ETHOS URBAN

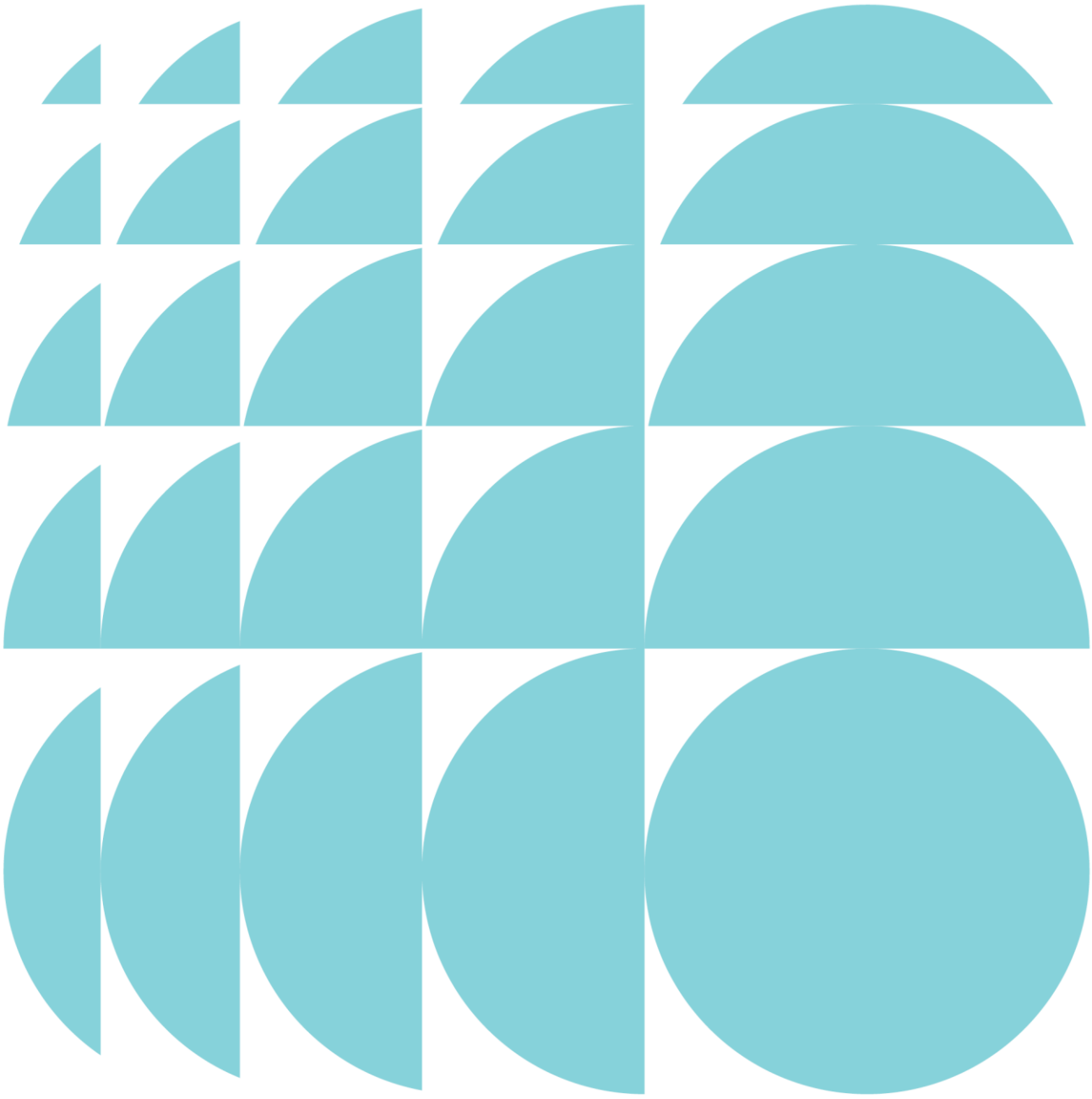
Environmental Impact Statement

Lot 12 Sommerville Road, Rozelle
(Glebe Island Silos)

Cement Handling and Distribution Facility
Capacity Upgrade

Submitted to the Department of Planning, Industry and Environment
On behalf of Cement Australia

16/11/2021 | 218638



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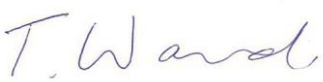
Development Application Details	
Applicant name	Cement Australia
Applicant address	18 Station Avenue, Darra, QLD, 4076
Land to be developed	Lot 12, Sommerville Road, Rozelle, 2039
Proposed development	Proposed increase of the annual throughput capacity of cementitious material to 1,200,000 tpa by the existing cement handling and distribution facility at the Glebe Island Cement Silo as described in Section 3.0 of this Environmental Impact Statement
Prepared by	
Name	Tim Ward
Qualifications	Bachelor of Science, Master of Environmental Management
Address	173 Sussex Street, Sydney
In respect of	Designated Development - Development Application
Certification	
	I certify that I have prepared the content of this EIS and to the best of my knowledge: • it is in accordance with Schedule 2 of the Environmental Planning and Assessment Regulation 2000; • all available information that is relevant to the environmental assessment of the development to which the statement relates; and • the information contained in the statement is neither false nor misleading.
Signature	
Name	Tim Ward
Date	16/11/2021

Executive Summary

Purpose of this Report

This submission to the Department of Planning and Environment (the Department) comprises an Environmental Impact Statement (EIS) for a Development Application under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This application seeks approval for the increase of the annual throughput capacity of cementitious material to 1,200,000 tpa by the existing cement handling and distribution facility at the Glebe Island Cement Silo. However, no building works are proposed to achieve the annual throughput capacity increase.

The site at Lot 12 Sommerville Road, Rozelle is identified as a State Significant Development Site in Schedule 6 of *State Environmental Planning Policy (State Significant Precincts) 2005*. Development within the area identified as Glebe Island, White Bay, Rozelle Bay and Blackwattle Bay on the Sydney Harbour Port and Related Employment Lands Map, being development with a capital investment value of not more than $10 million that is carried out by a person other than a public authority delegates the Minister as the consent authority for the purposes of the EP&A Act.

A request for the issue of Secretary's Environmental Assessment Requirements (SEARs) was sought on 22 July 2020. Accordingly, the SEARs were issued on 11 August 2020. This submission is in accordance with the Department's guidelines for applications lodged under Part 4 of the EP&A Act, and addresses the issues raised in the SEARs.

Overview of the Project

The Development Application (DA) seeks approval for a permanent increase to the throughput of cementitious material to 1,200,000 tonnes per annum at the Glebe Island Cement Silo on the site currently operated by Cement Australia. No building works are proposed, and the proposed increase is operational in nature. The proposal will result in an increase of shipping and trucking movements to and from the site to approximately 55 ships and approximately 49,000 trucks per annum, noting that these numbers are not fixed and may change according to the operational requirements of Cement Australia.

The Site

The site is located at Lot 12, Sommerville Road, Rozelle and forms part of the Glebe Island Silos, identified as item 4560016 on the State Heritage Register. The Cement Australia facility uses 16 of the 30 silos, which make up the complete Glebe Island Silos set, with the remaining 14 silos to the east operated by Sugar Australia. The site is located within Glebe Island as part of the Bays Precinct, a State Significant Precinct located two kilometres west of the Sydney CBD, which encompasses areas including Blackwattle Bay, Wentworth Park, Glebe Island, White Bay, Rozelle Bay, Rozelle Railyards and White Bay Power Station.

Planning Context

Section 6.0 of the EIS considers all applicable legislation in detail. The proposal is consistent with the requirements of all relevant environmental legislation, SEPPs and SREPs. The site is zoned as a Port and Employment Zone under the *Sydney Regional Environmental Plan No 26 – City West*. The proposal does not change the approved land use, is permissible with consent, and meets the objectives of the subject zone.

Environmental Impacts and Mitigation Measures

This EIS provides an assessment of the environmental impacts of the project in accordance with the SEARs and sets out the undertakings made by Cement Australia to manage and minimise potential impacts arising from the development.

As the proposal involves no building works, there are no construction related impacts associated with the proposed development.

The proposal presents minor impacts in relation to noise, traffic and air quality which are not adverse in nature, with predicted potential impacts able to be mitigated. Operations will be monitored, and noise attenuation measures will be provided to ships to reduce the potential for excessive noise emission, the SIDRA traffic modelling undertaken

indicate additional trucks present minimal impacts to neighbouring roads and intersections and additional microparticle emissions remain consistent with relevant standards.

No heritage impacts arise given that no building works are proposed, and the existing adaptive reuse of the silos will continue.

Conclusion and Justification

The EIS addresses the SEARs, and the proposal provides for the increased throughput in cementitious material. Operational impacts are minor and can be mitigated with standard mitigation measures.

Given the planning merits of the proposal, the proposed development warrants approval.

1.0 Introduction

This Environmental Impact Statement (EIS) is submitted to the Department of Planning, Industry and Environment pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) in support of SSD 8595604 (It is noted that although this application has been designated a SSD number, the proposal is not defined as State Significant Development – see Section 5.1 below).

The proposed development is for the increase of annual throughput capacity of cementitious material from 500,000 tonnes per annum (tpa) to 1,200,000 tpa at the existing cement handling and distribution facility operated by Cement Australia at Glebe Island.

The site at Lot 12, Sommerville Road, Rozelle is located in The Bays Precinct which is identified as a State Significant Development Site in Schedule 6 of *State Environmental Planning Policy (State Significant Precincts) 2005*. Development within the area identified as Glebe Island, White Bay, Rozelle Bay and Blackwattle Bay on the Sydney Harbour Port and Related Employment Lands Map, being development with a capital investment value of not more than $10 million that is carried out by a person other than a public authority specifies the Minister as the consent authority for the purposes of the EP&A Act.

Wharf-side facilities at which cargo is loaded onto vessels, unloaded from vessels, or temporarily stored at a rate of more than 500 tonnes per day or 50,000 tonnes per year are classified as designated development pursuant to Clause 30 of Schedule 3 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation). As the proposal is for a throughput rate of up to 1,200,000 tonnes per annum, being an increase of up to 700,000 tonnes per annum, it is considered to be designated development.

This EIS has been prepared in accordance with the requirements of Part 4 of the EP&A Act, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), and the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of the EIS, which are included at **Appendix A.** This EIS should be read in conjunction with the supporting information and plans appended to and accompanying this report.

The EIS has been prepared by Ethos Urban on behalf of Cement Australia and is based on other supporting technical information appended to the report (see Table of Contents).

1.1 Overview of Proposed Development

This application seeks development consent for an increase in throughput to the existing cement handling and distribution facility on the site. The existing facility has permanent approval for an annual throughput capacity of cementitious material of 500,000 tonnes per annum (tpa).

The proposed development seeks an increase of this annual throughput capacity to 1,200,000 tpa. No physical works to the existing cement silos, or the associated cement handling and distribution infrastructure, are proposed.

1.2 Background to the Development

The Glebe Island Cement Silos are former grain and wheat silos located at Lot 12 Sommerville Road, Rozelle, adjacent to the Anzac Bridge and the Western Distributor. The silos are identified on the State Heritage Register as the 'Glebe Island Silos', listing number 4560016. Grain storage ceased in 1984 and the silos were converted to cement storage in 1994. 16 of the 30 silos are currently operated by Cement Australia, with the 14 silos in the eastern portion used for storing sugar. The site presents faux Art Deco columns to Anzac Bridge, with a large rectangular billboard located on top of the columns facing eastwards.

The existing cement handling and distribution facility was approved under DA350/91 which was granted by Leichhardt Municipal Council on 16 October 1991 and subsequently modified by the Minister for Planning (and Sydney Harbour Foreshore Authority on behalf of the Minister) three times in 2002 and 2003. This current consent permits a maximum throughput of 500,000 tonnes per annum of cementitious materials, delivered by ship to Glebe Island Berth 8 and distributed from the site by truck.

Condition 8 of DA350/91 limited the facility's throughput capacity to 500,000 tpa.

SSDA 9967 was submitted to the Department of Planning, Industry and Environment seeking a temporary additional 100,000 tpa of throughput for a total 600,000 tonnes per year, for a maximum period of 18 months from the approval date of the Operational Environmental Management Plan. This was approved by DPIE on 29 November 2019.

The site is located within the Bays Precinct, a State Significant Precinct approximately 2km west of the Sydney CBD which includes areas including Blackwattle Bay, Wentworth Park, Glebe Island, White Bay, Rozelle Bay, Rozelle Railyards and White Bay Power Station. The precinct is currently undergoing urban renewal and transformation, with the renewal of three key sites, including the Sydney Fish Markets, Blackwattle Bay and Bays West, where the site is located. The future vision for Bays West is that it will evolve over time into a mixed-use precinct that retains working harbour industry, integrated with an innovative and sustainable new place for living, working and recreation.

Nonetheless, the site is currently a working port and this proposal seeks to continue to provide this port-related employment function.

1.3 Objectives of the Development

The objectives of the proposed increase in throughput capacity are to:

- Service existing and future demand for Greater Sydney's cement requirements in an efficient and sustainable way;
- Promote the orderly and economic use of an existing concrete silo facility to secure future cement supply;
- Maximise the unique location of the site within a deep water port with direct access to the major road network;
- Capitalise on the site's close proximity to end user's plants and facilities located at or near Glebe Island.
- Continue to support Australian jobs and the economy through the efficient throughput of cementitious product.

1.4 Analysis of Alternatives

Strategic need for the proposal

An increase to the operational capacity of the existing cement silos is required to increase the amount of cementitious material distributed to support the construction of large infrastructure projects and urban developments throughout Sydney. This facility distributes approximately 50% of Sydney's cementitious material which is required for a wide range of construction projects including for major developments and infrastructure such as WestConnex Stage 3, Western Harbour Tunnel and Beaches Link, Sydney Metro's City and South West and Metro West projects, the Bays Precinct transformation, and development associated with the Western Sydney Aerotropolis, amongst other development projects.

Cementitious materials are used in almost all aspects of development and infrastructure construction. As such, growth in demand for cementitious materials is projected to increase generally in-line with underlying economic growth. Consistent with the trend growth in Gross Domestic Product (GDP), demand for cementitious materials is projected to grow by around 2.5% per annum. Taking 2018 as the base case (prior to COVID-19 impacted years), when total throughput of cementitious materials reached almost 540,000 tonnes per annum, the facility would exceed the proposed 1.2 million tonnes throughput by 2050.

It is highlighted that this projection is based on underlying GDP growth. If, however, there is a higher than trend investment in development and infrastructure construction projects, then demand for cementitious materials could outstrip broader GDP growth rates. Given the very high levels of investment in infrastructure in the next 10 years it is highly likely that demand for cementitious materials will outstrip GDP growth. If demand for cementitious materials grows at 4% per annum, then throughput at the facility would reach the proposed 1.2 million tonnes throughput by 2040. At 5% growth, the 1.2 million tonnes throughput would be reached by 2035.

It is also highlighted that the maximum throughput for which development consent is sought needs to incorporate a degree of safety. Demand for cementitious materials can fluctuate on a monthly basis, and it is both highly disruptive and administratively complex if temporary arrangements are required to be put in place in order to address a short term surge in demand for cementitious materials (as happened in 2018). The proposed throughput capacity increase is therefore critical to maintaining a reliable and efficient supply of cement into the construction materials supply chain for Sydney.

Alternative Options

Three options are available to Cement Australia in responding to the identified need for additional cementitious material throughput in Greater Sydney.

