restrictions, weight restrictions, breakdown allowances, etc), and other factors, including:

- Proximity to and extent of sensitive land uses;
- Traffic adequacy factors; and
- Travel Time.

Overall, it is determined that ethanol transport vehicle transport ethanol to Shellharbour, then two options were considered in terms of the most viable in terms of risk. Based on the assessment undertaken, the most viable route was determined to be option 1, as illustrated by Figure 20 and Figure 21.

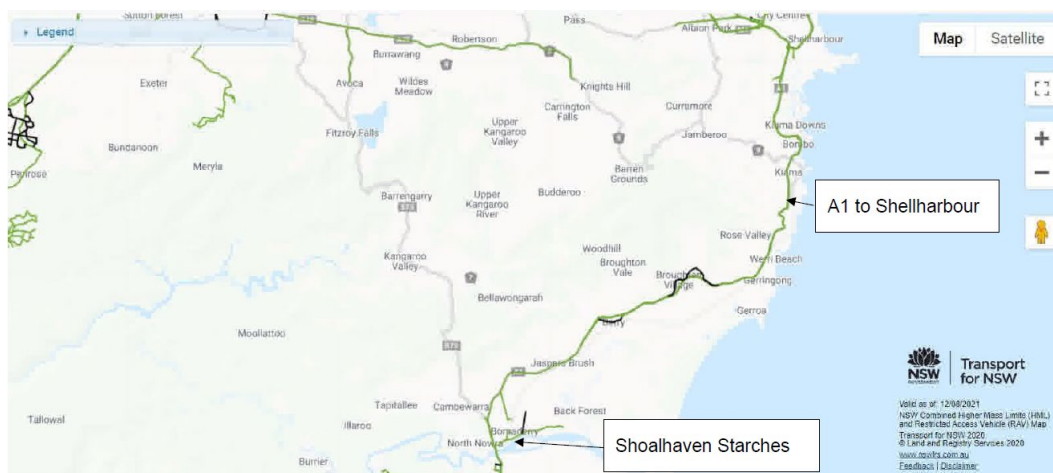


Figure 20: Map of Transport Route – Bomaderry to Shellharbour (Extract from Transport Study, Pinnacle Risk Assessment: Oct 2021)



Figure 21: Map of Transport Route – Potential Shellharbour to Port Kembla Route (Extract from Transport Study, Pinnacle Risk Assessment: Oct 2021)

Further to above, in response to the possibility of a tanker failure and release of ethanol material into the road environment, a Transport Emergency Response Plan has been developed to provide procedures to appropriately handle tanker failures. Please refer to the TERP provided within **Appendix GG**.

### 7.2.3 Maintenance and Safety Management

As outlined within the Preliminary Hazard Analysis, regular maintenance is recommended to the tanks, pipelines, transfer hoses, pumps, wharf lines, boiler, and furnace in order to minimise potential for the occurrence of a



hazardous event in association with these aspects of development. In order to ensure maintenance or inspection is undertaken on a semi regular basis, the proponent intends to utilise maintenance software at the subject premises, which is currently used within its facility in Bomaderry.

#### 7.2.4 Cumulative Impacts

In accordance with the Preliminary Hazard Analysis provided within **Appendix CC**, it is determined that given that the 12.6kW/m<sup>2</sup> contours shown for the proposed facility do not encroach upon any existing or proposed facilities within the area that the proposed facility does not have any anticipated cumulative impacts on the locality.

### 7.3 Air Quality and Odour

In accordance with the SEAR's, the expected air quality and odour impacts associated with the proposed development requires consideration, to ensure that the proposed development poses minimal impact to nearby receivers. Particularly, the following considerations are required to be considered for the purpose of the proposed development:

- *a detailed description of all operational processes and activities, inputs and outputs and characterisation of all emission sources;*
- *details of proposed mitigation, management and monitoring measures, benchmarked against best practice measures for emission control in similar facilities, including for all on-road diesel trucks associated with the development; and*
- *an assessment of cumulative impacts from existing or approved port or industrial operations in the area, including the proposed Simosa Bitumen Facility.*

In response to the SEAR's a project specific Air Quality and Odour Assessment has been provided in **Appendix R**, assessing the potential impacts of the proposed development. As is detailed within the report, the air quality assessment has been undertaken with respect to the location of the identified emission sources, comprising the scrubber stack on the primary development site and the vessel vent to be located at Jetty No. 4. The modelling of the potential impact of the proposed development with respect to potentially sensitive receivers has been undertaken with respect to the closest industrial receiver, located on the opposite side of Foreshore Road, the closest commercial receiver, located to the east of the site, and the closest residential receiver, located southwest of the subject premises.

For Reference, the location of the emission sources and nearby sensitive receptor as identified by GHD are outlined within Figure 22 below.

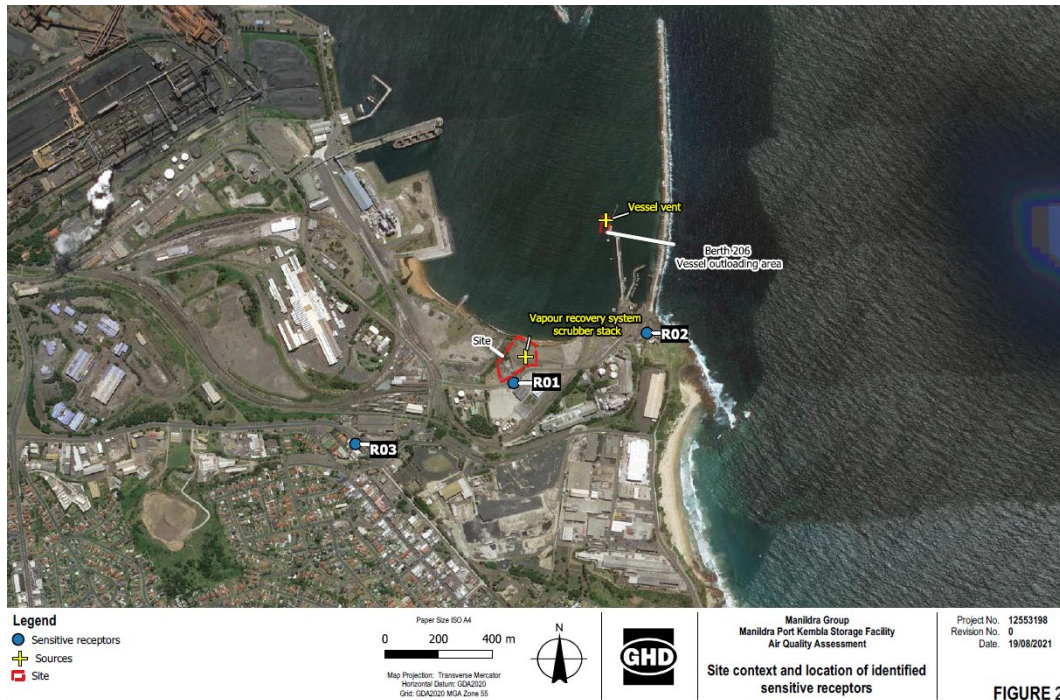


Figure 22: Map of Sensitive Receivers and Emission Sources (Extract from Air Quality Assessment, GHD: Aug 2021)

This report has been prepared in with regard to the following policy and guideline material:

- *NSW Protection of the Environment Operations Act 1997(POEO Act);*
- *NSW Protection of the Environment Operations (Clean Air) Regulation 2010 (POEO Clean Air Regulation)– National Environment Protection Council (NEPC);*
- *National Environment Protection (Ambient Air Quality) Measure (the Air NEPM); and*
- *NSW EPA Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2016) (the Approved Methods).*

### 7.3.1 Development Specific Air Quality Impacts

As is detailed within the provided report, as reproduced by the above mentioned policy and guidelines, there are specific emission and air quality targets that need to be achieved in order to achieve the

- 40mg/m<sup>3</sup> of Volatile Organic compounds (VOCs) over a 1-hour period; and
- 2.1mg/m<sup>3</sup> of Ethanol Odour over a 1 hour period in the 99.99<sup>th</sup> percentile.

As is detailed by the report, the expected air quality emissions resultant from the proposed development are determined to result from the storage, handling, and general fugitive losses.

#### 7.3.1.1 Storage Emissions

In the storage of ethanol, the potential for emissions are determined to be resultant from both working losses, being the evaporative losses during filling operations, and breathing losses, which can also be referred to as standing losses and comprise the general evaporative losses from the storage of ethanol.

As is indicated by the provided reporting, in order to account for the identified air emissions resulting from the proposed ethanol storage, a vapour recovery unit, with an associated dispersion stack is to be provided on the subject premises, with all working and standing emissions to be directed towards this scrubber before discharging to air. As is outlined with Figure 23, the elected vapour recover unit, is determined to comprise the following emission rates.

Parameter	Value	Units
Stack height	15	m
Stack flowrate	200	m <sup>3</sup> /hr
Stack diameter	0.1	m
Stack velocity	7.07	m/s
Exhaust temperature	25	°C
Normalised flowrate	217.2	Nm <sup>3</sup> /hr
Stack VOC concentration limit (assumed to be equivalent to ethanol concentration limit)	40	mg/Nm <sup>3</sup> dry
Ethanol emission rate	0.0024	g/s
	76.1	kg/year

Figure 23: Tank Vapour Recovery System Emission Rates (Extract from Air Quality Assessment, GHD: Aug 2021)

The above emission rates are utilised in the balance of the reporting in order to determine the potential offsite impacts and general compliance with the emission criteria detailed within the aforementioned policy and guidelines.

### 7.3.1.2 Transfer/Handling Emissions

In the storage of ethanol, the potential for emissions are determined to be resultant from:

- Unloading of Road Tankers to Storage Tanks;
- Filling and Outloading of ISO Tanks;
- Filling and Outloading of Road Tankers; and
- Loadout to Vessels Moored at Jetty No. 4.

In relation to truck based loading and unloading, as outlined above, it is proposed that all emissions resulting from these processes be directed towards the vapour recovery unit, as discussed within section 7.3.1.1.

For the purpose of ship loading, it is expected that there would be vapour release associated with evaporation within the vessel containers, similar to working losses within the storage tanks within the primary development site. The emission generation rate of this activity is based on the guidance provided by the Australian Government Department of Environment and Water Resources within the *National Pollutant Inventory Emissions Estimation Technique Manual for Beer and Ready-to-Drink Alcohol Beverage Manufacturing*. Based on this guidance, it was estimated that based on the 1,000m<sup>3</sup>/h loading rate proposed, it was determined that emissions would be released at a rate of 13.9g/s. A summary of the overall expected emissions from the is illustrated within Figure 24 below.

Parameter	Value	Units
Stack height	10	m
Stack flowrate	1,000	m <sup>3</sup> /hr
Stack diameter <sup>2</sup>	0.1	m
Stack velocity	35.4	m/s
Exhaust temperature	25	°C
Ethanol emission rate	13.9	g/s
	9,984.0	kg/year

Figure 24: Vessel Vapour Vent Emission Rates (Extract from Air Quality Assessment, GHD: Aug 2021)

### 7.3.1.3 Fugitive Losses

Fugitive losses generated by a development are associated with minor products losses within the pressurised tank componentry and the pipelines. The Air Quality Report concluded that fugitive emissions are considered minor and were therefore not included in the quantitative assessment. Instead, appropriate management measures were recommended to minimise fugitive emissions where possible.

### 7.3.2 Cumulative Air Quality Impacts

As is detailed within the air Quality Assessment, GHD have reviewed the surrounding area of port Kembla in order to consider the potential cumulative air quality impacts that may occur in association with nearby emission sources and as a result of geospatial impacts. As stated within the report, the identified emission sources within the Port Kembla port area were determined to comprise the following:

- *Australian Marine Fuels (total volatile organic compounds (TVOC) and ethanol);*
- *IXOM Port Kembla Site (TVOC);*
- *Kel Campbell-Kembla Petroleum Depot (toluene, xylene, TVOC);*
- *Pacific National Port Kembla Outer Harbour (xylenes, TVOC and cumene);*
- *Port Kembla Milling (TVOC); and*
- *BlueScope Steel Port Kembla Steelworks (ethanol, hydrogen sulfide, methanol, toluene, TVOC, xylenes).*

In accordance with the above cumulative impacts assessment, given that the surrounding developments pose limited and are subject to sufficient separation from the proposed development, it was not considered that any significant air quality impacts were resultant from the establishment of the proposed development. Accordingly, no further review of the cumulative air quality impacts was undertaken with respect to the proposed development.

#### 7.3.2.1 Modelling

Reflective of the previously discussed emission sources, the resulting impacts of the proposed development were then modelled based on both standard operating parameters and possible worst-case scenarios, in order to determine compliance with the maximum odour impacts to the nearby sensitive receivers.

Figure 25: Modelled Ethanol Concentrations – Tank Storage and Handling (Extract from Air Quality Assessment, GHD: Aug 2021) Figure 25 below outlines the modelled air quality outcomes from the emissions source of the primary development site during typical operations, being the expected standard impact for the locality. As can be noted from the below, the impacts of the proposed development on the surrounding locality are determined to be minor, noting that the closest sensitive receiver does not receive quantities of greater than 0.002mg/m<sup>3</sup>.

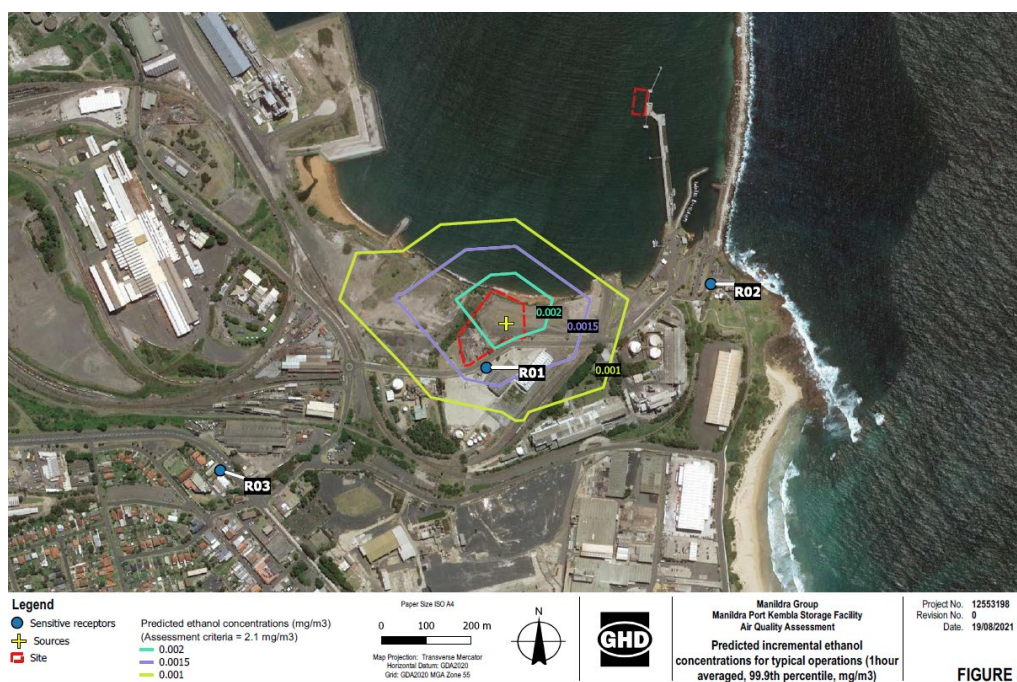


Figure 25: Modelled Ethanol Concentrations – Tank Storage and Handling (Extract from Air Quality Assessment, GHD: Aug 2021)



As for emissions generated during ship loading, given that it is expected that a high level of emissions would be generated during this operation, the worst-case scenario has been adopted in this model. As can be noted from Figure 26, the identified receivers are expected to have a maximum effect of less than  $2\text{mg}/\text{m}^3$ . It is identified that the emissions in excess of  $2.5\text{mg}/\text{m}^3$  have potential to occur within the Eastern Breakwater, however, given that the emissions resulting from ship loading is not constant and that the eastern breakwater is an open area, the impact to this point is considered to be minor.

