



Narooma Wharf Upgrade

Submissions report

Transport for NSW | October 2022

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Prepared by GHD Pty Ltd and Transport for NSW

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Signed:	
Dated:	

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Executive summary

The proposal

Transport for NSW is proposing to upgrade Narooma Wharf, located at Bluewater Drive, Narooma. The existing wharf is in a deteriorated condition and in need of an upgrade. The proposal includes the removal of the existing wharf at Narooma and reconstruction of a new wharf in the same location.

Key features of the proposal have been modified in response to community feedback and ongoing design development. The key features of the proposal include:

- staged demolition and removal of the existing wharf, commencing with the eastern section, including the removal of the:
 - wharf deck and furniture
 - timber and concrete piles
 - utilities
- construction of a new main wharf, 77 metres long by four metres wide, that is fixed and connected to the shore via walkways and infill micro mesh
- construction of a new 66 metre long by three-metre-wide floating pontoon, that is connected to a shore-side platform via a gangway with a landing platform
- installation of berthing and mooring infrastructure and wharf furniture, such as fenders, bollards, safety ladders, rails and lighting
- ancillary wharf services such as a new sewage pump-out facility and sewer connection, upgraded firefighting and power and water service pedestals
- upgrade or repair of the seawall adjacent to the pontoon and placement of rock revetment along a 24-metre section, if required.

Construction of the proposal would occur over two stages to ensure that the wharf would remain operational during the construction period. Construction is expected to commence in early to mid-2023 and would take around four months to complete. Construction work may not be continuous as it would rely on delivery schedules. If road transport is not possible, some prefabricated wharf components would be delivered to the site on barges.

Display of the Review of Environmental Factors

Transport for NSW prepared a review of environmental factors (REF) for the Narooma Wharf Upgrade. The REF was publicly displayed between Monday 9 May 2022 and Friday 15 July 2022 at 33 James Craig Road Rozelle NSW, and the Narooma Library Field Street Narooma NSW. The REF was also published on the Transport for NSW project website and made available for download.

The display locations and website link were advertised in the Narooma News, Eurobodalla Shire Independent, and Bega District News local newspapers, and on Facebook. During this time, Transport for NSW invited the public to provide feedback on the proposal. Transport for NSW also met with residents and businesses who would be directly affected by the proposal.

In addition, several community information sessions were carried out during the public display period to give the community a chance to learn more about the project, ask questions and 'have their say'. Transport for NSW conducted two information sessions at the Narooma Sports and Leisure Centre on the following dates:

- Thursday 26 May, 6:00pm to 8:00pm
- Saturday 28 May, 2:00pm to 4:00pm.

The local advertisement appeared on the following dates to promote the information sessions.

- 18 May 2022 – Narooma News
- 19 May 2022 – Eurobodalla Shire Independent
- 20 May 2022 – Bega District News
- 24 May 2022 – Narooma News online.

Summary of issues and responses

Public display of the REF and the supporting consultation resulted in a total of 23 submissions. A single submission from a government agency and 22 submissions were from the general community.

Of the 23 submissions, nine per cent were in support of the proposal and no submissions raised an objection to the proposal. The remaining 91 per cent of submissions offered no position on whether they supported or objected to the proposal.

The main issues raised and responses to those issues are summarised below.

Project design

- **The sewerage pump-out facility should be placed at each berthing area to reduce spillage or at one end of the wharf for better usage outcomes.** The sewerage pump-out facility is planned to be in front of the public berth. The facility would have a reel to allow it to be moved a nominal distance (up to 40 metres) from the pumping station. There is also the ability for vessels to use the public berth area (when vacant) if the reel is too short to reach the designated berthing area.
- **The size and usage of micro mesh on new elements of the wharf.** The size of the micro mesh area would provide additional space for operations and capacity at the wharf, while also improving accessibility for both operators and passengers. Consultation with DPI Fisheries has been undertaken regarding the micro mesh. A micro mesh of 38mm x 38 mm is preferred for the micro mesh areas. This type of mesh would allow around 68 per cent of light penetration through the mesh to nourish the seagrasses surrounding the wharf.

Project design – out of scope

A number of design suggestions were raised regarding the proposal, including:

- **Provision of a viewing/step-down platform to view and access the marine environment**
- **Dedicated access, such as ladders, for recreational use such as snorkeling and diving**
- **Facilities and signage to encourage and facilitate safe recreational activities at the wharf.**

The proposed design has delivered the primary objectives of the Narooma Wharf Upgrade, which is to:

- improve the safety and structural integrity of the wharf
- upgrade access and operational safety for vessels
- improve the accessibility of the wharf for those with mobility impairments and parents/ carers with prams
- provide on-shore services for commercial vehicles.