Option 1: Do Nothing
This option entails returning to a 500,000 tonne per annum cap at the Glebe Island cement silo facility. Given the ongoing construction of numerous large scale infrastructure projects in Sydney, there is an increased demand for cementitious product for sites and development in the Greater Sydney region. The existing facility has capacity to increase its throughput without the construction of additional ancillary building works, rendering the impacts of this proposal to be operational in nature. A failure to provide additional cementitious materials throughput within an existing Sydney port would compromise the delivery of key infrastructure projects and development generally in Sydney and increase the need for other facilities in neighbouring areas to be upgraded or constructed. This would in turn also increase associated transportation costs with transporting cementitious material to concrete batching plants (and other customers) around Sydney.

Option 2: Alternative Option
Transporting cementitious material by ship is seen as the most economical method of transporting such material to Sydney, given the amount required which requires a concentration of economies of scale. Sydney has limited port facilities to process cementitious material produced in Australia, with other Cement Australia facilities located in Port Kembla in Wollongong and Kooragang in Newcastle. Increasing throughput capacities at these locations for cementitious material intended for markets and sites in Greater Sydney will increase time and travel costs for the transport of this material to Greater Sydney as well as increase transport emissions. Locating additional throughput outside of Sydney would cause a reduction or elimination of the efficiencies and benefits which arise from Cement Australia's current location in a highly accessible area, reducing its ability to serve the construction demands of Sydney in the most effective and efficient way.

Option 3: Proposed Option
The Glebe Island site is ideally located with access to a deep water port and direct access to the Sydney arterial road network which allows efficient distribution of cementitious material to the Greater Sydney market. The existing site infrastructure is able to manage the increase in throughput over time without requiring construction works.

Cement Australia seeks to maximise the use of maritime transport to alleviate congestion on roads, using trucks to transport material the final distance to down-stream customers. Utilising trucks to transport cementitious material within Greater Sydney as opposed to trucking material from Wollongong or Newcastle reduces vehicle kilometres travelled, associated vehicular emissions and reduces traffic congestion on regional roads. The site is also located close to regional roads including Victoria Road, the Western Distributor and WestConnex, thus reducing traffic impacts on nearby local roads.

The proposed capacity of 1.2 million tonnes per annum is the best strategic option to enable efficient and cost effective supply of cementitious products to several ongoing and future projects in the Greater Sydney region. This proposal will allow Cement Australia to continue to meet current and future market demand, including key NSW government infrastructure projects.

The proposed development will ensure that the cementitious material demands of Greater Sydney are met within an existing storage and distribution facility, whilst ensuring that proposed impacts particularly in relation to heritage, traffic and noise are managed to an acceptable level. The proposal increases throughput in an existing facility and is located in an advantageous, highly accessible location in Sydney.

1.5 Secretary's Requirements

In accordance with section 4.39 of the EP&A Act, the Secretary of the Department of Planning and Environment issued the requirements for the preparation of the EIS on 11 August 2020. A copy of the Secretary's Environmental Assessment Requirements (SEARs) is included at **Appendix A**.

Table 1 provides a detailed summary of the individual matters listed in the SEARs and identifies where each of these requirements has been addressed in this report and the accompanying technical studies. Appendix B cross-references all of the issues required to be addressed by agencies and other stakeholders that provided input into the SEARs.

Table 1 Secretary's Requirements

Requirement	Location in Environmental Assessment
General	
The Environmental Impact Statement (EIS) must address the *Environmental Planning and Assessment Act 1979* and meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000.	
In addition, the EIS must include: · a detailed description of the development, including:	**Section 3**
- an accurate history of the site, including development consents;	**Section 1.2**
- the need for the proposed development	**Section 1.4**
- justification for the proposed development	**Section 1.4**
- likely staging of the development	N/A. No staging is proposed.
- likely interactions between the development and existing, approved and proposed operations in the vicinity of the site	**Section 1.2**
- plans of any proposed building works	No building works proposed.
- contributions required to offset the proposal, and	**Section 3.6**
- infrastructure upgrades or items required to facilitate the development, including measures to ensure these upgrades are appropriately maintained.	N/A
• consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments	**Section 5.1**
• consideration of issues discussed in Attachment 2 (public authority responses to key issues)	**Section 5, Appendix B**
• a risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment	**Section 5**
• a detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes:	**Section 5**
– a description of the existing environment, using sufficient baseline data	**Section 5**
– an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes and	**Section 5**
– a description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment	**Section 5**
a consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.	**Section 5, Section 7**
• high quality files of maps and figures of the subject site and proposal	**Section 2**
• a report from a qualified quantity surveyor providing: – a detailed calculation of the capital investment value (CIV) of the proposal (as defined in clause 3 of the Environmental Planning and Assessment Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived. The report shall be prepared on company letterhead and indicate the applicable GST component of the CIV	**Appendix J**
– an estimate of the jobs that will be created by the development during the construction and operational phases of the proposed development and certification that the information provided is accurate at the date of preparation.	**Appendix J**

Requirement	Location in Environmental Assessment	
Key Issues	**Report / EIS**	**Technical Study**
1. Statutory and strategic context – including:		
• detailed justification for the proposal and the suitability of the site	**Section 5, Section 8**	N/A
• detailed justification that the proposed land use is permissible with consent	**Section 5.1**	N/A
• a detailed description of the history of the site, including the relationship between the proposed development and all development consents and approved plans previously and/or currently applicable to the site	**Section 1.2**	N/A
• demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, adopted precinct plans, draft district plan(s) and adopted management plans and justification for any inconsistencies. This includes, but is not limited to: – State Environmental Planning Policy (State Significant Precincts) 2005 – State Environmental Planning Policy (State and Regional Development) 2011 – Sydney Regional Environmental Plan No. 26 – City West – Greater Sydney Region Plan: A Metropolis of Three Cities – Our Greater Sydney 2056: Central City District Plan – Future Transport Strategy 2056.	**Section 5.1**	N/A
2. Suitability of the Site – including:		
• a detailed justification that the existing facility can accommodate the proposed development, having regard to the scope of the operations of the existing facility and its environmental impacts and relevant mitigation measures	**Section 5**	N/A
• description of how the proposed development integrates with existing onsite operations**.**	**Section 3**	N/A
3. Community and Stakeholder Engagement – including:		
• a detailed community and stakeholder participation strategy which identifies who in the community has been consulted and a justification for their selection, other stakeholders consulted and the form(s) of the consultation, including a justification for this approach	**Section 4**	**Appendix D**
• a report on the results of the implementation of the strategy including issues raised by the community and surrounding owners and occupiers that may be impacted by the proposal	**Section 4**	**Appendix E**
• details of how issues raised during community and stakeholder consultation have been addressed and whether they have resulted in changes to the proposal and	**Section 4**	**Appendix E**
• details of the proposed approach to future community and stakeholder engagement based on the results of the consultation.	**Section 4**	**Appendix E**
4. Air Quality and Odour – including:		
• a quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environment Protection Authority guidelines	**Section 5.2**	**Appendix G**
• cumulative impacts from existing onsite operations and from surrounding developments	**Section 5.2**	**Appendix G**
• the details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to buildings	**Section 5.2**	**Appendix G**
• details of proposed mitigation, management and monitoring measures.	**Section 5.2**	**Appendix G**
5. Noise and Vibration – including:		
• a quantitative noise and vibration impact assessment of operational activities undertaken by a suitably qualified person in accordance with the relevant Environment	**Section 5.3**	**Appendix H**

Requirement	Location in Environmental Assessment	
Protection Authority guidelines and including an assessment of nearby sensitive receivers		
• cumulative impacts from existing onsite operations and from surrounding developments	**Section 5.3**	**Appendix H**
• details and justification of the proposed noise mitigation, management and monitoring measures.	**Section 5.3**	**Appendix H**
6. Traffic and Transport – including:		
• details of all traffic types and volumes likely to be generated during operation, including a description of key access / haul routes	**Section 5.4**	**Appendix F**
• 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	**Section 5.4**	**Appendix F**
• plans demonstrating how all vehicles likely to be generated during operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network	**Section 5.4**	**Appendix F**
• details and plans of any proposed the internal road network, loading dock servicing and provisions, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards - details of the largest vehicle anticipated to access and move within the site, including swept path analysis	**Section 5.4**	**Appendix F**
• swept path diagrams depicting vehicles entering, exiting and maneuvering throughout the site	**Section 5.4**	**Appendix F**
• details of road upgrades, infrastructure works, or new roads or access points required for the development if necessary	**Section 5.4**	**Appendix F**
• cumulative impacts from existing onsite operations and from surrounding developments.	**Section 5.4**	**Appendix F**
7. Marine Traffic, Navigation and Safety – including:		
• an assessment of the proposed development on water-based traffic, marine structures, marine safety and navigation, including cumulative impacts.	**Section 5.5**	**Appendix I**
• provide details of vessel movements including frequency and vessel size.	**Section 5.5**	**Appendix I**
8. Heritage – including:		
• an assessment of heritage impacts prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW heritage manual	**Section 5.6**	**Appendix C**
• identify all heritage items within the vicinity of the site including built heritage, landscapes and archaeology	**Section 5.6**	**Appendix C**
• the impacts of the development on heritage item(s) including physical impacts such as vibration and visual amenity	**Section 5.6**	**Appendix C**
• measures to avoid and/or mitigate impact on the heritage significance of the site and the surrounding heritage items.	**Section 5.6**	**Appendix C**
9. Planning agreement/development contributions – demonstration that satisfactory arrangements have been or would be made to provide, or contribute to the provision of, necessary local and regional infrastructure required to support the development.	**Section 3.6**	N/A

Requirement	Location in Environmental Assessment	
Consultation		
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: • Inner West Council • Transport for NSW • Environment Protection Authority • Port Authority of NSW • Heritage NSW • DPIE Environment, Energy and Science Group The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	**Section 4**	**Appendix D, Appendix E**

2.0 Site Analysis

2.1 Site Location and Context

The site is located at Lot 12, Sommerville Road, Rozelle within the Inner West Local Government Area. The site is located approximately 2km west of the Sydney CBD and 200m south of west of White Bay, within The Bays Precinct. The area surrounding Sommerville Road beneath the Anzac Bridge is reclaimed from the sea and known as Glebe Island, with the foreshore being used for port related industrial activity. The site's locational context is shown at **Figure 1**.

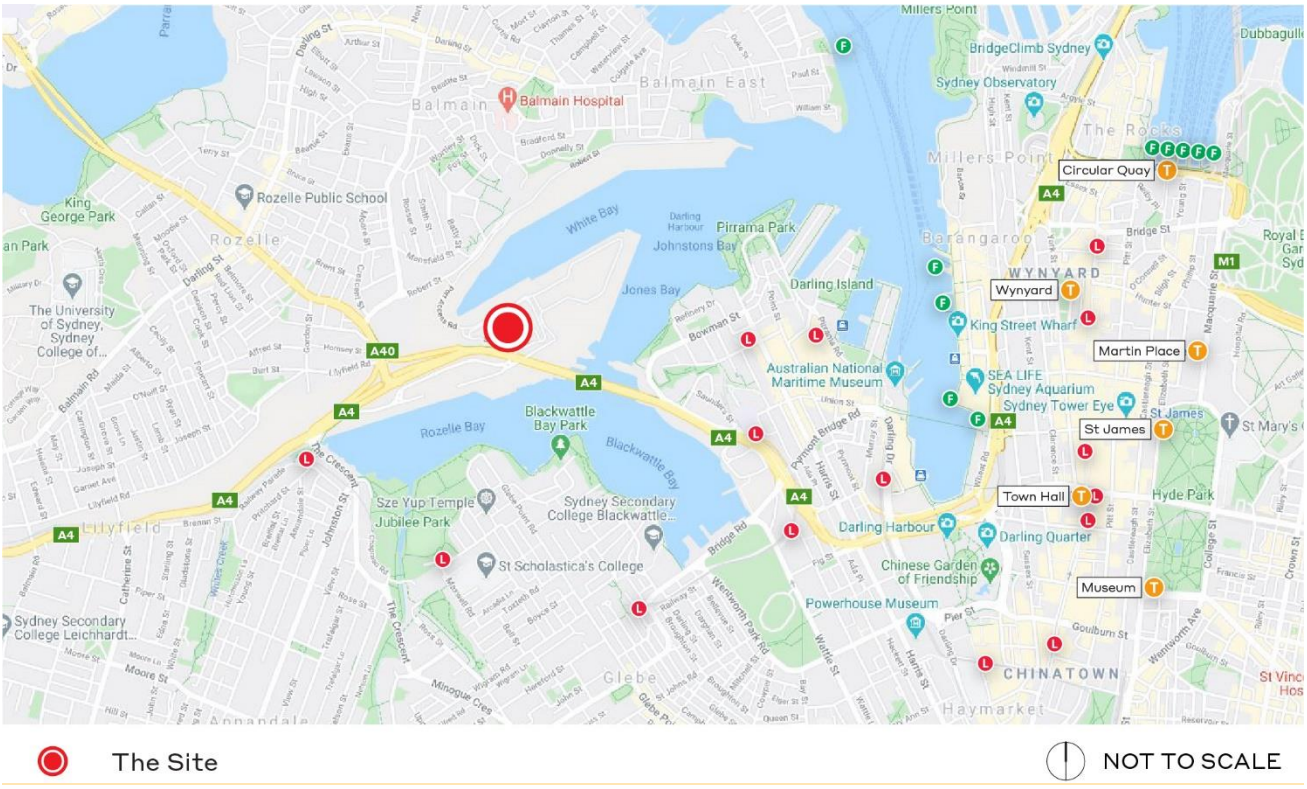


Figure 1 Locational Context Map

Source: Google Maps & Ethos Urban

2.2 Site Description

The site is legally described as Lot 12 DP1170710. The land is owned by the Port Authority of NSW. It is irregular in shape and contains the western portion of the former grain silos currently utilised by Cement Australia.

The site features 16 of the total set of 30 silos which make up the complete Glebe Island Silos set (the remaining 14 silos are operated by Sugar Australia). In the lead up to the 2000 Olympic Games, the south-eastern and south western sides of the silos were painted to mimic Grecian columns and a structure was attached to the top of the silos to take advertising. Photos of the silos are shown in **Figures 2 and 3**.

The Cement Australia facility relies on wharf infrastructure alongside Glebe Island Berth 8 to unload cementitious material via an existing conveyor directly into the Glebe Island Silos. Cementitious material is then dispatched by tanker truck from the silos to concrete batching plants and other customers around Sydney. Cementitious material is transferred to and from the silos via a pneumatically sealed delivery system, allowing fine dust to be captured and ensuring that only a negligible amount of dust is emitted to the atmosphere. The facility operates with three weighbridges. Each weighbridge has a capacity to dispatch four trucks per hour. As such, the maximum hourly dispatch of cementitious material is 12 tankers per hour.