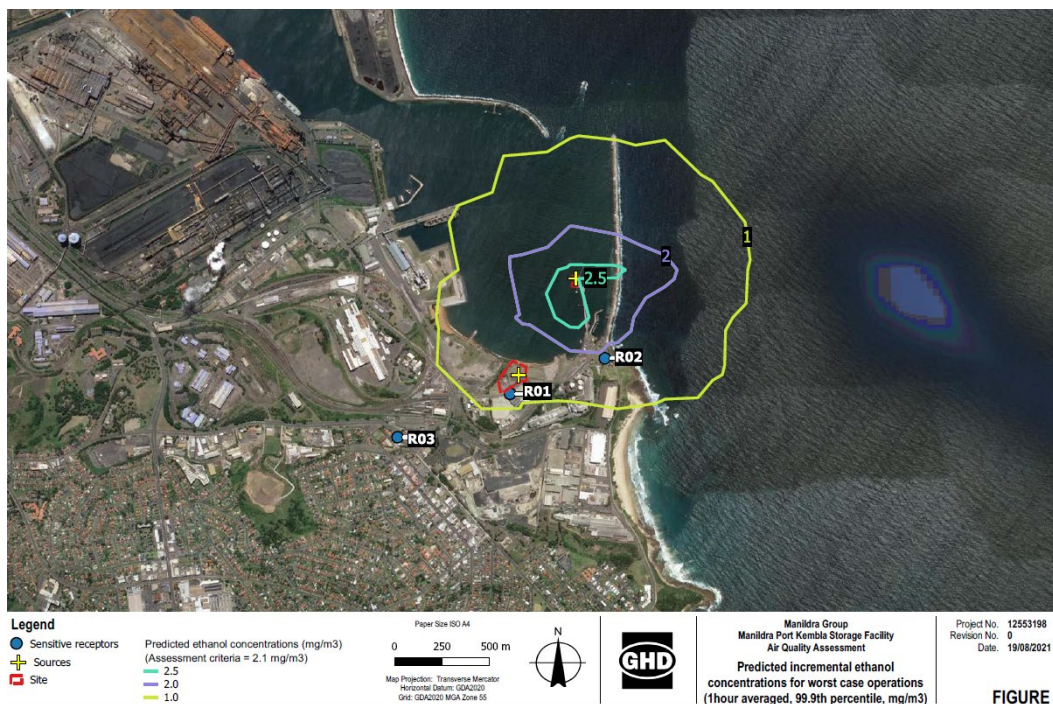


Figure 26: Modelled Ethanol Concentrations – Vessel Loading (Extract from Air Quality Assessment, GHD: Aug 2021)

In summary of the above, Figure 27 below outlines the predicted typical and worst-case operations from each of the identified sensitive receivers. As specified, it is determined that the operations associated with the proposed development would be in accordance with the benchmarks prescribed for this facility.

Receptor	Predicted incremental ethanol concentration ( $\text{mg}/\text{m}^3$ , 1 hour averaged, 99.9 <sup>th</sup> percentile)	
	Typical operations	Worst case operations
Assessment criteria ( $\text{mg}/\text{m}^3$ )	2.1	2.1
R01	0.0011	1.6
R02	0.0003	1.9
R03	0.0001	0.3

Figure 27: Modelled Ethanol Concentrations (Extract from Air Quality Assessment, GHD: Aug 2021)

### 7.3.3 Mitigation and Management Methods

In order to ensure that the potential air emissions release from the premises is minimised for the purpose of the proposed development, it is recommended by GHD that the following best practice measure be implemented:

- Use of a vapor recovery system to collect and treat all vapours from tank inloading and filling of ISO tanks and road tankers. The vapour recovery wet scrubbing system would control emissions to air to comply with the POEO Clean Air Regulation AEL outlined in Schedule 2 Standards of concentration for scheduled premises: afterburners, flares, and vapour recovery units (Clause 38);
- Charging of pipelines with nitrogen when at rest (i.e., when not in use), limiting the opportunity for fugitive emissions to occur;

- *Painting of the exterior of tanks;*
- *Use of pressure and vacuum relief valves; and*
- *Automation of inloading to storage tanks and outloading to ISO tanks and road tankers to prevent overfill.*

Additionally, it is recommended by GHD, that all plant equipment and in particular the vapor recovery unit be regularly maintained in order to minimise the potential of fugitive leaks and ensure that the scrubber operates at its maximum potential in order to achieve the concentration standards with the POEO Clean Air Regulation.

## 7.4 Noise and Vibration

In accordance with the SEAR's, the expected construction and operational noise and vibration generation associated with the proposed development requires consideration, to ensure that the proposed development poses minimal impact to nearby receivers. Particularly, the following considerations are required for the purpose of the proposed development:

- *The identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours and a detailed sleep disturbance assessment;*
- *Details of noise monitoring survey, background noise levels, noise source inventory and 'worst case' noise emission scenarios;*
- *Consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area;*
- *An assessment of cumulative impacts with other developments;*
- *Details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration following application of mitigation these measures; and*
- *Details of any proposed compliance monitoring programs.*

In order to address the above matters, a Noise Impact Assessment and a Piling Test Noise and Vibration Report has been prepared for the purpose of the proposed development. Please refer to **Appendix U** and **Appendix V** respectively. The noise impact assessment has been prepared with regard to the noise emission criteria set out within the following supporting policies:

- *Wollongong City Council Development Control Plan (DCP) 2009;*
- *NSW EPA Noise Policy for Industry 2017; and*
- *NSW EPA Road Noise Policy 2011.*

The most affected sensitive/residential receivers are located approximately 700m southwest of the subject premises, on the opposite side of Five Islands Road. The location of the identified receivers are outlined within Figure 28 below, which comprises an extract from the Noise impact assessment.





Figure 28: Identified Receivers (Extract from Noise Impact Assessment, Acoustic Logic: Aug 2021)

The existing noise generating environment was assessed through the use of three different loggers within proximity to the subject site and the identified residential receivers. The location of loggers comprised of the following:

- **Logger 1:** On the grounds of the subject site to record existing ambient noise levels at the nearest industrial and commercial receivers;
- **Logger 2:** Residential receiver at 7 Military Road to record existing road traffic noise levels along Military Road/Five Islands Road and background noise levels; and
- **Logger 3:** Residential receiver at 9 Horne Street to record ambient and background noise levels.

The background and ambient noise measurements were conducted from 8 June to 21 June 2021. Details regarding the recorded Ambient and background noise levels recorded from the loggers is detailed within the provided report.

The relevant matters prescribed under the SEAR's for the proposed noise and vibration generation in association with the proposed development have been discussed in subsequent sections of this report.

#### 7.4.1 Construction Noise Generation

All construction noise generation determined as part of this supporting report is preliminary in nature and subject to contractor engagement. The primary noise generating activities outlined within the report are determined to be:

- Bulldozer – 112 dB(A);
- Concrete Agitator – 109 dB(A);
- Concrete Pump Truck – 108 dB(A);
- Crane – 105 dB(A); and
- Semi-trailer Truck – 110 dB(A);

The Noise Impact Assessment Report States that:

*The analysis indicates that construction undertaken during normal construction hours (7am to 6pm Monday to Friday and 8am to 1pm Saturday) will not exceed the IGNG noise management levels. Therefore, specific management of noise emissions is not indicated.*

Additionally, it is concluded within the piling noise and vibration assessment that:

*Based on this assessment, noise emission from impact piling activities can generally meet the relevant noise emission levels at the nearest and most affected receivers. Vibration emissions from the site have been found to meet the nominated guidelines and standards.*

#### 7.4.2 Operational Noise Generation

As is detailed within **Appendix U**, the expected noise generating elements resulting from the proposed development as determined to result from the:

- Mechanical Plant, comprising:
  - Transfer Pumps;
  - Slops Loading Pumps; and
  - Truck Loading Pumps.
- Trucks Manoeuvring within the site; and
- Road Traffic Noise from the additional trucks on Military Road/Five Islands Road.

Accordingly, for the purpose of assessing the potential acoustic impacts resultant from the proposed development, the following assumption/estimates have been made for the purpose of assessing the acoustic impacts resultant from the proposed development.

Equipment/Activity	Sound Power Level dB(A)
Truck	105
Slop pump	90*
Shipping pump	105*
Truck loading pump	100*
Truck Horn	120(LE)/125(L <sub>max</sub> )
Truck Air Brake	110 (LE)/123(L <sub>max</sub> )

\* Estimated pump noise sound power levels.

Figure 29: Expected Noise Outputs (Extract from Noise Impact Assessment, Acoustic Logic: Aug 2021)

In assessing the impact of the operation noise of the proposed development on the identified sensitive receivers, the NSW EPA Noise policy for Industry criteria were adopted for site, additionally accounting for the cumulative impact, through consideration of the number of greenfield sites within the locality that may be developed in the future. Based on the assessment of the expected noise generation for the proposed development, it is determined that the proposed development would support acoustic impacts that are in less than the acoustic trigger levels from the identified residential, commercial, or industrial receivers.

Further, in consideration of the NSW EPA Road Noise Policy, the potential acoustic increase resulting from the increased traffic movements from the subject premises was considered. Based on the assessment, it was predicted that the following noise level increases would result from the proposed development:

- Day – <0.25 dB; and

- Night – <0.25 dB.

As it is not expected that the proposed development would result in an increase to the road noise levels by greater than 2dB, the increase would be insignificant to the locality and would not result in an adverse impact.

#### 7.4.3 Mitigation Measures and Monitoring Programs

In accordance with the acoustic assessment undertaken for the subject premises, the identified operational measures are determined to be within acceptable levels, when considered from the identified receivers within proximity to the subject premises. This determination assumes that the assumptions made within the report are complied with for the life of the development and as such, where the expected noise generation from the identified equipment are exceeded, subsequent assessment and/or acoustic attenuation would need to be implemented as to ensure that no impact is posed to the identified receivers.

As for construction-based impacts, as specified previously, construction impacts are preliminary and predict the expected noise generation of equipment used in the construction of the proposed development. It is as such outlined that should construction process and equipment be significantly altered from the assumptions, a detailed construction noise and vibration assessment and management plan would need to be prepared to assess the potential impacts. In accordance with this, a Piling Test to determine the Noise and Vibration Measures was undertaken to determine a more accurate construction-based noise and vibration assessment, given that the piling works were determined by the proponent to be the most noise intensive operations.

### 7.5 Traffic and Transport

In accordance with the SEAR's, the traffic and transport impacts of the proposed development are considered relevant for the assessment of the proposed development. Particularly, the following considerations are required:

- *details of all daily and peak traffic volumes likely to be generated, including a description of key access / haul routes, vehicle types, sizes and carrying capacity and potential queuing impacts;*
- *an 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;*
- *details and plans of any proposed internal road network, site access and circulation arrangements and on-site parking provisions in accordance with the relevant Australian Standards;*
- *swept path diagrams depicting the largest vehicles entering, exiting, and manoeuvring throughout the site;*
- *draft construction and operational traffic management plans; and*
- *details of road or shipping infrastructure upgrades, infrastructure works, or new roads or access points required for the development if necessary.*

In order to respond to all of the above, a traffic impact assessment has been prepared for the purpose of the proposed development and has been provided in **Appendix Z**. Additionally, the construction traffic management plan for the proposed development has been provided in **Appendix BB**.

The matters applied above, have been reviewed within the subsequent sections below.

#### 7.5.1 Traffic Generation

In accordance with the Traffic Impact Assessment provided within **Appendix Z** of this report, the proposed is to be provided with 7 parking spaces and is intended to support access and manoeuvrability for vehicles up to a 25m B-Double and 33m A-Double in size. Access to and egress from the premises is to be supported through the 3 crossovers proposed for the subject premises.

The proposed development is expected to generate up to 13 vehicle movements per hour, accounting for both light and heavy vehicle movements from the site. The overall traffic generation is illustrated within the extract from the Traffic Impact Assessment provided in Figure 30 below.

**Table 5.1: Estimated Vehicle Movements**

	Litres	Truck Payload (litres)	Trucks per Annum	Trucks per Week	Trucks per Day	Trucks per Hour	Vehicle Movements per Hour
Export	250,000,000	74,000	3,380	65	13	1.6 (2)	3.2 (4)
Iso tanks & trucks out loading	50,000,000	50,000	1,000	20	4	0.5 (1)	2
Employees and service vehicles	-	-	-	-	-	-	7
<b>Total</b>	<b>300,000,000</b>	<b>124,000</b>	<b>4,380</b>	<b>85</b>	<b>17</b>	<b>3</b>	<b>8</b>

*Figure 30: Proposed traffic Generation (Extract from Traffic Impact Assessment, TTPP: April 2022)*

As is specified within **Appendix Z**, the above traffic estimates are considered to be inherently low and are not expected to result in any discernible traffic on the surrounding road network. Additionally, the abovementioned traffic numbers are identified to be within the acceptable range outlined as part of the Port Kembla Outer Harbour Approval, as specified within Figure 31 below.

**Table 5.2: Comparison of Proposed Development Traffic Volumes and Road Limits**

Element	Road Limit		Total Proposed Development Traffic	Compliance (Y/N)
	Bulk	General		
Trucks per year	60,714	64,000	4,100	Y
Trucks per day (average)	166	175	17	Y
Trucks per hour (peak)	10	11	3	Y
Two-way peak hour truck movements	21	22	6	Y
Two-way vehicle movements per hour	121 vehicle movements per hour (102 trucks + 19 employee vehicles)		13 vehicle movements per hour (6 trucks + 7 employee vehicles)	Y

*Figure 31: Port Kembla Outer Harbour Approval – Traffic Review (Extract from Traffic Impact Assessment, TTPP: April 2022)*

### 7.5.2 Cumulative Traffic Impacts

The cumulative traffic impacts of the proposed development, with respect to the other existing/proposed development within the locality was undertaken having regard to recent traffic data collected as part of the Cement Australia traffic generation assessment prepared as part of the recent modification to the Port Kembla Outer Harbour Approval.

With regard to the traffic estimates made by cement Australia and given that the proposed development is only expected to result in 13 traffic movements within a peak hour, the proposed development is not expected to cause any significant adverse impacts to the surrounding network.

### 7.5.3 Site Circulation

As is detailed on the provided drawings, the proposed development is to enable access and manoeuvrability for vehicles up to a 25m B-Double and 32m A-Double in size. The largest anticipated vehicles are to access the premises via the eastern most crossover, passing through the access gate. the expected manoeuvring of this vehicle type is illustrated within Figure 32 overleaf.



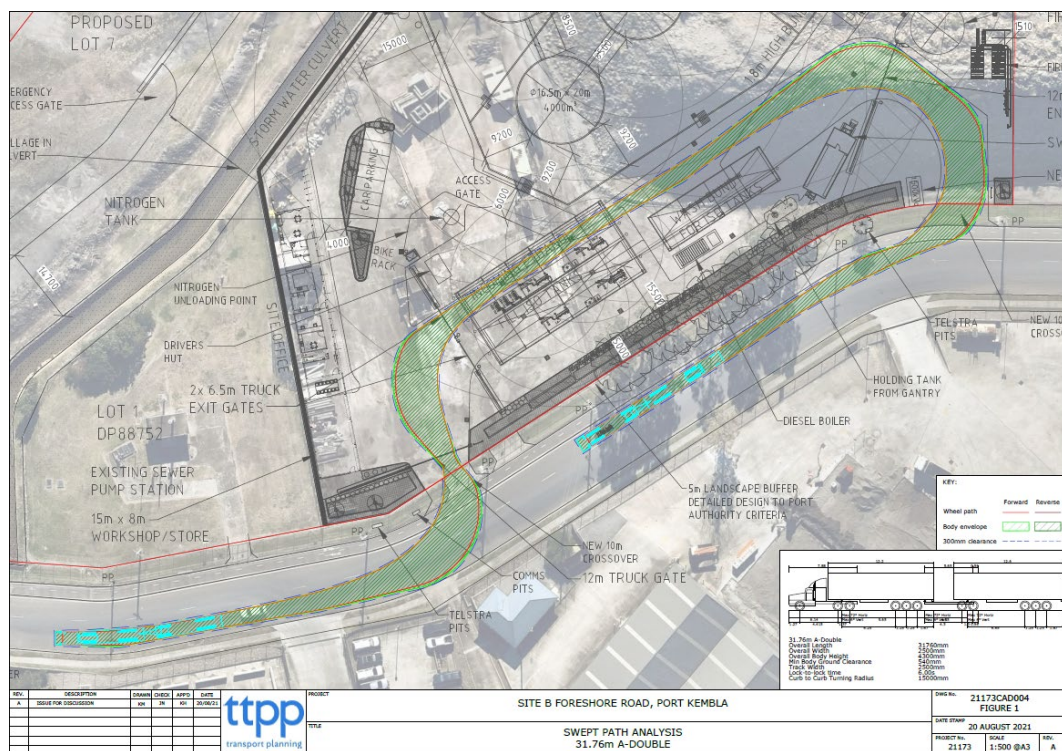


Figure 32: A-Double Manoeuvring (Extract from Traffic Impact Assessment, TTPP: April 2022)

Further to the above, the central crossover is to provide primary access for light vehicles accessing the premises, as this provides direct access for parking associated with the office space. However, in addition to this, the central crossover is expected to support access for both WCV's, associated with waste collection provisions, and Nitrogen Tankers, for deliveries to the site. The access arrangement is expected to be suitable for the purpose of these vehicles, as demonstrated by the 19m tanker turn paths outlined within Figure 33 below.

