



REVIEW OF ENVIRONMENTAL FACTORS

Existing Sydney Fish Market Wharf Reconfiguration Works

Pymont Bridge Road, Pymont

Prepared for Infrastructure NSW



**By
BBC Consulting Planners**

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Declaration

This Review of Environmental Factors (REF) has been prepared by BBC Consulting Planners on behalf of Infrastructure NSW (INSW). The REF is an assessment of potential environmental impacts wharf reconfiguration works at the existing Sydney Fish Market to enable on-going operation of the fishing fleet and public vessel access during the construction of the new Sydney Fish Market.

INSW is a public authority and a determining authority as defined in the *Environmental Planning & Assessment Act 1979* (EP&A Act). The proposal satisfies the definition of an “activity” under the Act, and as such INSW must assess and consider the environmental impacts of the proposal before determining whether to proceed.



This REF has been prepared in accordance with Sections 111 and 112 of the EP&A Act and Clause 228 of the *Environmental Planning and Assessment Regulation 2000*. It addresses all matters affecting or likely to affect the environment as a result of the proposed activity.

This REF has concluded that:

- (1) the proposed activity is not likely have a significant impact on the environment. An Environmental Impact Statement is not required;
- (2) the proposed activity is not likely to affect and will not be carried out on any Commonwealth land, or significantly affect any Matters of National Environmental Significance. Therefore neither a Public Environmental Report nor an Environmental Impact Statement are required; and
- (3) the proposed activity would not affect threatened species or ecological communities, or their habitats. Further assessment under the Biodiversity Conservation Act 2016 is not required.
- (4) the proposed activity would not require a permit to Harm Marine Vegetation under Part 7 of the Fisheries Management Act 1994 and not require fauna management in regard to syngnathids (seahorses and their relatives) or *Epinephelus daemeli* (Black rockcod).

The proposed activity is recommended for approval subject to implementation of measures to avoid, minimise or manage environmental impacts listed in this REF.



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Verification

I have examined this REF and the Declaration by BBC Consulting Planners and accept the report on behalf of Infrastructure NSW.


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Table of Contents

1.	INTRODUCTION	1
1.1	Background.....	1
1.2	Purpose of Review of Environmental Factors	2
1.3	Accompanying Documentation	3
2.	THE SITE AND CONTEXT	4
2.1	Location.....	4
2.2	Real Property Description and Ownership	6
2.3	Surrounding Locality.....	8
2.4	Existing Wharfs and Pontoon	10
3.	THE PROPOSAL.....	11
3.1	Summary of Proposed Works.....	11
3.2	Works to the existing timber wharf	11
3.3	Works to the existing concrete wharf.....	12
3.4	Relocation of public vessel landing pontoon and associated works	12
3.5	Construction of a new pedestrian pathway to access the timber wharf.....	12
3.6	Design, Form and Materials	13
3.7	BCA compliance	13
3.8	Access	13
3.9	Construction Management.....	14
3.10	Duration and timing of works	15
4.	STATUTORY REQUIREMENTS	16
4.1	Environmental Planning and Assessment Act 1979	16
4.2	State Environmental Planning Policy (Infrastructure) 2007.....	16
4.3	Other relevant legislation.....	18
5.	REVIEW OF ENVIRONMENTAL FACTORS	22
5.1	Introduction.....	22
5.2	Access, traffic and parking.....	22
5.2.1	Existing conditions	22
5.2.2	Impact assessment	22
5.2.3	Pedestrian movement	23
5.2.4	Mitigation Measures.....	23
5.3	Maritime Navigation.....	23
5.3.1	Existing conditions	23
5.3.2	Impact assessment	25
5.3.3	Mitigation measures.....	26

5.4	Biodiversity	26
5.4.1	Existing conditions	26
5.4.2	Impact assessment	27
5.4.3	Mitigation measures	27
5.5	Heritage and archaeology	28
5.5.1	Existing conditions	28
5.5.2	Impact assessment	29
5.5.3	Mitigation measures	29
5.6	Contamination and potential acid sulfate soil assessment	30
5.6.1	Existing conditions	30
5.6.2	Impact assessment	31
5.6.3	Mitigation measures	31
5.7	Noise and vibration impacts	31
5.7.1	Existing conditions	31
5.7.2	Impact assessment	32
5.7.3	Mitigation measures	32
5.8	Air Quality	32
5.8.1	Existing air quality	32
5.8.2	Impacts of construction on air quality	33
5.8.3	Mitigation measures	33
5.9	Scenic quality and visual impacts	33
5.9.1	Existing environment	33
5.9.2	Potential visual impacts	33
5.9.3	Mitigation measures	33
5.10	Sediment and Erosion	33
5.10.1	Mitigation measures	34
5.11	Ecologically Sustainable Development	34
6.	ASSESSMENT OF IMPACTS	36
6.1	Environmental Planning and Assessment Regulation 2000	36
7.	ENVIRONMENTAL MANAGEMENT	39
7.1	Environmental Management Plans	39
8.	CONCLUSION	40

FIGURES

- Figure 1: Location
- Figure 2: Site
- Figure 3: Site Aerial
- Figure 4: Site Context



APPENDICES

Appendix 1: Drawings of proposed works

Appendix 2: Construction Management Plan prepared by Multiplex

Appendix 3: Maritime Heritage Impact Statement prepared by Comber Consultants

Appendix 4: Marine Ecology Impact Statement prepared by EcoLogical

Appendix 5: Sediment Characterisation Assessment prepared by JBS&G

Appendix 6: Pedestrian Study prepared by ptc.

Appendix 7 : BCA Letter prepared by Steve Watson & Partners

Appendix 8: Accessibility Letter prepared by Morris Goding Access Consulting

Appendix 9: Acknowledgment Letter prepared by Sydney Fish Markets

Appendix 10: Navigation Impact Assessment by Fontalis

Appendix 11: Acid Sulfate Soils Management Plan prepared by JBS & G Australia Pty Ltd

Appendix 12: Remedial Action Plan, The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW prepared by JBS&G

1. INTRODUCTION

1.1 Background

In June 2020, the Minister for Planning and Public Places granted development consent to:

- SSD 8924 being a concept development application for the new Sydney Fish Market, including:
 - A Concept Proposal comprising:
 - Building envelope for a 3-storey building;
 - Maximum GFA of 30,000 m²;
 - Use of the site for a fish market, including waterfront commercial and tourist facilities and ancillary uses;
 - Waterfront structures, including wharves;
 - Public domain, including landscaping and foreshore promenade;
 - Pedestrian, cycle, footpath and Bridge Road works.
 - Stage 1 works comprising:
 - Demolition of existing wharves, structures, utilities and services.
- SSD 8925 being a Stage 2 DA for the construction, use and operation of a new Sydney Fish Market including:
 - A three-storey (4 levels) building with a GFA of 26,751m² comprising:
 - Wholesale services, product storage and processing
 - Retail, business and office premises
 - Multi-function spaces for events and functions
 - Staff amenities and end-of-trip facilities
 - Outdoor seating areas
 - Basement car park.
 - New public domain, including a foreshore promenade and landscaping
 - Marina
 - Pedestrian, cycle and road access
 - Upgrade works to Bridge Road and intersections with Wattle Street and Wentworth Park Road
 - Provision of services, site level adjustments and stormwater management
 - Subdivision of land.

Construction has commenced. Changes during detailed design and construction management phases have necessitated changes to the location of the silt curtain around the development works in Blackwattle Bay. This has the effect of removing access to the public pontoon that is currently used for private vessels to drop off passengers to the Sydney Fish Market and

relocating some Sydney fishing fleet trawlers from the southern side of the concrete wharf to the timber wharf.

This Review of Environmental Factors (REF) assesses the potential environmental impacts of the following wharf reconfiguration works at the existing Sydney Fish Market:

- maintenance works to the existing timber wharf comprising eight additional mooring piles to replace existing failing piles to accommodate the Sydney fishing fleet, electrical upgrade works to the wharf structure (if required) and other minor works as required to achieve a four year design life;
- provision of two additional mooring piles adjacent to the existing concrete wharf for net repairs (drop off and pick up);
- relocate the existing Sydney Fish Market public vessel landing pontoon from its current position adjacent to the boardwalk to a new location at the timber wharf, including minor reprofiling of the bed of the bay at the new location, removal of two piles at the existing location and installing two new piles at the new location and construction of handrails and gates on the timber wharf; and
- construction of a new pedestrian pathway to connect the relocated private vessel pontoon and timber wharf to the existing Sydney Fish Market pathway network.

These works enable the fish market to continue operating during the construction of the new Sydney Fish Market.

The proposal has been characterised as development that may be carried out without consent under the provisions of State Environmental Planning Policy (Infrastructure) 2007 and as such is subject to the environmental impact considerations set out in Part 5 of the Environmental Planning and Assessment Act 1979 (*“EP&A Act”*).

This Review of Environmental Factors (REF) has been prepared in accordance with Section 5.5 of the EP&A Act, which requires Infrastructure NSW to consider to the fullest extent possible, the potential environmental impacts of the proposed development. This REF has been prepared in accordance with clause 228 of the Environmental Planning and Assessment Act Regulation 2000 (*“The Regulation”*) which details elements to be considered when assessing the potential impact of an activity on the environment.

1.2 Purpose of Review of Environmental Factors

The purpose of this REF is to:-

- describe the land to which the proposal relates;
- describe the characteristics of the surrounding locality and in particular adjoining and adjacent development;
- define the statutory planning framework within which the proposal is to be assessed and determined;
- describe the proposal; and
- assess the proposal in light of the likely impact of the activity on the environment in accordance with Part 5 of the EP&A Act and the accompanying Regulation.

Throughout this assessment, where potential environmental impacts have been identified, mitigation measures have been developed to minimise the extent of impact.

1.3 Accompanying Documentation

This REF is accompanied by the following supporting documentation:

Appendix 1: Drawings of proposed works

Appendix 2: Construction Management Plan prepared by Multiplex

Appendix 3: Maritime Heritage Impact Statement prepared by Comber Consultants

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Appendix 12: Remedial Action Plan, The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW prepared by JBS&G

2. THE SITE AND CONTEXT

2.1 Location

The works are located at the existing Sydney Fish Market site located at the corner of Pyrmont Bridge Road and Bank Street, Pyrmont. Sydney Fish Market is a long established retail destination specialising in the sale and distribution of fresh seafood produce (**Figure 1**).