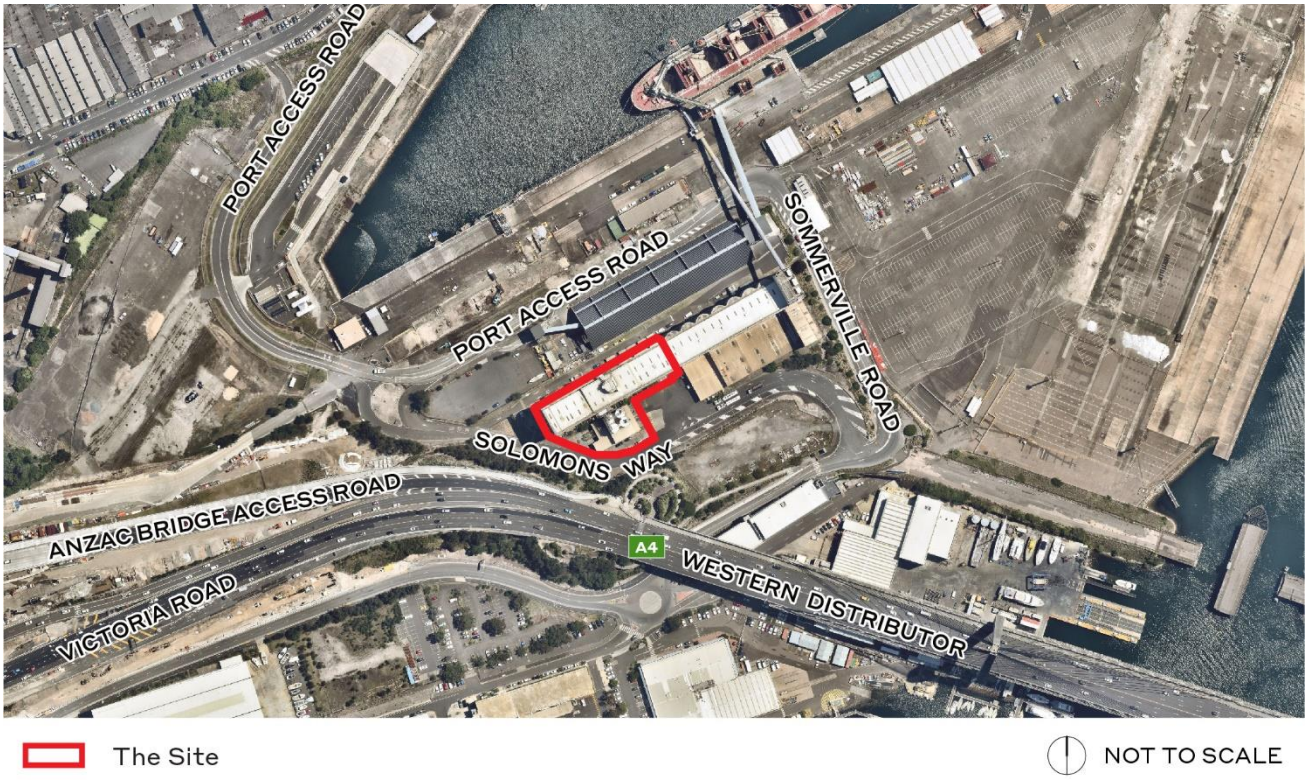


Figure 2 Site Context

Source: Nearmap & Ethos Urban

Figure 3 Glebe Island Silos, looking north-west

Source: Ethos Urban

Figure 4 Glebe Island Silos, looking north-east

Source: Ethos Urban

2.3 Heritage

Two heritage listings are contained on the site for the existing silos, as follows:

- Glebe Island Silos, Glebe Island, Port Authority of NSW s.170 NSW State agency heritage register. Listing No. 4560016 (see **Figure 5** below).
- Glebe Island Wheat Silos, Glebe Island, NSW and Sydney REP No. 26 – City West Schedule 4 Part 3 Items in the Bays Precinct. Item 1.

It is noted that the site is not located within a Heritage Conservation Area.

Numerous works have been undertaken on the silos since they were originally constructed. These include the conversion of the silos for grain storage to cementitious materials and sugar storage in 1994 and the painting of the silos to mimic Grecian columns and the advertising structure in 2000. As such, the Heritage Impact Statement prepared by Weir Phillips Heritage in **Appendix C** conclude that the silos "demonstrate mixed integrity".

Table 2 identifies the other heritage items that are also within the vicinity of the site.

Table 2 Heritage Items in the vicinity

Item Name	Address	Significance	Item No.
Glebe Island Bridge	Bank Street, Pyrmont	State	SHR No. 01914
White Bay Power Station (see **Figure 5** below, labeled as item no. 11)	Victoria Road, Rozelle	State	SHR No. 01015
Monument, Glebe Island	Glebe Island	Local	Sydney Regional Environmental Plan No 26—City West Schedule 4 Part 3, Item No. 5
Glebe Island Bridge approach	Adjacent to Anzac Bridge	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560015
Glebe Island Dyke Exposures	Victoria Road Local Glebe Island	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560056
Plaque- Opening of Container Terminal	Sommerville Road	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560013
Glebe Island Sandstone Quarry Sample	Sommerville Road	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560014
Glebe Island World War II Monument	Sommerville Road	Local	Port Authority of New South Wales Section 170 Heritage Register. Item No. 4560016

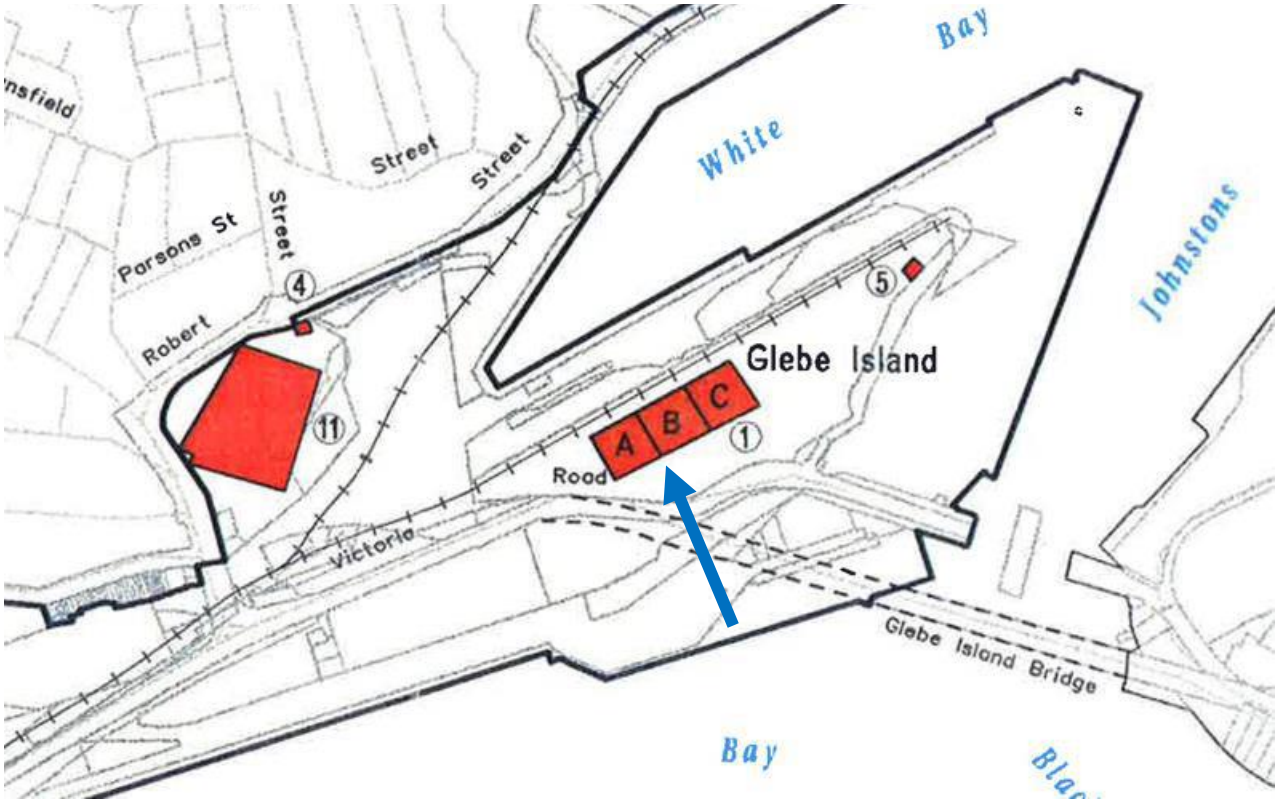


Figure 5 Extract from the Sydney Regional Environmental Plan No. 26 City West (Amendment No. 7 – Bays Precinct) showing the heritage items in red. The Glebe Island Silos are indicated by the blue arrow.
Source: NSW Legislation

2.4 Surrounding Development

The site adjoins a number of port facilities and access roads. A loading facility is located to the north west of the site between Port Access Road and Jones Bay. This facility contains a conveyor belt which connects the north eastern silo on the site to the port and docked shipping. A large loading area extending 500m into Johnstons Bay is located to the north east of the site, known as the Glebe Island Container Terminal.

Vegetation separating the site from Victoria Road's approach to the Anzac Bridge is located to the south west of the site, with the Western Distributor being an 8 lane grade separated roadway. Vegetation also separates the site from a three storey office building across Sommerville Road, with a marina and mooring facilities located further south east below the Anzac Bridge roadway.

The White Bay Power Station near the intersection of Victoria Road and Robert Street is located approximately 300m to the west, separated from the site by vacant land and remnants of the former Rozelle rail yard.

Figure 6 ANZAC Bridge, with the state heritage listed Glebe Island Bridge in the foreground

Source: Ethos Urban

Figure 7 White Bay Power Station to the west of the site, facing west

Source: Ethos Urban (photo taken from the site looking west

Figure 8 Glebe Island, the ANZAC Bridge with Pyrmont and the Sydney CBD beyond, facing east

Source: Ethos Urban (photo taken from the site looking east)

3.0 Description of the Development

This chapter of the report provides a detailed description of the proposed development.

This development application seeks approval for the increase of the annual throughput capacity of cementitious material to 1,200,000 tpa at the existing cement handling and distribution facility. No building works are proposed to achieve the annual throughput capacity increase, and as such, there are no cost of works applicable to the proposed development (as stated in the CIV Estimate in **Appendix J**).

3.1 Operational activities

This application does not seek to amend the nature of the cementitious material currently being handled by the facility, or the way in which is handled or stored at the site. Cementitious material is a combination of cement, fly ash and other similar materials utilised in the production of concrete. It is not considered to be a Dangerous Goods under the Australian Dangerous Goods Code.

Cementitious material is currently delivered by vessel and discharged via an existing conveyor from Glebe Island Berth 8. The facility will continue to use Berth 8, and no change to the wharf or berth infrastructure is proposed.

The site is serviced by three weighbridges, and the proposal makes no changes to the number or operational capacity of the existing weighbridges.

The facility is proposed to maintain its existing hours of operation, operating 24 hours a day, 7 days a week.

Cement Australia note that the facility does not intend to immediately operate at maximum throughput capacity upon the granting of consent. As noted in **Section 1.4** of this report, the operations of the facility is driven by demand for cementitious material associated with the construction industry in Greater Sydney. As such, it is anticipated that such demand will result in a slow but gradual increase for cementitious material to be handled by the facility in the coming years consistent with construction demand. Therefore, future operations and increases in the throughput of cementitious material by the facility will not be staged.

3.2 Increased shipping movements

The increase in annual throughput results in an associated increase in shipping movements required to facilitate the proposed throughput.

The proposal seeks to increase the number of ships visiting the facility to approximately 55 ships per annum.

Cement Australia currently uses ships with a capacity up to approximately 30,000 tonnes of cement per shipment. However, with consideration of the annual throughput capacity limit of 500,000 tonnes per annum, Cement Australia have generally limited average shipment sizes to approximately 15,000 - 18,000 tonnes per shipment over the last 5 years.

However, in order to achieve the increased throughput capacity of up to 1.2 million tpa, Cement Australia has estimated that average shipment load would need to increase up to approximately 22,000 tonnes per shipment, and has established a target payload of 25,000 tonnes per shipment. Based on this average shipment, a total of 55 vessel visits would need to occur across the year.

Ships proposed to be used at the facility will generally be the Akuna and the Wyuna, or similar vessels. These vessels are specially converted cement tankers:

- That are approximately 169m long and 27m wide, with a draft of 9.8m.
- Have a hold capacity of approximately 25,000m^3 and 30,000 tonnes.
- Can discharge cementitious material up to an approximate maximum of 1,000 tonnes per hour.

Further, with consideration of the larger average shipment load, the average time at port would also need to increase from approximately 36 hours to 48 hours per shipment. As such, the total amount of ship time at berth is

expected to increase from approximately 50 days/nights per annum, to approximately 110 days/nights per annum.

Although Cement Australia anticipate the vast majority of ships delivering cementitious material to the Glebe Island Cement Silo's facility will originate from Australia, some shipping and their associated cementitious material is anticipated to come from overseas.

Increased truck movements
It is estimated that the existing permanent consent of 500,000 tpa results in 21,536 truck loads per annum to transport the full quantum of cementitious material. Cement Australia estimate that the proposed throughput increase will increase associated truck numbers to 48,459 truck loads per annum, with the proposal resulting in an additional 26,923 trucks or a 55% increase. Truck loads, being the amount of cementitious material carried by each truck, are anticipated to remain the same.

3.3 Duration of Consent

As noted above in **Section 1.2**, the Site and its surrounding area is likely to be subject of significant land use change as the NSW Government redevelops the Bays Precinct over the next 10-15 years. It is expected that the Glebe Island Cement Silos facility would be refined in future to allow the operations to co-exist with future land uses in the surrounding area as they are determined and delivered.

As the Site is owned by the NSW Government through the NSW Port Authority, who are also responsible for overseeing and delivering the redevelopment of the Bays Precinct, it is anticipated that the tenure of the operation of Cement Australia on the Site can be controlled via the leasing arrangements that will be in place in conjunction with the Ports Authority of NSW. Contractual arrangements, built into the lease between the NSW Government and Cement Australia, can control the future operation of the proposed development, including future additional amendments to operational parameters, as and when they are required.

This ongoing control over the tenure of the proposed development, which is not usually available when development consent is sought on land that is not owned by the NSW Government, means that placing an expiration date on any development consent associated with this application is not necessary in this instance.

3.4 Job Creation

As identified in **Appendix J**, whilst no new direct jobs are anticipated to be supported by the capacity increase, up to 36 indirect jobs are expected, associated with the increase in shipping and truck movements.

3.5 Development Contributions

No building works are proposed and there is no associated cost of works for the proposed increase of throughput as the proposal is operational in nature. Therefore, no development contributions are required to be paid under the Leichhardt Section 7.11 and Section 7.12 Development Contributions Plan.

4.0 Consultation

In accordance with the SEARs issued for this project, consultation was undertaken with relevant public authorities, the community and Council.

A Stakeholder and Community Participation Strategy was developed by Cement Australia in conjunction with KJA (**Appendix D**) which seeks to identify which groups within the broader community were to be targeted in the consultation process. These groups included government stakeholders, local residents, elected representatives, local businesses and community organisations.

A range of consultation tools such as the following were also employed as part of this process:

- Invitations to briefings;
- Letterbox drop and flyers;
- Community information webinars; and
- A dedicated project website and email.

4.1 Public Authorities and Community Groups

A summary of the consultation undertaken to date with Council, the community and relevant agencies is provided in **Table 3** below. Several consultants have undertaken additional consultation with relevant parties during the preparation of their reports. Further detail is provided in the Consultation Outcomes Report in **Appendix E**.