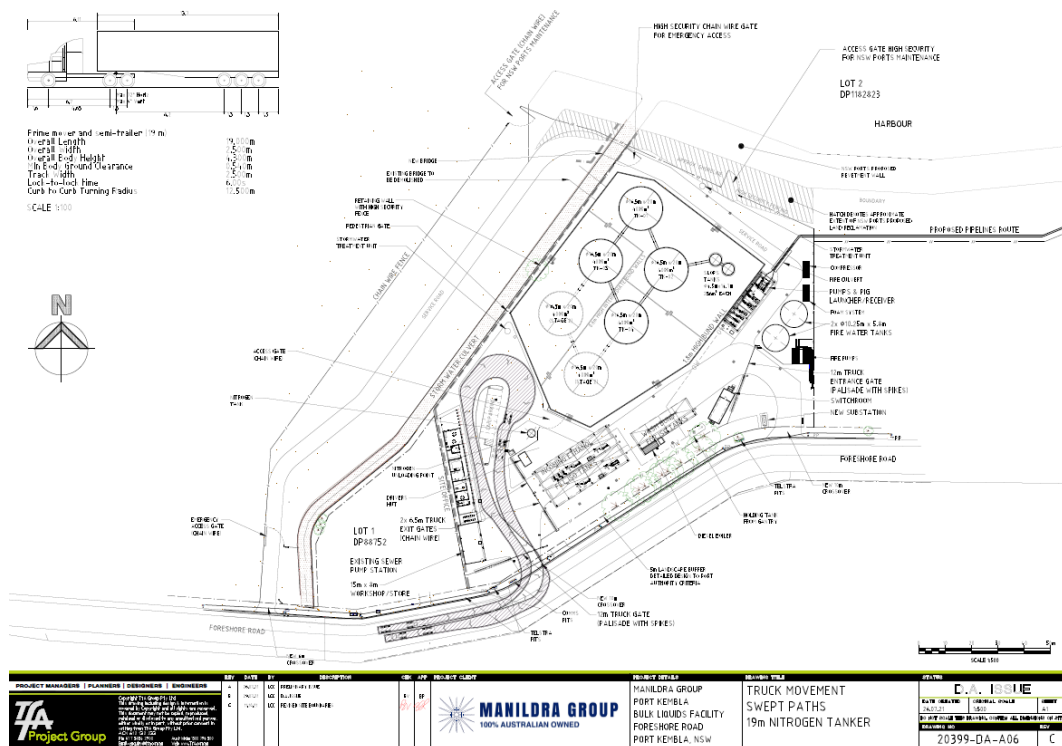


Figure 33: Nitrogen Tanker Manoeuvring (Extract from Traffic Impact Assessment, TTPP: April 2022)

Additionally, it is required as part of the Port Kembla Development Code that a perimeter road be provided through the facility, enabling emergency vehicles to enter and circulate the hazardous areas in the case of emergency. In order to demonstrate compliance with this matter, a standard HRV has been illustrated as utilising the perimeter road in order, as shown in Figure 34 overleaf.

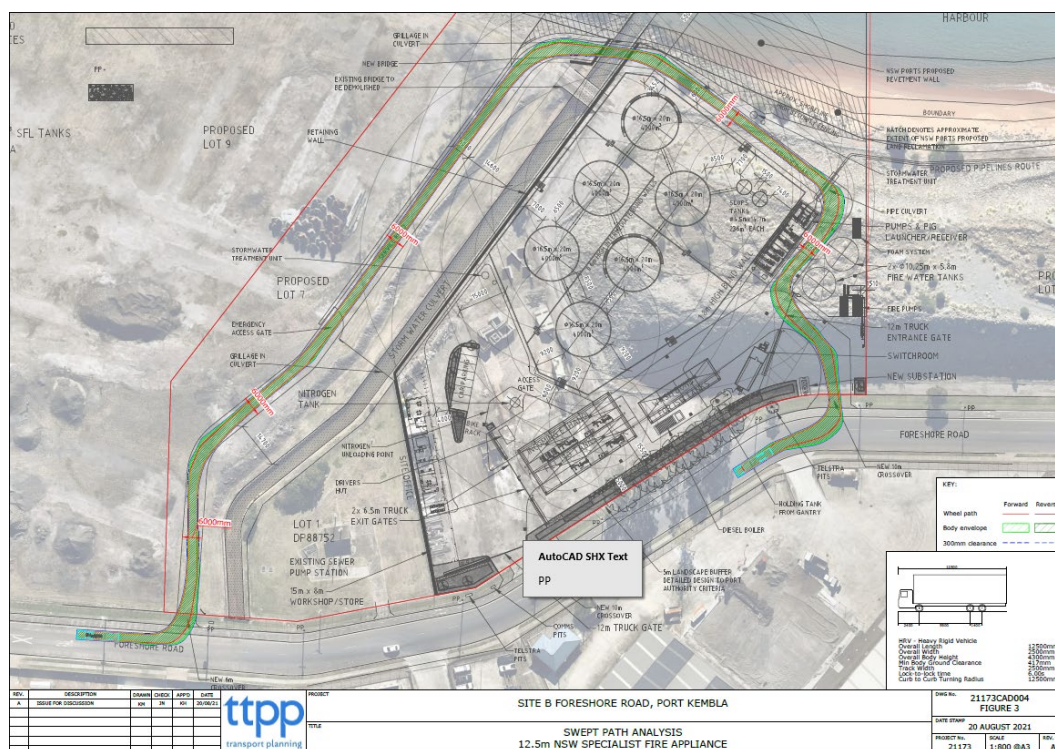


Figure 34: HRV Manoeuvring (Extract from Traffic Impact Assessment, TTPP: April 2022)

## 7.5.4 Infrastructure Upgrades

Given the low traffic demand resulting from the proposed development, it is not expected that the development would pose any need for any road upgrades in order to account for the proposed development.

Additionally, as was specified previously, it is proposed that three road crossovers be established in association with the proposed development, comprising of:

- Western Crossover: 6 wide crossover, supports egress only for vehicles utilising the service road (Vehicles up to HRV in size);
- Central Crossover: 10 wide crossover, supports access and egress for light vehicles and will be egress only for heavy vehicles; and
- Eastern Crossover: 10 wide crossover, supports access only for heavy vehicles.

These crossovers are to be established in accordance with Wollongong Council's standard drawings, and have previously been approved by Wollongong council, as evidenced by the Road Act Consent provided in **Appendix HH**.

## 7.6 Port Navigation

In accordance with the SEAR's, consideration of the potential impacts that the proposed development would have on ongoing vessel navigation within the port environment requires assessment for the proposed development. Particularly, the following considerations are required:

- An assessment of impacts on vessel navigation within Port Kembla during construction and operation, including consideration of current and future port operations;



- *Protocols for safe handling of ethanol vessels including under adverse meteorological conditions and including consideration of upcoming changes to Port Kembla from the construction of the Australian Industrial Energy facility and its emplacement cell (SSI-9471); and*
- *Any additional and/or upgraded port resources that may be required.*

In order to assess the above-described matters, a port navigation report has been prepared to review the expected vessel movements and how they interact with the ongoing operation of the premises, which has been provided in **Appendix AA**. An overview of this assessment has been undertaken within this part.

### 7.6.1 Proposed Port Operations

The proposed development is expected to result in the generation of approximately 30 shipments of ethanol per year, each facilitating the export of 4-10 ML of Ethanol per year. The proposal is intended to support two ship types, for which the design particulars are outlined within Figure 35 below.

Particular	Golden Leader	Golden Unity
Length Overall (LOA)	124.0 m	155.0 m
Length Between Perpendiculars (LBP)	116.1 m	145.0 m
Beam	20.0 m	24.8 m
Moulded Depth	11.2 m	13.35 m
Ballast Draught	4.83 m	6.27 m
Summer Draught	8.77 m	10.22 m
Ballast Displacement	8,384 t	17,847 t
Summer Displacement	16,270 t	30,122 t
Cargo Capacity	13,355 m <sup>3</sup>	23,325 m <sup>3</sup>
Bow to Centre of Manifold	61.1 m	74.85 m

Figure 35: Vessel Particulars (Extract from Port Navigation Assessment, Advisian: Apr 2022)

During loading procedures, it is determined that the loading of bulk ethanol would be subject to the same waterside requirements to that of High Hazard Class Volatile Petrochemicals. As is outlined within the Port Navigation Report provided within **Appendix AA**, the following is determined to be typical for waterside operations:

- *For preliminary planning purposes, an exclusion zone of at least 40 m from the manifold centre is required [1];*
- *No unauthorised small craft or ships within 25 m of the ethanol ship [2];*
  - *One or more warning signs with legible signage from at least 30 m distance in any direction that ships may approach from are required.*
- *Class B firefighting capable tugboat [2];*
- *Number of tugs dictated by the difficulty in berthing and manoeuvrability of the ship; and*
- *Spill kits on standby in the event of a leak/spill to contain ethanol.*

### 7.6.2 Impacts to Existing Port Operations

As is outlined within **Appendix AA**, the existing infrastructure to Berth 206 is identified to provide sufficient infrastructure to allow for the safe handling of chemicals and allow for the maximum expected vessel size to be accounted for within the port. Namely, this is identified to comprises of:

- Berth 206 currently allows for a maximum vessel size of 220m LOA and 50m Beam, which is considered to be consistent with the expected vessel types for the proposal; and
- Port Kembla currently supports a firefighting fleet of Svitzer firefighting tugboats, with firefighting capabilities of up to 2,750m<sup>3</sup>/hr of water capacity with 680L/min of foam discharge.

In terms of existing operations within the berth, berth 206 currently is only utilised by Ixom through its importing of Sulfuric Acid, which utilises approximately 1.3% of the maximum berth capacity. In relation to the expected shipping movements associated with the proposal, the approximately 30 shipments per year are expected to account for up to 10% of the total capacity of the berth, totalling 11.3% of the berth usage. As such, it is expected that the proposal would be in accordance with the allowable usage of the berth.

#### **7.6.2.1 Vessel Navigation**

In terms of internal navigation of the Port Kembla harbour, the expected ship types are expected to be sized to safely access and navigate the harbour. An extract of the assumed approach to Berth 206 is illustrated within Figure 36 for reference.

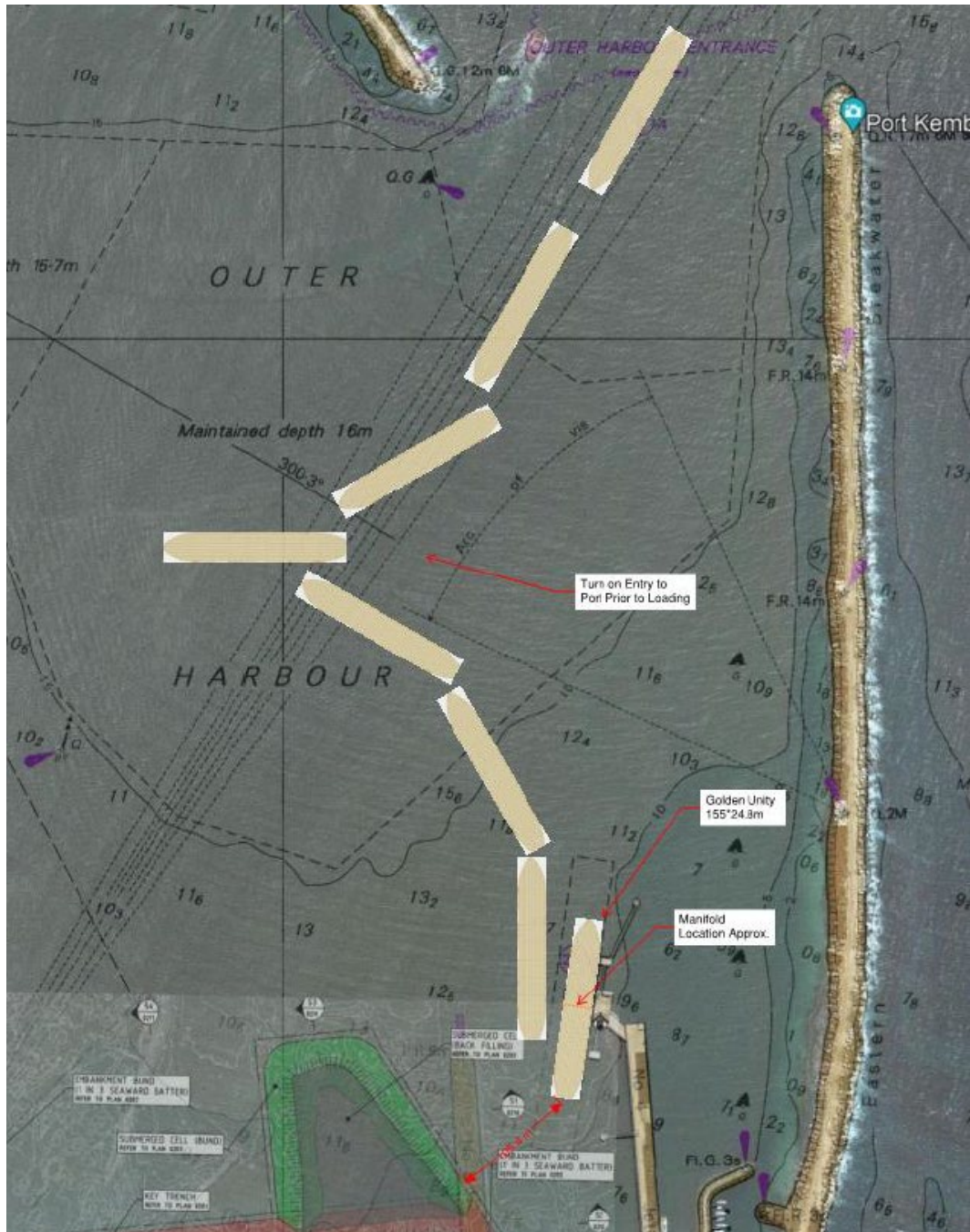


Figure 36: Port Kembla Turning Basin Assumed Approach (Extract from Port Navigation Assessment, Advisian: Apr 2022)

Additionally, as can be noted from Figure 36 above, the submerged emplacement and emerging reclamation associated with the Port Kembla Gas Terminal is illustrated by the shaded green and red areas respectively. Accordingly, the expected approach and berthing of the vessel is separated from the areas identified for future development within the Berth area.

## 7.7 Soils and Water

In accordance with the SEAR's, consideration of the potential impacts that the proposed development would have on soils and water that may occur as a result of the proposed development. Particularly, the following considerations are required for the purpose of the proposed development:

- *An assessment of potential surface and groundwater impacts associated with the development, including potential impacts on receiving waters;*
- *An assessment of contaminated groundwater and acid sulfate soils;*
- *Details of all proposed mitigation, monitoring, and management measures;*
- *A detailed site water balance including a description of the water demands, breakdown of water supplies and measures to minimise water use;*
- *Description of the proposed erosion and sediment controls during construction and the proposed stormwater management system during operation;*
- *Characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant NSW Water Quality Objectives and values for the waters of Port Kembla and demonstrate how the project will be designed and operated to protect, maintain, or restore these requirements; and*
- *A detailed flooding assessment, including consideration of sea level rise.*

In assessment of these matters, a stormwater management plan and preliminary geotechnical and contamination assessment was undertaken for the purpose of the proposed development, as provided within **Appendix Q** and **Appendix M**. Consideration of the matters described above has been undertaken within the subsequent sections of this report.

### 7.7.1 Groundwater

A detailed Groundwater Assessment and Management Report has been prepared with regard to the proposed development, as provided within **Appendix N**.

In assessing the baseline groundwater quality for the subject premises, review of historic monitoring events between 1996 and 2011 as well as baseline monitoring in 2021 for the purpose of the proposed development. Based on the baseline groundwater quality assessment, the subject site is identified to comprise the following ground water contamination levels:

- Heavy Metals – elevated levels above the GIL's for marine aquatic ecosystems;
- Total ammonia – slightly exceeding the adopted GIL's;
- Nutrient levels – identified nutrients concentrations were noted to exceed the ANZECC 2000 thresholds;
- PFAS Compounds – Overall PFAs was not identified to exceed the recommended levels on the premises; and
- PFOS – Slight exceedance of PFOS within the premises.

Resulting from the above identified groundwater test result, it is expected that appropriate ground water management measure be implemented throughout operation and construction of the proposed development, as discussed in further sections.

#### 7.7.1.1 Management Methods

##### 7.7.1.1.1 Construction

As outlined within **Appendix N**, it is recommended that the proposed development works be undertaken in accordance with a Construction Environmental Management Plan, outlining the general measure to be adopted during construction, including groundwater management measures. Overall, based on recommendations made within the GWAMP, the below summarises the expected management methods recommended:

- Preparation of a construction Environmental Management Plan, adopting recommendations made within **Appendix N**;
- Appropriate management and storage of wastewater and chemicals within the site, as to prevent release to groundwater;
- Minimisation of extent of required excavation, as to prevent interaction with groundwater that would require abstraction;
- Dewatering should be minimised and only be undertaken as directed by the GWAMP, including:
  - Implementation of temporary shoring retention along the foreshore;
  - Retention of all removed groundwater from the premises within holding tanks, as to prevent infiltration into creeks and drainage infrastructure; and
  - Seek approval from WaterNSW as required for the expected extent of dewatering.
- Continuing groundwater monitoring throughout construction.

#### 7.7.1.1.2 Operation

Given that the proposed development is intended to be designed to prevent and capture spill material associated with the operation of the premises, it is not foreseeable to general operation would result in significant groundwater contamination. However, to account for potential groundwater contamination associated with the exceptional events, additional event-based monitoring would be adopted for the development. These events include:

- *Trigger 1 – A product or chemical spillage\* or uncontrolled discharge exceeding 100L to ground outside of bunded areas (\*Sampling and analysis requirements would be adjusted to suit likely chemical constituents of the spill);*
- *Trigger 2 – A product or chemical spillage\* or uncontrolled discharge exceeding 50% bund capacity inside of tank bunded areas (\*Sampling and analysis requirements would be adjusted to suit likely chemical constituents of the spill);*
- *Trigger 3 - Following activation of firefighting systems in an emergency fire scenario and/or as required to inform an environmental condition assessment (event-based); and*
- *Trigger 4 – At a minimum once prior to change of lease arrangements and/or to fulfil environmental requirements of the lease.*

In accordance with the above, it will be sought that groundwater monitoring be undertaken to determine contamination throughout operation, where triggered by the above.