The Sydney Fish Market public pontoon connects to the existing Sydney Fish Market boardwalk and the concrete wharf connects to the vehicular access on the northern side of the main Sydney Fish Market building. The timber wharf is a light weight structure located 100m north of the concrete wharf. The location of these features is shown on **Figure 2**.

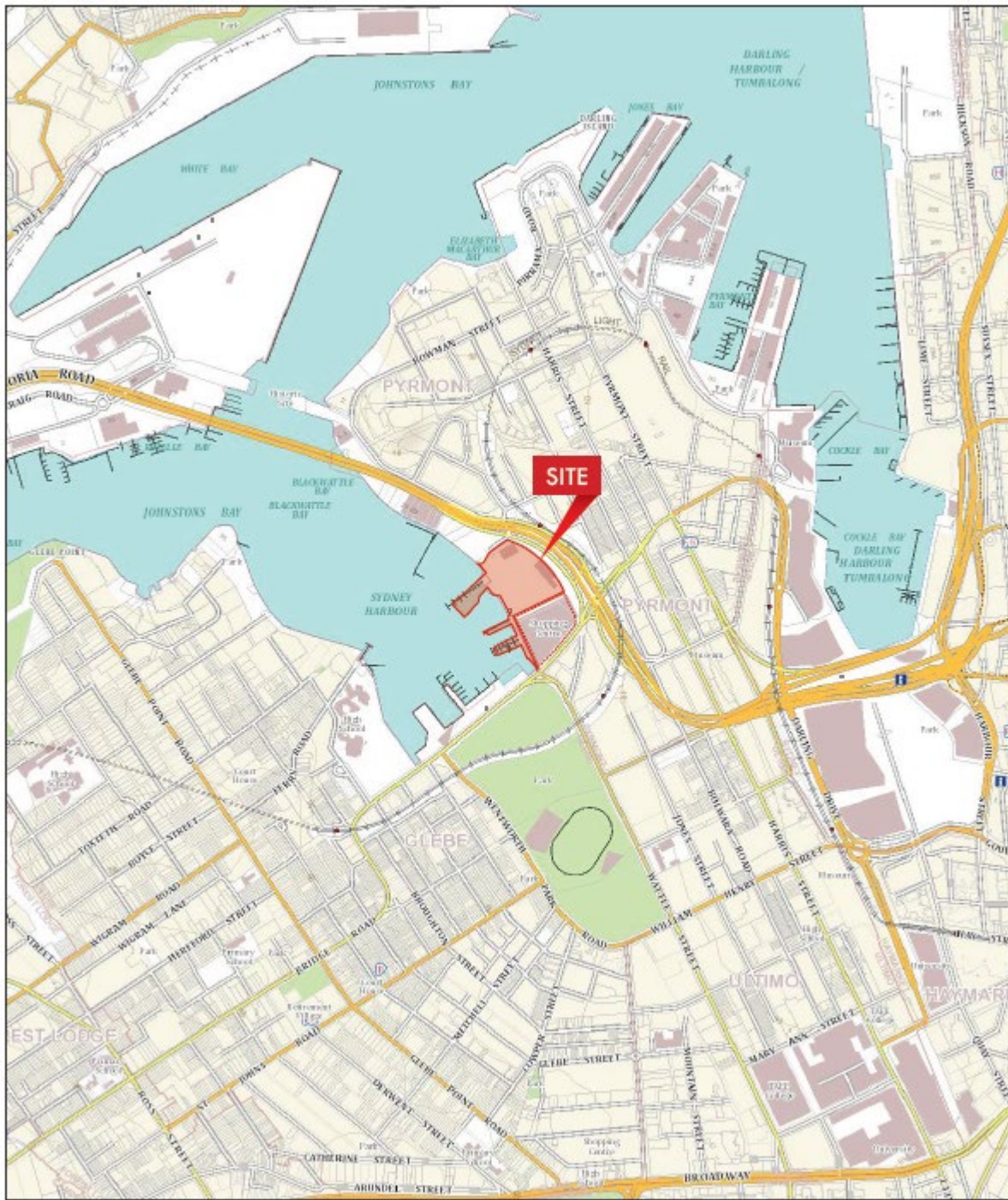


Figure 1: Location

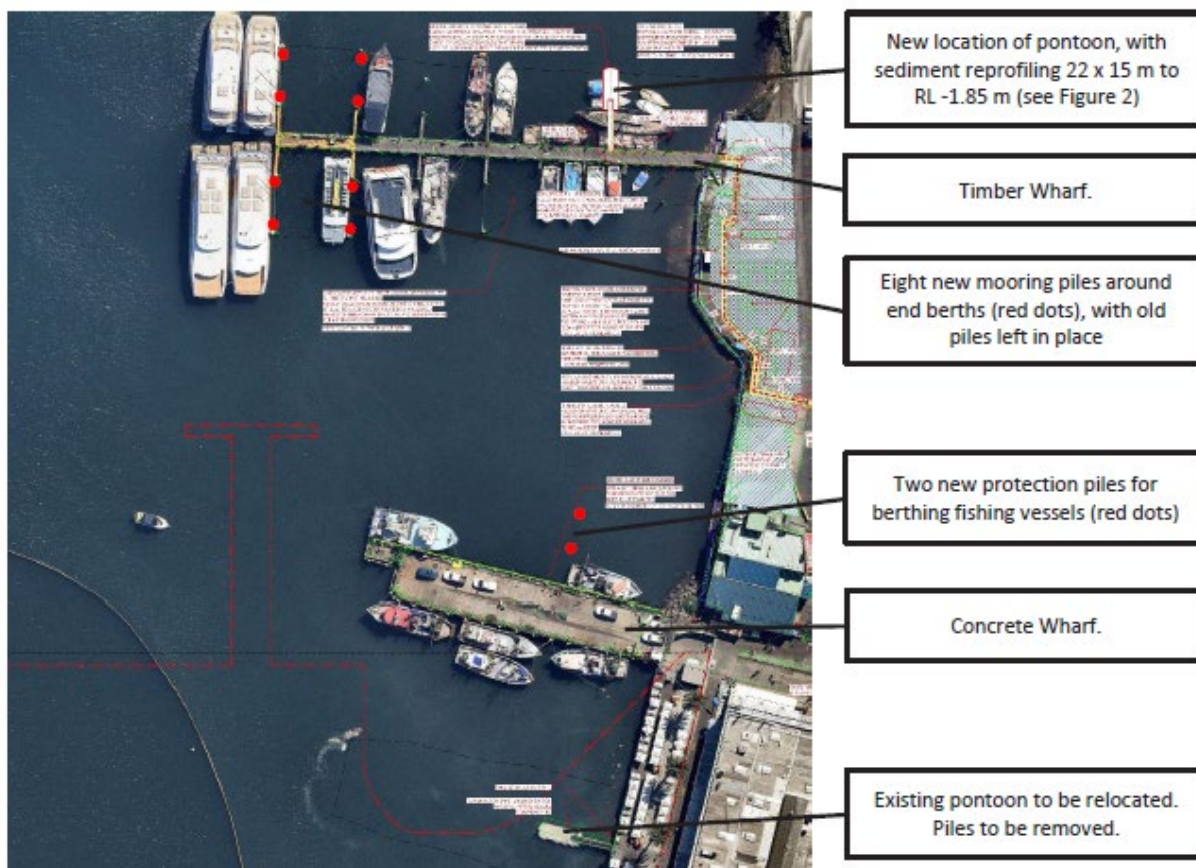


Figure 2: Site Features

The existing Sydney Fish Market was established in 1966 and has developed into a popular tourist location with some 3 million visitors annually, 55-60% of which are from metropolitan Sydney, 22% are domestic visitors and 20% are tourists from overseas. The existing fish market extends over approximately 18,000 square metres of gross floor area which includes approximately 10,600 square metres of ground floor retail and auction floor area. It also includes an at grade car parking area for approximately 417 cars.

2.2 Real Property Description and Ownership

The proposed works will generally be confined to the north and west of the existing Sydney Fish Market (see **Figures 3** and **4**) on land comprising Lot 1 in DP 835794 (owned by TfNSW) and Lot 2 in DP 827434 (owned by Property NSW).