Table 3 Summary of Issues Raised and Response

Authority/Group consulted	Summary of Consultation Activities	Feedback topics	Response
Transport for NSW	A letter was sent via registered post to a Senior Transport Planner on 5 February 2021 offering an opportunity for a project briefing with relevant staff at Transport for NSW. Confirmation that the letter was received on Wednesday 10 February 2021. No request for a project briefing was received.	Nil	N/A
Inner West Council	A letter was sent via email to the Team Leader Strategic Transport Planning and State Projects at the Inner West Council on 5 February 2021 offering to meet with relevant council staff and provide a briefing. A subsequent meeting was held with Inner West Council staff on 18 February 2021 to provide an overview of the project and enable direct feedback. Council staff attending were: • Team Leader Strategic Transport Planning and State Projects • Traffic Engineer • Senior Strategic Planner	• Preference for a centralised zone in an area in controlled location, which is supplied by local facility such as Cement Australia's, than have multiple locations around the city which will lead to more traffic on local roads. • Traffic, particularly increases in traffic on James Craig Drive and Roberts Street, queuing on local roads and management thereof. • Timing of EIS submission and impacts on Council Planning team's workload, given other submissions expected in the next 2 months.	A Traffic Impact Assessment accompanies this proposal and is provided in **Appendix F**.
Environment Protection Authority	Phone calls and email correspondence on 25 September 2020 were exchanged with an EPA Environmental Planner and team. The phone call and email discussions related specifically to	Feedback via email (dated 25 September 2020) requested Cement Australia include (as part of the assessment) a quantitative assessment of air emissions in the EIS, and if not, then provide a justification as to why it is not required. This includes	An Air Quality Assessment accompanies this proposal and is provided in **Appendix G**. A semi-quantitative assessment was

Authority/Group consulted	Summary of Consultation Activities	Feedback topics	Response
	clarification of dispersion modelling requirements.	demonstrating that the proposal will have negligible impacts, poses a low risk and will have best practice mitigation measures in place. Noted if the semi-quantitative assessment is inadequate, the EPA will require a quantitative assessment to be undertaken.	conducted which concludes that emission increases are minor and are unlikely to lead to any local impacts on air quality or additional exceedances to air quality criteria.
Port Authority of NSW	Several phone calls and emails were exchanged with the Port's General Manager, Infrastructure, Senior Planning and Sustainability Manager, and Environmental Planner on 19 August 2020, 6 November 2020 and 8 March 2021.	• Project progress requests and timing for submission for landowner's consent. • Port Noise Policy and ensuring this has been covered as part of the noise impact assessment.	Cement Australia has provided the Port Authority with updates on progress with the project. The Port Authority has provided Owners Consent for the proposal. A Noise Impact Assessment incorporates the noise criteria set in the Port Noise Policy and is provided in **Appendix H**.
Heritage NSW	A letter was sent via email on 5 February 2021 offering to meet with relevant staff and provide a briefing. Cement Australia met with a Senior Heritage Officer on 22 February 2021 to provide an overview of the project and enable direct feedback.	Heritage NSW were satisfied with the level of communication provided and opportunity for feedback. No issues identified and acknowledged the proposal has no impact on heritage matters.	Heritage NSW confirmed that they had no requirements in addition to the SEARs.
DPIE Environment, Energy and Science Group	A letter was sent via email to the Senior Conservation Planning Officer on 5 February 2021 offering an opportunity for a project briefing with relevant staff. No request for a meeting was received.	Nil	N/A
Elected representatives	An email was issued to identified elected representatives at Federal, State and local levels on 24 November 2020. A phone call was directed to Inner West Council Balmain ward councillors on 25 November 2020. A stakeholder briefing was held with Jamie Parker, State member for Balmain on 14 December 2020.	Mr Parker was satisfied with the level of communication provided and opportunity for feedback. No issues were identified, and it was acknowledged the proposal would increase shipping and trucking movements. Feedback on the proposal was not received from other elected representatives.	N/A

Authority/Group consulted	Summary of Consultation Activities	Feedback topics	Response
Glebe Island and White Bay Community Liaison Group	An email was issued to the Glebe Island and White Bay Community Liaison Group on 24 November 2020. A community briefing was provided for the Glebe Island and White Bay Community Liaison Group on 8 December 2020.	Matters raised in relation to the proposal from the Glebe Island and White Bay Community Liaison Group may be summarised as follows: • Timing of noise reduction work on ships • Noise and traffic increases associated with additional trucking movements • Possibility of utilising larger trucks • Pipe to transfer cementitious materials between the site and Hanson's Concrete Batching Facility	Cement Australia's responses to these operational Details provided in **Appendix E**.

4.2 Community

As discussed in the Community Consultation Outcomes report (**Appendix E**), Cement Australia notified 2,378 residents in Pyrmont, Balmain and Glebe, with these residents invited to attend webinars presented by the project team.

Cement Australia held an online community workshop on Tuesday 1 December 2020 and Thursday 3 December 2020 to inform community representatives and groups about development in the precinct and gather their feedback. Representatives from the Glebe Island/ White Bay Community Liaison Group were in attendance. Community members were also encouraged to correspond with the project team directly by email to provide feedback.

Cement Australia presented the project to:

- 10 residents that attended the webinars;
- 11 Members of the White Bay and Glebe Island Community Liaison Group (CLG) as well as representatives from other Port tenants and users;
- Jamie Parker, State member for Balmain;
- 3 staff from the Inner West Council; and
- 1 staff member from Heritage NSW

Consultation identified areas of community interest for consideration during the preparation of the Environmental Impact Statement. **Table 4** provides a summary of the issues identified during consultation that are relevant to the proposed development.

Table 4 Issues raised during consultation and project response

Issues raised	Project team response
Location of the facility on Glebe Island close to the CBD Relocation of the facility to other ports such as Port Kembla or Newcastle	• Cement Australia has existing facilities at Port Kembla and Newcastle. • The Newcastle terminal has similar operations to the Glebe Island site – providing a terminal for ships to dispatch material to nearby cement works facilities. • At Port Kembla, Cement Australia operates a grinding mill that is part of the cement manufacturing process. This is a different type of facility to Glebe Island. • Glebe Island plays a critical role in Sydney's cement supply chain. • Approximately half of the total volume of cement that passes through Glebe Island is distributed to cement works facilities in the central Sydney area near to Glebe Island. Cement Australia's central location provides it direct access to major roads and these works facilities. • Each ship carries the equivalent of approximately 874 trucks of material. • If this material was landed at distant ports, it would need to be transported long distances by road, thereby increasing pressure on the road network. • Cement Australia intends to maximise the use of maritime transport to alleviate congestion on roads, using trucks to transport material the final distance to down-stream customers.

Issues raised	Project team response
Noise from increased truck and ship volumes	• The Noise Impact Assessment has assessed noise from landside activities including trucks and mechanical plant within the Glebe Island Silos facility, and concluded that the landside noise levels associated with the increased throughout are more than 10 dBA lower than the relevant noise assessment criteria during day, evening and night time periods at all sensitive receptors meaning there will be no discernible increase in noise associated with these activities. • Noise impacts from vessels generally complies with the Port Noise Policy's Vessel Noise Criteria, noting that the proposed throughput increase by Cement Australia will not change the noise emissions levels from individual vessels and will not result in the introduction of noisier vessels. • Maximum night-time noise from the facility (vessels and landside) is below both the Port Authority's screening limit at all sensitive receptors as well as the reference level or further evaluation of sleep disturbance impacts. • Separate to the proposal, Cement Australia's shipping service supplier has recently completed sound attenuation upgrades to the ships that currently dock at Glebe Island. • Road traffic noise from increased truck movements is predicted to be less than 0.8 dBA, which is not discernible.
Underground pipeline for material between Cement Australia and Hanson's proposed cement works facility – to reduce noise	• The construction of any pipeline would be undertaken in partnership with Hanson. If a pipeline was to be constructed, it would be subject to a separate development application.
Trucks on local streets	• Cement Australia has undertaken a traffic analysis that has included consideration of traffic types and volumes and assessment of their impact on local roads and intersections. • Trucks accessing Cement Australia's site will not use local residential streets to transport cement from the Glebe Island site. Trucks will access the site using James Craig Road. As indicated in the traffic report, trucks will primarily use City West Link, the Western Distributor or Victoria Rd to reach their destinations.
Cumulative effect of Cement Australia trucks with trucks from other Port Authority tenant sites and the Rozelle Interchange project	• Cement Australia has prepared the proposal in consultation with Port Authority of NSW, specifically to understand the impact of other proposed facilities at Glebe Island and White Bay. • The proposal requests 1.2 million tonnes of total throughput capacity at the Glebe Island facility, Cement Australia does not expect to use all of this capacity initially. It is likely that the peak number of trucks to accommodate the maximum throughput will not occur until after the Rozelle Interchange Project is completed, thereby reducing the cumulative impact on the surrounding area.
Increase in ship movements	• At peak throughput capacity it is estimated there will be up to 55 ship movements annually. • As a result of a recent upgrade to Cement Australia's shipping fleet, larger vessels with greater capacity are now used to transport the material to Glebe Island. This means that the annual peak currently experienced is less than previous and will increase to historic levels as throughput increases.
Air quality	• Cement Australia has undertaken an assessment of air quality, dust and odour impacts in accordance with Environment Protection Authority (EPA) guidelines, this has included consideration of cumulative impacts of other developments. • Analysis indicates that increased truck and ship movements will not have a measurable difference in ground level concentrations of dust, NOx and Sox. • As part of the proposal, Cement Australia will conduct ongoing monitoring to ensure any emissions from the site will stay within EPA's guidelines.

4.3 Future Steps

As a long term tenant of Glebe Island, Cement Australia is well established to engage further with local stakeholders. During consultation for this project, some further opportunities for ongoing consultation have been identified. The existing and ongoing consultations include:

- Updates on the project webpage during the assessment of the proposal;
- Letterbox notification to inform neighbours of significant changes or potential disruption at Cement Australia's Glebe Island facility;
- Regular attendance at the Glebe Island and White Bay community liaison group;
- Continued engagement with the Port Authority and Glebe Island and White Bay tenants;
- Email responses to questions raised via the project email address (as distributed to local residents); and
- Ongoing community complaints handling process via the Port Authority.

Cement Australia is committed to undertaking ongoing consultation in relation to the proposal.

The proposed development will be placed on public exhibition for 30 days in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000*. During the public exhibition period Council, State agencies and the public will have an opportunity to make submissions on the project.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the proposed DA. It addresses the matters for consideration set out in the SEARs (see **Section 1.5**). The Mitigation Measures at **Section 7.0** complement the findings of this section.

5.1 Relevant EPIs, Policies and Guidelines

The relevant strategies, environmental planning instruments, policies and guidelines as set out in the SEARs are addressed in **Table 5**.

Table 5 Summary of consistency with relevant Strategies, EPIs, Policies and Guidelines

Instrument/Strategy	Comments
Strategic Plans	
Greater Sydney Region Plan: A Metropolis of Three Cities	The Greater Sydney Region Plan (GSRP), *A Metropolis of Three Cities*, is the overarching vision for Sydney. The strategy sets out new objectives for intensive growth and development of Sydney commensurate to population growth. The strategy is underpinned by four Key Goals to promote productivity, liveability, sustainability and infrastructure & collaboration across Sydney. The goals are supported by a total of 10 Directions. This DA is consistent with the Strategy in that it will improve the productivity of the existing concrete silo, ensuring that the use is optimised by an increase of throughput. This results in an effective management of industrial and urban service land which enables the operational growth of Cement Australia, which provides cementitious product to nationally significant and locally important infrastructure, businesses and services. The proposal is also consistent with the Directions for Greater Sydney, including: • Direction 7: Jobs and skills for the city – Creating the conditions for a stronger economy: As noted above, the proposed increase in throughput will provide indirect employment for 36 people and will assist in providing additional jobs through indirectly supporting construction work throughout the region and greater metropolitan area. • Direction 9: An efficient city – Using resources wisely: The site, being located in a highly accessible area near Central Sydney, ensures that fewer vehicle kilometres are required to be travelled to transport cementitious material to its designated construction site and thus reducing transport related greenhouse emissions. Further, it is noted that the proposal supports the delivery of the Directions 'A city supported by infrastructure – Infrastructure supporting new developments', 'Housing the city – Giving people housing choices', and 'A well-connected city – Developing a more accessible and walkable city' by providing cementitious construction materials to Greater Sydney for the development of infrastructure, housing, and other projects.
Our Greater Sydney 2056: Eastern City District Plan	The Eastern City District Plan is the applicable subregional plan for the site. The District covers an area which includes the Sydney CBD, Rhodes, Burwood, Kogarah, Port Botany, Green Square and Randwick. This District Plan sits under the Greater Sydney Region Plan. The proposal is consistent with the Vision for the District, as the plan envisages the *"retention of industrial and urban services land… and aligning growth with infrastructure."* As mentioned above, this development will provide cementitious material for city building infrastructure projects and development across Greater Sydney.
The Bays Precinct Transformation Plan	The Bays Precinct Transformation Plan was prepared by UrbanGrowth NSW in 2015 and aims to "*to drive an internationally competitive economy, through the creation of great destinations on Sydney Harbour that will transform Sydney, New South Wales and Australia".* Specifically in relation to Glebe Island, the Transformation Plan recognises continued opportunities to support the economic activities of the port and maritime industries. The proposal is consistent with the Transformation Plan in that it retains the existing uses associated with the working port, which are expected to remain for the short and medium term. The proposal supports the integration of Glebe Island where possible into a mixed use precinct for living, working and recreation.
Bays West Draft Place Strategy	The Bays West Draft Place Strategy outlines the future vision for the area into *"a mixed-use precinct integrated with enhanced port and working harbour activities*". This will involve the adaptive reuse of heritage assets including the White Bay Power Station, improving transport to the area including a new Sydney Metro station, building a new foreshore walk linking to Pyrmont and encouraging employment in knowledge intensive industries to support the new innovation corridor.

Instrument/Strategy	Comments
	The proposal involves minimal heritage impacts to the existing Glebe Island Silos as no building works are proposed. As such, the proposal does not conflict with the Strategy in developing a future mixed use precinct and improving foreshore connectivity. The proposal continues to provide employment to Cement Australia through the orderly and economic use of Ports land. This is consistent with Big Move 3 of the Strategy which recognises and supports the working harbour and port operational requirements.
Future Transport Strategy 2056	The framework for the NSW Government to deliver an integrated transport system is outlined in *Future Transport Strategy 2056*, and the associated *Greater Sydney Services And Infrastructure Plan.* These documents set and identify the key transport related strategies and foci to support Greater Sydney as it grows and develops over the next 35 years. The proposed development is consistent with these documents as the location of the proposal supports the achievement of the 30 minute city goal, as the site can be accessed from, and is accessible to Central Sydney via the L1 line of the Sydney Light Rail within 30 minutes. The location of the site also enables road freight journeys of the cementitious material to be optimised by locating the throughput facility close to proposed infrastructure and development, increasing efficiency and reliability of travel. This also serves to reduce congestion on the regional road network when compared to other options of locating additional throughput capacity outside Greater Sydney. This is supported by the continued 24/7 operation of the facility which allows for vehicular movements outside of peak periods. As such, the proposal supports efficient and reliable freight journeys through optimising performance of the road network in transporting freight.
State Legislation	
EP&A Act	The proposed development is consistent with the objects of the EP&A Act for the following reasons: – It will facilitate the proper management, development and conservation of natural and artificial resources by ensuring that cementitious product crucial for the development of Sydney is provided in a manner which actively minimises and mitigates adverse environmental impacts; and – the promotion and co-ordination of the orderly and economic use and development of land by locating additional throughput of cementitious material in a highly accessible area for the use of Greater Sydney. The proposed development is consistent with Division 4.3 of the EP&A Act, particularly for the following reasons: • the development is not prohibited by an environmental planning instrument and is permissible with development consent; and • the development has been evaluated and assessed against the relevant heads of consideration under section 4.15(1). **Integrated Development** This proposal is identified as 'integrated development' under Division 4.8 of the EP&A Act as it will require approval from the NSW Office of Environment & Heritage under Section 57(1) of the *Heritage Act 1977* and the Environment Protection Authority (EPA) under Sections 43(b), 48 and 55 under the *Protection of the Environment Operations Act 1997*. This measn that the DA is to be referred to the EPA and the NSW Office of Environment and Heritage, and the General Terms of Approval sought from these agencies for inclusion in the devleopment consent. **Designated Development** The development application is considered to be designated development in accordance with section 4.10 of the EP&A Act as it is declared to be such by the EP&A Regulation. See discussion below under EP&A Regulation.
EP&A Regulations	The EIS has addressed the specification criteria within clause 6 and clause 7 of Schedule 2 of the EP&A Regulation. Similarly, the EIS has addressed the principles of ecologically sustainable development through the precautionary principle (and other considerations), which assesses the threats of any serious or irreversible environmental damage (see **Section 5.5**). The proposal is considered to be 'Designated Development'. Wharf-side facilities at which cargo is loaded onto vessels, unloaded from vessels, or temporarily stored at a rate of more than 500 tonnes per day or 50,000 tonnes per year are classified as designated development pursuant to Clause 30 of Schedule 3 of the EP&A Regulation. As the proposal is for a throughput rate of up to 1,200,000 tonnes per annum, being an increase of up to 700,000 tonnes per annum, the increase exceeds the threshold, and the proposal is considered to be designated development.