The provision of facilities for recreational use of the wharf is outside the scope of this proposal. Ladders would be provided at the wharf for safety management.

Construction

A number of submissions were raised regarding the construction methodology for the proposal, including:

- **Consideration of construction methodologies and minimising destructive methods such as dredging.** Construction works would be undertaken within a small disturbance footprint. The works would also be temporary and staged and be undertaken in accordance with a range of management

plans. These plans include a Construction Environmental Management Plan (CEMP), Erosion and Sediment Control Plan, Marine Ecology Management Plan, and Marine Pest Species Management Plan. Additionally, the construction methodology has been revised based on the findings of a hydrological assessment, and it is now considered that dredging is unlikely to be required.

- **The removal of the existing subsurface and intertidal structures during the demolition phase must be carefully managed.** The construction contractor will prepare detailed construction staging and methodology plans. Environmental controls will be installed and managed through the Contractor's CEMP.

Consultation

A number of submissions were raised regarding consultation for the proposal, including:

- **Community Update Newsletter via letter box drop was not received.** A community update was delivered to several homes which also promoted the information sessions. During the distribution outsourcing, Transport for NSW were made aware that some areas had not received the community update as requested. As a result, Transport for NSW increased the have your say feedback period from five weeks to nine weeks to allow those who had not received the community update to have additional time to comment on the project.

Biodiversity

- **Retention of original piles and additional surveys for high value piles.** Where possible some of the most valuable piles with marine growth would be retained. Transport for NSW would consult with DPI Fisheries to determine the original piles that could be retained, as long as there are no constructability or safety risks with retaining original piles. Transport for NSW will undertake additional surveys prior to the start of construction and demolition works to identify the piles with the highest biodiversity and habitat value.
- **New infrastructure should consist of materials that support marine life and encourage the reestablishment of marine habitat, including reference to the Living Seawalls project.** New infrastructure for the wharf, including the new piles, would consist of materials that support marine life, so that the new infrastructure is likely to become colonised by invertebrates, algal growth and other benthic fauna species leading to habitat restoration. Transport for NSW would consult with DPI Fisheries regarding the design and materials for the new wharf infrastructure, including the use of living seawalls for additional habitat and to encourage marine regrowth.
- **Measures for the protection of species, including seashores and nudibranchs.** Various management plans would be prepared and implemented during construction to protect and manage impacts to the marine environment, including a Marine Ecology Management Plan, an Erosion and Sediment Control Plan, and a Marine Pest Species Management Plan. The management plans would include measures to minimise the impact to marine habitat and fauna, such as low impact barge positioning to prevent scouring, establishing no-go zones, pest and fauna management, erosion and sediment controls to reduce sedimentation, and other pre and post work surveys and monitoring.
- **Relocation of marine life and consultation with agencies.** A Syngnathids (Seahorses) Relocation Plan has also been prepared for the relocation of seahorses within the proposal site to appropriate habitat nearby prior to the commencement of construction activities. This plan would be implemented for all seahorse relocation activities required. The Syngnathids Relocation Plan has been reviewed by DPI Fisheries. Additionally, a range of pre and post-work surveys would be undertaken to identify and relocate Syngnathids and Black Rockcod, remove marine growth and relocate marine life to similar habitat within the Wagonga Inlet. Transport for NSW will continue to consult with DPI Fisheries throughout the detailed design and construction stages of the proposal.
- **Recovery and rehabilitation of species following construction.** The biodiversity assessment of significance (Appendix G of the REF) determined that the proposal would not impact the recovery of marine species listed under the EPBC Act and therefore no recovery plans or strategies would be

required for this proposal. The management of impacts on marine vegetation and fauna during construction would be managed through the implementation of a Marine Ecology Management Plan and a Marine Pest Species Management Plan. Transport for NSW is considering the use of living seawalls at the wharf to support the re-establishment of marine life following construction.