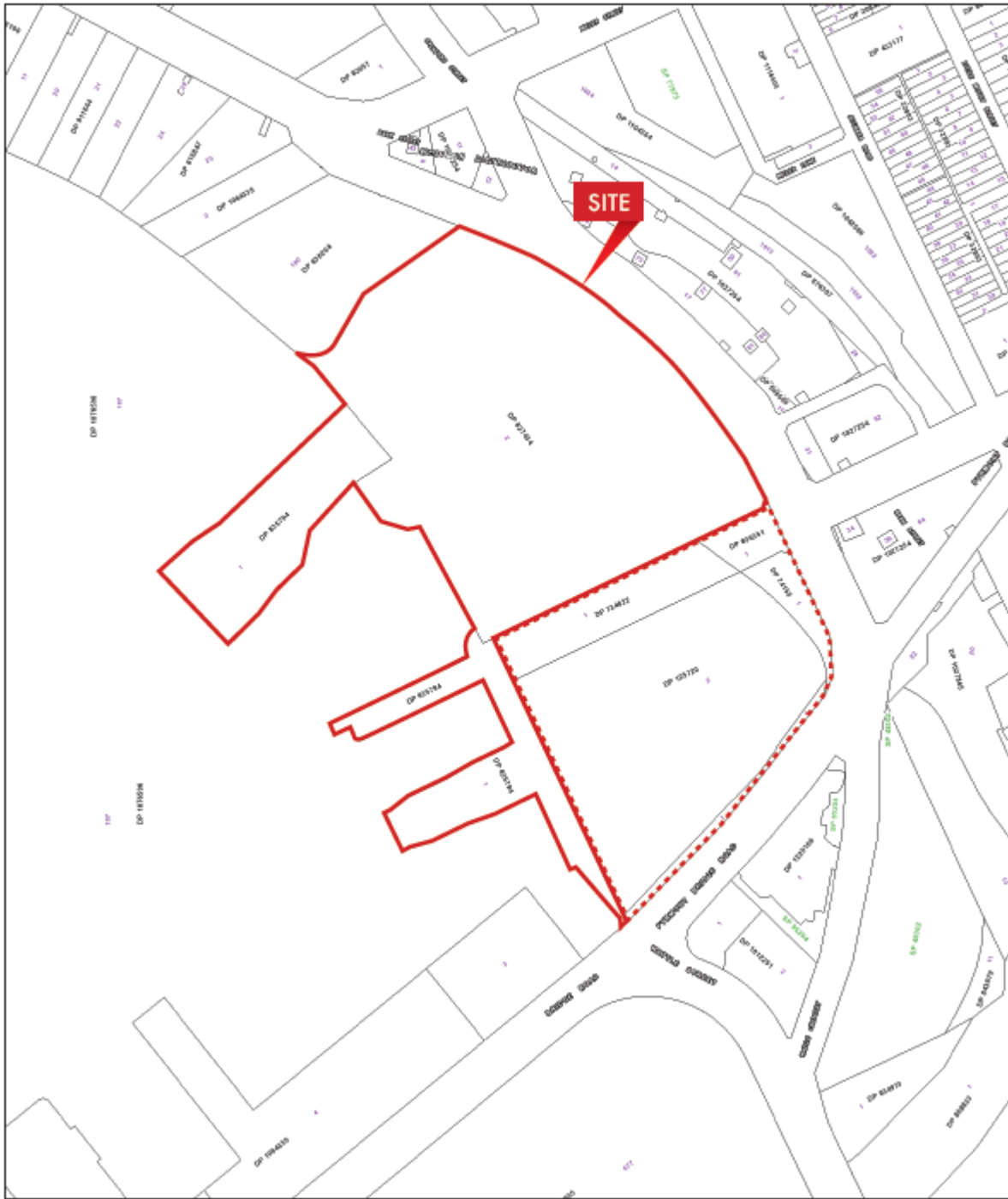


Figure 3: Site



Figure 4: Site Aerial

2.3 Surrounding Locality

The existing Sydney Fish Market has a frontage to Bank Street to the north east, Pymont Bridge Road to the south east and Blackwattle Bay to the south west.

A concrete batching plant adjoins to the north west. The elevated approaches to the Anzac Bridge and the light rail separate the site from the remainder of Pyrmont which is characterised by a mix of uses including residential and commercial buildings of varying ages resulting from the process or urban renewal of Ultimo-Pyrmont over the last 20 years.

To the south west of the existing SFM is the site of the new SFM.



Figure 5: Site Context

The current maritime usage of Blackwattle Bay includes boat storage, wharves servicing commercial (marinas and fishing) operations, recreational activities and rowing.

2.4 Existing Wharfs and Pontoon

There are two existing wharfs and a pontoon at the existing Sydney Fish Market:

- The concrete wharf was constructed in the 1980s on the alignment of the former Gipps Street that ran through the site terminating at the bay. It is approximately 70 metres in length and 12 metres wide and is used as the home base by fishing trawlers working from Sydney Harbour. It is used to provide the fleet, off-loading the catch, net repairs and associated activities.
- The timber wharf was also built in the 1980s as a general boating wharf and provides mooring facilities for a range of public sector vessels, private charter vessels and the like. It has a length of approximately 100 metres and a width of approximately 3.5 metres with mooring piles in the adjacent waterways.
- A public access pontoon was constructed in early 2016 replacing a larger wharf structure. It comprises a jetty and pontoon extending approximately 18 metres into the bay. It is used occasionally for pleasure craft to gain access to the fish market to pick up seafood. Normally passengers would be dropped off to make a purchase and picked up on return.

The concrete wharf and the timber wharf are not open to the public.

The construction of the new Sydney Fish Market requires the installation of silt curtains around the works. The silt curtain will be relocated in stages to suit the construction program. As a consequence of this, access to the public access pontoon and to the southern side of the concrete wharf will be restricted necessitating alternative mooring arrangements for fishing trawlers that use the southern side of the concrete wharf and an alternative location of the public access pontoon. Space has been made available at the timber wharf for relocating the fishing trawlers and for the public access pontoon.

3. THE PROPOSAL

3.1 Summary of Proposed Works

This Review of Environmental Factors (REF) assesses the potential environmental impacts of the following wharf reconfiguration works at the existing Sydney Fish Market:

- upgrade/maintenance works to the existing timber wharf comprising eight additional mooring piles to replace existing failing piles to accommodate the Sydney fishing fleet, electrical upgrade works to the wharf structure (if required) and other minor works as required to achieve a four year design life;
- provision of two additional mooring piles adjacent to the existing concrete wharf for net repairs (drop off and pick up);
- relocate the existing Sydney Fish Market public vessel landing pontoon from its current position adjacent to the boardwalk to a new location at the timber wharf, including minor reprofiling of the bed of the bay at the new location, removal of two piles at the existing location and installing two new piles at the new location and construction of handrails and gates on the timber wharf; and
- construction of a new pedestrian pathway to connect the relocated private vessel pontoon and timber wharf to the existing Sydney Fish Market pathway network.

These works enable the fish market to continue operating during the construction of the new Sydney Fish Market.

These works are shown on drawings accompanying the REF (**Appendix 1**).

3.2 Works to the existing timber wharf

Upgrade/maintenance works to the existing timber wharf comprising eight additional mooring piles to replace existing failing piles to accommodate the Sydney fishing fleet, electrical upgrade works to the wharf structure as required and other minor works as required to achieve a four year design life.

The eight steel piles sleeved in High Density Poly Ethylene (HDPE) will be installed using a vibratory hammer to vibrate the piles into position as far as possible and then using a hammer to drive pile to required depth. Two small barges will be deployed for this purpose with works contained within an area enclosed by a localised silt curtain.

The scope for the electrical works to the timber wharf will be as follows:

- existing service totems to be re-configured to provide power provisions as requested by the Sydney Fish Market, this includes upgrading all existing 10A outlets to 15A outlets, install of additional 3 phase outlets where required and associated power cabling pathway for new outlets from totems to existing timber wharf distribution board;
- install of lead stands to totems to assist in Sydney Fish Market cable management system;
- testing and commissioning of new elements.

This is subject to change based on the electrical demand which will be completed once data logging activity has been completed and design finalised.

3.3 Works to the existing concrete wharf

Two additional piles adjacent to the existing concrete wharf will be installed using the same methods described above. This will provide mooring for fishing trawlers to drop off and pick up nets to be repaired. This function is currently undertaken at the head of the concrete wharf.

3.4 Relocation of public vessel landing pontoon and associated works

The existing 9 metre long pontoon and 9 metre long gangway adjacent to the existing Sydney Fish Market boardwalk and picnic area will be dismantled and towed for reuse to the new location 160 metres to the north-west to the northern side of the timber wharf. Two concrete/steel piles supporting the pontoon will be removed and two new piles will be installed at the new location.

Piles will be installed using similar methods to that described above.

Minor sea bed reprofiling to RL -1.5 m around the pontoon's new location, approximately 22 x 15 m surface area of seabed. This would allow for a clearance of 300 mm beneath the pontoon at the lowest astronomical tide.

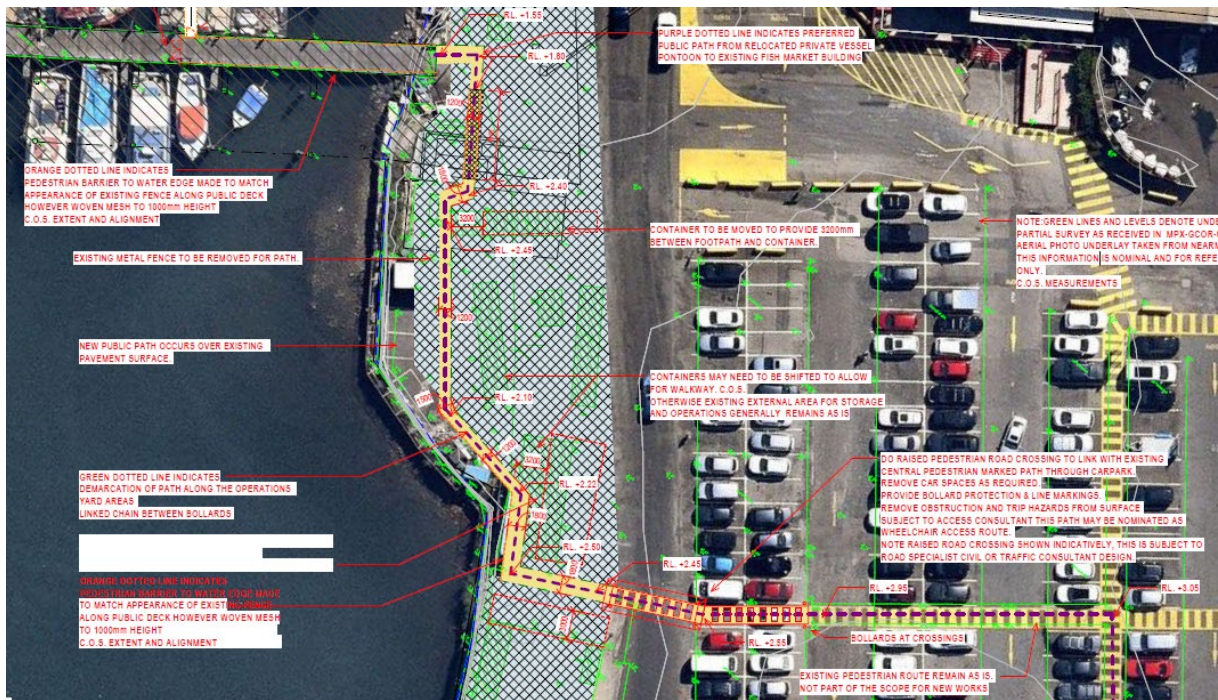
An excavator barge will be used to re-profile up to 350m³ of material from the new pontoon area to a deeper area on the north western corner of timber wharf. These areas are shown on Drawing SK-210630.1 Issue A prepared by Fontalis (**Appendix 1**).