#### 7.7.2 Acid Sulfate Soils

As outlined within the Preliminary Geotechnical and Contamination Assessment and the Groundwater Assessment and Management Report provided **Appendix M** within and **Appendix N** respectively, the subject premises is identified to comprise acid sulfate soils. In order to address the presence of acid sulfate soils at the subject site, an acid sulfate soil management plan has been prepared outlining the outlining requirements to address the potential presence of Acid Sulfate Soils on the subject site, with regard to construction management, in accordance with the NSW Acid Sulfate Soil Manual. A copy of the Acid Sulfate Soils Management Plan has been provided in **Appendix P**.



In accordance with the Acid Sulfate Soils Management Plan, based on the scope of works outlined, it is determined that the following works would have potential to impact upon the acid sulfate soils present on the subject premises:

- *Three localised deeper excavations up to 4.5 m bgl for installation of stormwater treatment devices and an underground storage tank are likely to extend into Unit 3 (Estuarine soils). Based on information supplied to SMEC, preliminary estimated dimensions for excavations include:*
  - *Excavation 1 – Proposed stormwater treatment unit (approximately 3m x 3m x 4.5m depth);*
  - *Excavation 2 – Proposed stormwater treatment unit (approximately 3m x 3m x 4.5m depth); and*
  - *Excavation 3 – Proposed underground storage tank (approximately 10m x 5m x 4.5m depth).*

Figure 5, Appendix A shows the indicative locations of deeper excavations. Disturbed spoil containing ASS are expected to be generated from these excavations which are required to be managed. For the purposes of management, it is estimated that the scale of ASS disturbance will be less than 1000 tonnes.



Figure 37: Proposed Excavation Locations (Acid Sulfate Soils Management Plan – Figure 5, Appendix A, SMEC: November 2021)

- *Based on expected installation depths of between 1-1.5 m bgl, the network of proposed stormwater pipework, backhoe piers used to found the gravity retaining walls and concrete footings for steel post/concrete sleeper retaining wall also have potential to also extend into Unit 3 (Estuarine) soils. As a contingency, disturbed spoil containing ASS may also be generated from these excavations which are required to be managed;*
- *The bulk earthworks plan provided by Manildra show the estimated cut to fill areas during site recontouring, noting the cut depths remain to be confirmed (refer to Figure 3-1). Based on discussions with Manildra, it is understood the depths are unlikely to extent below 1 m bgl and are therefore unlikely to extend to depths that would intersect ASS. The management measures in this plan would be adopted as a contingency should this occur in relatively localised areas; and*
- *SMEC consider ASS intersected by timber driven piles (bridge and tanks) or steel posts (retaining walls) are not expected to be brought to the surface or require management.*

In order to ensure that Acid Sulfate Soils are appropriately managed on the subject premises, the management plan provides recommendations to avoid, minimise or manage impacts associated with Acid Sulfate Soils. It will be ensured



that the recommendations made under the ASSMP are adopted throughout constructions on the subject premises. It will be ensured that all ASS management measures are adopted throughout construction on the subject premises, through:

- Ensuring that all on-site personnel are aware of the potential ASS on the premises and implementation of procedures for the unexpected discovery of ASS, the location of the known ASS and management requirements outlined under the ASSMP;
- Inspection Surveillance and Monitoring or ASS management areas to ensure that ASS is being appropriately managed and rectify any concerns; and
- Undertake regular reporting of ASS and all associated dewatering activities undertaken on the site with the intent of producing ASS Validation Reporting.

### 7.7.3 Site Water Balance

The subject premises is to be connected to the reticulated water network currently benefitting the subject premises, which is intended to supply the majority of water required for the operation of the subject premises. Additionally, for the purpose of irrigating the proposed landscaping areas on the subject premises, it is proposed that all roof water generated on the subject premises be captured and directed to the landscaping areas in order to provide watering to these areas.

With regard to the expected water demand for the premises, Table 12 has been prepared, outlining the expected water demand for the proposed development, with regard to demand on the reticulated water network.

Table 12: Water Demand Requirements

LOCATION	FUNCTION	DEMAND (L/DAY)	DEMAND (L/WK)	FLOW RATE (MAX L/MIN)	BASIS
Office	Amenities	100	600	100	<ul style="list-style-type: none"> <li>• Toilets (6 L x 3 for 2 persons per weekday);</li> <li>• Basins (2.5L x 2 persons per weekday);</li> <li>• Shower (100L x weekly)</li> </ul>
Driver's Shed	Amenities	50	250	50	<ul style="list-style-type: none"> <li>• Toilets (6 L x 3 persons per day);</li> <li>• basins (2L x 3 persons per day)</li> </ul>
Boiler	Feed water	1,000	5,000	50	Water for 1,000 kg per weekday (1,000L) used at rate of 50 kg per isotainer
Chiller	Feed water	20,000	60,000	50	1,000L per hour whilst scrubber operating
RO Unit	Feed water	3,000	15,000	5	3,000 L of RO water needed per weekday for isotainers
Nitrogen Vaporizer	Cleaning	50	250	50	Intermittent use (1000L x monthly)
Wash Bay	Cleaning	50	250	50	Intermittent use (1000L x weekly)
5 x Safety Showers	Clean water	20	100	100	Testing use (20L x 5 weekly)
Landscaping	Irrigation	N/A	N/A	N/A	Recycled water from roofs
Fire Water (unmetered)	Emergency Response	700	5,000	12,000	Testing use (annual sprinklers on loading rack/pump shed and 6 monthly water cooling - 12,000 LPM for 10 minutes per 6 months)

<b>TOTAL</b>	<b>ALL</b>	<b>25 KL</b>	<b>86 kL</b>	<b>12,000</b>	
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#### 7.7.3.1 Water Minimisation

Water minimisation in association with the facility is only foreseeable to occur within the office building and drivers shed, given that the balance of water using aspects of the development are expected to require the maximum water requirements in order to ensure that on-site operations are maintained at the highest standard for cleaning, firefighting and air emission management. As such, with respect to the drivers hut and office building, it would be expected that the following water minimisation measures be implemented within the premises:

- Implementation of Low Flush toilets;
- Use of water efficient taps and shower fixtures; and
- Operational water usage restrictions (i.e., shower and tap timers).

Additionally, it is worth noting that the office and drivers hut is not expected to be continuously manned, given the unmanned nature of the premises described in previous sections of this report. Accordingly, while water minimisation measures are intended to be established within these building, the overall expected water demand is expected to be minor for the development.

#### 7.7.4 Stormwater Management

As per the stormwater management provided within **Appendix Q**, the stormwater management on the subject premises is to be split into two separate catchments, excluding areas identified as being high risk for potential spills, of which are being treated separately, as discussed within section 7.9.3 of this report.

The stormwater generating areas within the premises are to be conveyed to towards a Humegard unit via stormwater pits and underground pipework. The Humegard unit will allow for stormwater flows up to a 3-month ARI event to be treated, capturing gross pollutants, sediments, silt, total suspended solids, some nutrients and oil and grease. All stormwater generated within catchments A & B will be directed to the drainage canal traversing the site for discharge.

In addition to above, land noted to comprise the proposed access road to the north-west of the existing drainage canal traversing the site, is to direct flows parallel to the access road, towards the outer harbour. For the access road and the land to the east of the access road, stormwater generated within this area is to continue to discharge to the drainage channel. Given the infrequency of use for this road corridor, it is not proposed that any stormwater treatment be established.

##### 7.7.4.1 Erosion and Sediment Control

Further to the stormwater management associated with operations on the subject premises, an Erosion and Sediment Control Plan has been prepared for the proposed development and has been provided within **Appendix J** of this report.

As detailed within the plan, in order to manage erosion and sediment within the premises during construction, the following measures are to be implemented on the subject premises:

- Flow Diversion bank around the perimeter of the premises, with mulch filter berms permitting stormwater discharge to the drainage channel traversing the site;
- Construction of entry/exit to the site, comprising of gravel or recycled concrete and utilising a minimum 300mm high berm; and
- Installation of sediment barriers along the low side of the subject site.

In addition to above, other miscellaneous measures are proposed under the Erosion and sediment control plan which outlines general construction requirements to be adopted on the premises.

#### 7.7.5 Flooding and Sea Level Rise

As per the stormwater management provided within **Appendix Q**, the subject premises is identified to be subject to flooding to a height of up to 3.00m AHD or 3.87m PKHD, with areas of potential inundation located within the western extent of the subject premises. Please refer extract of the flood extent within Figure 38 overleaf.



Figure 38: Flood Extent (Flood Level Information advice certificate 202100871, Wollongong City Council)

To account for this flood level, it is intended that the site be appropriately raised and filled to a level that would ensure all buildings have surface levels above the 1% AEP level, thereby achieving an adequate degree of flood immunity and protecting major equipment.

Further, it is noted that the site is additionally subject to a Potential Maximum Flood Event up to 4.00m AHD or 4.87m PKHD. As is outlined within the stormwater management plan, the AEP of a PMF flood is difficult to quantify, with a common assumption being that the probability be in the order of 1 in 10,000 to 10,000,000 years. As such, it is not considered logical or practical to design the site to such a level of immunity. However, given the height of the proposed bund walls, it is expected that even during a PMF flood event, that the proposed tank farm would maintain protection.

In addition to the above-described flood impacts, the Allan's Creek Flood Study provides flood modelling that accounts for potential climate change factors. The considerations for this flood modelling are identified to account for the below climate change impacts:

- An increase to sea level rise by 0.4m by 2050 and 0.9m by 2100; and
- The estimated an increase in rainfall intensity by up to 20%.

The impacts of the climate change influences on the identified 1% AEP flood levels are illustrated within Figure 39 and Figure 40 below.



Figure 39: Climate Change Sensitivity: Impact Of 20% Increase in Rainfall And 0.4m Sea Level Rise On 1% AEP Event Peak Flood Levels (Allan's Creek Flood Study, Advisian 2019)



Figure 40: Climate Change Sensitivity: Impact Of 20% Increase in Rainfall And 0.9m Sea Level Rise On 1% AEP Event Peak Flood Levels (Allan's Creek Flood Study, Advisian 2019)

As above, the subject premises is identified to see changes in sea level rise of 0.00m to 0.25m by 2050 and 0.00m to 0.5m by 2100. As such, this change in peak flood level is not expected to significantly impact the existing flood assessment for the site, having regard to the following:

- The primary spill containment area (Tank Bunds) is 1.8m above the proposed ground level, that would see no flood water infiltration during a 2100 1% AEP Event;
- the largest increased flood inundation is localised to the driveways/access ways along the northern boundary of the premises, of which a potential increase to the flood level is not considered to significantly impact;
- The potential flood increases around the office and workshop building of up to 250mm is not considered to result in a significant impact, noting that:
  - Given the unmanned nature of the facility, these buildings are not expected to be consistently occupied to an extent that would expect any risk to human life; and
  - It is expected that given the coastal nature of the premises that the buildings be constructed of durable, flood resistant materials.

## 7.8 Contamination

In accordance with the SEAR's, the potential for land contamination requires consideration with respect to the proposed development and required management and remediation measure. In accordance with the Chapter 4 of the Resilience and Hazards SEPP, it is determined that the proposed development is potentially contaminated on the basis of historical land uses on the subject premises. Accordingly, a Preliminary Geotechnical and Contamination assessment has been undertaken, in order to review the existing soils conditions of the subject site and provide recommendations in order to manage this. This report has been provided within **Appendix M** for reference.

Particularly, the following considerations are required to be considered for the purpose of the proposed development:

- *Characterisation of the nature and extent of any contamination on the site and surrounding area;*
- *A Remedial Action Plan.*



The methodology adopted by SMEC in the preparation of the contamination assessment was to undertake both desktop and on-site assessment of the site. The on-site assessment of the premises comprised of the following:

- Excavation of 15 test pits, comprising of material from both the stockpile and existing ground level;
- Drilling of 3 non-cored boreholes;
- Undertaken groundwater monitoring, through use of one new and two existing monitoring wells;
- Laboratory testing of all samples collected from the subject premises; and

Subsequent sections of this report illustrate the results of this testing and the remediation requirements.

## 7.8.1 Existing Contamination

As is detailed within the contamination assessment provided within **Appendix M**, the existing features of the subject premises identifies presence of asbestos and heavy metals, likely associated with historic land uses undertaken on the subject premises. An outline of the identified testing spots with associated results has been provided under Figure 41 and Figure 42.

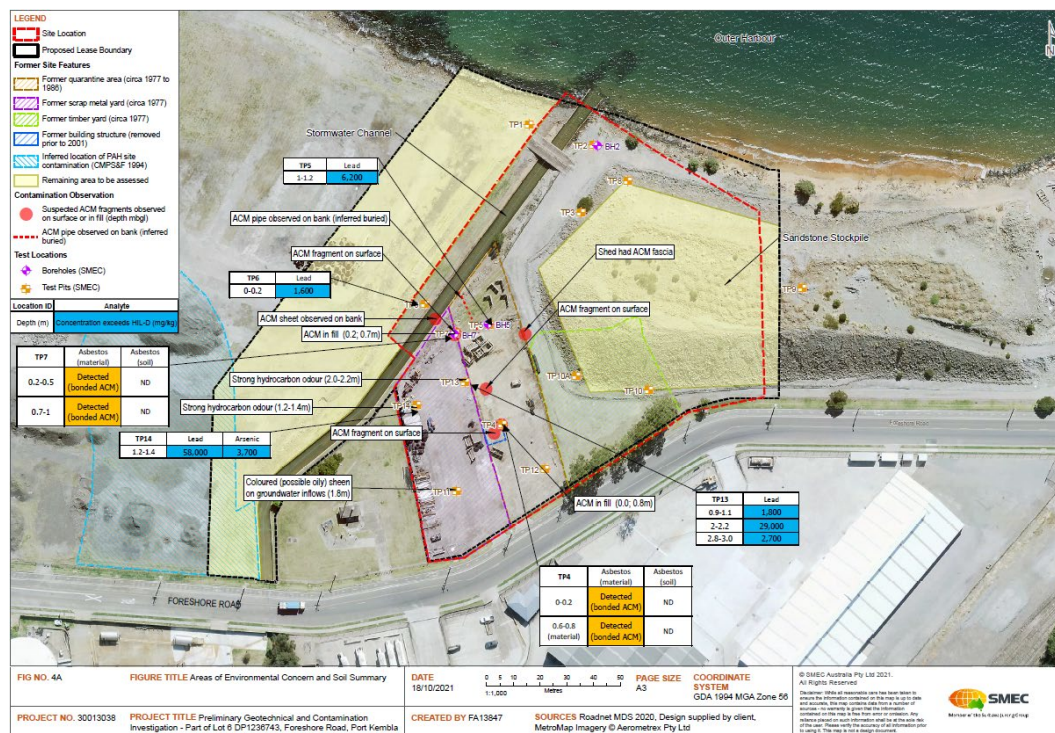


Figure 41: Areas of Environmental Concern – Figure 4A (Extract from Preliminary Geotechnical and Contamination Investigation, SMEC: October 2021)

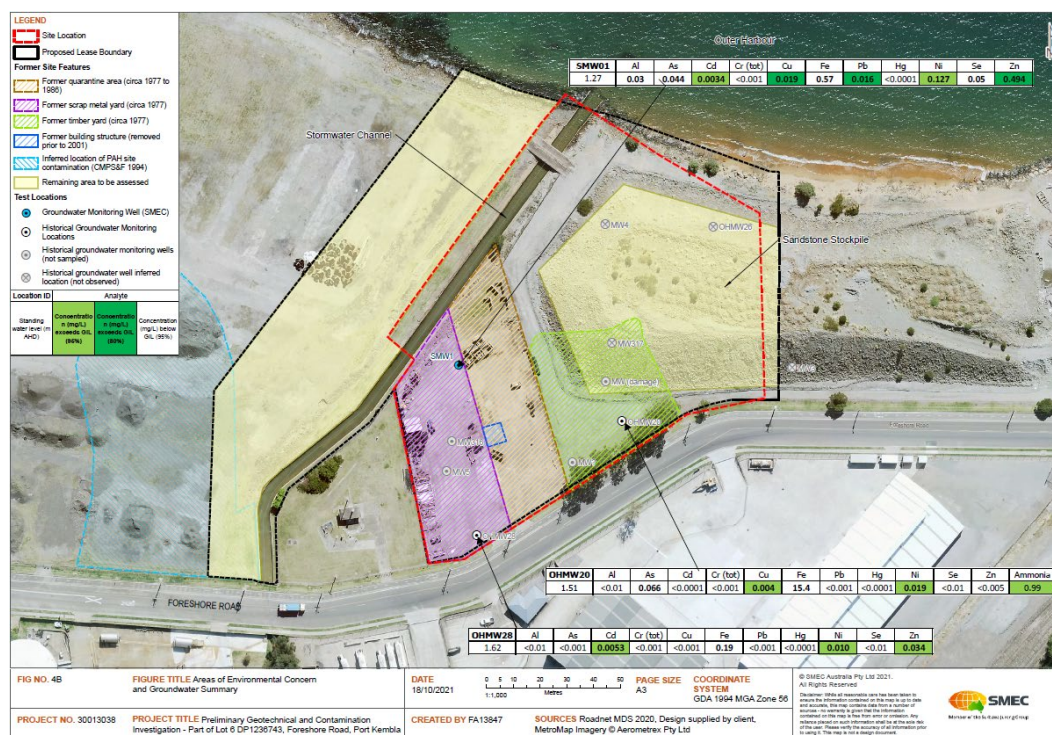


Figure 42: Areas of Environmental Concern – Figure 4B (Extract from Preliminary Geotechnical and Contamination Investigation, SMEC: October 2021)

## 7.8.2 Management and Remediation Works

In response to the contamination assessment undertaken from the site, a Remedial Action Plan has been prepared in order to assess the existing contaminant features on the subject site. This report has been provided in **Appendix O**.