- **Use of citizen science information during the assessment process.** Transport for NSW has been consulting with DPI Fisheries throughout the development of the proposal. Various citizen science reports have been received by Transport for NSW, which are being considered during the proposal. Citizen science information will be reviewed and considered during any further marine surveys prior to and following construction.
- **Light penetration should be retained for the growth of marine vegetation.** The use of micro mesh is preferred for the wharf decking as it would allow for light penetration enabling essential photosynthesis to take place for continued growth and recolonisation (of any impacted areas) of seagrass and other marine vegetation.
- **Lack of assessment effort and incomplete flora and fauna assumptions.** The biodiversity review (undertaken in addition to the aquatic ecology assessment) reviewed information from Commonwealth and State databases for flora and fauna, including high resolution aerial imagery of the proposal site. The biodiversity likelihood of occurrence (Appendix F of the REF) identified 15 different listed marine species which are likely or may occur within and surrounding the proposal site based on habitat present. These species informed the biodiversity assessment of significance, to determine potential impacts on listed (vulnerable, endangered etc.) species and identify mitigation measures for specific species. Additional biodiversity investigations, as well as pre-work surveys, will be undertaken to determine the baseline of marine life presence and identify high habitat value piles (including piles with significant oyster growth), and incorporate the outcomes of these surveys into the Marine Ecology Management Plan. Procedures to avoid and minimise impacts as far as practicable will be adopted, in consultation with DPI Fisheries, to ensure the outcomes of the surveys are captured in the plan.