All sediments encountered in the area of works comprise of Potential Acid Sulfate Soils (PASS) and require appropriate management and treatment during works that result in their disturbance to minimise the potential oxidation and associated acidification of the material.

3.5 Construction of a new pedestrian pathway to access the timber wharf

A new pedestrian asphalt pathway will be constructed to connect the relocated private vessel pontoon and timber wharf to the existing Sydney Fish Market pathway network. The walkway will connect to the timber wharf via an alignment that runs over existing hardstand area south parallel to the waterway before turning to the north east to connect to the existing marked footpath network within the existing car parking area.

The pathway will run through existing operations areas and will be delineated by markings and barriers such as bollards supporting linked chain. Barriers to the water's edge and raised thresholds across access driveways will be provided as required. Task lighting will be provided as required. The location and extent of the pathway is shown in Appendix 1, an extract of which is as follows:



A raised threshold will be provided across the existing car park access aisle.

3.6 Design, Form and Materials

The proposed works are limited in scope and have been designed to integrate into the existing and proposed built form. Materials will be functional and structurally sound.

3.7 BCA compliance

As indicated in the letter from Steve Watson and Partners (Appendix 7), no alterations or additions are being undertaken to buildings of any type, the National Construction Code or any of its requirements are not triggered. The detailed design of all marine structures will be submitted to the satisfaction of TfNSW (Maritime) and will be designed to comply with NSW Maritime's *Engineering Standards for Maritime Structures* and NSW Maritime's *Guidance Note Documentation and AS 4997-2005 Guidelines for the Design of Maritime Structures*.

3.8 Access

Morris Goding Access Consulting (MGAC) have provided advice describing the purpose and scope of the subject works and the guiding disability access principles agreed between all parties (**Appendix 8**). MGAC advise as follows:

Due to construction of the new Sydney Fish Market it is necessary to relocate the existing pontoon wharf and gangway used by private vessels arriving to and departing from the existing Sydney Fish Market. The agreed relocation site is a section of jetty further north of the site. The path of travel from this location will involve newly defined and upgraded pathways, and reuse of existing established and defined pathways.

It has been agreed that the guiding principal of the proposal is to better or at least match the condition of the current pathway, with the obvious unavoidable exception being that

the proposed pathway is longer and less direct compared with the current path. Accordingly it is understood that the proposed path will feature non-compliances with current access standards (such as surfacing of jetty, detailing of pontoon and gangway, carpark pathways and building entrance ramp grades and crossfalls). It is also understood that sections of the proposed pathway subject to upgrade (the newly defined sections) will meet compliance (where practical) with current access standards. These guiding principals and dispensation of access requirements for existing elements have been acknowledged and granted by SFM in correspondence dated 13 July 2021, and is considered a reasonable approach given the temporary nature of the works.

The following mitigation measure is proposed:

MGAC remain involved in the project to review design proposals for the newly defined pathways (with assessment against current access standards) and also to review the completed new works on site to certify compliance.

As operators of the site, Sydney Fish Market Pty Ltd (SFM) acknowledge that (**Appendix 9**):

- the public pontoon is a convenience for private vessels only and at no times serves as access to/from public transport.
- existing elements and walkways are being used as part of the walkway solution and that the option presented is agreed as best for operation and pedestrian safety with the users and operational management, notwithstanding departures from the access standards for these elements.
- The guiding principle of the proposal of the relocated pontoon and new accessway is to better or match existing conditions to those currently in place at the existing Sydney Fish Market, rather than upgrade current potential DDA non-compliances to be DDA compliant.
- It is unavoidable that the new accessway is longer in distance and less direct path than the original accessway.

SFM confirm dispensation of AS1428.1 access requirements for landing pontoon and gangway structure as these are existing elements to be relocated as well as the existing line marked portion of the car park and access ramps at the building entrance. We note that the current pontoon wharf and gangway is intended to be reused, and doesn't comply with AS1428.1 and DSAPT 2002 and BCA Part H2.

SFM confirms that it understands the above guiding factors and that the existing elements that will be used as part of the new pathway are potentially not DDA compliant however the new pathway will not create a worse off situation (except for being unavoidably longer and less direct than the existing pathway as noted above).

Access consultants MGAC consider this a reasonable approach given the temporary nature of the works.

3.9 Construction Management

A Construction Management Plan ("CMP") has been prepared in support of the proposed development (see **Appendix 2**). The CMP provides a detailed description of the proposed works and address matters of construction, demolition and waste removal.

3.10 Duration and timing of works

Works are expected to take approximately 1 month. Based on the new Sydney Fish Market development consent, hours of construction, including the delivery of materials to and from the site, will be carried out between the following:

- Between 7:00am and 5:30pm Monday to Friday
- Between 7:30am and 3:30pm Saturday
- No working Sundays or public holidays.

4. STATUTORY REQUIREMENTS

4.1 Environmental Planning and Assessment Act 1979

The Environmental Planning and Assessment Act 1979 (“EP&A Act”) establishes the legislative system for environmental planning and assessment in NSW. Part 5 of the EP&A Act specifies the environmental impact assessment requirements for activities which are permissible without development consent and therefore do not require an approval under Part 4 of the EP&A Act.

Section 5.5 of the EP&A Act requires the determining authority to *examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity*. Accordingly, a Review of Environmental Factors is to be prepared to document this consideration of the activity’s impact. Consideration must also be given to the factors under Clause 228 of the Environmental Planning and Assessment Regulation 2000.

A determining authority shall not carry out an activity, or grant an approval in relation to an activity that is likely to significantly affect the environment, or a prescribed activity unless an environmental impact statement in respect of the activity has been examined and considered.

Under the Act, “determining authority” means:

“a Minister or public authority and, in relation to any activity, means the Minister or public authority by or on whose behalf the activity is or is to be carried out or any Minister or public authority whose approval is required in order to enable the activity to be carried out.”

“Proponent” in relation to an activity is defined in the EP&A Act as:

“the person proposing to carry out the activity, and includes any person taken to be the proponent of the activity by virtue of section 5.3.”

As such, the proponent of the proposal, Infrastructure NSW (INSW), is the determining authority for the works.

Clause 228 of the Environmental Planning and Assessment Regulation 2000 (*“The Regulation”*) prescribes the factors which must be considered when determining if an activity is likely to have a significant impact on the environment. **Section 5** of this REF provides the environmental impact assessment of the project, and the Clause 228 factors are considered in full in **Section 6**.

4.2 State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP aims to put in place planning controls that will enable the carrying out of works including development for the purposes of wharf or boating facilities on behalf of a public authority without the need for development consent.

Clause 68 of the Infrastructure SEPP provides that the following development may be carried out by, or on behalf of a public authority without consent, but only if it is carried out by or on behalf of a public authority:

“(4) Development for the purpose of wharf or boating facilities may be carried out by or on behalf of a public authority without consent on any land. However, such development

may be carried out on land reserved under the [National Parks and Wildlife Act 1974](#) only if the development is authorised by or under that Act.”

Wharf or boating facilities means a wharf or any of the following facilities associated with a wharf or boating that are not port facilities—

- (a) facilities for the embarkation or disembarkation of passengers onto or from any vessels, including public ferry wharves,
- (b) facilities for the loading or unloading of freight onto or from vessels and associated receipt, land transport and storage facilities,
- (c) wharves for commercial fishing operations,
- (d) refuelling, launching, berthing, mooring, storage or maintenance facilities for any vessel,
- (e) sea walls or training walls,
- (f) administration buildings, communication, security and power supply facilities, roads, rail lines, pipelines, fencing, lighting or car parks.

Under ISEPP, a reference to development for the purpose of wharf or boating facilities includes a reference to the operation of such a facility and to development for any of the following purposes if the development is in connection with such facilities:

- (a) construction works (including dredging or land reclamation, if the dredging or land reclamation is required for the construction of those facilities),
- (b) routine maintenance works,
- (c) environmental management works,
- (d) alteration, demolition or relocation of a local heritage item,
- (e) alteration or relocation of a State heritage item.

The site is not reserved under the National Parks Act 1974.

The works have been characterised as wharf or boating facilities to be carried out on behalf of INSW and can be carried out without development consent subject to the provisions of Part 5 of the EP&A Act.

Clauses 13 to 16 of ISEPP include consultation requirements certain development under the ISEPP. Consultation has taken place with TfNSW and Sydney Fish Market Pty Ltd during the design of the works. Further consultation has been ongoing with the Pyrmont Heritage Fleet who will be required to relocate from their current location. INSW will continue to work with the Pyrmont Heritage Fleet on relocation prior to works commencing. Consultation under ISEPP is not required as outlined in the following table.

Requirement	Discussion
13 Consultation with councils—development with impacts on council-related infrastructure or services	The works have no impacts on Council related services.

14 Consultation with councils—development with impacts on local heritage	The works have no impacts on local heritage.
15 Consultation with councils—development with impacts on flood liable land	The development does not take place on flood liable land.
15AA Consultation with State Emergency Service—development with impacts on flood liable land	The development does not take place on flood liable land.
15A Consultation with councils—development with impacts on certain land within the coastal zone	The development does not take place in a coastal vulnerability area.
16 Consultation with public authorities other than councils	Development comprising a fixed or floating structure in or over navigable waters requires consultation under ISEPP with Transport for NSW. The exception to this is an approval is required in order for the development to be carried out. Subsequent approval is required from TfNSW for the structures on land under TfNSW control and for disturbance to the sea bed. Formal consultation is not required. INSW has held discussions with TfNSW about the proposed works.
16 Consultation with public authorities other than councils	There is ongoing consultation with Pymont Heritage Fleet who are impacted by the relocation of the pontoon. They have been made aware that their vessel is currently mooring where then pontoon will be relocated and INSW are working with them to find a suitable location to move the vessel.