<table>
<tr><th>Instrument/Strategy</th><th>Comments</th></tr>
<tr><td></td><td>It is noted that this proposal is not designated development under Clause 7 (Cement Works) or Clause 14 (Concrete Works), as the site is only used for the unloading and storage of cementitious material, and does not contain, nor propose, any manufacturing or concrete batching activities.</td></tr>
<tr><td>Other environmental legislation</td><td>
<table>
<tr><th>Act</th><th>Approval Required</th></tr>
<tr><td>Coastal Management Act 2016</td><td>The site is identified as the Coastal Zone under Part 2 of this Act as it is identified within the Coastal Environment Area and the Coastal Use Area. An assessment of the proposal against the provisions of the State Environmental Planning Policy (Coastal Management) 2018 has been provided below. Approval is not required for the proposed development under this Act.</td></tr>
<tr><td>Fisheries Management Act 1994</td><td>No dredging, reclamation activities, or permit sought is sought for works to marine vegetation or public water land or aquaculture lease under this application. As such approval is not required for the proposed development under this Act.</td></tr>
<tr><td>Heritage Act 1977</td><td>The Site is listed as a heritage item of State significance. As such approval under Section 57 of the Heritage Act is required</td></tr>
<tr><td>National Parks and Wildlife Act 1974</td><td>The Site is not considered to have aboriginal archaeological significance and as such no approval is necessary under this Act.</td></tr>
<tr><td>Native Vegetation Act 2003</td><td>The proposal does not involve works to Native vegetation and approval is not required under this Act for the proposal.</td></tr>
<tr><td>Rural Fires Act 1997</td><td>The Site is not considered to be bush fire sensitive land and as such approval is not required under this Act for the proposal.</td></tr>
<tr><td>Water Management Act 2000</td><td>The proposed development will not require water use approval, or an activity approval, and will not involve carrying out of any water management work.</td></tr>
<tr><td>Biodiversity Conservation Act 2016</td><td>No aquaculture permit is sought under this development and as such no approval is necessary.</td></tr>
<tr><td>Mine Subsidence Compensation Act 1961</td><td>This application does not relate to a mining proposal.</td></tr>
<tr><td>Mining Act 1992</td><td>No mining lease is sought as part of this application and no approval is required under this Act.</td></tr>
<tr><td>Petroleum (Onshore) Act 1991</td><td>No production lease is required under this Act and concurrence is not required.</td></tr>
<tr><td>Protection of the Environment Operations Act 1997</td><td>Pursuant to clause 37 of Schedule 1 of the PoEO Act an Environment Protection Licence from the Environment Protection Authority (EPA) will be required, as it comprises ‘shipping in bulk’ of rocks with a capacity to handle:
(a) more than 500 tonnes of agricultural crop products, rock, ores, minerals or chemicals per day, and
(b) more than 50,000 tonnes of agricultural crop products, rock, ores, minerals or chemicals per year.

It is noted that the existing facility operates under Environment Protection Licence 4310, which may need to be varied to accommodate the increased throughput capacity associated with this proposal.</td></tr>
<tr><td>Roads Act 1993</td><td>No works are proposed in, on or over a public road and as such no approval is required.</td></tr>
<tr><td>Pipelines Act 1967</td><td>No licence is sought under this Act and as such approval is not required.</td></tr>
</table>
</td></tr>
<tr><td colspan="2">Environmental Planning Instruments</td></tr>
<tr><td>SEPP 33 – Hazardous and Offensive Industry</td><td>Cementitious material is not identified as a Dangerous Good. No Dangerous Goods and stored or handled at the facility in excess of the screening thresholds identified in the Department of Planning’s Applying SEPP 33 Guideline. As such, the facility is not identified as ‘potentially hazardous’, and a Preliminary Hazard Analysis is not required.</td></tr>
</table>

Instrument/Strategy	Comments	
SEPP 55 – Remediation of Land	The proposal does not involve a change of use and no physical works are required, including no removal of the existing hardstand covering the site. As such, no requirement for a Preliminary Site Investigation is required under Clause 7. The site has been operational for an extended period of time in relation to the existing approved use, and no evidence of contamination has been recorded. As such, the site is suitable for the proposed development.	
SEPP (Coastal Management)	The proposal does not involve any physical works and relates to administrative changes to the amount of throughput of cementitious material approved by the existing facility. The proposal does not result in adverse impacts relating to the hydrological environment, coastal environmental values, marine flora and fauna, access to public open space, visual amenity and Aboriginal cultural or built heritage.	
SEPP (Infrastructure)	The proposal does not involve a change of use, however may be categorised as a freight transport facility, given that the facility handles and distributes cement. The proposal is to be referred to Transport for NSW pursuant to Clause 104 of the Infrastructure SEPP. A Traffic Impact Assessment report (**Appendix F**) has been prepared to provide a detailed assessment of the proposed facility's traffic impact on the surrounding road network, with traffic impacts found to be acceptable.	
SEPP (State and Regional Development)	Not applicable to the proposed development. The proposal is not identified as SSD under this SEPP (notwithstanding that it is has been given a SSD number for administrative reasons).	
SEPP (State Significant Precincts)	The site is identified under Schedule 6 of this SEPP as being "*Development within the area identified as Glebe Island, White Bay, Rozelle Bay and Blackwattle Bay on the Sydney Harbour Port and Related Employment Lands Map, being development with a capital investment value of not more than $10 million that is carried out by a person other than a public authority.*" It is also not a transitional Part 3A project, State significant development or State significant infrastructure. Therefore, the Minister is the consent authority under Part 4 of the Act pursuant to Clause 9.	
Sydney Regional Environmental Plan No. 26 – City West		
Clause 11 – Planning principles of regional significance for City West	**Regional Role**	As above, the proposal supports the continued use of the silos for the increased throughput of cementitious material, a vital material in construction. Accordingly, the proposal benefits the people of the Sydney region and broader NSW by ensuring an increased supply of cementitious construction material to support the development and infrastructure projects which benefit the people across the state. Further, the proposal benefits the people of Sydney and broader NSW by leveraging the efficiencies of using ships to transport the material, preventing the substantial amount of traffic that would be generated by transporting the material by road if the additional capacity was to be accommodated elsewhere.
	Land Use Activities	No change of use is proposed within this application. The proposal seeks a temporary increase to the permitted throughput of cementitious material.
	Mixed Living and Working Environment	The proposal seeks an increase to throughput in relation to an existing employment use. No residential use is proposed within this application.
	Education	Not applicable.
	Leisure and Recreation	Not applicable.
	Port Functions	The proposed development relates to a throughput capacity increase, which supports the operation of the facility in line with the ongoing requirements of Sydney Harbour as a commercial port.
	Social Issues	Not applicable. No additional uses are proposed within this application.
	Environmental Issues	The proposal will not adversely impact on the air quality, wind condition, access to light and sunshine, privacy, soil conditions and water quality on the site and surrounds. Noise levels will continue to be monitored in accordance with current arrangements, with further detail provided in the sections following this table. Delivery of cementitious material to Sydney via ship represents a substantially more efficient and sustainable approach than the alternative of delivery by truck. Accordingly, the proposal represents the most sustainable approach. Further, the environmental impact control and monitoring processes in place ensures the proposal presents minimal environmental impacts.

Instrument/Strategy	Comments	
	Urban Design and the Public Domain	The proposal will not have any adverse impact on any aspect of amenity for the surrounding residential area and the public domain than is currently experienced due to the nature of the proposal and the distance of the site from residential areas. As demonstrated in this document, the proposal has a minimal impact (in relation to traffic, noise and air quality) compared to the existing situation of and accordingly will not pose any significant impacts on residential amenity and convenience.
	Heritage	As discussed in Section 5.6, the proposal will have no impact on the heritage significance of the item.
	Movement and Parking	Not applicable. The proposed development does not propose physical works, does not propose changes to existing parking and does not impact on accessibility or walking, cycling, and public transport networks.
	Implementation and Phasing	The proposal is for a temporary increase to throughput only and will not impact on, nor require alterations to, the existing physical and social infrastructure in the area.
	Role and land use activities	The proposal seeks an increase to throughput in relation to an existing approved building and use. Accordingly, the site maintains its role as a component of a major inner-harbour port.
	Urban Design	Not applicable. The proposal does not seek any physical changes to the existing approved building and use, does not alter the siting and form of the silos and does not impact on views.
	Public domain	The proposal seeks an increase to throughput in relation to an existing approved building and use and does not alter the public domain nor current public/private access arrangements.
Division 4 Zoning; Clause 20C Port and Employment Zone	The proposal is consistent with the objectives of the applicable zone, being the Port and Employment Zone, as the proposal seeks an increase to cement throughput in relation to the ongoing usage of the existing structure for port-related activities. Therefore, as the proposed use is consistent with one or more of the zone objectives, the Minister as the consent authority may be satisfied that the proposal is permissible with consent.	
Division 6 Heritage conservation	As discussed in **Section 5.6** below, the proposal will have no impact on the heritage significance of the item.	
Division 8 Master Plans	The applicable masterplan is the *Glebe Island and White Bay Master Plan*. The proposal is consistent with this masterplan as it; • will not cause any significant additional amenity impacts on the surrounding area as no works are proposed; • will facilitate the continued use of the silos for cement handling; • does not seek to undertake any physical works, and accordingly will not impact views, skylines, vistas, and the like; • conserves the heritage-listed silos and enables them to continue to be used for a compatible use; • will not impact on the heritage significance of the site (please refer to **Section 5.6**); • will not impact on the surrounding marine and urban environments; • will not cause an increase in noise levels over those generally experienced in the current scenario (please refer to **Section 5.3**); and • will not impact on or alter matters related to stormwater management, light spill, risk, or ESD.	

<table>
<tr><th>Instrument/Strategy</th><th colspan="2">Comments</th></tr>
<tr><td>Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005</td><td colspan="2">The site is subject to the objectives and guiding principles of the Sydney Region Environmental Plan (Sydney Harbour Catchment) 2005 (SREP 2005), which sets out matters for consideration in the assessment of development relating to (amongst other things) views, scenic quality and public access.

The site is located within the Foreshores and Waterways Area pursuant to the SREP 2005. The site is not identified as a strategic foreshore site or as a heritage item on the relevant maps, nor is the site zoned according to the Zoning Map (Sheet No. 10), however, consideration has been given to the Planning Principles at Part 2 and matters for consideration for development under Part 3, Foreshores and Waterways Area.

Notwithstanding this however, it is noted that shipping utilising the facility will be docked within White Bay on waters zoned W1 Maritime Waters. This will not change from what is currently approved, however the proposal seeks to increase shipping traffic and associated maritime activities.

The proposal will not adversely affect the visual and environmental quality of Sydney Harbour. Given the minor scale of the development, being only for throughput increases of cementitious product and the adoption of appropriate waste management measures, the impacts of development would be minimal and therefore inconsequential to any of the following matters:
• Potential threat to any terrestrial and aquatic species, ecological communities, populations or their habitats;
• Adverse impacts to any natural intertidal foreshore areas, natural landforms, native vegetation and riparian land;
• Pollution or siltation of the waterway;
• Changes to drainage patterns;
• Maintains visibility to waterways or foreshores, continuing to protect and enhance the unique visual qualities of Sydney Harbour,
The proposal is operational in nature with no associated building works and will not obstruct or diminish access to and from and the use of the foreshore and waterway and will not result in any conflict in uses within the waterway. As indicated above, there will be no adverse impact on the scenic quality and views to or from Sydney Harbour given the proposal.</td></tr>
<tr><td></td><td>Biodiversity, ecology and environment protection</td><td>The proposed development involves no building works and will not present adverse impacts to local biodiversity, ecology and the environment.</td></tr>
<tr><td></td><td>Public access to, and use of, foreshores and waterways</td><td>The proposed development will not alter current public foreshore access arrangements.</td></tr>
<tr><td></td><td>Maintenance of a working harbour</td><td>The proposed development will provide for the continued use of the Glebe Island Silos and therefore supports this operational use of a working harbour.</td></tr>
<tr><td></td><td>Interrelationship of waterway and foreshore uses</td><td>The proposed development will not affect equitable access to the waterways.</td></tr>
<tr><td></td><td>Foreshore and waterways scenic quality</td><td>The proposed development does not include any physical works and accordingly will not affect the approved building form on the site.</td></tr>
<tr><td></td><td>Maintenance, protection and enhancement of views</td><td>The proposed development will not affect the approved building form on the site and as such views to and from the site will not be affected.</td></tr>
<tr><td></td><td>Boat storage facilities</td><td>The proposed development will not affect any matter related to boat storage facilities.</td></tr>
<tr><td>Foreshores and Waterways DCP</td><td colspan="2">The Foreshores and Waterways DCP applies to the Bays Precinct. An assessment of the proposed development against the objectives of the DCP is carried out below.
No building works are proposed, and no specific ecological community is identified on Glebe Island under the Foreshores and Waterways Area DCP map. The site also does not form part of a particular landscape character area under the DCP.</td></tr>
<tr><td>Leichhardt Local Environmental Plan 2013</td><td colspan="2">While Glebe Island forms a part of the Inner West City Council (former Leichhardt Municipal Council), the SREP City West is the principal planning instrument for the area and sets out the land use, height and heritage considerations for development at Glebe Island.</td></tr>
</table>

5.2 Air Quality and Odour

The relevant SEARs relating to air quality and odour are reproduced below:

> Air Quality and Odour – including:
>
> - *a quantitative assessment of the potential air quality, dust and odour impacts of the development in accordance with relevant Environment Protection Authority guidelines*
> - *cumulative impacts from existing onsite operations and from surrounding developments*
> - *the details of buildings and air handling systems and strong justification for any material handling, processing or stockpiling external to buildings*
> - *details of proposed mitigation, management and monitoring measures.*

An Air Quality Assessment has been prepared by ERM Australia and is included at **Appendix G**. A summary of the assessment is provided below.

5.2.1 Assessment Criteria and Background

The air quality assessment criteria adopted for assessing impacts from air pollution are derived from the NSW EPA's Approved Methods for the Modelling and Assessment of Air Pollutant in New South Wales (the Approved Methods).

Existing concentrations air pollutants were for the area around the subject site were taken from data collected from the DPIE weather station at Rozelle, the Port Authority of NSW at the White Bay Cruise Terminal, and by ERM at the Blackwattle Bay Marina. The data shows very similar trends and concentrations where time periods align, indicating that the levels across the area of the Cement Australia site are relatively consistent and well represented in the DPIE Rozelle dataset. A summary of the background data obtained for the existing concentrations of air pollutants is provided in **Table 6** below. Further, the monitoring data indicate that it is likely that the existing Cement Australia operations have very little impact on local air quality, either in the short-term (1-hour or 24-hour) or long-term.