Changes to the proposal

During the public display of the REF, minor modifications to the concept design of the proposal have occurred. These are:

- removal of the lower level landing
- provision of an additional loading platform to provide a total of four loading platforms for 10-tonne vehicles along the wharf
- adjustment of the floating pontoon shoreward to reduce shading on adjacent seagrass populations
- increase of the gangway clear width to 1.8 metres
- lowering of powered lighting on the floating pontoon.

These modifications are minor and do not change the extent of the proposal site as assessed in the REF, nor do they introduce new elements. The environmental assessment presented in the REF remains valid and no additional assessment is considered necessary. Following approval of the REF, elements of the proposal would continue to be further refined during the detailed design phase.

Next steps

Transport for NSW as the determining authority will consider the information in the REF and this submissions report and make a decision whether or not to proceed with the proposal.

Transport for NSW will inform the community and stakeholders of this decision and where a decision is made to proceed will continue to consult with the community and stakeholders prior to and during the construction phase.

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1. Introduction and background

1.1 The proposal

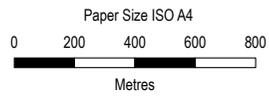
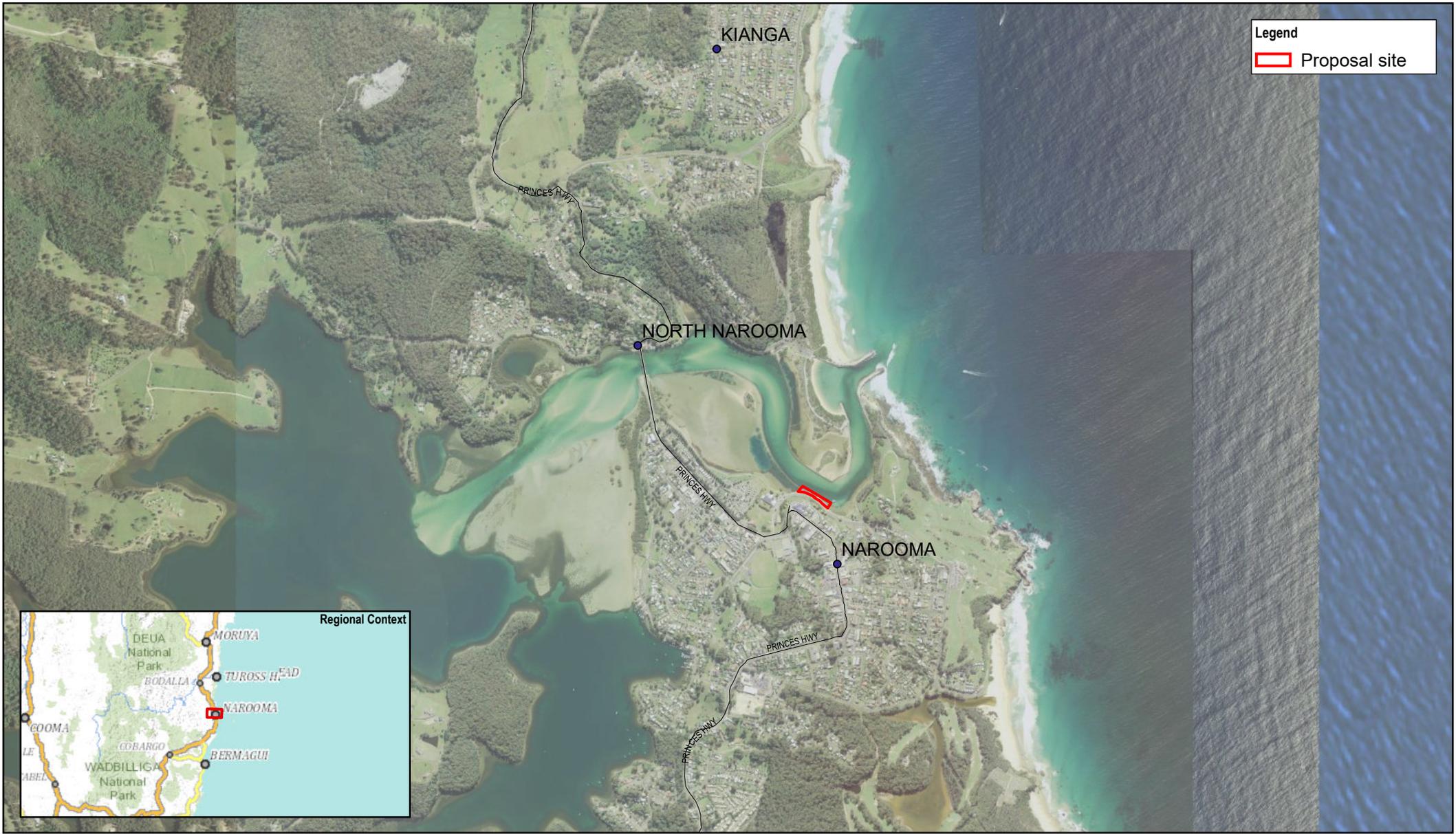
Transport for NSW is proposing to upgrade Narooma Wharf (the proposal). The proposal is located on the northern side of Bluewater Drive, Wagonga Inlet, in the Eurobodalla Shire Council local government area (LGA). The proposal includes the replacement of the existing wharf with a new wharf of similar size and position, with improved amenity and access for water-side and land-side users.