4.3 Other relevant legislation

Table 1: Relevant Legislation

Legislation	Comment
Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Under the EPBC Act, the Commonwealth Environment Minister needs to approve any development that is likely to have a significant impact on Matters of National Environmental Significance (MNES). Should such an impact, as defined in the EPBC Act Policy Statement 1.1 – Significant Impact Guidelines (DEWHA 2009), be likely, the preparation and submission of a Referral is required. MNES relevant to this study includes threatened ecological communities, flora and fauna species and migratory species that are listed under the Act. The proposed work would not cause a significant impact, and therefore a Referral would not be required.
Biodiversity Conservation Act 2016 (BC Act)	Under the BC Act, an assessment of significance must be completed to determine the significance of impacts to

Legislation	Comment
	<p>threatened species, populations and/or communities or their habitat. There are unlikely to be any listed threatened aquatic species, populations or communities within the study area, therefore, no impact is expected and an assessment of significance has not been triggered. As no native terrestrial vegetation would be cleared or harmed, and the site is not located within the 'Biodiversity Value Map', the proposal does not trigger a test of significance or require further assessment under The Biodiversity Assessment Method. The gangway of the existing pontoon is exposed to the elements and does not provide roosting habitat for microbats (verified during field inspection).</p>
<p>NSW Fisheries Management Act 1994 (FM Act)</p>	<p>The FM Act is the principal piece of legislation protecting aquatic habitat in NSW. The act aims to conserve fish stocks, key fish habitat, aquatic vegetation, and threatened species, populations and communities. Threatened aquatic species, populations and communities are listed under Schedules 4, 4A and 5 of the FM Act, while key threatening processes are listed under Schedule 6. There are no other threatened species, populations or communities listed under the FM Act that are likely to use the site or depend on it for habitat.</p> <p>As no species were considered likely to depend on the site, further assessment of significance in accordance with Section 220ZZ(2A) of the FM Act is not triggered. Protected marine vegetation was not found in the study area.</p>
<p>NSW Water Management Act 2000 (WM Act)</p>	<p>The WM Act aims to provide for the sustainable and integrated management of water sources for NSW. The Act requires developments on waterfront land to be ecologically sustainable, and recognises the benefits of aquatic ecosystems to agriculture, fisheries, and recreation.</p> <p>Approvals under Section 91 are required for controlled activities on waterfront land. Under the WM Act, a controlled activity means any of the following:</p> <ul style="list-style-type: none"> a. the erection of a building or the carrying out of a work (within the meaning of the EP&A Act) b. the removal of material (whether or not extractive material) or vegetation from land, whether by way of excavation or otherwise c. the deposition of material (whether or not extractive material) on land, whether by way of landfill operations or otherwise d. the carrying out of any other activity that affects the quantity or flow of water in a water source. <p>Section 91E(1) of the WM Act identifies that it is an offence to carry out a controlled activity in, on or under waterfront land without gaining a controlled activity approval. However, under Clause 41 of the <i>Water Management (General) Regulation</i></p>

Legislation	Comment
	2018, public authorities are exempt from Section 91E(1) of the WM Act, and therefore do not require any approvals for controlled activities on waterfront land.
Sydney Regional Environmental Plan (SREP, Sydney Harbour Catchment) 2005	<p>The proposal is located within the Sydney Harbour Catchment and is subject to the SREP (Sydney Harbour Catchment) 2005. The SREP lists matters that the proponent is to consider before carrying out any activity determined under Part 5 of the EP&A Act. Relevant Clauses to this aquatic ecology assessment are:</p> <ul style="list-style-type: none"> • Clause 21: biodiversity, ecology and environment protection • Clauses 61–63: wetland protection. <p>Clause 21 has been considered in Section 5.4. As no wetlands are mapped within or near the site, clauses 61-63 have not been considered further.</p>
Sydney Local Environmental Plan 2012	The pedestrian walkway is located on land to which Sydney Local Environmental Plan 2012 applies. Provisions relating to development control do not apply because the development is permissible without development consent.
NSW Coastal Management Act 2016 (CM Act) and State Environmental Planning Policy (Coastal Management) 2018 (Coastal Management SEPP)	<p>The objects of this Act are to manage the coastal environment of NSW in a manner consistent with the principles of ecologically sustainable development for the social, cultural and economic well-being of the people of the State. Part 2 of the CM Act identifies objectives related to four coastal management areas of the 'coastal zone':</p> <ul style="list-style-type: none"> • Coastal wetlands and littoral rainforests area • Coastal vulnerability area • Coastal environment area • Coastal use area. <p>Under the Coastal Management SEPP, no wetlands or littoral rainforests are identified on or near the site.</p> <p>The site is zoned as a 'coastal environment area'. However, Clause 13(3) of the Coastal Management SEPP states that development controls for 'coastal environment areas' do not apply to land within the Foreshores and Waterways Area within the meaning of the <i>Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005</i>. Therefore, the Coastal Management SEPP does not apply to this proposal.</p>
Ports and Maritime Administration Regulation 2012	Clause 67ZN states that a person must not use drags, grapplings, or other apparatus for lifting any object or material from the bed of a port described in Schedule 1, or otherwise disturb any such bed in any way, except with the written permission of the relevant Harbour Master and in accordance with the conditions attaching to such permission.

Legislation	Comment
Contaminated Land Management Act 1997 and State Environmental Planning Policy No 55 - Remediation of Land	The general intention of the Contaminated Land Management Act 1997 (CLM Act) is to establish a process for investigating and (where appropriate) remediating the land that the EPA considers to be contaminated significantly enough to require regulation. JBS&G prepared a Remedial Action Plan and Acid Sulfate Soil Management Plan to provide a framework for appropriately managing any sediments that may be disturbed during the construction works for the development. It is anticipated that these documents will also provide the necessary framework for managing any sediment impacts that may be identified with the proposed works.
Heritage Act 1977	The site does not contain any heritage items, is not in a heritage conservation area and does not adjoin any heritage items. The limited nature of the works will not result in any impact on adjacent heritage items.
Protection of the Environment Operations Act 1997	The project does not include any activity listed under Schedule 1 of the Act and therefore, an Environment Protection Licence is not required.
Waste Avoidance and Resource Recovery Act 2001	The project would be constructed and operated having regard to the requirements of the Act.

5. REVIEW OF ENVIRONMENTAL FACTORS

5.1 Introduction

The proponent is required to consider the environmental impact of the proposal in accordance with the provisions of Section 5.5 of the EP&A Act 1979 and relevant factors listed in Clause 228 of the Environmental Planning and Assessment Regulation 2000.

This section of the REF provides an assessment of potential environmental impacts of the proposal.

5.2 Access, traffic and parking

A pedestrian study of the works has been undertaken by Parking & Traffic Consultants Pty Ltd (**Appendix 6**).

5.2.1 Existing conditions

Vehicular access to the existing Sydney Fish Market is from Bank Street providing access for all commercial and retail vehicles. Pedestrians access the site via a number of entries on Bank Street and Pyrmont Bridge Road. Access arrangements to the site do not change.

Approximately 417 car parking spaces are provided at the existing Sydney Fish Market.

The existing Sydney Fish Market is served by two light rail stops within a short walk. Transport for NSW is currently planning for the Sydney Metro West which will include a new station in the Bays Precinct, providing improved public transport accessibility.

The Sydney Fish Market is well served a number of good quality walking and cycling routes.

5.2.2 Impact assessment

There is no change to traffic generation at the Sydney Fish Market site and thus no external traffic or pedestrian impacts.

There will be a loss of two parking spaces to facilitate the pedestrian connection to the timber wharf from the existing pathway network. This has no significant impact on market operations.

Internal vehicle circulation will be affected during construction of the raised pedestrian crossing over one of the parking access aisles that also forms the car park exit lane. This will be temporary and works will be coordinated with the Sydney Fish Market to minimise disruption.

Land based construction vehicles will use the main entry to the site and park in the existing operations area adjoining the wharves. The site has immediate access to the regional road network with entrances design to accommodate construction vehicles. Water based construction craft will access the site from the building contractor's materials storage areas in White Bay and Glebe Island via Johnstons Bay and Blackwattle Bay beneath the Glebe Island Bridge and Anzac Bridge.

5.2.3 Pedestrian movement

Parking & Traffic Consultants Pty Ltd find as follows:

We confirm, that following our review, that we approve the proposed layout in principle, subject to further design development.

We note that to provide adequate pedestrian visibility at the proposed raised crossing, further investigations will be required around the location highlighted in blue on Figure 1.

Our initial assessment indicates that the traffic aisle in this location is 8.5m wide and that reduction of this aisle to the minimum of 6.6m and pavement markings or kerb extensions could provide a solution to this issue. Alternatively additional measures such as convex mirrors could also provide a solution.

5.2.4 Mitigation Measures

During construction

Mitigation measures outlined in Section 4.8 of the Construction Management Plan (**Appendix 2**) are to be implemented including:

- All marine based works are to be subject to the Construction Vessel Management Plan prepared by a suitably qualified person shall be submitted to the satisfaction of TfNSW (Maritime) and Port Authority of NSW. The CVTMP must include the management and mitigation measures outlined in the Navigation Impact Assessment prepared by Fontalis, dated 15 July 2021.
- In the event that pedestrian access is disrupted, traffic controllers will be available to guide and direct pedestrians safety as required under a traffic control plan.
- For all construction traffic entering the Sydney Fish Market site, a traffic control plan will be put in place in consultation with the Sydney Fish Market in order to manage construction traffic flow.

Design refinement

Prior to completion of the new pedestrian pathway, adequate pedestrian visibility at the proposed raised crossing across the car park exit lane is to be provided to the satisfaction of Parking & Traffic Consultants Pty Ltd.