Table 6 Background concentrations of pollutants

Pollutant	Averaging period	Criteria	Background concentrations
Nitrogen dioxide (NO_2)	1-hour	246 µg/m^3	185 µg/m^3
	Annual	62 µg/m^3	23 µg/m^3
Sulfur dioxide (SO_2)	10-minute	712 µg/m^3	198 µg/m^3
	1-hour	570 µg/m^3	117 µg/m^3
	24-hour	228 µg/m^3	44µg/m^3
	Annual	60 µg/m^3	3 µg/m^3
PM_{10}	24-hour	50 µg/m^3	88* µg/m^3
	Annual	25 µg/m^3	18 µg/m^3
$PM_{2.5}$	24-hour	25 µg/m^3	49* µg/m^3
	Annual	8 µg/m^3	7 µg/m^3

* These values represent the single highest 24-hour average for the monitoring period 2015 – 2018, which are usually the result of regional events.

5.2.2 Assessment Methodology

Given the proposal does not involve new development, but rather an increase in existing operations, and that the operational activities currently do not have a significant impact on local air quality, a semi-quantitative air quality assessment has been conducted. This includes a quantitative analysis of available data combined with a comparison of existing and future emissions to show that the increases are not likely to be significant enough to change the existing characteristics of the ambient air quality environment.

5.2.3 Particulate Matter

Background concentrations of particulate matter less than 10 micrometers (PM_{10}) was obtained from the NSW DPIE Rozelle monitoring station. This data indicates that existing concentrations of PM_{10} are generally below the EPA impact assessment criterion of 50 µg/m^3 for the 24-hour average for the majority of days, and below the 25 µg/m^3 criterion for the annual average. However, it does identify that there are days that the 24-hour average criterion of 50 µg/m^3 were exceeded. These occasions are rare and are usually associated with regional events such as dust storms and bushfires or hazard reduction burns.

Background concentrations of particulate matter less than 2.5 micrometers ($PM_{2.5}$) was also obtained. This data indicates that existing concentrations of $PM_{2.5}$ are mostly below the EPA impact assessment criterion of 25 µg/m^3 for the 24-hour maximum and 8 µg/m^3 for the 24-hour annual average. However, it does identify that there have been several occasions where the 24-hour average criterion of 25 µg/m^3 has been exceeded. These days are most likely associated with regional events such as bushfire / hazard reduction burning activity or domestic wood burning in winter.

The emission estimates from wheel generated dust and shipping sources combined represent approximately 1,890 kg/y of PM_{10} and 448 kg/y of $PM_{2.5}$ for current operations. The current emissions would be captured as part of the background monitoring data.

The emissions of particulates would increase to about 4,535 kg/y (PM_{10}) and 1,076 kg/y ($PM_{2.5}$) for throughput capacity of up to 1,200,000 tpa. These maximum increases of 2,645 kg/y (PM_{10}) and 628 kg/y ($PM_{2.5}$) are relatively low values in comparison to other dust generating operations located nearby and are unlikely to cause any measurable difference to ground level concentrations at the nearest sensitive receptors.

It is highlighted that all cementitious material is currently offloaded to the silos via a pneumatically sealed delivery system, allowing fine dust to be captured by bag filters within the structure resulting in a negligible amount of particulate emissions to the atmosphere, and that this operational process will continue. The site is also fully hardstand, further minimising wheel generated dust as trucks pass through the site.

5.2.4 Nitrogen Oxide

The DPIE monitoring station at Rozelle provides continuous measurements of NO_2. All background concentrations of NO_2 were found to be well below the EPA impact assessment criteria of 62 µg/m^3 for the annual average and 246 µg/m^3 for the 1-hour average. It is highlighted that the low background concentrations include the current shipping operations.

The increase of existing NO_X emissions are also unlikely to cause any measurable difference to ground level concentrations at nearby sensitive receptors. This is because the nearby road network and associated vehicle emissions will be a much larger source of NO_X than ships berthing at various times throughout the year.

In addition, the NSW EPA has developed a *"Tiered Procedure for Estimating Ground Level Ozone Impacts from Stationary Sources"*. Whilst this does not relate specifically to shipping projects, it does give an emission threshold for NO_x of 90 tonnes per year for new sources for proceeding to a detailed modelling assessment for ozone. The changes in emissions associated with this project are well below this threshold, at less than 10 tonnes per year, further supporting the assessment outcome the increased emissions of NO_x are minor.

5.2.5 Sulfur Dioxide

Sulfur dioxide (SO_2) data was obtained from the nearby White Bay Cruise Terminal monitoring station measured between 2016 and 2019. This found that existing concentrations of SO_2 are well below the EPA impact assessment criterion for all averaging periods. Further, with regard to SO_2 emissions, the current levels measured at White Bay

represent only a fraction of the air quality criteria, and would already include emissions from existing shipping in Glebe Island. As is the case for both PM_{10}/$PM_{2.5}$ and NO_x, estimated increases arising specifically from the proposal are comparatively small, and are unlikely to make a measurable difference to ground level concentrations at nearby sensitive receptors.

5.2.6 Conclusion

The increases in emissions are minor and are unlikely to lead to any local impacts on air quality or additional exceedances to air quality criteria. Current monitoring data has been summarised and show that concentrations of most pollutants are at acceptable levels. For those pollutants (particulate matter) which are shown to exceed criteria from time to time, these elevated concentrations are due to regional events (such as dust storms, bushfire and hazard reduction burns) and not caused by local sources.

The assessment has shown that the potential increases in emissions from the increase in throughput are estimated to be minor and are unlikely to lead to any measurable impacts on local air quality or any additional exceedances to air quality criteria (in the case of 24-hour PM_{10} and $PM_{2.5}$). As such, in the context of current background concentrations the increased throughout is unlikely to lead to any air quality impacts and additional mitigation measures are not proposed. It is highlighted that the pneumatic transfer of all cementitious material will be continued, ensuring that particulate emissions to the atmosphere from this activity will remain at almost zero.

5.3 Noise

The relevant SEARs relating to noise are reproduced below:

> 5. Noise and Vibration – including:
>
> - *a quantitative noise and vibration impact assessment of operational activities undertaken by a suitably qualified person in accordance with the relevant Environment Protection Authority guidelines and including an assessment of nearby sensitive receivers*
> - *cumulative impacts from existing onsite operations and from surrounding developments*
> - *details and justification of the proposed noise mitigation, management and monitoring measures.*

A Noise Impact Assessment has been prepared by ERM Australia and is included at **Appendix H**. A summary of the assessment and proposed mitigation measures are provided below.

5.3.1 Assessment Criteria

The *NSW Noise Policy for Industry* (NPFI) provides the framework and process for deriving the noise limits for assessment under the *Protection of the Environment Operations Act, 1997*. The NPFI includes a methodology to determine project-specific intrusiveness noise levels, amenity noise levels and potential sleep disturbance noise levels.

The NPFI also sets up a framework for noise to be managed at a precinct scale. In this context, the Port Authority of NSW has developed the Glebe Island and White Bay Port Noise Policy, which aims to manage current and future noise impact on surrounding sensitive residential areas from both vessel and landside port operations. This Port Noise Policy establishes vessel target noise levels, as well as cumulative noise limits that apply to all landside port activities combined (including average noise levels and peak maximum noise limits that relate to night time sleep disturbance impacts). These relevant noise criteria (for vessels and land side operations respectively) established under the Port Noise Policy are described further below. Also described below are the road traffic noise criteria, which are established under the NSW Road Noise Policy.

Vessel Target Noise Level

The vessel target noise level for any sensitive receiver from vessel berthed at Glebe Island Berth 8 are:

- Daytime $L_{Aeq,15hour}$ of 60 dBA averaged over 15 hours from 7am to 10pm.
- Night time $L_{Aeq,9hour}$ 55 dBA averaged over 9 hours from 10pm to 7am,
- Night time L_{Amax} of 65 dBA.

Landside Precinct Noise Criteria

The cumulative noise limit for all nearby residential land proposed for all landside port activities throughout the entire port precinct are based on the amenity criteria for the urban industrial interface allowed for in the NPFI, as follows:

- Daytime $L_{Aeq,11hour}$ of 65 dBA averaged over 11 hours from 7am to 6pm.
- Evening $L_{Aeq,4hour}$ 55 dBA averaged over 4 hours from 6pm to 10pm,
- Night time $L_{Aeq,9hour}$ 50 dBA averaged over 9 hours from 10pm to 7am.

Under the Port Noise Policy, the Collective Benchmark Noise Level is the combined noise level from all current operational landside port activities operating at their individual Maximum Permissible Noise Levels. To conform with the cumulative noise limit as a precinct, each operator will have a Maximum Permissible Noise Level which they must comply with. The current Maximum Permissible Noise Levels have been carried over from noise limits pre-dating the Port Noise Policy. Whilst the combined current maximum permissible noise levels currently exceed the cumulative noise limit for the evening and night time assessment periods, the existing noise limits for individual facilities will be reviewed by Port Authority of NSW to identify new Maximum Permissible Noise Levels for individual operators with the goal of meeting the cumulative noise limit through incremental improvements.

The current Collective Benchmark Noise Levels are provided in Noise Standard at Appendix H of the Port Noise Policy, and are reproduced below in **Table 7**. The Port Noise Policy currently establishes that the Collective Benchmark Noise Level is the total amenity noise level that may currently be emitted from the port and that increases in the Collective Benchmark Noise Level are only permitted where the noise increase is reasonable, and the total noise level does not exceed the cumulative noise limit. The Collective Benchmark Noise Level therefore acts as the current noise criteria for landside port operations.

Table 7 Precinct Collective Benchmark Noise Levels

Location	Collective Benchmark Noise Levels, in dBA		
	Day (Leq,11hr) (7am to 6pm)	Evening (Leq,4hr) (6pm to 10pm)	Night (Leq,9hr) (10pm to 7am)
Cameron Cove, Balmain	62	58	53
Grafton St, Balmain	62	58	53
Donnelly St, Balmain	61	58	53
Buchanan St, Balmain	64	59	53
Jacksons Landing, Pyrmont	62	59	53
Oxley St, Glebe	62	56	53

Sleep Disturbance Noise Criteria

Sleep disturbance events are not cumulative and do not form part of the cumulative noise limit or Collective Benchmark Noise Level. As such, nominal maximum permissible noise level for sleep disturbance (L_{MAX}) are set as screening tests to be applied to each individual operation. The L_{MAX} is an instantaneous noise level, and is not averaged over a longer period. The relevant noise level for further evaluation in relation to sleep disturbance is an L_{MAX} of 65 dBA.

Road Traffic Noise

The NSW Road Noise Policy provides noise criteria for projects which result in additional traffic generated noise impacts at sensitive receptors. For existing residences and other sensitive land uses affected by additional traffic on existing roads generated by a proposed development, the Road Noise Policy states that any increase in the total traffic level should be limited to 2 dBA above the road traffic noise level prior to the development.

5.3.2 Sensitive Receptors and Existing Background Noise

The location of sensitive noise receptors around the port is illustrated in **Figure 9**, and **Table 8** describes the sensitive receiver locations.

Table 8 Location of sensitive receptors

Locality	Direction from Site	Distance
Balmain (Noise Catchment Area 1)	North	380 m
Balmain (Noise Catchment Area 2)	North East	700m – 1000 m
Pyrmont	East	550 m
Glebe	South	500 m
Rozelle	West / North West	400 m

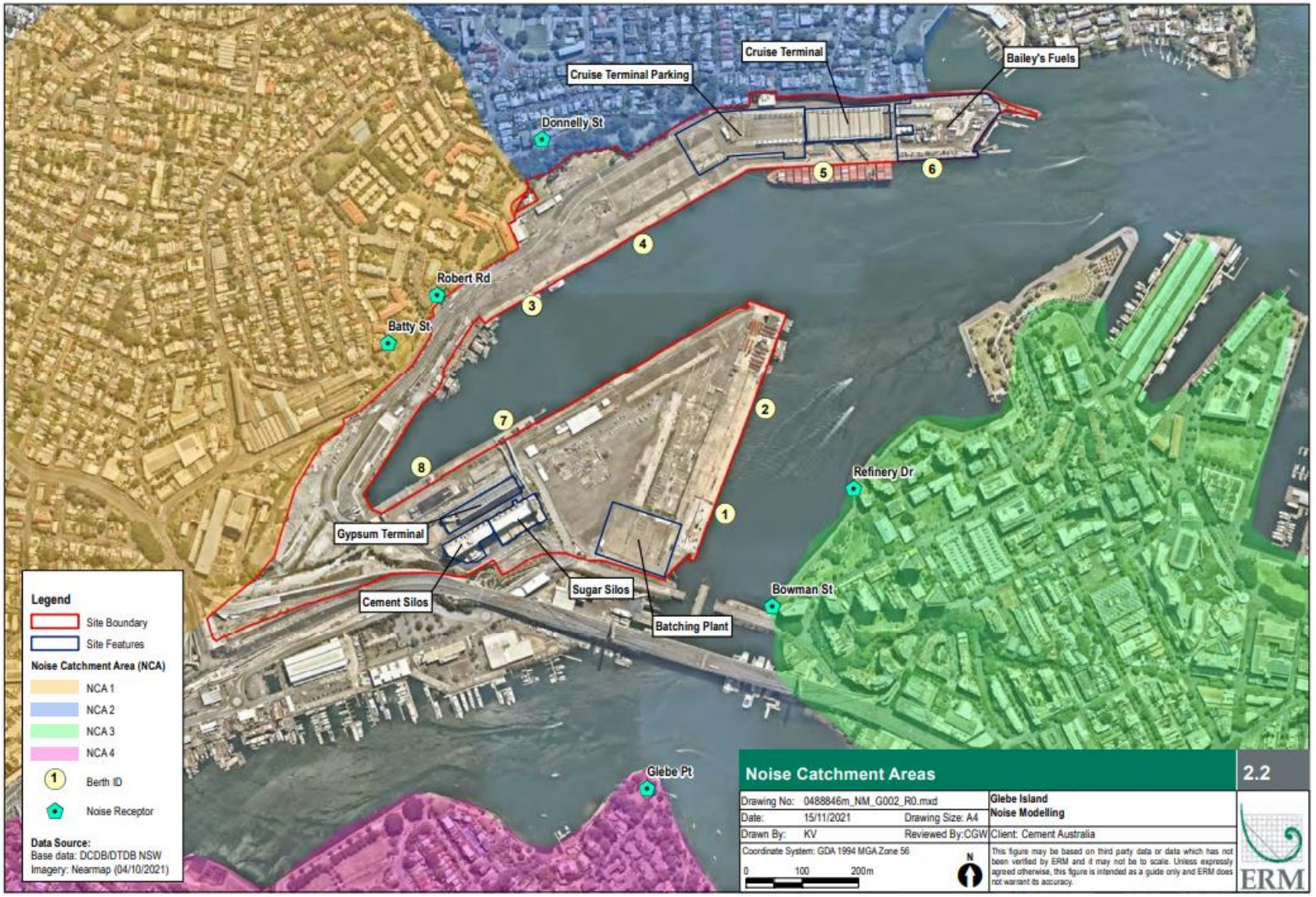


Figure 9 Location of receptors

Source: ERM

Background Noise Monitoring

For the purposes of establishing the existing noise environment, current and historical noise levels have been taken from a number of locations near sensitive residential receivers in Balmain, Rozelle, Glebe and Pyrmont. ERM undertook background noise monitoring in 2019, which included measurements to capture noise levels with no ship at berth, as well as existing vessel noise emissions. Conclusions from the background noise monitoring undertaken are:

- Balmain (Batty Street): Measured noise levels for vessel unloading activities are 6 dBA higher compared to measured noise levels with no unloading activities. Vessel unloading activities are the dominant noise source measured at 56 dBA L_{eq}. The background L_{90} drops to 48 dBA in the absence of unloading activities.
- Balmain (Donnelly Street and Buchanan Street): The measured difference between period when there are vessel unloading activities compared to when there are no vessel unloading activities is 1 dBA, indicating that the impact of the activities are negligible along these streets.
- Pyrmont (Refinery Drive): The unloading activities are observed to be barely audible. The measurements indicate that the background L_{90} is not significantly influenced by vessel unloading activities at Berths 7 or 8, indicating that the impact of such activities are negligible at Pyrmont.
- Glebe (Leichhardt Street): The vessel unloading activities are observed to be inaudible. Measured levels are influenced by local human activity, such as road traffic noise. The impact of the vessel unloading activities at Berths 7 and 8 are therefore considered to be negligible in Glebe.