The key features of the proposal described in the Review of Environmental Factors (REF) include:

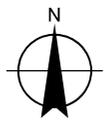
- demolition and removal of the existing wharf
- installation of a new continuous wharf structure including:
 - a new 66 metre long floating pontoon with a gangway connection on the eastern side
 - construction of a 77 metre long fixed wharf section on the western side
- installation of berthing and mooring infrastructure and wharf furniture such as fenders, bollards, safety ladders, rails and lighting
- ancillary wharf services such as a new sewage pump-out facility and sewer connection, upgraded firefighting and power and water service pedestals
- upgrade or repair of the seawall adjacent to the pontoon and placement of the rock revetment along a 24 metre section.

A more detailed description of the Narooma Wharf Upgrade is found in the Narooma Wharf Upgrade REF prepared by Transport for NSW in April 2022.

The location of the proposal is shown in Figure 1.1, and an overview of the proposal is shown in Figure 1.2.



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56

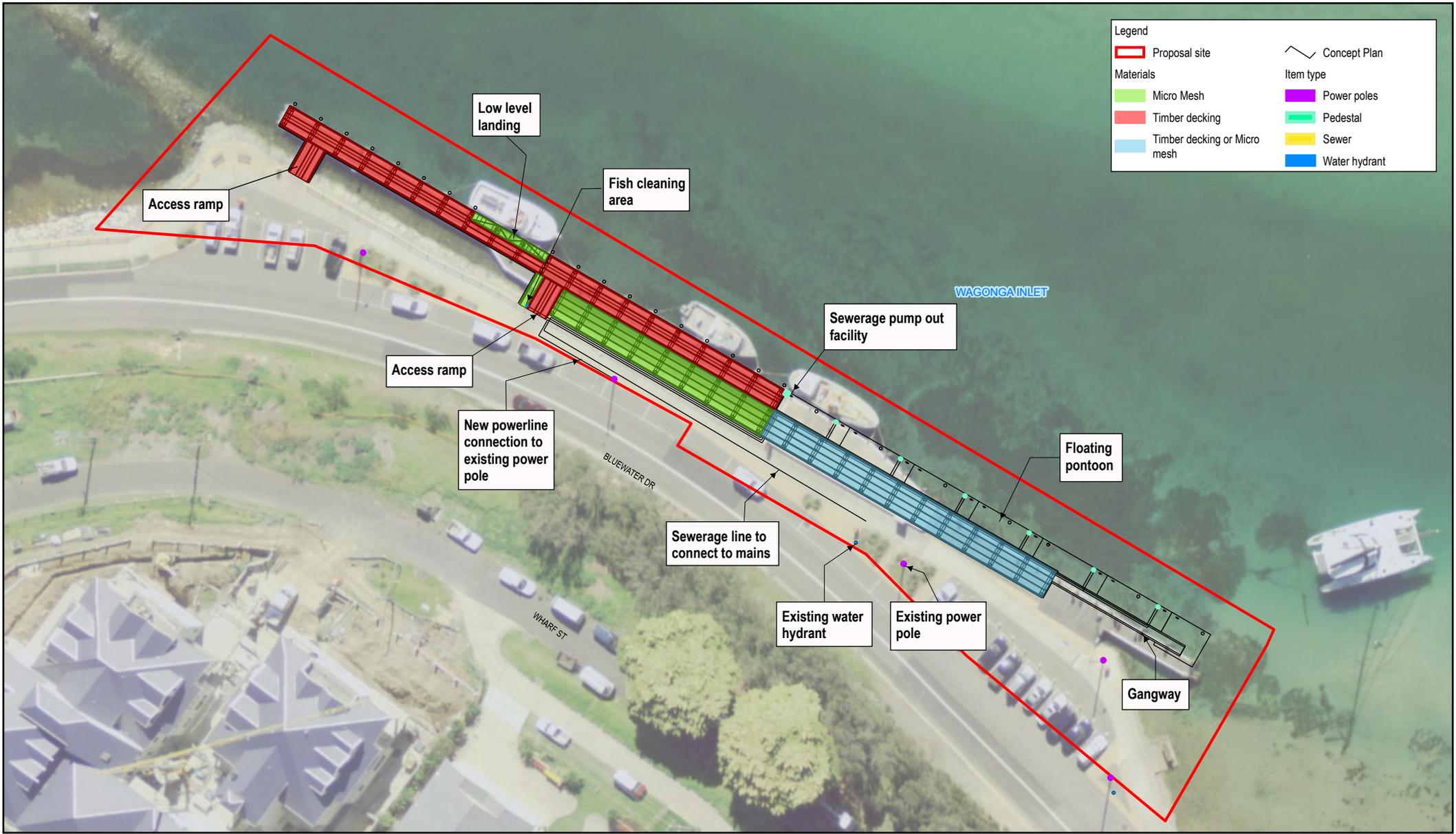


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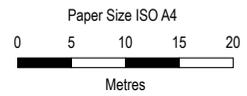
Project No. 12589922
 Revision No. 0
 Date 7/10/2022

Location of the proposal

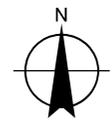
FIGURE 1.1



Legend	
	Proposal site
	Concept Plan
Materials	
	Micro Mesh
	Timber decking
	Timber decking or Micro mesh
Item type	
	Power poles
	Pedestal
	Sewer
	Water hydrant



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56



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Key features of the proposal
 in the REF

FIGURE 1.2

1.2 REF display

Transport for NSW prepared a REF to assess the potential environmental impacts of the proposed works. The REF was publicly displayed for 37 days between Monday 9 May and Friday 15 July 2022 at two locations, as detailed in Table 1.1. The REF was placed on the Transport for NSW project website and made available for download. The display locations and website link were advertised in Narooma News (19 May 2022), Eurobodalla Shire Independent (19 May 2022), and Bega District News (20 May 2022).

In addition to the above public display, an invitation to comment and copy of the REF was sent directly to several identified stakeholders.

Transport for NSW conducted two information sessions at the following at the Narooma Sports and Leisure Centre on the following dates:

- Thursday 26 May, 6:00pm to 8:00pm
- Saturday 28 May, 2:00pm to 4:00pm.

The local advertisement appeared on the following dates to promote the information sessions.

- 18 May 2022 – Narooma News
- 19 May 2022 – Eurobodalla Shire Independent
- 20 May 2022 – Bega District News
- 24 May 2022 – Narooma News online.

Table 1.1: Display locations

Location	Address
Sydney	33 James Craig Road, Rozelle NSW 2039
Narooma	Narooma Library, Field Street Narooma NSW 2546

1.3 Purpose of the report

This submissions report relates to the REF prepared for the Narooma Wharf Upgrade and should be read in conjunction with that document.