Pedestrian path markings and crossings are to be provided as recommended in Figure 2 of the traffic study undertaken by Parking & Traffic Consultants Pty Ltd (**Appendix 6** of the REF)

5.3 Maritime Navigation

5.3.1 Existing conditions

The waterways of Rozelle and Blackwattle Bays are used for a variety of purposes including:

- Recreational power boats are serviced by a number of berthing and boat storage facilities within Blackwattle Bay including:
 - Blackwattle Bay Marine Operatives; and,

- Sydney Fish Market (northern mooring jetty).
- Public wharves available for temporary mooring of a range of visiting motorised recreational vessels.
 - Blackwattle Bay Public Pontoon at the headland adjacent to Bellevue House
 - Glebe Rowing Club pontoon in Blackwattle – low freeboard pontoon designed primarily for rowing boat access; and,
 - Sydney Fish Market Public Pontoon in Blackwattle Bay provides a drop off/pick up facility for visitors to the Fish Market (to be relocated).
- A number of marina berths within Blackwattle Bay are provided for charter boat operators including:
 - Blackwattle Bay Marina;
 - Sydney Fish Market – the end berths of the northern mooring jetty are used by Manly Fast Ferries and Fusion Cruises; and
 - Blackwattle Bay Marine Operatives.
- Fishing trawlers access Blackwattle Bay to berth at the existing Sydney Fish Market facilities, which include:
 - dedicated fishing trawler berths at the inner berths of the northern timber mooring jetty; and,
 - main concrete jetty with hardstand area is used for unloading, reprovisioning, refuelling and maintenance of fishing vessels.
- Rowing/paddling is a popular activity in the Bays Precinct with boat houses for rowing clubs occupying waterfront land within Blackwattle Bay and use the waterway on a regular basis for training purposes. Existing facilities providing waterway access for rowers include:
 - beach launching area within Bicentennial Park (Rozelle Bay);
 - Glebe Rowing Club (GRC) boathouse and pontoon (Blackwattle Bay);
 - Sydney University Boat Club (SUBC) boathouse and pontoon (Blackwattle Bay);
 - Dragon Boat ramp at Bank Street, Pymont (Blackwattle Bay); and,
 - foreshore access steps adjacent to Sydney Secondary College (Blackwattle Bay Campus) to the west of the site.

A voluntary rowing guide has been developed by RMS in consultation with local rowing groups (including Dragon Boating Clubs) detailing a recommended rowing course throughout Rozelle and Blackwattle Bays. The course runs in an anti-clockwise direction around the perimeter of both Rozelle and Blackwattle Bay with row boats staying on the starboard side and keeping a distance off of 25m to 40m from berthing structures and moored vessels.

Sydney Secondary College (Blackwattle Bay Campus) is located on the western shoreline of Blackwattle Bay and offers rowing, kayaking and dragon boating as part of its school sports curriculum.

- Dragon boating is another popular passive recreation activity enjoyed on the waterway. Dragon Boats NSW Inc. occupy waterfront land used for dragon boat storage and have a dedicated ramp launching facility (including lighting) at Bank Street, Pyrmont. Fifteen dragon boating clubs use the Pyrmont facility on a regular basis for training. The dragon boating clubs follow the same training route around Rozelle Bay and Blackwattle Bay as described above for rowing clubs. Dragon boat club training is generally held in the evenings during weekdays (most popular on Tuesday and Thursday evenings) and on Saturday and Sunday mornings.
- Rozelle Bay and Blackwattle Bay are highly regarded waterway areas for calm water kayaking and are listed as top destinations for kayaking within Sydney Harbour on websites of kayak tour operators, travel blogs and passive recreation groups. In addition to the sheltered waters, other attractions of the area for kayaking visitors include paddling beneath the iconic Glebe Island Bridge and Anzac Bridge, extensive foreshore park areas for picnicking, the Glebe Foreshore Walk including canoe storage racks, surrounding industrial and commercial activities, and dining options at the existing Sydney Fish Market and The Boathouse (Blackwattle Bay).

A dedicated kayak launching area is also provided at Bicentennial Park on the southern foreshore of Rozelle Bay. This comprises steps leading down to a 20m wide shallow beach area that has been recessed into the shoreline. A low freeboard pontoon is also provided at the adjacent public wharf.

Several sets of water access steps are provided as part of the Glebe Foreshore Walk along the western shoreline of Blackwattle Bay (two sets of steps). These steps provide water access from the elevated promenade level and could be used for launching of passive craft.

5.3.2 Impact assessment

A Navigation Impact Assessment has been prepared for the development which assesses the potential navigational impacts of the development with respects to adjacent areas such as Rozelle Bay and Blackwattle Bay and Sydney Harbour more broadly (**Appendix 10**).

The western and southern side of the concrete wharf fall within the construction area for the New Sydney Fish Market. This will result in the southern berth face and western berth face of the existing concrete wharf no longer being accessible for the Sydney fishing fleet. The northern berth face of the existing concrete wharf will be accessible for operational use for the period up until the new Sydney Fish Market facilities are complete and ready for use.

The mooring of the existing Sydney fishing fleet and associated vessels will be relocated from the existing concrete wharf to the existing timber wharf for mooring purposes and all other operational activities would continue to be accommodated along the northern side of the concrete wharf.

The Navigation Impact Assessment concludes as follows:

A navigational assessment has been undertaken to address the navigational impacts of the relocation of the Public Pontoon and the existing SFM fleet moorings and Concrete Wharf operations.

The alignment of the floating silt curtain has been assessed for the stage 1 alignment and is considered to have minimal impact on the SFM fleet and recreational vessels. The relocation of the floating silt curtain to the stage 2 alignment will pose a greater impact on the existing fleet, however it is considered that the waterway between the Timber Wharf and Concrete Wharf is sufficiently expansive to comply with AS3962 requirements.

The relocation of the Public Pontoon to the north of the Timber Wharf will reduce the interaction of recreational vessels with the existing fleet and construction vessels. Recreational vessel approach and fairway clearance geometry complies with the requirements of AS3962.

SFM fleet berthing and mooring operations at the Concrete Wharf will be impacted by having access to the northern berth face only. The major impact to the fleet will be an increase in movements between the Timber Wharf and Concrete Wharf. Whilst it is considered that the waterway between the Timber Wharf and Concrete Wharf is sufficiently expansive to comply with AS3962 requirements, careful co-ordination of SFM fleet operations will be required by SFM to ensure operations remain efficient.

5.3.3 Mitigation measures

Recommended mitigation measures are:

- A 'Notice to Mariners' is to be issued prior to construction to advise of the navigational changes. This is required to ensure recreational vessels are notified of the new location for berthing and mooring at the Sydney Fish Market Pontoon.
- In accordance with Clause 67ZN of the Ports and Maritime Administration Regulation 2012, works involving disturbance of the port bed are to be subject to the written permission of the Harbour Master and shall be completed in accordance with the conditions attached to the approval. This would be required for the installation of new piles for the Public Pontoon and the new net unloading berth at the Concrete Wharf and will be sought prior to construction.

5.4 Biodiversity

Eco Logical Australia (ELA) has undertaken a Marine Ecology Assessment for the proposed works (**Appendix 4**).

5.4.1 Existing conditions

ELA found during their field survey that the aquatic environment surrounding the site had limited biodiversity and a low number of fish observed, potentially due to the lack of habitat complexity. Blackwattle Bay is typically a large flat bay dominated by unvegetated subtidal silty sand. A narrow band of submerged rubble and macroalgae occurs mostly on the western side. Within the study area, seven distinct habitat zones were identified during the field survey:

- Subtidal silty sand with dense infauna;

- Subtidal silty sand, fine woody debris with sparse infauna;
- Subtidal silty sand, fine woody debris with dense infauna;
- Subtidal silty sand, fine woody debris, moderate shell cover with dense infauna;
- Intertidal rock rubble;
- Seawalls (mix of smooth concrete, rough sandstone, and sloped rock rubble)
- Man-made structures (pontoon and piles supporting two wharves), with biota dominated by *Ascidians* (Sea squirts), *Galeolaria caespitosa* (Tube worms), *Mytilus sp.* (Mussel), *Patelloida sp.* (True limpet), *Tesseropora rosea* (Rose barnacle), *Ulva sp.* (Sea lettuce) and other turfing algae.

DPI Fisheries identify three types of key fish habitats (KFH) in their Policy and Guidelines for Fish Habitat Conservation and Management. Within the study area, only Type 3 (minimally sensitive KFH) occurs. The noxious alga *Caulerpa taxifolia* was not observed on site. No seahorses were found during targeted surveys.

5.4.2 Impact assessment

ELA conclude as follows:

This aquatic ecology assessment concludes that the proposed pontoon relocation, sediment reprofiling and additional piles would:

- *not have a significant impact on any threatened species, population or community*
- *not trigger the need for a Species Impact Statement, nor further appraisal using the Biodiversity Assessment Method, nor referral to a Commonwealth body*
- *not require a permit to Harm Marine Vegetation under Part 7 of the FM Act*
- *not require fauna management in regard to syngnathids (seahorses and their relatives) or Black rockcod.*

In regard to the DPI Fisheries Policy and Guidelines for Fish Habitat Conservation and Management (2013 update), there would be 'no net loss' of KFH. All works are on Type 3 KFH and no habitats of greater sensitivity occur nearby. No further offsets or environmental compensation is required for the proposal.

In regard to the biodiversity, ecology and environmental protection requirements of the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005, the proposal would not alter marine vegetation, or change other aquatic values compared to the current situation.

5.4.3 Mitigation measures

The following mitigation measures are recommended to minimise the risk of impact during construction and operation. These are adapted from DPI Fisheries document Policy and Guidelines for Fish Habitat Conservation and Management. At a minimum, the construction contractor or representative should:

- Update the Construction Management Plan (**Appendix 2**), prior to construction to address pollution, contamination and unnecessary disturbance which could arise during construction, such as:
 - sediment and rock debris control;
 - oil/fuel/chemical storage and spill management;
 - machinery and engine maintenance schedule to reduce oil/fuel leakage;
 - low impact barge positioning to prevent propeller scouring and thrust wash onto benthic habitats;
 - minimise footprint and establish no-go zones in shallow habitats;
 - accidental waste/material overboard response (eg construction materials dropped into the bay);
 - biological hygiene (eg prevent spread of noxious species on and off the site);
 - other measure listed below.
- Work positioning barges, drilling and pile driving should occur during calm conditions.
- All lines should be suspended off the seafloor to minimise drag across benthic habitat.
- Use of a floating boom with silt curtain encompassing full works area. The curtain is to remain in place until all suspended material has settled (no visible plumes).
- All waste material should be disposed of on land and not reused in the construction or left on the seafloor.
- Care should be taken not to introduce *Caulerpa taxifolia* to the area by using contaminated vessels and machinery. For example, a drill head or anchor used at another site with *Caulerpa* should be thoroughly cleaned of plant propagules and sediment before being used at another location. Fragments of *Caulerpa* can remain viable for up to three days out of the water. Best hygiene practices are outlined in the NSW Control Plan for the Noxious Marine Alga *Caulerpa taxifolia* (NSW I&I 2009).
- Gentle start-up hammering is recommended to allow undetected aquatic fauna to leave the area and avoid hearing damage. Work should be stopped if large fauna is observed nearby (although unlikely in Blackwattle Bay).