As outlined within the RAP, it is determined that remedial works will be required for the purpose of the proposed remediation would be to allow for the management of pre-existing soil scenarios, as to ensure that the existing contamination is not exacerbated and ensure that the site:

- Is suitable for the expected land use at the subject premises; and
- Does not pose and unacceptable risk to human health.

For the purpose of the proposed works, it is determined that the proposed remediation that is considered most suitable for the expected development works was for on-site containments, which comprise of:

*Contaminated soils (including heavy metals, asbestos and/or PAHs) could be excavated and reused onsite beneath paved areas of the development. The bulk earthworks plan (SK-108B) shows several areas where there are opportunities for containment within proposed 'filled' areas beneath pavements.*

*At the time of this RAP, concept designs are being developed as part of documentation for approval by the planning authority, Wollongong City Council.*

*Where contamination impacts are widespread, the onsite containment option is expected to be more cost effective in comparison to removal offsite and replacement option. Some costs are expected to be associated with the design, construction and documentation of the intended placement area, implementation of environmental management measures during construction stage and ongoing administrative measures under a long-term environmental management plan.*

It is acknowledged as part of this option selection under the RAP, that additional investigations would be required on the subject premises, following the removal of the sandstone stockpile. Overall, it is intended that all construction



works associated with the proposed development be undertaken in accordance with the specifications outlined within the RAP, noting:

- Surface and sub-surface fragments of asbestos previously discovered on-site is to be removed from the premises and disposed of through a suitable licenced contractor;
- Excavation works are to be undertaken having regard to the potential presence of contamination, with appropriate remediation works undertaken, as deemed necessary by the report;
- All containment stockpiles are to be established in accordance with the preference criteria outlined within the RAP. Overall, preferred stockpiles are intended to be located beneath hardstand areas, not intended for structural fill, located away from potentially sensitive environments, however, this would generally be suitable for lower contamination fill (only containing asbestos);
- Water generated through excavation should be disposed of off-site through the use of a licenced contractor or to stormwater, in accordance with approval of the relevant authority; and
- Any unexpected finds of contamination are to be managed in accordance with the contingency plan provided within the RAP.

Upon completion of the earthworks and associated remedial works on the subject premises, it will be sought that a validation report be prepared and provided to the department addressing the relevant criteria of the ASC NEPM and the NSW EPA guidelines, as outlined within the RAP. Additionally, it is intended that a Long-Term Environmental Management Plan be provided and implemented on the premises as to ensure that the site is properly maintained.

Overall, as outlined in the conclusion of the RAP, assuming that the proposed works are undertaken in accordance with the RAP, it is considered that the proposed development is capable of being established on the subject site, without impacting the viability of the development or

## 7.9 Waste Management

In accordance with the SEAR's, the expected waste production associated with the proposed development requires consideration with respect to the proposed development, in order to ensure appropriate management measures are established. Particularly, the following considerations are required to be considered for the purpose of the proposed development:

- *details of the quantities and classification of all waste streams to be generated on site during the development;*
- *details of waste storage, handling, and disposal during the development, including a pollution incident response plan; and*
- *details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste and Sustainable Materials Strategy 2041.*

Consideration of the proposed waste/spill production and management measures are undertaken within subsequent sections of the report.

### 7.9.1 Solid Waste

Given the nature of the proposed development as being a predominately unmanned facility, the expected waste generation of the premises is considered to be inherently limited. Overall, solid waste resulting from the proposed development is determined to be generated from the following streams:

- The drivers hut/unloading personnel;
- The proposed office building – it should be noted that the operation of this building is fairly limited, only expected to be utilised for client interactions and ethanol testing prior to shipping; and

- The control room – associated with the switch room.

It should be noted that while periodic maintenance works are intended to be undertaken on the site, all solid waste resulting from these works are to be disposed of off-site, therefore not contributing to the on-site waste generation.

For the purpose of the expected waste generation and storage quantities for the proposed development, while the Wollongong DCP is not inherently relevant to this application in accordance with section 2.11 of the Planning Systems SEPP, it is considered to be a sufficient guideline to determine waste storage and generation rates.

In accordance with Appendix 2 of Chapter E7 of the Wollongong DCP, the expected waste generating elements of the proposed development are determined to be best classified as 'office' and 'takeaway food shop'. An estimate of the waste generation resulting from the proposed development is provided within Table 13.

Table 13: Waste Generation Rates

Premises Type	Waste Generation Rate	Recycling Generation Rate	Proposed Floor Area	Waste Generation
Office	10L/100m <sup>2</sup> /day	10L/100m <sup>2</sup> /day	241.3m <sup>2</sup>	Waste – 24.1L/Day Recycling – 24.1L/Day
Takeaway Food Shop	80L/100m <sup>2</sup> /day	Variable	16.6m <sup>2</sup>	Waste – 13.3L/Day Recycling – 13.3L/Day

While the proposed development is not expected to generate waste 7 days per week, conservatively, were the development to operate 7 days per week, it is estimated that the proposed development would generate up to 261.8L of general waste and recycling per week. As such, it is considered that the proposed development would be sufficiently serviced by 4 x 240L waste receptacles. As is shown on the drawings, the proposed waste storage area is to be established adjacent to the internal circulation area associated with the primary carparking area. The area comprises approximate dimensions of 2m x 1.8m, which is considered to be sufficient to house the required waste receptacles.

Waste generated within the office and drivers hut is to be periodically collected and directed to the waste storage area by Manildra staff, as to allow for the waste to be collected by waste collection personnel. Further, waste collection vehicles (WCV) are to access the premises via the central crossover. The circulation of the of this area enables vehicles up to 19m in length, which is considered to sufficiently demonstrate circulation for a WCV within the premises.

### 7.9.2 Ethanol Spills

As is detailed within the Stormwater Management Plan and Preliminary Hazard Analysis, provided in **Appendix Q** and **Appendix CC** respectively, all areas with potential for ethanol spills are to be fully bunded to ensure that no ethanol is able to infiltrate the ground water or escape from the premises. The identified relevant spill/ethanol capture points from the site are identified to be:

- Ethanol Storage tanks;
- Ethanol Loading/unloading areas;
- Tanker washdown; and
- pump & pig launcher/receiver.

As detailed previously, the proposed tanks are to be fully bunded by 1.8m high walls, with 0.6m high intermediary walls. All stormwater generated within this bunded area will fall towards collection pits located along the bund walls, as to facilitate operation without needing to enter the bunded area. Site operators will visually inspect the collection pits for ethanol before directing flows to the main collecting chamber. All liquid contained within the collection

chamber will then be tested for ethanol before either, directing contents to the on-site stormwater management system (where no ethanol is detected) or directing contents to the Slops Tanks (where ethanol is detected).

For the purpose of the proposed ISO loading areas and the pump & pig launcher, any potential spills captured within this area will be directed to a 45KL holding tank, which is determined to have the capacity to contain a full isotainer, plus wind blow rain. The contents of the holding tank will then be pumped through to the Slops tanks.

The wash bay will comprise a bunded area that flows to trench drain with a combined capacity of 1KL. When the drain reaches a capacity of 500L, the liquid contained within the drain will be directed/pumped to the Slops tanks for holding.

Ethanol spills contained within the Slops tanks will be periodically pumped to a tanker in order to be transported back to the proponent's facility in Bomaderry. Upon delivery, the slops contents will then be pumped back into the facility in order to be reprocessed and repurposed.

A dedicated pollution incident response plan can be developed to the satisfaction of the department and EPA upon approval of this application and/or as part of any future application for an environmental protection licence, as is required for this development.

### 7.9.3 Waste Minimisation Strategies

In accordance with the *NSW Waste and Sustainable Materials Strategy 2041*, it is determined that the proposed development generally achieves the waste minimisation strategies on the following grounds:

- As discussed previously, the unmanned nature of the premises deems that minimal general waste is expected to be generated as a result of the proposed development. In any case, appropriate waste receptacles are to be provided on the premises to enable the short-term storage and removal of waste from the subject premises;
- The subject facilities does not produce ethanol, only stores it, and as such no by-products are generated as a result of operations on the subject premises; and
- Any waste/spilled ethanol generated on the premises is to be captured, stored and transported back to the proponents facility in Bomaderry to be reprocessed within the facility, as to be utilised for alternative purposes. This effectively recycles any ethanol spills generated.

## 7.10 Aboriginal Cultural Heritage

In accordance with the SEAR's, the proposed development is required to have regard to the impacts on any potential aboriginal cultural heritage items on the site and the surrounding area. Particularly, the following considerations are required to be considered for the purpose of the proposed development:

- *identify, describe and assess impacts on the Aboriginal cultural heritage values that exist across the development; and*
- *provide evidence and details of consultation with Aboriginal people in accordance with the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010).*

To date a draft Aboriginal Cultural Heritage Assessment Report has been prepared, subject to final statutory review with the Registered Aboriginal Parties (RAP's). A copy of this draft report has been provided within **Appendix W** and the final document is intended to be supplied upon finalisation as part of the Response to Submissions stage of assessment.

### 7.10.1 Identified Aboriginal Cultural Values

As illustrated within **Appendix W**, the locality surrounding the subject premises is identified to have historically been home to the Wodi Wodi people. In proximity to the site, the areas of high cultural value are identified to be Tom Thumb Lagoon and Hill 60 and Surrounds. It is considered that given the context of the locality that the site may have

been used for the purpose of foraging and likely a thoroughfare, for people travelling between Tom Thumb Lagoon and Lake Illawarra.

However, given the significant level of disturbance associated with the subject site, including fill to depths of up to 2m, it is considered that any evidence of aboriginal occupation would have been lost. Further, the potential inundation of the site, prior to the land reclamation works within the harbour, are considered to have limited the value of the site for camping for the aboriginal people.

### **7.10.2 Aboriginal Consultation**

Aboriginal consultation forms an important aspect of the assessment of significant aboriginal features of a site and its surrounds given that the significance of a site feature can only truly be quantified by the aboriginal community, and as such, third party specialists cannot fully quantify the values of a site.

Accordingly, an overview of each of the consultation stages is provided within the following subsections of this report.

#### **7.10.2.1 Stage 1**

Stage 1 of the consultation process involves enquiring with the local statutory bodies to determine any aboriginal people or organisations that may be able to inform on the cultural value of the study area. This also involves placing an advertisement in a local periodical requesting aboriginal people or organisations to register their interest in the project.

The result of stage 1 provides a list of the Registered Aboriginal Parties that would be involved throughout the preparation of the Aboriginal Consultation Report.

#### **7.10.2.2 Stage 2 & 3**

During stages 2 & 3 information of the proposed development are provided to the RAP's and they are invited to provide comments on the cultural significance of the study area.

#### **7.10.2.3 Stage 4**

Stage 4 of the ACHAR consultation process requires that the Draft ACHAR report be given to the RAPs for a 28 day statutory period in order to confirm the significance of the findings of the report with the aboriginal community.

As discussed previously, as at the time of lodgement of this EIS, the final consultation period is yet to be finalised and as such the ACHAR is only in its draft form. As such, upon completion of the final consultation period, the ACHAR report will be finalised and provided to DPIE as part of the response to submissions.

### **7.10.3 Protection Measures**

As outlined within the Aboriginal Consultation Report, while the subject premises was not identified to comprise of land that was the identified to comprise of any Aboriginal Heritage Significance (Subject to the finalisation of the stage 4 consultation), it is recommended that the following be adopted for the proposed development:

- No Further Archaeological Assessment Required – Given that no archaeological potential was identified for the premises, no further assessment is considered to be warranted;
- Development Boundaries – as to ensure that no aboriginal significant site area impacts, the proposed development should be confined to the pre-defined development boundaries;
- Stop Work Provision – should any aboriginal artifacts be discovered, all works should cease, and an archaeologist should be contacted; and
- Reporting – A copy of the Aboriginal Consultation report should be provided to the AHIMS Register.

Based on the above, it is considered that the potential for aboriginal significance at the subject premises is limited and therefore should not prevent the proposed development from occurring at the subject premises.



## 7.11 Non-Aboriginal Cultural Heritage

As outlined within the SEAR's, in addition to the aboriginal cultural heritage assessment reviewed under section 7.10 of this report, consideration of the non-aboriginal cultural heritage of the premises should be considered. Particularly, the SEAR's outlines that the following matters be considered in the non-aboriginal cultural heritage assessment of the proposed development.

*a non-Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which details potential impacts on heritage assets and any proposed management and mitigation measures.*

A review of these matters, as discussed within the cultural heritage assessment provided within **Appendix X** of this report.

### 7.11.1 Identified Cultural Values

As outlined within **Appendix X**, the subject site is identified to be located within proximity to three (3) registered sites of heritage significance, including:

- Hill 60/Illowra Battery (Heritage Item ID 5052361);
- Historical Military Museum including Breakwater Battery and Concrete Tank Barriers (Heritage Item ID 2700585);
- Remains of Original Ocean Baths (Heritage Item ID 5062638);

In addition to above, from undertaking a site visit of the subject site, the relevant study area for the proposed development work is not identified to contain any items of heritage significance that would require consideration in the assessment of the proposed development. This has been determined in consideration of the seven (7) assessment criteria prepared in accordance with the Assessing Heritage Significance 2001 guidelines.

The assessment of the heritage significance of the study area, as undertaken within **Appendix X**, is provided within Table 14 for reference.

Table 14: Assessment of Heritage Significance (Extract from Statement of Heritage Impact, Apex Archaeology: May 2022)

<b>a) An item is important in the course, or pattern, of the local area's cultural or natural history</b>	<i>The development of Port Kembla Harbour was an important part of the culture of the Illawarra region through providing considerable employment opportunities for the community as industry developed. The study area is a portion of the Port Kembla Harbour foreshore area but does not contain any specific industry items which contributed to the economic and social development of Port Kembla itself.</i> <i>Therefore, the subject site is considered to have limited significance under this criterion.</i>
<b>b) An item has strong or special associations with the life or works of a person, or a group of persons, of importance in the local area's cultural or natural history</b>	<i>The study area is not considered to hold specific value under this criterion.</i>
<b>c) An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area</b>	<i>The study area does not include items or areas important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in the local area. It is noted that a wharf dating to between 1908 and 1919 is still extant within the study area, but is not considered to exhibit a high degree of creative or technical achievement in the local area.</i> <i>Therefore, the study area is not considered to have significance under this criterion.</i>



<b>d) An item has strong or special association with a particular community or cultural group in the local area for social, cultural or spiritual reasons</b>	<i>The study area is not considered to hold strong or special associations with particular communities or cultural groups in the local area. As such, the study area is not considered to have significance under this criterion.</i>
<b>e) An item has potential to yield information that will contribute to an understanding of the local area's cultural or natural history</b>	<i>Review of relevant literary resources has not indicated that the study area may have potential to yield information that will contribute to an understanding of the local area's cultural or natural history. The site is considered unlikely to have archaeological potential given the level of fill across the site and the lack of former development within the site, and therefore the study area is not considered to have significance under this criterion.</i>
<b>f) An item possesses uncommon, rare or endangered aspects of the local area's cultural or natural history</b>	<i>The study area is not considered to have significance under this criterion.</i>
<b>g) An item is important in demonstrating the principal characteristics of a class of the local area's</b> <ul style="list-style-type: none"> <li>• Cultural or natural places; or</li> <li>• Cultural or natural environments</li> </ul>	<i>The study area does not exhibit principal characteristics of a class of the local area's cultural or natural places or environments.</i>

Accordingly, consideration of the impact of the proposed development in relation to the heritage values of the site is only considered in the context of all heritage premises within proximity to the development site.

### 7.11.2 Impacts to Cultural Values

As is outlined within **Appendix X**, the proposed development is expected to impact upon the heritage value of the identified heritage premises through the alteration of the setting to which they are located.

- The proposed pipeline is located within 120m of the Hill 60/Illawarra Battery Site; and
- The principle development site is located within 500m of the Hill 60/Illawarra Battery Site.

Given this, a review of the potential impacts to the heritage site has been reviewed within section 5.3 of **Appendix X**. In summary of this assessment, it is determined that given the distance of the primary development site from the heritage site and the minor nature of the proposed pipeline, that limited impact to the heritage sites are expected as a result of the proposed development. As such, no recommendations have been made as a result of this report in order to protect any potential heritage features at the subject premises.

## 7.12 Biodiversity

In accordance with the SEAR's, the biodiversity values of the subject premises have been reviewed for the purpose of seeking a waiver to the requirement of preparing a Biodiversity Development Assessment Report (BDAR), in accordance with the Biodiversity Conservation Act 2016. As evidenced by **Appendix T**, it has been considered by DPIE that the BDAR requirements for the proposed development are not required and have been waived.

## 7.13 Aquatic Habitats and Recreational Fishing

In accordance with the SEAR's, it is required that the potential impacts upon fish habitat and recreational fishing within the Port Kembla port environment require consideration, in order to ensure that the proposed development causes no increased impact to these matters. Particularly, the following considerations are required to be considered for the purpose of the proposed development.