The REF was placed on public display and submissions relating to the proposal and the REF were received by Transport for NSW. This submissions report summarises the issues raised and provides responses to each issue (Chapter 2). It details design changes carried out since finalisation of the REF (Chapter 3) and identifies new or revised environmental management measures (Chapter 4).

No proposal changes are proposed that would require the preparation of a preferred infrastructure report. No revisions have been made to the assessment as described in the REF. Revisions have been made to the environmental management measures as described in the REF.

2. Response to issues

Transport for NSW received 23 submissions, accepted up until the 15 July 2022. Table 2.1 lists the respondents and each respondent's allocated submission number. The table also indicates where the issues from each submission have been addressed in Chapter 3 of this report.

Table 2.1: Respondents

Respondent	Submission No.	Section number where issues are addressed
Individual	1	2.2, 2.4, 2.5 and 2.11
Individual	2	2.2, 2.7 and 2.12
Individual	3	2.7
Individual	4	2.2
Individual	5	2.7
Individual	6	2.3 and 2.5
Individual	7	2.3, 2.5 and 2.12
Individual	8	2.3, 2.5 and 2.12
Individual	9	2.3, 2.5 and 2.12
Individual	10	2.3, 2.5 and 2.12
Individual	11	2.3, 2.5 and 2.12
Individual	12	2.3 and 2.4
Individual	13	2.3
Individual	14	2.3, 2.5 and 2.7
Individual	15	2.2, 2.4, 2.7 and 2.11
Individual	16	2.3, 2.7 and 2.12
Individual	17	2.3, 2.4, 2.5, 2.6, 2.7 and 2.12
Individual	18	2.3 and 2.5
Nature Coast Marine Group	19	2.32.4, 2.5, 2.7 and 2.12
Individual	20	Refer to Submission 18
Individual	21	2.2, 2.32.4, 2.7 and 2.12
Individual	22	2.2, 2.32.4 and 2.12
Department of Primary Industries – Fisheries	23	2.2, 2.3, 2.5, 2.8, 2.9 and 2.10

2.1 Overview of issues raised

A total of 23 submissions were received in response to the display of the review of environmental factors. This included submissions from one government agency and 22 from the community.

Each submission has been examined individually to understand the issues being raised. The issues raised in each submission have been extracted and collated, and corresponding responses to the issues have been provided. Where similar issues have been raised in different submissions, only one response has been provided. The issues raised and Transport for NSW response to these issues forms the basis of this chapter.

Of these submissions, nine per cent were in support of the proposal and no submissions objected to the proposal. The remaining 91 per cent of submissions offered no position, though offered a suggestion of proposed changes to be considered.

The main issues raised by the community were:

- The project design – submissions provided suggestions for the modification of proposed infrastructure or the inclusion of additional infrastructure for recreational users
- Impacts to the marine environment, including retention of high value piles, species protection, and species relocation.

The main issues raised by the Department of Primary Industries – Fisheries were:

- Required surveys and monitoring, and suggested further studies
- Design considerations
- Work method considerations during construction
- Additional management measures to reduce potential impacts to the marine environment.

2.2 Project design

2.2.1 Support for the project

Submission number(s)

14.1 and 21.1

Issue description

- Support for the project and proposed upgrades, in particular the addition of the floating pontoon.

Response

Transport for NSW takes note of the support for the project.

2.2.2 Use of wharf

Submission number(s)

15.1

Issue description

- Narooma Wharf is very busy with commercial activities.

Response

Transport for NSW notes this submission. The proposal aims to upgrade infrastructure for the wharf to improve the access to load and unload vessels, as well as additional space for commercial activities and passengers along the wharf - improving accessibility and safety of operations.

2.2.3 Lower level landing

Submission number(s)

1.1 and 2.1

Issue description

- Recommendation that the green mesh area designated as a low level landing be reverted to timber at standard wharf height as some vessels would not be able to use it
- Suggestion to use a berth alongside a floating pontoon instead of a lower level landing as the lower level landing is rarely used by boat operators and the general public.

Response

Transport for NSW has considered the received submissions and revised the design of the proposal to no longer include the lower level landing. The whole fixed section of the wharf would be one level, increasing the accessibility for vessels and passengers, and reducing any safety risks associated with a lower level landing. Alternate lower level access would be from the proposed pontoon at the eastern end of the wharf.

2.2.4 Berthing areas

Submission number(s)

15.6 and 15.7

Issue description

- Request for retention of 15-metre berthing areas
- Request to clear mark berthing areas to avoid berthing disputes.

Response

Current berthing licence parameters would be applied, and no vessel creep would be permitted unless licensed to do so. Berthing areas would be clearly marked along the new wharf.