5.5 Heritage and archaeology

Comber Consultants has prepared a Maritime Heritage Impact Statement assessing the impacts of the proposed works on cultural heritage to ensure that environmental impacts of the development are identified and managed (**Appendix 3**). This assessment has analysed the history of the study area in relation to the proposed works. It has considered the archaeological potential of the site, impacts on any heritage structures and impacts on significant views and vistas.

5.5.1 Existing conditions

The study area began as a part of an important shallow water wetland. After colonisation it became a highly contaminated and was dredged for land fill during the second half of the nineteenth century. In the twentieth century, the predominant adjacent industries included

Saxton's timber yards under the main building of the current Sydney Fish Market and fuel oil storage facilities on 'Buckleys Block', now the site of the adjacent car park.

The location of the current Concrete Wharf stands outside the entrance a former dock/slipway that was located at the end of Gipps Street in the later part of the nineteenth century. The dock/slipway's presence continued into the early years of the twentieth century. On the northern side of the Concrete Wharf an area of circa 10m x 50m of water spans the site of the c1886-1887 wharf and its early c1900s extension for F.Buckle and Sons' wharf.

To the north of the Concrete Wharf, the Timber Wharf has replaced the much shorter A & E Ellis Wharf. No former structures have been identified in the current location of the small private vessels wharf.

The heritage significance of the study area is assessed as a significant cultural landscape in regard to the views to along the original alignment and extent of Gipps Street. The concrete wharf visually contributes to that alignment, a connection that has been lost with the sites of other previous wharves along the eastern shoreline of Blackwattle Bay.

5.5.2 Impact assessment

Archaeological impacts:

The archaeological potential and archaeological significance of the study area has been assessed as low. As such, the proposed works will not have a significant impact on archaeological heritage values in the study area.

Built structures:

The proposed works will not impact upon the former location of the nineteenth century dock/slipway or the sandstone seawall associated with 'Buckley's Block'.

No heritage items listed on the NSW State Heritage Register (SHR), s170 or Sydney Local Environmental Plan will be impacted by the proposed works. The closest item is the northern terminus of the SHR listed 'Blackwattle Bay Stormwater Channel No. 17'. This item is over 70m to the south of the Sydney Fish Market Landing Pontoon.

Views and Vistas:

The views along the former alignment of Gipps Street to and from the Concrete Wharf will not be impacted by the proposed works. The proposed works are of a minimal visual alteration to the existing foreshore and will have a negligible impact on significant views or vistas. In addition, no Statements of Significance identify significant views or vistas for heritage items within the vicinity of the proposed works for the Sydney Fish Markets Landing Pontoon and Concrete Wharf within Blackwattle Bay.

5.5.3 Mitigation measures

In view of the absence of potential impacts and the history of the specific areas that are being assessed in this study, it is not recommended that an archaeological dive survey is undertaken ahead of the proposed works.

Prior to construction prepare an Unexpected Finds Policy in relation to potential archaeological finds during works. The CEMP contained in **Appendix 2** of the REF is to be amended to include this policy.

5.6 Contamination and potential acid sulfate soil assessment

JBS&G Australia Pty Ltd (JBS&G) has undertaken an insitu characterisation assessment of sediments located to the west of the existing Sydney Fish Market. (**Appendix 5**). Their report is summarised below.

A material characterisation assessment was undertaken to inform appropriate management procedures of sediments that may be disturbed during the proposed construction works.

JBS&G has previously completed investigations of sediments located within the footprint of the new Sydney Fish Market development as documented in an Environmental Site Assessment and a Sediment Characterisation Assessment. The investigations identified that sediments within the investigation area (and wider Blackwattle Bay) are impacted with heavy metals, total recoverable hydrocarbons (TRH), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), tributyltin (TBT) and asbestos. In addition, all sediment materials assessed are characterised as potential acid sulfate soils (PASS).

Consequently, JBS&G prepared a *Remedial Action Plan, The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW* dated 8 July 2020 and *Acid Sulfate Soils Management Plan* dated 26 April 2021 to provide a framework for appropriately managing any sediments that may be disturbed during the construction works for the new Sydney Fish Market. The recommendations of these documents are to be implemented during the construction of the new Sydney Fish Market. These documents will also provide the necessary framework for managing any sediment impacts that identified on this site. They are provided as **Appendix 11** and **12**.

5.6.1 Existing conditions

Sediment sampling was conducted within the footprint of proposed works in order to appropriately characterise the sediments for the identified COPCs and PASS characteristics at a sampling density consistent with the previous investigations for the new Sydney Fish Market.

Sediments comprised gravelly, clayey sand and clay (marine mud), with varying levels of inclusions that was composed of sea shells and sandstone gravel. The gravel content was generally greatest within shallow sediments and decreased with depth.

Representative samples of the materials were analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, OCP/PCBs, TBT and asbestos. As consistent with the wider Blackwattle Bay area, elevated heavy metals, TRH and TBT were reported in sediments within the site. The distribution of the impacts within the materials assessed herein appears largely consistent across the investigation area (both laterally and vertically). Notwithstanding, the impacts of these compounds are considered to be comparable to, and/or less than the corresponding impacts from historical investigations completed over the wider Blackwattle Bay area. There were no reported detections of BTEX,

OCPs or PCBs within the materials assessed herein. As such, it is considered that there were no identified impacts within the sediments assessed herein that would preclude the materials from been retained or relocated to the western extent of the timber wharf (as shown on **Figure 2**).

5.6.2 Impact assessment

Based on the results of the investigation, it is considered that all sediments encountered as part of this investigation comprise of PASS and require appropriate management and treatment during future works that result in their disturbance to minimise the potential oxidation and associated acidification of the material. In such areas, there is the potential for environmental risk if bottom sediments are disturbed by activities such as dredging, piling and pile removal.

Based on the results and findings of this assessment, it is considered that the sediment materials assessed herein are suitable for on-site retention / relocation in accordance with the proposed construction works, subject to appropriate management during construction activities in accordance with the framework outlined in the *Remedial Action Plan, The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW* dated 8 July 2020 prepared by JBS&G and *Acid Sulfate Soil Management Plan, The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW* dated 26 April 2021 prepared by JBS&G.

5.6.3 Mitigation measures

The proponent must ensure that any acid sulfate soil (ASS) and potential acid sulfate soil (PASS) excavated or other disturbed during construction is managed in accordance with the *Acid Sulfate Soils Manual 1988* (NSW Acid Sulfate Soil Management Advisory Committee and the EPA's Waste Classification Guidelines 2014 (Part 4: Acid Sulfate Soils). All recommendations contained in the *Acid Sulfate Soils Management Plan* prepared by JBS & G Australia Pty Ltd dated 26 April 2021 (**Appendix 11** of this REF) must be implemented throughout the works.

5.7 Noise and vibration impacts

5.7.1 Existing conditions

The existing noise environment is generally controlled by road traffic noise. The major arterial road near the project is the Western Distributor/Anzac Bridge, which passes to the north of the development in an elevated location. Other major roads near the site include Pyrmont Bridge Road, Bridge Road and Bank Street.

The Dulwich Hill Light Rail line passes around the north, east and south east of the site, with the Fish Market and Wentworth Park stops being located in close proximity to the site.

Existing industry premises are located within the northern section of the site, on Bank Street. Noise levels are currently influenced by industrial noise, especially where line of sight to the Western Distributor is shielded by intervening structures.

Potentially affected receivers include:

- Residential apartments to the south east on at Wattle Crescent and Pyrmont Bridge Road;
- Sydney Secondary College – Blackwattle Campus to the west and dwellings close to the western foreshore of Blackwattle Bay;
- Residential apartments on the eastern side of Western Distributor/Anzac Bridge approaches.

5.7.2 Impact assessment

Construction noise

Noise associated with construction includes noise from installation of 12 mooring piles and noise from general construction activities. Piles are to be installed using a vibratory hammer to vibrate to refusal then a hammer to drive the pile to required level.

Operational noise

No noticeable change to operational noise levels is expected, as there is no intensification of existing uses.

5.7.3 Mitigation measures

Prior to the commencement of works, a Construction Noise and Vibration Management Plan (CNVMP) prepared by a suitably qualified person must be prepared. The CNVMP shall address:

- a) Identification of the specific activities that will be carried out and associated noise sources;
- b) Identification of all potentially affected sensitive receivers using the construction noise objectives identified in accordance with the EPA's *Interim Construction Noise Guideline*, vibration objectives as identified in accordance with the document *Assessing Vibration: A Technical Guideline* (DEC 2006);
- c) identify the construction methodology and equipment to be used and the key sources of noise and vibration;
- d) details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;
- e) ensure all potentially impacted sensitive receivers are informed by letterbox drops prior to the commencement of construction of the nature of works to be carried out, the expected noise levels and duration, as well as contact details for a construction community liaison officer; and
- f) include a suitable proactive construction noise and vibration monitoring program which aims to ensure the construction noise and vibration criteria.

5.8 Air Quality

5.8.1 Existing air quality

The primary sources of air emissions in the area immediately surrounding the site is expected to be vehicles travelling along the Western Distributor/ Anzac Bridge and Pyrmont Bridge Road.

Engine exhaust emissions will also be generated by marine traffic within Blackwattle Bay and the wider Sydney Harbour, including ferries and water taxis, fishing trawlers, cruise ships and recreational boating.

Other industrial sources in proximity to the site include concrete batching plants to the north of the site. The rate and composition of air pollutant emissions from road vehicles and boats is a function of a number of factors, including the type, size and age of the vehicles/boats, the type of fuel combusted, number and speed of vehicles/boats and (for road traffic) the road gradient.

The area surrounding the site includes lands zoned as local centre, commercial core, mixed use, general residential, public recreation and infrastructure. There are a number of existing residences located southwest and west of the site. The nearest existing residential receptor is located approximately 50m from the site boundary, at the corner of Bridge Road and Wentworth Park Road.

5.8.2 Impacts of construction on air quality

The main potential sources of air emissions were identified as dust impacts and machine exhausts during construction period.