- a description of key fish habitat, aquatic biodiversity and recreational fishing activities adjacent to the proposed development site; and

- an assessment of the potential for impacts on key fish habitat, the aquatic environment and recreational fishing amenity and a clear description of design and operational measures to avoid, minimise, mitigate or offset any potential impacts.

Consideration of the above matters is undertaken within the following sections of this report.

### 7.13.1 Key Fish Habitat and Aquatic Biodiversity

In consideration of the matters identified under the SEAR's, the subject premises is identified to directly abut and partially contain land that is identified to form part of the NSW Southern Rivers Key Fish Habitat Area. An extract of the key fish habitat mapping for the subject premises is illustrated within Figure 43.



Figure 43: Key Fish Habitat (NSW Department of Primary Industries, Accessed February 2021)

In determining the existing biological features of the Port Kembla harbour, the Port Kembla Outer Harbour approval was considered, given the extensive review of the harbour undertaken as part of this assessment. In summary of the EIS prepared for the Port Kembla Outer Harbour, the following is noted:

- The soft substrate area of the Port Kembla Outer Harbour comprises limited available significant vegetation, noting that the no identified seagrass or mangrove communities were identified;
- Fauna identified within the outer harbour is identified to be confined to predominately within the shallow areas of the soft substrate areas, close to the foreshore, which is considered to provide a nursery for juvenile fish species;
- The hard substrate areas are identified to comprise a mix of algal types that were found around jetties and breakwaters, that was identified to potential house juvenile fish;
- No threatened species, populations or communities were identified within the harbour, with the only potential species that could be present included the black Cod, which was expected to be localised to hard substrate areas (existing breakwaters and jetties);

In any case, the proposed development is not considered to result in any significant impact to the aquatic biodiversity of the Port Kembla outer harbour on the following grounds:

- As illustrated by the Stormwater Management Plan provided within **Appendix Q**, all potential ethanol spill material generated on the subject premises is to be confined to fully bunded areas, of which will be directed to slops tanks for reprocessing at the Bomaderry facility. As such, no ethanol is expected to be released to the outer harbour;
- The balance of the development site is to ensure that stormwater generated on the site is treated through the use of Gross Pollutant Traps, which is to separate and capture litter, vegetation matter, gross pollutants, sediments, silts, total suspended solids, some nutrients and oil & grease from stormwater runoff;
- Erosion and Sediment control measures will be implemented on the subject premises, as illustrated by **Appendix J**, as to minimise the potential impact of construction on the Port Kembla Outer Harbour;
- Ultimately, the port Kembla outer harbour is approved for significant land reclamation in order to increase the shipping capability of the port. It is considered that the impacts posed by this works would outweigh any potential impacts associated with the proposal; and
- No alterations to established hard substrate areas are considered for the proposed development, as such it is not considered that any identified species would be impacted as a result of the proposed development.

### 7.13.2 Recreational Fishing

As is detailed within the Department of Primary Industries input into the SEAR's, the proposed development has been identified to conflict with an identified land based fishing location within proximity to the proposed pipeline route that runs to Jetty No. 4, as illustrated by Figure 44 below.



Figure 44: Recreational Fishing Point (DPI Fisheries, December 2021)

While DPI Fisheries Concerns are respected with regard to the potential impacts posed by the proposed development upon the viability of established fishing spots, the following is noted:

- The pipeline route indicated on the provided drawings, while potentially noted to conflict with the retention of the fishing spot at face value, is noted on the drawings to be located wholly underground on land that relates to the fishing spot;

- The identified recreational fishing land directly adjoins land for the purpose of land reclamation associated with the Port Kembla Outer Harbour Approval. Accordingly, upon the future dredging and land reclamation associated with the establishment of the future terminals within Port Kembla, the water directly associated with this site would no longer exist; and
- While it is specified by DPI – Fisheries that the eastern breakwater is no longer available for public access, this is not considered to be accurate. It is noted that the eastern breakwater is periodically closed for public access, however this is in response to hazardous surf and weather conditions that would make this area unsafe. As such, it is not considered that there is any loss to recreational fishing land associated with the eastern breakwater.

With regard to the exclusion zone, the port navigation report provided within **Appendix AA** indicates that for the expected liquids to be transported via the berth, an exclusion zone of 40m from the ships manifold and 25m from the perimeter of the vessel would be required. Accordingly, no impact to the existing 50m exclusion zone is expected to be required for the purpose of the proposed development.

During construction, it is noted that there is potential for access to the identified recreation fishing spot would be impacted as a result of the construction of the proposed pipeline and associated trench. As such, to ensure that access to the recreational fishing spot is not impacted, the following construction management measures are proposed:

- During construction, it will be ensured that personnel are available to allow for recreational fishers to pass over the trench and pipeline through use of temporary overpass (wood planks, etc.); and
- When construction personnel are unavailable (ie. weekends and public holidays, outside of construction hours, etc.) it will be ensured that all open aspects of the trench are appropriately fenced, as to prevent people from falling in, and an opening will be provided with a temporary overpass provided (wood planks, etc.), as to allow access to the fishing spot.

## 7.14 Infrastructure Requirements

In accordance with the SEAR's, an assessment of the infrastructure capacity associated with the on-going operation compared to the proposed operation of the site requires consideration for the purpose of the proposed development. Particularly, the following considerations are required to be considered for the purpose of the proposed development.

- *Details of the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, wastewater and recycled water; and*
- *Identification of any existing infrastructure or easements on or off the site which may be impacted by construction or operation of the development and details of measures to be implemented to address any impacts.*

In accordance with the above, the subject premises is determined to be benefitted by direct access to all essential infrastructure, namely:

- Water & Sewer – Sydney Water;
- Stormwater – Wollongong Council;
- Electricity – Endeavor Energy; and
- Gas – Jemena.

The expected viability and usage demand is reviewed and estimated in sections 7.14.1 to 7.14.5.

### 7.14.1 Water and Sewer

As is detailed by the Sydney Water Infrastructure Mapping, the subject site is identified to be directly benefitted by access to both the sewer and water networks, identifying mains within both the subject premises and within the road environment of Foreshore Road. Please refer extract from Sydney Water Infrastructure Plan in Figure 45.

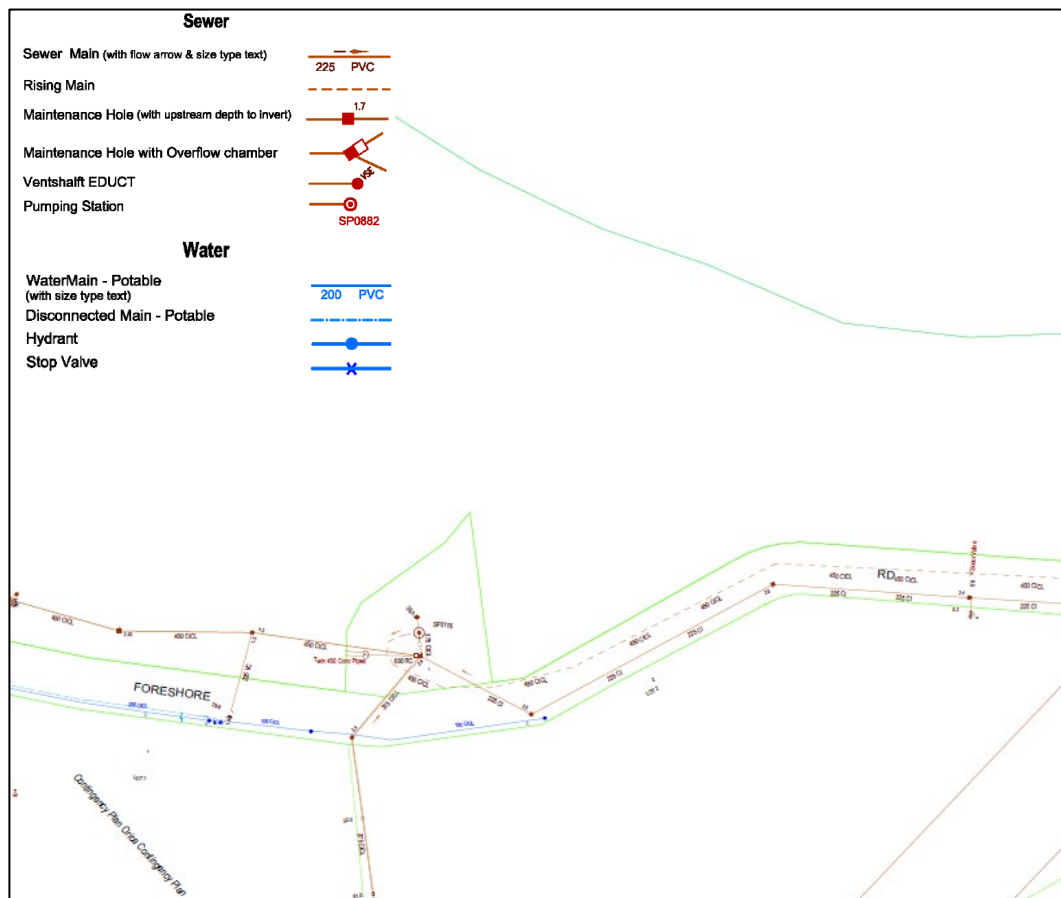


Figure 45: Sydney Water Infrastructure Plan Extract

The specific water demand for the proposed development is outlined as part of the site water balance provided within section 7.7.3 of this report. It should be noted that water approval for the proposed development has already been received from Sydney Water, permitting connection to the site via the main to the east of the subject premises.

The specific sewer demand for the proposed development is yet to be confirmed, with the sewer generating elements expected to be confined to the office and drivers hut building located at the subject premises. Specific sewer demand can be confirmed as part of a formal sewer connection with Sydney Water, however, it is expected that use of this infrastructure would be minimal and within the expected capacity of the infrastructure, having regard to the following:

- The unmanned nature of the facility is considered to result in minimal use of sewer connected facilities; and
- The most frequently used facility is expected to be the drivers hut, which is only expected to be used upon delivery of ethanol to the subject premises;

Additionally, in accordance with the SEAR's, it is requested that all mains be identified to confirm that the proposed development would not result in any impact during either to construction or operation of the development. Accordingly, it is noted that the extent of the proposed works that coincide with land containing the water and sewer mains comprises of driveway crossovers and internal driveways. With respect to the western most crossover and the land corresponding with the driveway, it should be noted that this crossover is to be exit only and used only in case of emergency, therefore posing minimal impact to the mains. Additionally, it will be ensured that the construction of the driveways and crossovers will not impact upon the viability of the identified mains.



In terms of operational impacts, given that the mains are located within a trafficable environment and corresponds with the higher use crossovers, the expected impacts associated with increased truck movements are considered relevant to confirming that the mains would not be impacted. In this regard, the following is noted:

- Foreshore Road is an existing industrial road, currently servicing heavy industrial uses within the locality. The type of vehicles proposed to be utilised for the proposed development are expected to be within the expected characteristics for the locality; and
- The expected traffic generation of the proposed development is considered to be low and is within the expected traffic generation indicated for the purpose of the Port Kembla Outer Harbour Approval.

Accordingly, the viability of the identified mains are not expected to be impacted as a result of the proposed development.

#### 7.14.2 Stormwater

In accordance with the Wollongong City Council Stormwater Mapping, the subject premises is identified to be located within proximity to established stormwater infrastructure, comprising of an open culvert currently traversing the subject premises and underground mains within the Foreshore Road, road environment. Please refer extract within Figure 46 for reference.

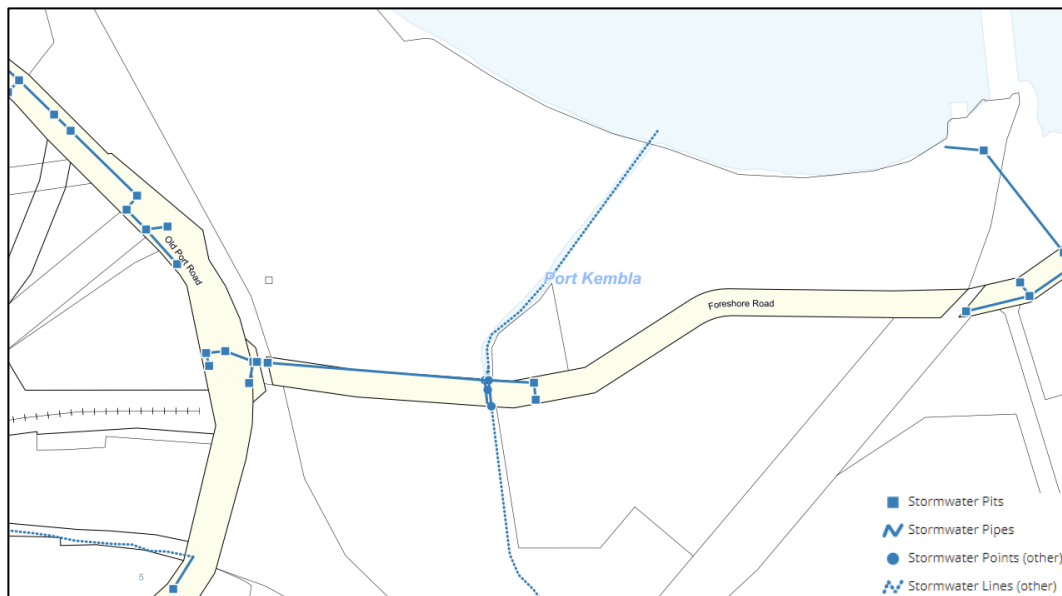


Figure 46: Wollongong Council Stormwater Network Extract

As the stormwater infrastructure proposed to be utilised for the purpose of the proposed development comprises of an open culvert and located at the bottom of the catchment, a stormwater quantity assessment has not been undertaken for the purpose of the proposed development, as it is not considered that the proposed development has any potential to overload the stormwater network as a result of the proposed works.

Additionally, in accordance with the SEAR's, it is requested that all mains/infrastructure be identified to confirm that the proposed development would not result in any impact during either to construction or operation of the development. Accordingly, it is noted that the extent of the proposed works that coincide with land containing the stormwater network comprises of a driveway crossover (of which is exit only and is only expected to be utilised in case of emergency) and an internal bridge that passes over the culvert. Accordingly, it will be ensured that no impact to long-term operation of the mains results from the construction of the crossovers. Additionally, the proposed bridge will be of a height that is generally consistent with the existing bridge located over the culvert, accordingly, no further impact is determined to be generated.



Additionally, given that the underground mains are located within a trafficable environment, the expected impacts associated with increased truck movements are considered relevant to confirming that the stormwater mains would not be impacted. In this regard, the following is noted:

- Foreshore Road is an existing industrial road, currently servicing heavy industrial uses within the locality. The type of vehicles proposed to be utilised for the proposed development are expected to be within the expected characteristics for the locality; and
- The expected traffic generation of the proposed development is considered to be low and is within the expected traffic generation indicated for the purpose of the Port Kembla Outer Harbour Approval.

Accordingly, the viability of the identified infrastructure is not expected to be impacted as a result of the proposed development.

### 7.14.3 Electricity

In accordance with the Endeavor Energy Infrastructure Maps, it is identified that the subject premises is located within proximity to the electricity network along Foreshore Road. Please refer Figure 47 and Figure 48 below for extracts of mapping.

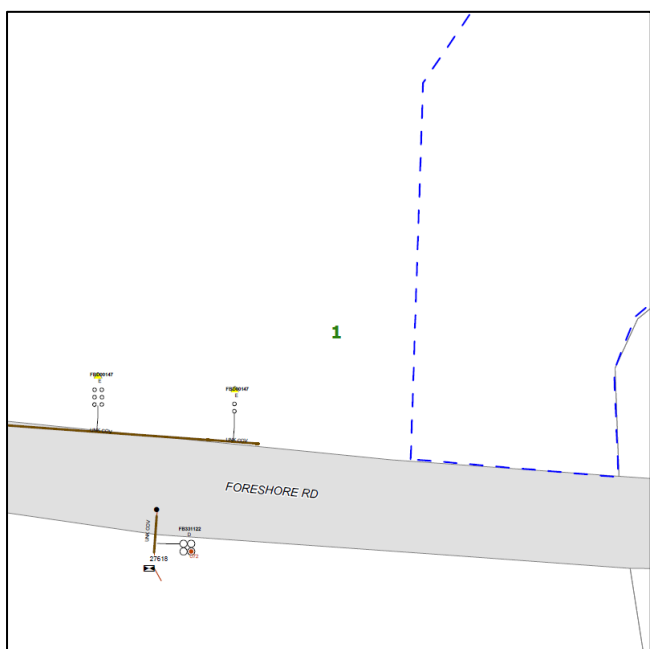


Figure 47: Endeavor Energy Electricity Infrastructure Plan Extract 1 of 2

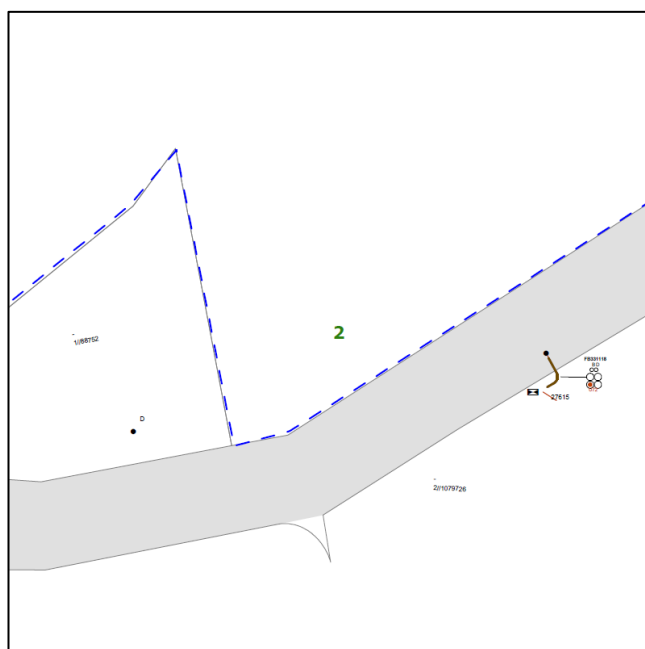


Figure 48: Endeavor Energy Electricity Infrastructure Plan Extract 2 of 2

Approval has been granted from Endeavor Energy to enable the connection of the subject premises to the existing electrical network. In order to facilitate the potential electricity demand of the premises, the following infrastructure upgrades are approved to facilitate the proposed works on the premises:

- Installation of new 1,500kVA Padmount Substation within the subject premises;
- Replacement of existing power pole with a 14m/12kN pole, west of the eastern most crossover;
- Removal of Load Break Switch on power pole to the east of the eastern most crossover;
- Installation of a new High Voltage trench within the road reserve adjacent to the premises; and
- Installation of new 11KV cables between the power poles on either side of the driveway crossover.