More recent vessel noise monitoring was carried out by SLR in May 2021 and the Port Authority of NSW in June 2021, which measured noise from ships at Berths 7 and 8 as follows:

- Batty Street, Balmain: L_{max} of 65 dBA, and $L_{eq,\ 15\text{-}min}$ of 57 dBA at night time and 58 dBA in the daytime.
- Buchanan Street, Balmain: L_{max} of 58 dBA, and $L_{eq,\ 15\text{-}min}$ of 53 dBA at night time and 58 dBA in the daytime.

5.3.3 Noise Assessment

Vessel Noise Assessment

As determined through recent noise monitoring of vessel noise from Berth 7 and 8, the assessment against the Port Noise Policy's vessel noise criteria indicates the following:

- Vessel noise during the daytime of 58 dBA $L_{eq,15min}$ would comply with day-time criteria of 65 dBA L_{eq}.
- Vessel noise during the night-time of 57 dBA $L_{eq,15min}$ would exceed the night-time criteria of 55 dBA L_{eq} by up to 2 dBA.
- Vessel noise during the night-time of L_{max} 65 dBA would comply with the night time sleep disturbance criteria of 65 dBA L_{max}.

With consideration of the identified noise exceedance of the night time vessel noise criteria, it is highlighted that vessel noise measured at this level only occurred once from all of the measurements conducted by ERM, SLR and Port Authority of NSW over a 2 year period. On most occasions the $L_{eq,15min}$ complied with the night-time criteria of 55 dBA L_{eq}.

Further, the proposed throughput increase by Cement Australia will not change the noise emissions levels from individual vessels and will not result in the introduction of noisier vessels. The throughput increase will only result in an increase in days when a vessel is berthed at Berth 8.

Cement Australia has limited control over the noise emissions from vessels. However, it is noted that under the Port Noise Policy regular compliance monitoring for ships at berth is conducted by Port Authority of NSW (with the results publicly available on the Port Authority of NSW website). Further, vessels visiting White Bay and Glebe Island undergo periodic environmental improvements – most recently being fitted with noise attenuation controls including silencers fitted to cargo generators and exhausts, and installation of machinery room noise attenuator modules. CSL Australia and Cement Australia continue to work with the Port Authority of NSW to ensure

appropriate vessel noise mitigation measures are in place. These ongoing improvements will ensure noise emissions from vessels are reduced over time and it is expected that compliance with the Port Noise Policy vessel noise criteria will be able to be achieved in the longer term.

Landside Noise Assessment

The assessment of the landside activities from the proposed throughput increase is based on noise modelling of the operation activities, including.

- Truck movements associated with the throughput increase by Cement Australia on road transport trucks – being 16 truck movements per hour during the day-time and evening assessment periods, and 12 truck movements per hour during the night-time period.
- Mechanical equipment associated with the throughput increase, noting that mechanical equipment, such as blowers and compressors, are housed under silos or shielded behind the facility, and so would not contribute significantly to the overall noise impact.

The proposed throughput increase by Cement Australia does not involve any physical changes to operations or their emissions, only to their frequency or duration. The modelling considers the impact of the throughput increase only and does not include existing noise sources.Modelling demonstrates that:

- The landside noise levels associated with the increased throughout are more than 10 dBA lower than the Collective Benchmark Noise Level during day, evening and night time periods at all sensitive receptors.
- The predicted cumulative assessment results comply with the cumulative noise limit criteria for all assessment periods at all sensitive receptors.

Maximum Noise Impact Assessment (Sleep Disturbance)

From the proposed throughput increase operations, short term peak noise levels are expected from onsite truck movements which will cause maximum noise levels. Potential noise emissions include air brake release and/or high engine revving (low gear). To assess the potential for sleep disturbance, a 115 dBA SWL noise source representative of an air brake release was positioned at the closest points of the onsite vehicle route to the residences in Balmain, located approximately 300 metres away with direct line of sight. This maximum impact noise model predicted an impact of up to 53 dBA L_{max} at the closest receptors, which is below both the Port Authority's screening limit at all sensitive receptors as well as the reference level or further evaluation.

Traffic Noise Assessment

An assessment of the additional generation of trucks on the broader road network has been undertaken, which is anticipated to be an additional 144 movements per day. A night time traffic flow (10pm-7am) has been modelled for an additional 54 heavy vehicle movements during this period. This results in a night time traffic noise increase of approximately 0.8 dBA which does not exceed the Road Noise Policy criteria of 2 dBA increase.

5.3.4 Mitigation Measures

To limit impacts on surrounding receivers in relation to vessel noise, Cement Australia will investigate noise mitigation options for ship mechanical plant contributing to noise emissions during ship unloading, and request the shipping contractor includes reasonable and feasible noise source mitigation and management as part of the unloading system as new ships are commissioned. Bulk cement carriers currently using Berth 8 have recently undergone improvements to be fitted with noise attenuation controls including silencers fitted to cargo generators and exhausts, and installation of machinery room noise attenuator modules. These noise mitigation improvements will be further investigated and implemented on an ongoing basis where they are determined to be reasonable and feasible.

Other mitigation measures that will be applied to land side activities include:

- Ensure plant and equipment is well maintained and not generating excessive noise;
- Operate machinery in a manner which reduces maximum noise level events;
- Site awareness training / environmental inductions that include a section on noise mitigation techniques / measures to be implemented when ship unloading operations are occurring; and

- Operation of a community complaints management program, including complaints hotline and response management procedure.

5.4 Traffic and Transport

The relevant SEARs relating to traffic and transport are reproduced below:

6. Traffic and Transport – including:

- *details of all traffic types and volumes likely to be generated during operation, including a description of key access / haul routes*
- *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*
- *plans demonstrating how all vehicles likely to be generated during operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network*
- *details and plans of any proposed the internal road network, loading dock servicing and provisions, on-site parking provisions, and sufficient pedestrian and cyclist facilities, in accordance with the relevant Australian Standards - details of the largest vehicle anticipated to access and move within the site, including swept path analysis*
- *swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site*
- *details of road upgrades, infrastructure works, or new roads or access points required for the development if necessary*
- *cumulative impacts from existing onsite operations and from surrounding developments.*

A Traffic Impact Assessment (TIA) has been prepared by Traffix and is included at **Appendix F**. A summary of the assessment and proposed mitigation measures are provided below.

5.4.1 Existing Traffic

The TIA has accounted for the existing transport arrangements to and from the site by considering existing transport connections to the site, existing traffic conditions on adjoining roads and intersections and existing traffic generation for the site. Cement Australia has provided vehicle movement data for the Glebe Island Cement Silo for 2018, which concluded that 21,536 vehicles utilised the facility in this calendar year across the facility's three (3) weighbridges. It is emphasised that the above vehicle trips were distributed throughout the year, throughout the week and throughout the day, with the site peak period typically not coinciding with the network AM and PM peak periods.

The existing traffic volumes at the 95th percentile demand level have been used to be conservative and were determined as follows:

- 16 vehicle trips/hour during the AM peak period (8 in, 8 out)
- 10 vehicle trips/hour during the PM peak period (5 in, 5 out)

These volumes reflect the spread of traffic activity at the facility and establishes a 'base case' for the assessment of future traffic conditions as discussed in subsequent sections.

5.4.2 Proposed Access and Parking Arrangements

The proposal involves no change to the existing access arrangements to and from the site, including haul routes. These routes are provided in the Internal Traffic Management Plan in Appendix E of the TIA. Swept path analysis is provided in Appendix F of the TIA.

The proposal involves the retention of all existing parking spaces comprising of 10 light vehicle spaces and 12 heavy vehicle spaces. As the development proposes no change to these existing parking spaces, no further assessment is required with the car parking areas anticipated to operate satisfactorily. These arrangements are expected to remain suitable for the facility, and will ensure all heavy vehicle parking or queuing is contained on-site.

5.4.3 Traffic Analysis

A SIDRA analysis has been undertaken to survey the traffic implications of the proposal and is provided in Appendix D of the TIA. It has been determined that the additional traffic generation would be 16 vehicle trips/hour (8 in, 8 out) in the AM peak period and 10 vehicle trips/hour (5 in, 5 out) in the evening peak period, based on the 95th percentile demand level and assuming no management intervention to spread the distribution profile across the day to achieve peak spreading. In addition, no changes to staff levels are proposed.

In effect, this peak spreading must occur due to the capacity limitations of the three (3) existing weighbridges, which are to be retained. These weighbridges are limited to a maximum of 12 trucks loaded per hour (combined).

Accordingly, the maximum trip generation for the facility, regardless of the total throughput of the facility, is limited to 24 vehicle trips per hour (being 12 trucks in, 12 trucks out). This is only slightly above the existing 16 vehicle trips (AM peak) and 10 vehicle trips (PM peak) that presently occur during the 95th percentile demand level. It is also noted that these higher vehicle trip volumes could already occur under current approvals.

The intersection performance for the existing road network has been measured at the following intersections:

- Victoria Road/ The Crescent;
- The Crescent/ James Craig Road; and
- The Crescent / City-West Link.

Intersection performance for the existing (2019) road network is summarised in **Table 9** below, with all key intersections operating with acceptable delays resulting in a level Lever of Service B or better.

Table 9 **2019 Intersection Performance**

Intersection	Control Type	Period	Degree of Saturation	Intersection Delay	Level of Service
Victoria Road/ The Crescent	Signalised	AM	0.894	23.1	B
		PM	0.954	28.4	B
The Crescent/ James Craig Road	Signalised	AM	0.772	7.2	A
		PM	0.781	10.4	A
The Crescent / City-West Link	Signalised	AM	0.896	27.4	B
		PM	0.866	27.9	B

For the purpose of a sensitivity test and to assess a worst case scenario, a net additional 24 vehicle trips/hour (12 in, 12 out) has been assessed on the road network which ignores the internal capacity constraints presented by the weighbridges as discussed above. This test concludes that the worst case scenario of 12 trucks per hour results in minimal changes when compared to the 2019 base case, with minor increases in average intersection delay of 0.2 seconds (to 28.6 seconds) for Victoria Road / The Crescent (with Level of Service C) during the PM peak period and 1.7 seconds (to 28.7 seconds) for The Crescent / City-West Link Road (with Level of Service C) during the AM peak period. It is noted that these scenarios are 0.6 and 0.7 seconds respectively from maintaining a Level of Service B rating. The associated traffic impacts of the proposal therefore are minor in nature.

5.4.4 Cumulative Assessment

Overall, the intersection performances of these key intersections during the AM and PM peak periods largely remain similar, noting that WestConnex with the completed M4-M5 link and Rozelle Interchange is currently not completed and factored into the current intersection configuration. Upon completion, this project is anticipated to significantly improve the performances at neighbouring intersections along The Crescent, Victoria Road and City-West Link. .

In addition, the existing development trip pattern is used for static trip assignment in SIDRA, it is considered more than likely that Cement Australia would adjust truck distributions and routes accordingly to increase efficiency and minimise delays. As such, the nature of the 24/7 operation of the development would likely result in trucks being distributed to non-peak periods. Furthermore, the strategic location of the site enables drivers to choose various routes via Anzac Bridge, Victoria Road and City-West Link, thereby avoiding intersections that are not operating satisfactorily within specific peaks.

Accordingly, the cumulative impacts are considered minimal and well within typical fluctuations in traffic volumes that are currently accommodated within the internal road network of Glebe Island.

5.4.5 Mitigation Measures

It is intended to utilise the internal Traffic Management Plan prepared by Cement Australia (contained in Appendix E of the TIA) which provides the operational traffic management actions to be undertaken to mitigate potential traffic impacts. These include the following:

- All drivers are aware of the induction process and Sugar Australia heavy vehicles, prior to attending the terminal, noting the reduced speed limit throughout the internal road network; and
- All Cement Australia heavy vehicles are required to give way to traffic along Solomons Way when egressing the development.
- A Risk Assessment and Action Plan which outlines potential hazards / interactions on the site and subsequent mitigation measures set in place (such as signage, lighting, speed limits, staff inductions, one way limited private roads and the like).

5.5 Marine Traffic, Navigation and Safety

The relevant SEARs relating to Marine Traffic, Navigation and Safety are reproduced below:

Marine Traffic, Navigation and Safety – including:

- *an assessment of the proposed development on water-based traffic, marine structures, marine safety and navigation, including cumulative impacts.*
- *provide details of vessel movements including frequency and vessel size.*

A Marine Traffic, Navigation and Safety Report has been prepared by Ethos Urban and is included at **Appendix I**. A summary of the assessment and proposed mitigation measures are provided below.

5.5.1 Assessment

The proposed development will include the continued use of Berth 8 at Glebe Island. Glebe Island Berth 8 is owned and managed by the Port Authority of NSW, and will continue to be operated by Cement Australia in accordance with the Port Authority of NSW's Standard Operating Procedures.

The number of maritime movements to Berth 8 is expected to increase to a total of approximately 55 ships per year. Currently Cement Australia receive approximately 20-30 ships year, so the increase is representative of a doubling of ship movements.

The ships proposed to be used by Cement Australia for the expanded facility are up to 170 metres long, and would use Johnstone Bay to swing around. The ships would have a target payload of up to 25,000 tonnes per shipment (an average of 22,000 tonnes per shipment has been used to establish the likely total number of ships requires o deliver 1.2 million tonnes of material).

The proposed development does not include any new maritime infrastructure or physical works. The existing (and historical) use of Glebe Island for port related and industrial uses includes the use of the waterways surrounding the site for maritime activities. The proposed development is entirely consistent with the existing and historical uses of the site.

Port Authority of NSW is responsible for managing port safety functions in Sydney Harbour in accordance with the *Ports and Maritime Administration Act 1995*. Port Authority of NSW operates a port communications systems within Sydney Harbour for the safe control of vessel traffic. The port communication system is operational 24 hours a day, seven days a week, throughout the year. Port Authority of NSW maintains and regularly inspects navigational aids throughout Sydney Harbour, and advises ship operators of navigational aids which may be malfunctioning, out of position or missing at any time. Port Authority will continue to maintain the navigational channels and ship berths.

Maintenance of the channels and berths includes surveying and monitoring the depths of the channels and berthing boxes, and sharing the information with port users to aid the safe movement of the variety of commercial ships utilising the Port Authority's ports. Any deliveries associated with the proposed development will navigate in accordance with existing navigational aids and communications systems. No new navigational aids will be required. The proposed development will not require any specific channel or berth maintenance or management over and above NSW Ports standard current maintenance activities.