5.8.3 Mitigation measures

The CEMP (**Appendix 2** of the REF) is to be amended to include specific measures to manage dust and other emissions.

5.9 Scenic quality and visual impacts

5.9.1 Existing environment

The landscape character of the immediate locality is that of a working harbour environment with waterfront industries such as concrete batching plants, marine based servicing and repair businesses and the existing Sydney Fish Market occupying the head and eastern foreshore of the bay. The area is dominated by the imposing structures of the Western Distributor and the Anzac Bridge to the east and north east of the bay.

5.9.2 Potential visual impacts

The works are visually minor and consistent with the nature of land based and water based development at the existing Sydney Fish Market. They have no adverse impact on the visual qualities of the site or on views into or out of the site.

5.9.3 Mitigation measures

No mitigation measures are required.

5.10 Sediment and Erosion

The proximity of the site to the harbour and the works proposed to remove and install piles and other structures over or near water requires careful management of sedimentation and turbidity during the construction process.

5.10.1 Mitigation measures

Water quality monitoring is to be undertaken within localised silt curtain with a turbidity monitor to undertake continuous water quality monitoring.

The CEMP (Appendix 2 of the REF) is to be amended to include details of erosion and sediment controls to be implemented during construction.

5.11 Ecologically Sustainable Development

Consideration has been given to the principles of ecologically sustainable development. These principles are discussed in the following table.

Table 2: Principles of Ecologically Sustainable Development

Principles of ESD	Comment
<p>(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:</p> <p>(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and</p> <p>(ii) an assessment of the risk-weighted consequences of various options,</p>	<p>There are no perceived threats of serious or irreversible environmental damage as a result of the development. The site has been used for a range of waterfront and industrial purposes. The development incorporates measures to reduce environmental damage, reuse of existing materials and maintaining existing facilities.</p> <p>Adequate investigations have been undertaken to enable the consequences of the development to be understood and measures have been incorporated into the design to manage and mitigate impacts.</p>
<p>(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,</p>	<p>The development conserves inter-generational equity through minimising the consumption of resources by reusing materials on site and maintaining existing facilities to prolong their life.</p>
<p>(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,</p>	<p>The site is considered to have limited terrestrial and marine biodiversity.</p>

Principles of ESD	Comment
<p>(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:</p> <ul style="list-style-type: none"> (i) <i>polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,</i> (ii) <i>the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,</i> (iii) <i>environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems</i> 	<p>The development considers the integration of a number of initiatives which aim to internalise pollution and other undesirable environmental outcomes. Contractors are required to provide and abide by a CEMP.</p> <p>The contractor will be required to achieve minimum 80% recycling of construction waste.</p>

6. ASSESSMENT OF IMPACTS

6.1 Environmental Planning and Assessment Regulation 2000

The following table provides a summary of the environmental implications of the proposal and provides an assessment against the factors referred to in Clause 228 of the Environmental Planning and Assessment Regulation 2000.

Table 3: Clause 228 Considerations

Factor	Impact(s)	Significance of Impact(s)
(a) <i>any environmental impact on a community,</i>	<p>The project may have some minor temporary impacts on nearby landholders through localised construction works (for instance traffic generation, noise and dust pollutants). However the implementation of mitigation measures would address these impacts.</p> <p>Longer term operational impacts are expected to comply with relevant planning and design criteria in areas such as noise, traffic management and stormwater management.</p> <p>Long term benefits would be the provision of an additional mooring for the operation and benefit of the NSW Government.</p>	Short term minor negative / long term positive
(b) <i>any transformation of a locality,</i>	There will be no transformation of the locality because the works are localised and because there is no change to the nature or intensity of use.	N/A
(c) <i>any environmental impact on the ecosystems of the locality,</i>	The development will have an inconsequential impact on threatened species and ecological communities.	N/A
(d) <i>any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality,</i>	The project may have some minor temporary impacts relating to noise and dust. There would be no significant aesthetic/visual impact as the development is consistent with the character of the area. There would be no recreational, scientific or other environmental impacts associated with the development.	Short term minor negative
(e) <i>any effect on a locality, place or building having aesthetic, anthropological,</i>	There would be negligible aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance effects on the locality.	Low impact

Factor	Impact(s)	Significance of Impact(s)
<i>archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,</i>		
(f) <i>any impact on the habitat of protected fauna (within the meaning of the National Parks and Wildlife Act 1974),</i>	There would no significant impact on threatened species, populations or ecological communities or their habitat.	N/A
(g) <i>any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air,</i>	There would no significant impact on threatened species, populations or ecological communities or their habitat.	N/A
(h) <i>any long-term effects on the environment,</i>	There will be no long-term effects on the environment.	N/A
(i) <i>any degradation of the quality of the environment,</i>	The proposal may have some minor temporary impacts relating to noise, dust and disruption to the operation of the existing fish market during the construction phase. Long term impacts during operation will minor and manageable.	Minor short term impacts
(j) <i>any risk to the safety of the environment,</i>	There will be negligible risk to the safety of the environment. The mitigation measures outlined in Section 5 would be implemented to manage environmental risk.	N/A
(k) <i>any reduction in the range of beneficial uses of the environment,</i>	There will be no reduction in the range of beneficial uses of the environment.	N/A
(l) <i>any pollution of the environment,</i>	There will be no significant environmental pollution. The proposal may result in minor temporary impacts during construction in terms of dust and noise pollution. The mitigation measures outlined in Section 5 would be implemented to manage environmental risk.	Minor short term impacts

Factor	Impact(s)	Significance of Impact(s)
<p><i>(m) any environmental problems associated with the disposal of waste,</i></p>	<p>There will be no environmental problems associated with the disposal of waste. Waste would be managed through the project specific waste management plans provided and the mitigation measures outlined in Section 5 and in accompanying reports. The project is unlikely to result in environmental problems associated with the disposal of waste.</p>	<p>Minor</p>
<p><i>(n) any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply,</i></p>	<p>The project will require construction materials that are readily available. The project is unlikely to increase demands on resources that are or are likely to become in short supply.</p>	<p>Minor short term impacts</p>
<p><i>(o) any cumulative environmental effect with other existing or likely future activities,</i></p>	<p>As the residual impacts of the project are nil or minor, the cumulative impacts of the project in concert with other proposed works including the new Sydney Fish Market during construction and operation would be negligible, provided that the mitigation measures in Section 5 are implemented.</p>	<p>N/A</p>
<p><i>(p) any impact on coastal processes and coastal hazards, including those under projected climate change conditions.</i></p>	<p>The project would not affect or be affected by coastal processes or hazards.</p>	<p>N/A</p>

7. ENVIRONMENTAL MANAGEMENT

7.1 Environmental Management Plans

Under the State Government's policy to improve the performance of the NSW construction industry, preparation of a CMP is mandatory for all projects undertaken by or on behalf of government agencies or where funding is being provided by the government.

The assessment of impacts set out in Section 5 of this report includes mitigation measures designed to avoid and reduce the potential environmental impacts associated with the construction and operation of the proposed works.

A Construction Management Plan (CMP) has been prepared and will be amended prior to construction to incorporate the mitigation measures identified in this REF and associated specialist reports.

The CMP ensures that the safeguards identified in this REF, as well as any others that are considered relevant, are effectively translated into actual construction techniques and environmental management activities, controls and monitoring/verification to prevent or minimise environmental impacts. The CMP identifies the requirements for compliance with relevant legislation and other regulatory any requirements to ensure environmental safeguards described throughout this REF are implemented.

A Construction Noise and Vibration Management Plan (CNVMP) prepared by a suitably qualified person must be prepared. Other management plans will be implemented as required by the recommended mitigation measures.

8. CONCLUSION

This REF has been prepared in accordance with Sections 111 and 112 of the Environmental Planning and Assessment Act 1979 and Clause 228 of the Environmental Planning and Assessment Regulation 2000. It provides an assessment of the proposed activity in relation to its likely effects on the environment. It addresses matters affecting or likely to affect the environment as a result of the proposed activity.

Infrastructure NSW proposes to carry out works to:

- upgrade/maintenance works to the existing timber wharf comprising eight additional mooring piles to replace existing failing piles to accommodate the Sydney fishing fleet, electrical upgrade works if required and other minor works as required to achieve a four year design life;
- provision of two additional mooring piles adjacent to the existing concrete wharf for net repairs (drop off and pick up);
- relocate the existing Sydney Fish Market public vessel landing pontoon from its current position adjacent to the boardwalk to a new location at the timber wharf, including minor reprofiling of the bed of the bay at the new location, removal of two piles at the existing location and installing two new piles at the new location and construction of handrails and gates on the timber wharf; and
- construction of a new pedestrian pathway to connect the relocated private vessel pontoon and timber wharf to the existing Sydney Fish Market pathway network.

These works enable the existing Sydney Fish Market to continue operating during the construction of the new Sydney Fish Market.

The proposal would produce some minor environmental impacts during the construction and operational phases, which are unavoidable for this type of development. However, through the adoption of appropriate and targeted environmental measures during the construction phase, these impacts would be suitably mitigated. These mitigation measures are identified in **Section 7** of this REF.

Based on the compiled information, the REF concludes:

- (1) the proposed activity would not have a significant impact on the environment and therefore an Environmental Impact Statement is not required.
- (2) the proposed activity would not significantly affect threatened species, populations, Endangered Ecological Communities, or critical habitat. Therefore, a Species Impact Statement (SIS) is not required.
- (3) the proposed activity would not affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any Matters of National Environmental Significance and a Species Impact Statement is not required.

The proposed activity is recommended for approval subject to implementation of the measures to avoid, minimise or manage environmental impacts listed in **Section 7** of this REF.



APPENDICES



APPENDIX 1

Architectural Drawings



APPENDIX 2

Construction Management Plan



APPENDIX 3

Maritime Heritage Impact Statement



APPENDIX 4

Marine Ecology Impact Statement



APPENDIX 5

Sediment Characterisation Assessment



APPENDIX 6

Pedestrian Study



APPENDIX 7

BCA Letter



APPENDIX 8

Accessibility Letter



APPENDIX 9

Acknowledgment Letter



APPENDIX 10

Navigation Impact Assessment