The proposed upgrade works are illustrated within Figure 49 below.

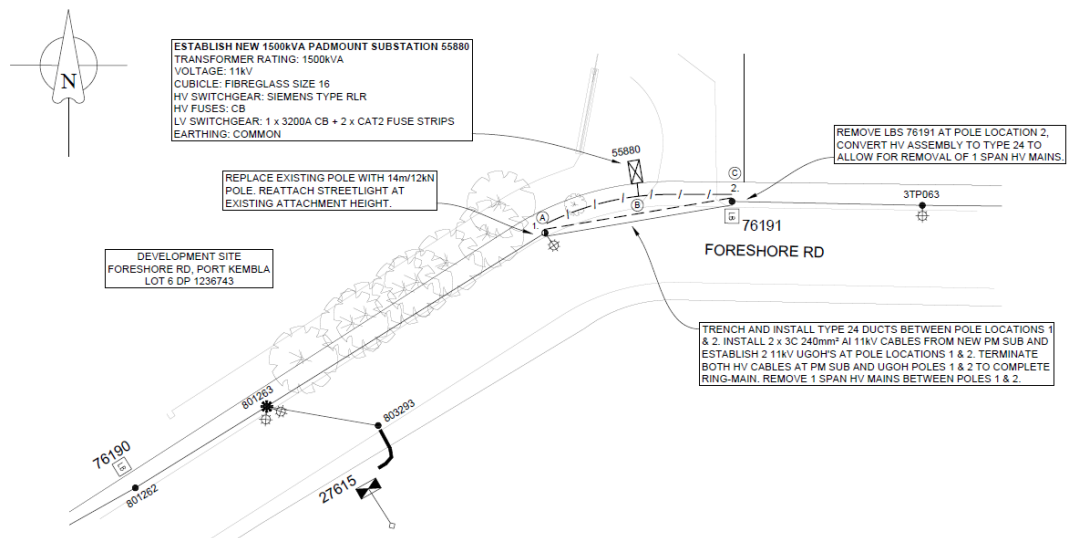


Figure 49: Approved Electrical Infrastructure Upgrades

Overall, given that the electrical requirements for the proposed development have been approved by Endeavor energy, it is not expected that any significant impact to the viability of the infrastructure would result from the proposed development, outside of what has been considered for the purpose of this approval.

#### 7.14.4 Telecommunications

In accordance with the Optus Infrastructure Maps, it is identified that the subject premises is located within proximity to the telecommunications infrastructure along Foreshore Road. Please refer Figure 50 below for extract of mapping.

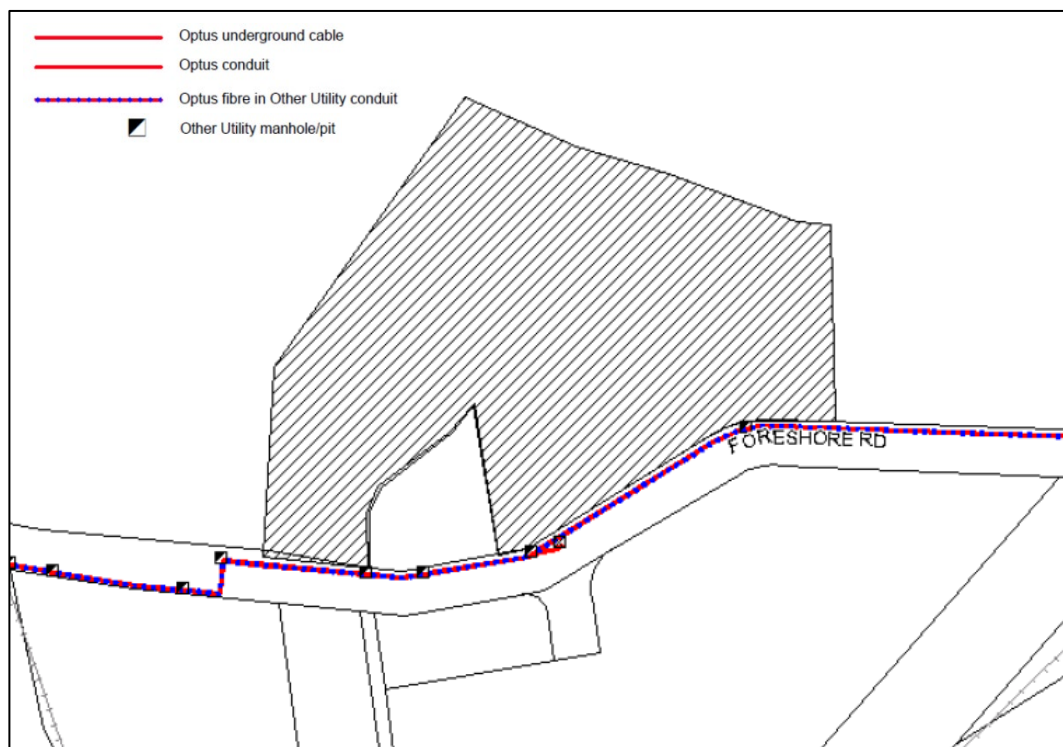


Figure 50: Optus Infrastructure Plan Extract

Given the unmanned nature of the proposed development, it is considered that telecommunication access would be required in order to manage and monitor operations at the site remotely. Accordingly, it will separately be sought that approval for telecommunications access be sought from the relevant provider. It is not considered that the proposed development would pose significant strain on the telecommunications network within the locality, noting that:

- Site operations and management is not expected to occur at the premises full time; and
- Personnel operating within the premises are largely expected to utilise mobile phones, rather than land lines.

Overall, the proposed development is not considered to result in any significant impact to the telecommunications networks abutting the premises. It is expected that the infrastructure is contained within overhead lines, outside the potential impact area of any circulating vehicles.

#### 7.14.5 Gas

As is detailed by the infrastructure mapping prepared by Jemena Gas with respect to their existing infrastructure mains, an existing gas main is identified to be located beneath Foreshore Road, directly abutting the site to the western extent. Please refer to Figure 51 for reference.



Figure 51: Jemena Gas Infrastructure Plan Extract

For the purpose of the proposed development, it is determined that the development will require the use of gas in association with the boiler on the subject premises, however this gas is to be delivered through the use of gas bottles, rather than connection to the gas mains. Therefore, connection to the gas mains within proximity to the site will not be required for the purpose of the proposed development.

However, in accordance with the SEAR's, it is requested that all mains be identified to confirm that the proposed development would not result in any impact during either to construction or operation of the development. Accordingly, it is noted that the extent of the proposed works that coincide with land containing the gas main comprises only a driveway crossover, of which is exit only and is only expected to be utilised in case of emergency. Additionally, given that the gas main is located within a trafficable environment, the expected impacts associated with increased truck movements are considered relevant to confirming that the gas main would not be impacted. In this regard, the following is noted:

- Foreshore Road is an existing industrial road, currently servicing heavy industrial uses within the locality. The type of vehicles proposed to be utilised for the proposed development are expected to be within the expected characteristics for the locality; and
- The expected traffic generation of the proposed development is considered to be low and is within the expected traffic generation indicated for the purpose of the Port Kembla Outer Harbour Approval.

Accordingly, the viability of the identified gas main is not expected to be impacted as a result of the proposed development.

## 7.15 Greenhouse Gas

In accordance with the SEAR's, consideration of the Greenhouse Gas Generation associated with the proposed development is required in order to assess the proposed development. Particularly, the following matters are required under the SEAR's for assessment:

*an assessment of the proposal's greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050).*

In addressing the potential greenhouse gas effects generated by the proposed development, a Greenhouse gas assessment has been provided within **Appendix S**. As outlined with the Greenhouse Gas Assessment, the following policies and guidelines were considered in determining the appropriate methods of quantifying the emissions from individual sources:

- *National Greenhouse and Energy Reporting Act 2007 (NGER Act);*
- *National Greenhouse and Energy Reporting (Measurement) Determination 2008;*
- *National Greenhouse and Energy Reporting Regulations 2008;*
- *National Greenhouse Accounts Factors 2021;*
- *ISO 14064-1:2006 Greenhouse gases - Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals;*
- *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (GHG Protocol) (World Business Council for Sustainable Development and World Resources Institute, 2015); and*
- *Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014).*

A review of the expected greenhouse gas generation for the proposed development and the impacts that this may have on the net zero emissions goal is considered within subsequent sections of this report.

### 7.15.1 Construction

For the purpose of construction greenhouse gasses, the sources were assumed based on Scope 1, 2 & 3 associated with the development, as indicated within the Greenhouse Gas Assessment. Particularly, the relevant sources considered under the Greenhouse Gas assessment is to be the following:

- *Scope 1-*
  - *Fuel consumption (including related infrastructure, civil works); and*
  - *Transportation of staff materials, and equipment around the construction site.*
- *Scope 2-*
  - *Electricity consumption.*
- *Scope 3-*
  - *Associated production (embodied) emissions of used concrete;*
  - *Associated production (embodied) emissions of used steel;*
  - *Transportation of materials and equipment to and from the construction site; and*
  - *Commute of workers to and from the construction site.*

Based on the above scope, during construction, the expected greenhouse gas generation resulting from the proposed development is illustrated within Figure 52 below.

Table 3.1 Summary of emissions – construction phase

Activity	Activity Data	Units	Scope 1 GHG Emissions (tCO <sub>2</sub> -e)	Scope 2 GHG Emissions (tCO <sub>2</sub> -e)	Scope 3 GHG Emissions (tCO <sub>2</sub> -e)	Total (tCO <sub>2</sub> -e)
Diesel Consumption – on site	587	kL	1,591	-	82	5,330
Electricity - consumed from Grid	8	MWh	-	6	1	
Diesel Consumption -Staff commuting to site	63	kL	-	-	171	
Diesel Consumption - Transport of material to site	13	kL	-	-	36	
Steel	1,192	T	-	-	3,084	
Concrete	1,700	M <sup>3</sup>	-	-	359	
Total Scope 1, 2 & 3			1591	6	3733	5,330

Figure 52: Construction Phase Emissions Summary (Extract from Greenhouse Gas Assessment, GHD, May 2022)

Overall, in reflection of the above, the total greenhouse gas emissions expected to be generated by the proposed development are 5,330 tCO<sub>2</sub>-e across the expected 50-week construction period.

### 7.15.2 Operation

For the purpose of operation greenhouse gasses, the sources were assumed based on Scope 1, 2 & 3 associated with the development, as indicated within the Greenhouse Gas Assessment. Particularly, the relevant sources considered under the Greenhouse Gas assessment is to be the following:

- Scope 1-
  - Fuel used during operations of the storage facility (Loading, transferring, inspections etc).
- Scope 2-
  - Electricity consumption during operations of the facility (pumps, lighting, facility controls).
- Scope 3-
  - Commute of workers travelling to and from the facility for general operations; and
  - Transport of ethanol to the facility from Manildra ethanol plant.

Based on the above scope, during operation, the expected greenhouse gas generation resulting from the proposed development is illustrated within Figure 53 below.

Table 3.2 Summary of emissions – operations phase

Activity	Activity Data	Units	Scope 1 GHG Emissions (tCO <sub>2</sub> -e)	Scope 2 GHG Emissions (tCO <sub>2</sub> -e)	Scope 3 GHG Emissions (tCO <sub>2</sub> -e)	Total (tCO <sub>2</sub> -e)
LPG Consumption – on site	14	kL	22	-	1	1,301
Electricity - consumed from Grid	380	MWh	-	296	27	
Diesel Consumption – Ethanol Transport to site	351	kL	-	-	953	
Petrol Consumption – Employee Commute	11	kL	-	-	17	
Diesel Consumption – Employee Commute	4	kL	-	-	10	
Water – network emissions	3,120	kL	-	-	1	
Total Scope 1, 2 & 3			22	296	1008	1,301

Figure 53: Construction Phase Emissions Summary (Extract from Greenhouse Gas Assessment, GHD, May 2022)

Overall, in reflection of the above, the total greenhouse gas emissions expected to be generated by the proposed development are 5,330 tCO<sub>2</sub>-e per annum for operation of the subject premises.

### 7.15.3 Overall Impact and Mitigation

In consideration of the potential emissions generated by the proposed development in association with the construction and operation of the premises for scope 1 and 2 emissions are all considered to be below the 25,000 tCO<sub>2</sub>-e per annum, as permitted under the NGER Act. Overall, the proposed development is considered to be a lower carbon alternative to current transportation situation, which comprises the transport of ethanol from Bomaderry to Port Botany. The alternative of shipping via Port Kembla is considered to result in a net reduction to the total carbon release by up to 770 t CO<sub>2</sub>-e or 45%. This was assessed based on the assumption that emissions related to shipping would be of negligible difference across both options. As such, in consideration of the net zero emission targets, it is determined that the proposed development will have virtually no impact on the NSW emissions and therefore no impact on the net zero emission target. However, in order to minimise the potential greenhouse gas emissions generated by the proposed development, the following is noted by GHD:

#### Construction-

- Sustainable procurement practices will be adopted where feasible;
- Construction materials will be sourced locally where possible;
- Investigate the use of biodiesel for trucks and equipment, where suitable;
- Investigate the use of low carbon concrete, including higher proportions of fly ash in concrete to reduce cement proportion (and hence reduce the Scope 3 'embodied emissions' from use of cement);
- All plant and equipment used during the construction works shall be regularly maintained to reduce emissions and comply with the relevant exhaust emissions guidelines;
- Plant and equipment will be switched off when not in constant use and not left idling;
- Plant and equipment brought onsite will be regularly serviced and energy efficient vehicles or equipment will be selected where available;
- Any plant and equipment that is not working efficiently will be removed from site and replaced as soon as possible;
- Construction works will be planned to ensure minimal movement of plant and equipment;



- *Opportunities for the beneficial reuse of the carbon removed in vegetation, such as mulching and composting, will be included in construction management plans, where feasible; and*
- *Opportunities for the reuse/recycling of construction waste materials will be investigated and included in construction management plans, where feasible.*

#### Operation-

- *Purchase from renewable energy sources when feasible, as there is no land available space on site to propose/provide options for renewable energy sources;*
- *The site is connected to main power grid, and therefore the associated carbon emissions from this source are impacted by the NSW government's drive to introduce a greater amount of zero emissions energy sources to reduce NSW electricity grid emissions intensity. The decarbonisation of the state energy grid will reduce the emissions related to this facility. This is out of control of Manildra and would be a government matter to manage;*
- *Staff and worker commute is associated with the accessibility of low carbon vehicles to the public by improved access to electric and hydrogen vehicles and the associated infrastructure. This is out of Manildra control and would be a government matter to manage; and*
- *The consideration of hydrogen or electric fleet of tanker trucks. However, given the scale of the transport operations related to this project, the capacity of hydrogen or electric tanker trucks are less suitable at this time in comparison to the combustion engine counterparts. It is recommended that this option is considered more seriously as the technology develops further. Reduction/minimisation of greenhouse gas emissions from the other sources during operations would be negligible.*

Overall, it is considered that the proposed development would be greatly benefitted by more macro shifts in the reduction of greenhouse gasses, through incentives for utilisation of more carbon neutral transportation and power sources that would be utilised on the subject premises.

## 7.16 Visual Amenity

With regard to the SEAR's provided within **Appendix D**, an assessment of the visual amenity of the proposed development is required to be undertaken, having regard to the below extract from the SEAR's.

*an assessment of the potential visual impacts of the project on the amenity of the surrounding area.*

In consideration of the visual amenity assessment of the proposed development, with regard to the existing amenity of the locality, a range of macro renders of the subject premises has been prepared and provided within Figure 54, Figure 55, Figure 56 and Figure 57, as provided within following sections of this report.