The Port Authority protocols and navigational rules will continue to apply to all vessels delivering cementitious material to the cement storage and distribution facility, in particular including:

- The Harbour Masters Directions, which set out the requirements for operating vessels, managing marine traffic, manoeuvring and berthing vessels within Sydney Harbour.
- The requirements set out in the Port Authority's Towage Tables.
- The Sydney Vessel Traffic Service (VTS) and compulsory pilotage for all vessels larger than 30m with an escort vessel provided by the Port Authority for transit within port limits. All other vessels must remain 30m away from the vessel being escorted, and must not pass between the escort and the vessel being escorted.

The increased frequency of cementitious vessels will increase general cargo ship activity throughout Sydney Harbour. The interaction between recreational vessels and the cement tankers would be generally governed by the Harbour Masters Directions and VTS requirements, including the need for all vessels to remain at least 30m away from the escorted vessel.

Sydney Harbour is Australia's busiest waterway, with thousands of recreational, passenger and working vessels sharing the water with around 1,200 large commercial vessels each year. In this context, the proposed increased throughput capacity would increase Cement Australia vessels in Sydney Harbour by approximately 25 vessels per year, to a total of approximately 55 vessels per year. Therefore, the number of additional vessels in Sydney Harbour as a result of the proposed development is less than 5% of total current shipping movements of large commercial vessels.

The Marine, Navigation and Safety assessment concludes that the proposed impacts are not likely to be significant and that there are appropriate processes in place to ensure the increased movements of large commercial vessels that can be safely accommodated and managed through White Bay and the broader Sydney Harbour shipping channels.

5.5.2 Mitigation Measures

All trade ships delivering cementitious material to the Cement Australia facility will be made by an experienced helmsman (pilot) steering the ship to berth. The use of appropriately qualified pilots is required by the Marine Safety Act 1998. Approach and deliveries by these ships will be in accordance with the 'Harbour Master's Directions' and the requirements set out in the Port Authority's Towage Tables. Further, coordination of ships can easily be managed by Harbour Control and Cement Australia will consult regularly with the users of neighbouring Berth 7 to accommodate berthing and unberthing of ships at Berth 8 to minimise any potential conflict between deliveries and other water vessels around the harbour.

5.6 Heritage

The relevant SEARs relating to heritage are reproduced below:

8. Heritage – including:

- *an assessment of heritage impacts prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW heritage manual*
- *identify all heritage items within the vicinity of the site including built heritage, landscapes and archaeology*
- *the impacts of the development on heritage item(s) including physical impacts such as vibration and visual amenity*
- *measures to avoid and/or mitigate impact on the heritage significance of the site and the surrounding heritage items.*
-

A Heritage Impact Statement has been prepared by Weir Phillips Heritage and is included at **Appendix C**. A summary of the assessment and proposed mitigation measures are provided below.

5.6.1 Assessment

Weir Phillips Heritage has prepared the HIS with reference to the NSW Heritage Division publication Statements of Heritage Impact (2002 update). The historical development of the Glebe Island area has been undertaken as well as an assessment of heritage significance to both the site's existing silos and other heritage items in its vicinity. Heritage items of State and local significance include the following:

- Glebe Island Bridge;
- White Bay Power Station;
- Monument, Glebe Island;
- Glebe Island Bridge approach;
- Plaque – Opening of Container Terminal;
- Glebe Island Sandstone Quarry Sample; and
- Glebe Island World War II Monument.

No works are proposed and as such there will be no impacts to visual amenity including views. The proposed increase in throughput supports a more effective and efficient utilisation of the facility and is administrative in nature. As such, it does not propose any physical works, nor any changes to current operating practices, including hours of operation, and the fabric and function of the site will remain the same.

No vibration assessment has been conducted this project as there will be no construction or upgrade works conducted. The existing silos will continue to receive cementitious material in the same manner as existing.

The proposed increase in throughput is necessary to ensure the ongoing function of the Glebe Island Silos as a bulk storage facility where much of its historic significance is associated. Therefore, the proposal will have no impact on the heritage significance of the site.

6.0 Environmental Risk Assessment

The Environmental Risk Assessment (ERA) establishes a residual risk by reviewing the significance of environmental impacts and the ability to manage those impacts. The ERA for the proposed increase in throughput has been adapted from Australian Standard AS4369.1999 Risk Management and Environmental Risk Tools, and is provided in **Table 10** over page.

In accordance with the SEARs, the ERA addresses the following significant risk issues:

- the adequacy of baseline data;
- the potential cumulative impacts arising from other developments in the vicinity of the Site; and
- measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Figure 10 indicates the significance of environmental impacts and assigns a value between 1 and 10 based on:

- the receiving environment;
- the level of understanding of the type and extent of impacts; and
- the likely community response to the environmental consequence of the project;

The manageability of environmental impact is assigned a value between 1 and 5 based on:

- the complexity of mitigation measures;
- the known level of performance of the safeguards proposed; and
- the opportunity for adaptive management.

The sum of the values assigned provides an indicative ranking of potential residual impacts after the mitigation measures are implemented.

Significance of impact	Manageability of impact				
	5 Complex	4 Substantial	3 Elementary	2 Standard	1 Simple
1 – Low	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)	2 (Low)
2 – Minor	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)	3 (Low)
3 – Moderate	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)	4 (Low/Medium)
4 – High	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)	5 (Low/Medium)
5 – Extreme	10 (High)	9 (High)	8 (High/Medium)	7 (High/Medium)	6 (Medium)

Figure 10 Risk Assessment Matrix

Table 10	**Environmental Risk Assessment**			**Risk Assessment**		
Item	**Phase**	**Potential Environmental Impact**	**Proposed Mitigation Measures and / or Comment**	**Significance of Impact**	**Manageability of Impact**	**Residual Impact**
Noise	Operational	Marginal increase in noise levels during operations and road traffic noise levels (existing background levels exceed adopted noise criteria).	• Ensure plant and equipment is well maintained and not generating excessive noise. • Where cement ships are ungraded, include noise source mitigation on the cement unloading system to minimise noise emissions. • Where reasonable and feasible, investigate noise mitigation options for ship mechanical plant contributing to noise emissions during ship unloading and request the shipping contractor includes noise mitigation and management as part of the unloading system as new ships are commissioned. • Specifically, noise attenuation work is to be undertaken on the MV Akuna during January 2021 and for the MV Wyuna in Q1/Q2 of 2021. • Operate machinery in a manner which reduces maximum noise level events. • Site awareness training / environmental inductions that include a section on noise mitigation techniques / measures to be implemented when ship unloading operations are occurring. • Operation of a community complaints management program, including complaints hotline and response management procedure.	2	2	4 (Low/Medium)
Traffic and parking	Operational	Increase in cumulative operational traffic impacts on key intersections in the immediate vicinity of the Site	• Cement Australia are to utilise the internal Traffic Management Plan presented in Appendix E of the Traffic Impact Assessment, which provides that all drivers are to be aware of the induction process and Sugar Australia heavy vehicles, prior to attending the terminal, noting the reduced speed limit throughout the internal road network and all Cement Australia heavy vehicles are required to give way to traffic along Solomons Way when egressing the development. • A Risk Assessment and Action Plan has also been developed which lists potential hazards and subsequent controls to mitigate traffic related risks.	2	1	3 (Low)
Air Quality	Operational	Increase in PM, NOx and SOx emissions	• The Air Quality Assessment in **Appendix G** has shown that the potential increases in emissions from the proposal are estimated to be minor and in the context of background concentrations are unlikely to lead to air quality impacts.	1	1	2 (Low)

7.0 Mitigation Measures

The collective measures required to mitigate the impacts associated with the proposed works are detailed in **Table** 11 below. These measures have been derived from the previous assessment in Section 5.0 and those detailed in appended consultants' reports.

Table 11 Mitigation Measures

Mitigation Measures
Vessel Noise • Where cement ships are ungraded, include noise source mitigation on the cement unloading system to minimise noise emissions. • Where reasonable and feasible, investigate further noise mitigation options for ship mechanical plant contributing to noise emissions during ship unloading and request the shipping contractor includes noise mitigation and management as part of the unloading system as new ships are commissioned. **Landside Noise** • Ensure plant and equipment is well maintained and not generating excessive noise; • Operate machinery in a manner which reduces maximum noise level events; • Site awareness training / environmental inductions that include a section on noise mitigation techniques / measures to be implemented when ship unloading operations are occurring; and • Operation of a community complaints management program, including complaints hotline and response management procedure
Traffic • Cement Australia are to utilise the internal Traffic Management Plan presented in Appendix E of the Traffic Impact Assessment, which provides that all drivers are to be aware of the induction process and Sugar Australia heavy vehicles, prior to attending the terminal, noting the reduced speed limit throughout the internal road network and all Cement Australia heavy vehicles are required to give way to traffic along Solomons Way when egressing the development. • A Risk Assessment and Action Plan has also been developed which lists potential hazards and subsequent controls to mitigate traffic related risks.

8.0 Justification of the Proposal

In general, investment in major projects can only be justified if the benefits of doing so exceed the costs. Such an assessment must consider all costs and benefits, and not simply those that can be easily quantified. As a result, the EP&A Act specifies that such a justification must be made having regard to biophysical, economic and social considerations and the principles of ecologically sustainable development.

This means that the decision on whether a project can proceed or not needs to be made in the full knowledge of its effects, both positive and negative, whether those impacts can be quantified or not.

The proposed development involves the increase in throughput of cementitious material and the assessment must therefore focus on the identification and appraisal of the effects of the proposed change over the site's existing condition.

Various components of the biophysical, social and economic environments have been examined in this EIS and are summarised below.

8.1 Social and Economic

The development, if approved, will support 36 (full time equivalent) jobs indirectly associated with the continued operation of the facility and the additional trucking and shipping movements.

The proposed development has numerous economic benefits given its strategic location in proximity to major roads and Sydney's motorway system and several large development projects including WestConnex, The Bays District Area Renewal and Sydney Metro West. The proposed development will ensure construction activities of these planned development and other future development currently in the planning pipeline progress without unnecessary delays due to potential shortages of cementitious materials.

Supply of cementitious materials is also considered to have a high multiplier effect on the construction and development sector and the wider economy as it is a key material in all construction and development projects. Associated supply shortages can slow down the delivery of projects, result in several indirect economic impacts and hindering the overall growth of the economy.

The proposal also enables the existing concrete silo to operate more efficiently as the operational capacity of the silo is maximised. The existing facility (and the proposed development) is more efficient and sustainable than other typical cement distribution facilities which would depend on extensive deliveries of raw materials via Sydney's road network.

The cementitious materials throughput by the facility will be delivered by ship and distributed to concrete batching plants and other customers by trucks and cement tankers along public roads. The development will thereby reduce regional traffic generally associated with the delivery of cementitious materials from other facilities in Greater Sydney or beyond if they are required to be utilised to meet growing demand cementitious materials. Reducing traffic impacts on the broader road network, and increasing employment opportunities while meeting demand for cementitious materials is therefore considered to have a positive economic impact.

8.2 Biophysical

Section 5.0 of this EIS contains a thorough assessment of the likely biophysical impacts of the proposed development. The environmental risk assessment contained at **Section 6.0** demonstrates that the proposed development will not result in any significant environmental impacts that cannot be appropriately addressed through standard conditions of consent or the current mitigation measures included at **Section 7.0**.

The environmental impact assessment of the proposed development has demonstrated that:

- All environmental impacts associated with the operational phase of the development can be appropriately managed and mitigated including any operational traffic impacts, parking management, operational noise impacts and air quality impacts;

- The Site is appropriate for the proposed use given it involves no change to the existing use and is consistent with current zoning and land use activities that immediately surround the Site.

8.3 Ecologically Sustainable Development

The EP&A Regulation lists 4 principles of ecologically sustainable development to be considered in assessing a project. They are:

- The precautionary principle;
- Intergenerational equity;
- Conservation of biological diversity and ecological integrity; and
- Improved valuation and pricing of environmental resources.

An analysis of these principles follows.

Precautionary Principle

The precautionary principle is utilised when uncertainty exists about potential environmental impacts. It provides 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. The precautionary principle requires careful evaluation of potential environmental impacts in order to avoid, wherever practicable, serious or irreversible damage to the environment.

This EIS has not identified any serious threat of irreversible damage to the environment and therefore the precautionary principle is not relevant to the proposal.

Intergenerational Equity

Inter-generational equity is concerned with ensuring that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations. The proposal has been designed to benefit both the existing and future generations by:

- Implementing safeguards and management measures to protect environmental values.
- Maintaining high value jobs associated with the efficient and reliable supply of cementitious materials to.
- Ensuring timely availability of adequate quantities of cementitious materials for large development projects (WestConnex and Sydney Metro, large residential projects etc), essential to addressing forecasted housing demand and increasing infrastructure capacity in Sydney.
- Reducing traffic generation and associated environmental impacts through the use of ships to transport cementitious materials to the facility instead of inter-regional trucking.

The proposal has integrated short and long-term social, financial and environmental considerations so that any foreseeable impacts are not left to be addressed by future generations. Issues with potential long term implications such as waste disposal would be avoided and/or minimised through the application of safeguards and management measures described in this EIS and the appended technical reports.

Conservation of biological diversity and ecological integrity

The principle of biological diversity upholds that the conservation of biological diversity and ecological integrity should be a fundamental consideration.

The proposal would not have any significant effect on the biological diversity and ecological integrity of the study area given that no works are proposed.

Improved valuation, pricing and incentive mechanisms

The principles of improved valuation and pricing of environmental resources requires consideration of all environmental resources which may be affected by a proposal, including air, water, land and living things. Mitigation measures for avoiding, reusing, recycling and managing waste would be implemented to ensure resources are used responsibly in the first instance.

9.0 Conclusion

The Environmental Impact Statement (EIS) has been prepared to consider the environmental, social and economic impacts of the proposed increase of cementitious throughput to the cement handling and distribution facility at the Glebe Island Cement Silos. The EIS has addressed the issues outlined in the SEARs (**Appendix A**) and accords with Schedule 2 of the EP&A Regulation with regards to consideration of the matters prescribed in Clauses 6 and 7.

The proposal does not involve building works and presents operational impacts relating to air quality, noise, traffic, heritage and marine safety which are either minor in nature or may be mitigated. As demonstrated by this EIS, the location of the Site, being close to a number of arterial roads and motorways, will also offer several advantages to the various development projects proposed around Greater Sydney which will to further address and minimise impacts.

Having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development, the carrying out of the project is justified for the following reasons:

- The industrial nature of the site is in keeping with the existing surrounding land uses and the operation of the Port in the immediate and short-medium term;
- The proposal will ensure adequate supply of cementitious material in proximity to major infrastructure and development projects, with capacity to meet future demand and avoid unnecessary delays in construction timing;
- The development, if approved, will support 36 (full time equivalent) jobs indirectly associated with the continued operation of the existing facility associated with the additional trucking and shipping movements. More broadly, supply of cementitious materials is also considered to have a high multiplier effect on the construction and development sector, and the wider economy, as cementitious material is a key material in all construction and development projects. Associated supply shortages can slow down the delivery of projects, resulting in several indirect economic impacts and hindering the overall growth of the economy;
- The proposal also enables the existing silo to operate more efficiently as the operational capacity of the silo is maximised. The development will thereby reduce regional traffic generally associated with the delivery of cement from other facilities in Greater Sydney or beyond if they are required to be utilised to meet growing demand for cementitious materials;
- The existing facility (and the proposed development) is more efficient and sustainable than other cementitious materials storage and distribution facilities which would depend on extensive deliveries of raw materials via Sydney's road network; and
- All environmental impacts associated with the operational phase of the development can be appropriately managed and mitigated including any operational traffic impacts, parking management, operational noise impacts and air quality impacts.

Given the merits described above it is requested that the application be approved.