2.2.5 Floating pontoon and pontoon access

Submission number(s)

15.2, 15.3 and 23.3

Issue description

- The provision of a floating pontoon is required for the safe boarding of passengers and equipment
- The gangway to access the floating pontoon should be as wide as possible to allow sufficient access for foot traffic and equipment handling processes
- Could the placement of the floating pontoon at the eastern end of the wharf be moved, or the footprint reduced, to reduce impacts to seagrass?

Response

The provision of a floating pontoon

The proposal includes the construction of a new 66 metre long by three metre wide floating pontoon that is connected to a shore-side platform via a gangway with a landing platform.

Floating pontoon access

The proposed gangway would have a clear span of 1.8 metres and a pontoon width of 3.0 metres. A span of 1.8 metres is the minimum span required for accessibility compliance. A gangway with a width of greater than 1.8 metres would pose constructability risks for the pontoon, whereby any greater widths would affect the floatation of the pontoon.

Floating pontoon placement

The pontoon on the western end of the wharf would place the structure out into the channel and would require dredging to bring the pontoon closer. Currently, the largest and heaviest boats are moored at the western end and the pontoon would not be suitable for these types of vessels. Moving the largest boats to the east is undesirable as they would shade the eastern end. Transport for NSW have adjusted the pontoon to be closer to the shoreline to reduce shading impacts on neighbouring seagrass populations.

2.2.6 Refuelling zone

Submission number(s)

15.4

Issue description

- The proposed area to access the sewerage pump out facility should also be used as a refuelling zone. This area would need a hard structured area for vehicle access to be able to drive onto the wharf area to refuel vessels.

Response

Further design refinements have taken place in response to submissions received for the proposal. These changes include:

- removal of the lower level landing
- provision of an additional loading platform to provide a total of four loading platforms for 10-tonne vehicles along the wharf
- adjustment of the pontoon shoreward to reduce shading
- increase of the gangway clear width to 1.8 metres
- lowering of powered lighting on the pontoon.

The provision of an additional loading platform, resulting in four loading platforms at the wharf, would provide more space for vehicles to access the wharf for the refuelling, loading and unloading of vessels.

2.2.7 Sewerage pump out facility

Submission number(s)

1.5, 2.2, 15.5 and 23.6

Issue description

- Suggestion to have the sewerage pump out point at each vessel or berthing area to reduce spillage
- Suggestion to move the sewage pump-out facility to one end of the wharf so it is not wedged between commercially occupied berths in the middle of the wharf. The facility at the end of the wharf would be safer for visiting boaters and more simple for boaters in general
- The inclusion of a sewerage pump out facility on the design is strongly supported to allow for better disposal of black and grey water from vessels.

Response

The sewage pump-out facility is planned to be in front of the public berth. The facility would have a reel to allow it to be moved a nominal distance (up to 40 metres) from the pumping station. There is also the ability for vessels to use the public berth area (when vacant) if the reel is too short to reach the designated berthing area.

The use of the sewage pump out facility would also be included into the commercial user licence agreements. Signage would be erected for recreational users.

2.2.8 Unloading and loading deck capacity

Submission number(s)

1.2

Issue description

- Recommendation to fully enclose the area from the blue mesh (eastern area of timber decking or micro mesh) to the western most access ramp, and make the platform able to support a twelve tonne truck. It would allow more access for vehicles to be closer to the moored vessels for refuelling, loading and unloading

Response

Micro mesh decking has not been proposed to fully enclose the length of the wharf. This is to minimise direct impacts on the large areas of macroalgae beds located within the western area of the wharf.

Additionally, micro mesh is unable to support the weight of any vehicles. Loading platforms have been provided for 10-tonne vehicles in about four evenly placed spaces along the wharf (refer to Figure 3.1).

2.2.9 Micro mesh areas

Submission number(s)

2.4 and 23.4

Issue description

- Query about why the micro mesh area needs to be provided, or as large as proposed? Suggestion to only have it one metre wide, as that would provide sufficient space for patrons of the commercial vessels to get changed and board, while also retaining the open viewing area of the marine life.
- The use of a mesh deck material across the entire wharf other than the vehicle access ramps would be preferred. To minimise the potential impacts mesh must allow at least 85 per cent light penetration and DPI Fisheries would prefer that a mesh of at least 30mm width is used. Could Transport for NSW please clarify the diameter of the proposed 'mini mesh' material as shown on the plans?
- Could mesh material be used across the wharf structure?