*Figure 54: Subject Site – Macro West View*



*Figure 55: Subject Site – Macro East View*





*Figure 56: Subject Site – Macro North View*



*Figure 57: Subject Site – Macro South View*

In review of the proposed development within the context of the locality, given that the development is for an industrial/port purpose, that is currently located with the immediate surroundings of the premises, it is considered that the development is a logical addition to the area. Further, the heights of the tanks associated with the proposal are considered to be generally consistent with that of the existing locality and are not considered to significantly intrude upon existing view corridors associated with the local area.

As such, the proposed development is not considered to result in any significant impact to the existing visual amenity of the port environment.

## 7.17 Socio-Economic

In accordance with the SEAR's, it is required that the socio-economic impacts of the proposed development be assessed with respect to the proposed development, namely:

*an analysis of any potential social and economic impacts of the development, including a discussion of any potential economic benefits to the local and broader community.*

The following sections of this report provide an assessment of the socio-economic matters associated with the proposed development at the subject premises.

### 7.17.1 Social Impacts

In addressing the potential social impacts of the proposed development, a Social Impact Assessment has been prepared for the proposed development, which has been provided within **Appendix Y**. As outlined within the Social Impact Assessment (SIA), the following key matters were assessed with regard to the proposed development:

- Employment and community Contribution;
- Safety, Health and Wellbeing;
- Amenity; and
- Traffic.

A review of the potential impacts on these matters are reviewed within subsequent parts of this section of the report. Additionally, all proposed mitigation measures for the proposed development are detailed within table 6.1 & 6.2 of **Appendix Y**.

#### 7.17.1.1 Employment and community Contributions

As is outlined within the SIA, employment is a concern raised by the local community, for which unemployment is higher in the Port Kembla and Warrawong Communities when compared to NSW. In this regard, it is worth understanding that the proponent has a long-established track record of local employment, currently having 350 full time employees in the Illawarra Regions, residing in the Shoalhaven, Kiama, Shellharbour and Wollongong Local government areas.

In addition to the above, it is expected that during construction of the terminal that the development would result in improved job and economic growth within the region. Namely, the following is identified to be generated:

- Employment during Construction – it is expected that up to 30 Full time Equivalent Roles would be generated for construction;
- Local Business Expenditure – generated from increased workers within the area; and
- Employee Household Expenditure – resulting from increased household income.

Additionally, once operational it is expected that the proponent would provide approximately 15.2 full time equivalent roles associated with the operation of the premises.

It is also worth noting that the proponent contributes to the broader community through the establishment of the Manildra Foundation, which supports trusted organisations such as the Breast Cancer Network Australia, Foodbank and Farming for Kids. Further, Shoalhaven Starches provides support to local organisations such as schools and sporting organisations.

In order to appropriately mitigate the potential employment and community impacts associated with the proposal, the following is recommended with regards to the proposed development:

- *Continue focus on local procurement, including Aboriginal Participation that commits to procurement and employment targets for Manildra Group and its contracting partners;*

- *Enhancing the community contribution scheme by exploring initiatives that are linked to outcomes that meet community priorities in the social locality of the Proposal, including the Port Kembla Community and surrounds. Further consultation with community members should be undertaken to understand community need and future opportunities to enhance social sustainability outcomes;*
- *Update their operational community engagement plan to include the social locality related to this project, i.e., Port Kembla; and*
- *Implementing an adaptive management and monitoring framework that defines how Manildra Group will track, measure, respond and report on social performance commitments and making parts of this accessible to the public to further increase levels of trust and awareness.*

#### 7.17.1.2 Safety, Health and Wellbeing

The safety health and wellbeing were the most frequently raised matter in the of the scoping of the SIA, in order to ensure that the development is designed to minimise the impact of the development on the locality. As such, the main matters that were considered for the purpose of the proposed development included:

- *Operations of the facility and safety of nearby businesses and communities;*
- *Decreased safety on the road network due to the transferring of flammable substances and increased heavy vehicles; and*
- *Reduced access for the community to the foreshore as a result of exclusion zones.*

As such, with regard to minimising risk, significant background studies have been prepared assessing the potential risk associated with the premises and methods of minimising the potential dangers of the operation throughout the handling, transportation and shipping of the ethanol product on the subject premises. As stated previously, these reports include:

- Preliminary Hazard Analysis, provided in **Appendix CC**;
- HAZOP Report, provided in **Appendix DD**;
- Fire Safety Study, provided in **Appendix EE**; and
- Transport Study/HIPAP 11 Study, provided in **Appendix FF**.

As is outlined within these reports, the proposed development is to manage all potential on-site and offsite risks through appropriately designing the facility to minimise the risk of to the population, through:

- Preventing public access to the premises;
- Appropriately designing the premises to minimise potential off-site risks associated with the storage and handling of ethanol;
- Appropriately designed pipelines and tanks, as to minimise the potential for any catastrophic events; and
- Transport route selection that minimises risk to populated areas.

Based on the social impact assessment for the Safety, health and wellbeing of the locality, it is recommended that the following measures be implemented at the subject premises:

- *As per the HAZOP study recommendations;*
- *Information will be available on the Manildra website to inform the community of the safety measures incorporated in the project. During construction an email address and phone number will be displayed at the front of the site to direct the Community if contact is required; and*
- *A complaints and enquiry management and response process will be initiated, complaints and enquiries will be answered within 7 working days.*



#### 7.17.1.3 Amenity

For the purpose of any potential amenity impacts associated with the proposed development, the following matters were considered within the SIA:

- *Changes to air quality because of emissions from storage facility;*
- *Impact on social amenity and how people live because of construction noise and vibration, including piling activities and heavy vehicle movements;*
- *Impact on social amenity and how people live because of construction dust; and*
- *Impact on social amenity and how people live because of operation noise and vibration.*

In response to these matters, as outlined within the EIS, the following is considered with respect to the proposed development:

- Air Emissions generated in association with the proposed development will be managed in accordance with recommendations made by GHD within the air quality report provided within **Appendix R**. This matter is discussed in greater detail under section 7.3;
- Construction noise associated with the proposed development has been considered and assessed under the noise impact assessment and piling test noise and vibration report provided within **Appendix U** and **Appendix V** respectively and discussed under section 7.4;
- Construction dust generation has been considered as part of the air quality report provided within **Appendix R**. As specified, construction dust will be minimised through:
  - Using dust suppression watering through high dust generating activities;
  - Covering of construction loads; and
  - Adoption of appropriate construction procedures to mitigate dust emission beyond the boundaries of the site.

Overall, to maintain that any potential social impacts in association with the proposed development, it is recommended within the SIA that the following mitigation measure be implemented for the proposed development.

- *Mitigation measures as outlined in the relevant technical assessments and detailed in the EIS;*
- *A complaints and enquiry management and response process will be initiated, complaints and enquiries will be answered within 7 working days;*
- *Development of a CEP and continued community engagement and involvement as outlined in Chapter 5 of the EIS; and*
- *Adaptive management and monitoring measures, including measurable targets by which performance can be measured and monitored.*

#### 7.17.1.4 Traffic

Based on the social impact assessment, the primary traffic related concerns associated with the proposed development relate to the increased traffic generated by the development and how this will impact upon the locality. Namely, the following key matters were assessed.

- *Increased heavy vehicles causing increased road safety risks for local users;*
- *Impact on social amenity and how people live because of construction traffic; and*
- *Potential conflict with pedestrian and cyclists during construction due to transport to and from construction site.*



Based on the assessment undertaken within the SIA, the following is noted with regard to increased construction and operational traffic and their impacts on the locality:

- The operational traffic generated by the development is to follow the most direct transport route, while minimising the impact on the traffic of local streets;
- The use of the rail network for the transport of ethanol was not achievable for the proponent due to the limited availability and accessibility of rail infrastructure between Bomaderry and Port Kembla to account for the expected ethanol shipping requirements;
- Construction traffic is to be managed in accordance with the Construction Traffic Management Plan provided with **Appendix BB**; and
- As to minimise potential conflicts with pedestrians and cyclists during construction, it will be ensured that pedestrian and cycle access along Foreshore Road will be maintained throughout construction and operation of the premises, as supported by **Appendix BB**.

### 7.17.2 Economic Impacts

As discussed in previous sections of this report, Manildra are Australia's leading ethanol producer, including a range of grades for food and beverages, pharmaceuticals and personal care, industrial applications and transport fuels through their Shoalhaven Starches Plant in Bomaderry. This facility is directly associated with the operation and intention of the proposed development, as it is intended to allow for the bulk storage and distribution/export of food and beverage ethanol produced in Bomaderry. The facility is expected to have a throughput of approximately 250ML per year, with 50ML being distributed via ISO tanks to local market and 200ML expected to be transferred to ships at Berth 206 for international export.

As outlined within the Quantity Surveyors Report provided within **Appendix C** of this report, the proposed development is estimated to have a Capital Investment Value of \$44,400,653. Based on the recommendations made by the social impact assessment, it is considered that a large quantity of the value would be directly injected into the local and Australian economy, based on:

- Prioritising use of local construction and engineering companies in the development;
- Purchasing raw materials through Australian suppliers and producers; and
- Using Australian suppliers and producers of proprietary devices.

Additionally, as has been previously discussed, the proponent currently employs 350 full time employees within the Illawarra regional, with the expectation that the proposed development would provide an additional 30 full time equivalent construction jobs, during the expected 12 month construction period, and 15.2 full-time equivalent operational jobs, once the project is operational. As discussed within the social impact assessment, it is expected that the proponent would seek to predominately hire staff that are local to the Illawarra-Shoalhaven region, in order to promote economic growth within the region.

## 7.18 Ecologically Sustainable Development

In accordance with the SEAR's, an assessment of the proposed development with respect to the principles of Ecologically Sustainable Development (ESD Principles).

*a description of how the proposal will incorporate the principles of ecologically sustainable development in the design, construction and ongoing operation of the development.*

As is detailed within Section 7 (4) of Schedule 2 of the EP&A Regs and Section 6 (2) of the Protection of the Environment Administration Act 1991, the principles of Ecologically Sustainable Development are determined to comprise of the following:

*(4) The principles of ecologically sustainable development are 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.*

In accordance with all of the above, an assessment of the Principles of Ecologically Sustainable Development has been reviewed and assessed within Table 15.

Table 15: Assessment of ESD Principles

Principle	Response
<p>(a) <i>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.</i></p> <p><i>In the application of the precautionary principle, public and private decisions should be guided by—</i></p> <ul style="list-style-type: none"> <li><i>(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and</i></li> <li><i>(ii) an assessment of the risk-weighted consequences of various options,</i></li> </ul>	<p>Any potential threats to serious or irreversible environmental damage are to be appropriately managed on site, noting:</p> <ul style="list-style-type: none"> <li>• Any potential air emissions are to be directed through a scrubber to minimise emission release to air;</li> <li>• Any potential ethanol spills are to be contained within the bunded areas and stored within the proposed slops tanks before being shipped back to Bomaderry for reprocessing;</li> <li>• Extensive consideration is being made to minimise/prevent the use of PFAS firefighting foam in the case of a tank fire, given the potential environmental concerns associated with the use of PFAS; <ul style="list-style-type: none"> <li>○ We do note that the potential for alternative fire fighting foams are being reviewed with respect to ethanol fires, however, the use of PFAS remains the preferred method for</li> </ul> </li> </ul>

Principle	Response
	managing ethanol tank fires. As to minimise the potential for a tank fire, additional measures such as nitrogen blanketing, tank earthing, minimisation of electronics around tanks, which is expected to minimise the need to ever use PFAS. All other fire fighting equipment will utilise PFAS free foam.
<i>(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,</i>	<p>The operation of the subject premises is consistent with existing operations within the locality, being that of port and industry. The associate impacts on intergenerational equity are therefore considered to be minor, noting that:</p> <ul style="list-style-type: none"> <li>• In its current state, the subject site is contaminated, with the intention for remediation work to be undertaken as part of the overall civil works. As the premises is to be fully sealed and bunded in areas that have potential for ethanol spills, it is not expected that the facility would result in any further soil or groundwater contamination;</li> <li>• All tanks and pipelines are to be designed, constructed and operated to AS 2885 in order to minimise the potential for infrastructure failure;</li> <li>• The establishment of the facility would further cement Port Kembla as a major international port;</li> <li>• The facility makes good use of the land on which it is situated, utilising as little land as possible, while still achieving the net development goals required by the proponent;</li> </ul>
<i>(c) conservation of biological diversity and ecological integrity—namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,</i>	<p>The subject premises comprises limited existing evidence of extensive biological and ecological factors, noting that only sparse vegetation currently exists on the site. While this vegetation is to be removed as a result of the proposed development, it is not considered that this vegetation demonstrates an ecological significance on the subject premises. Additionally, it is not considered that any significant fauna habitats reside on the subject premises. This is all evidenced by the BDAR Waiver provided within <b>Appendix T</b>.</p> <p>With regard to the aquatic flora and fauna potentially in proximity to the subject premises, given that the stormwater which falls into the bunds on the site is to be tested and treated before release to the drainage channel, the associated impacts are considered to be inherently minor.</p>
<i>(d) improved valuation, pricing and incentive mechanisms—namely, that environmental factors</i>	As discussed previously, the potential for generation of pollutants is intended to be appropriately contained, avoided or minimised through the use of air and water

Principle	Response
<p><i>should be included in the valuation of assets and services, such as—</i></p> <p>(i) <i>polluter pays—that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,</i></p> <p>(ii) <i>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,</i></p> <p>(iii) <i>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.</i></p>	<p>management methodologies, which has been considered in the design and costing of the project.</p> <p>It would be assumed that purchasers of the ethanol would be paying for the lifecycle cost of the product, namely, production, handling and transport.</p>

## 7.19 Planning Agreement/Development Contributions

In accordance with *Environmental Planning and Assessment (Local Infrastructure Contribution – Port Botany and Port Kembla) Direction 2013*, made under superseded section 94E (current section 7.17) of the EP&A Act 1972, land forming part of the Port Kembla Lease Area, of which the site is located within, does not attract any development contributions in accordance with section 7.11 of the Act.

## 8.0 CONCLUSION

This Environmental Impact Statement has been prepared for the purpose of an application for Proposed State Significant Development for a Bulk Liquid Storage and Export Facility at Foreshore Road, Port Kembla NSW 2505, Lot 6 on DP1236743 and Lot 2 On DP1182823. This report has been prepared having regard to the *State significant development guidelines* and has outlined the following items for the department's consideration:

- The proposed development comprises a land uses that is permitted with consent within the SP1 – Special Activities Zone;
- The proposed development has undertaken extensive hazard, operational and environmental studies to assess the potential impact of the proposed development, for which are considered to be appropriately manageable for the purpose of the proposed development;
- The proposal has provided a comprehensive response to the Department's SEARS; and
- The proposed development is determined to generally comply with all relevant state and local policies, which have been considered for the purpose of the proposed development;

On the basis of everything contained within this report and supporting appendices, it is determined that approval of the proposed state significant development is warranted.



**APPENDIX A - CERTIFICATE OF TITLE**

## **APPENDIX B - PERMISSION TO LODGE**

**APPENDIX C - COST ESTIMATE**

## **APPENDIX D - SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS**

## **APPENDIX E – PORT KEMBLA DEVELOPMENT CODE ASSESSMENT**



## **APPENDIX F – WOLLONGONG DEVELOPMENT CONTROL PLAN ASSESSMENT**

**APPENDIX G - DEVELOPMENT DRAWINGS**

**APPENDIX H - DEVELOPMENT PERSPECTIVES**

## **APPENDIX I - SITE SURVEY**

**APPENDIX J – EROSION AND SEDIMENT CONTROL PLAN**

## **APPENDIX K – CONSULTATION SUPPORTING MATERIAL**



**APPENDIX L – GREEN PORTS CHECKLIST**

## **APPENDIX M - PRELIMINARY GEOTECHNICAL AND CONTAMINATION ASSESSMENT**

## **APPENDIX N – GROUNDWATER ASSESSMENT AND MANAGEMENT REPORT**

**APPENDIX O - REMEDIAL ACTION PLAN**

**APPENDIX P - ACID SULFATE SOIL MANAGEMENT PLAN**

## **APPENDIX Q - SITE BASED STORMWATER MANAGEMENT PLAN**



**APPENDIX R - AIR QUALITY ASSESSMENT**

**APPENDIX S - GREENHOUSE GAS ASSESSMENT**

**APPENDIX T - BDAR WAIVER**

**APPENDIX U - NOISE IMPACT ASSESSMENT**

## **APPENDIX V - PILING TEST NOISE AND VIBRATION REPORT**

## **APPENDIX W - ABORIGINAL CULTURAL HERITAGE ASSESSMENT**



**APPENDIX X - CULTURAL HERITAGE ASSESSMENT**

**APPENDIX Y – SOCIAL IMPACT ASSESSMENT**

**APPENDIX Z - TRAFFIC IMPACT ASSESSMENT**

## **APPENDIX AA – PORT NAVIGATION ASSESSMENT**

## **APPENDIX BB - CONSTRUCTION TRAFFIC MANAGEMENT PLAN**

**APPENDIX CC - PRELIMINARY HAZARD ANALYSIS**



**APPENDIX DD - HAZOP REPORT**

**APPENDIX EE - FIRE SAFETY STUDY**

**APPENDIX FF - TRANSPORT STUDY**

## **APPENDIX GG – TRANSPORT EMERGENCY RESPONSE PLAN**

**APPENDIX HH - ROADS ACT CONSENT**