Response

Area of micro mesh

The size of the micro mesh area would provide additional space for operations and capacity at the wharf, while also improving accessibility for both operators and passengers. Consultation with DPI Fisheries has been undertaken regarding the micro mesh. A micro mesh of 38 mm x 38 mm, which allows around 68 per cent of light penetration, is preferred for the micro mesh areas. The area to the west of the wharf would not have any micro mesh covering.

Diameter and use of micro mesh across the wharf

Mesh material can be used on areas not subject to a loading platform. The preferred micro mesh dimensions are 38mm x 38mm. Timber decking was selected to retain the heritage look of the wharf and support commercial operations.

2.2.10 Wharf decking

Submission number(s)

22.4

Issue description

- Micro mesh should not be used. Timber wharfs and bridges are a part of the character of the South Coast. The existing timber decking should be reused, and new pylons installed.

Response

A combination of timber decking and micro mesh materials would be used for the new main wharf. Micro mesh has been proposed as it allows light penetration, supporting the continuation of marine vegetation under and surrounding the main wharf. Timber decking has been selected to retain the heritage look of the wharf.

Existing pylons with high habitat value would be retained where practicable. New pylons would be installed to support the new deck infrastructure.

2.2.11 Jetty height

Submission number(s)

23.5

Issue description

- Jetty height is an important factor when considering light penetration, and heights between 1.2 to 1.5 metres above mean high water springs level are considered best to achieve maximum light penetration. The current design shows the deck height to be 1.2 metres above mean sea level, could this be increased to sit 1.2 metres above mean high water springs level for the fixed portion of the wharf?

Response

Boarding, unloading and loading of vessels would be very difficult if the deck height is 1.2 metres above the mean high water springs level, and also very difficult during low water periods. Additionally, a deck height of 1.2 metres above the mean high water springs level would not result in improved accessibility outcomes.

Transport for NSW have undertaken design refinements based on feedback received and have removed the lower level landing from the proposed design.

2.2.12 Length of wharf

Submission number(s)

2.5

Issue description

- The current wharf is not long enough and should be extended

Response

Extension of the Narooma Wharf was considered during the initial concept phase of the proposal, however, was subsequently discounted for the following reasons:

- an extension of the wharf would impact seagrasses and the marine environment at the eastern and western ends of the wharf
- there are possible Aboriginal burial sites located east of the wharf
- there is a heritage retaining wall located west of the wharf.

Additionally, the key objectives of the proposal are to upgrade the safety, structural integrity, and accessibility of the wharf, which does not require the extension of the wharf.

2.2.13 Fire hoses

Submission number(s)

1.6

Issue description

- There is a lack of firehoses in the proposed plan diagram (currently three hose positions on the wharf, which is the minimum requirement).

Response

There are currently five hoses at the wharf. The same number of hoses would be provided and would be of similar design to what is existing.

2.2.14 Fish cleaning station

Submission number(s)

4.2 and 23.8

Issue description

- Recommendation for the retainment of the fish cleaning station and use of it for not just commercial charters but also for the general public who fish at the wharf. Also, there was no visual representation of the fish cleaning station on the plan (other than a line) and there is interest in what it would look like
- The fish cleaning station is included between areas 10 and 11 on DWG 006. Transport for NSW should consider that the disposal of fish waste (including but not limited to guts, frames, skin etc) is prohibited under S 120 of the *Protection of the Environment Operations Act 1997* (pollute waters) and under clause 2.7 of the Biodiversity Conservation Regulation 2017 (feed a marine mammal) and should not be encouraged.
- Signage is highly recommended at the fish cleaning station to better educate users and encourage people away from disposing of fish waste directly into the waterway.
- Given the predicted use of the wharf by both commercial and recreational fishers, the installation of a fish waste bin would be required to service the fish cleaning station. There should also be suitable access to the fish waste bin, and an on-going disposal and maintenance plan. The bin should also be designed to suit the predicted volume of fish waste. This may present a local business opportunity for the composting of waste, such as occurs in Bega Valley Shire Council, for example.

Response

Provision of the fish cleaning station and its design

The fish cleaning station would be provided next to the central access ramp. The station would be similar to what is existing and would be available for use by commercial charters and the general public.

Appropriate use of the fish cleaning station, including signage and a fish waste bin

Transport for NSW notes the concern and would consider the use of a waste receptacle at the fish cleaning station to reduce waste discarded into the marine environment. Transport for NSW would also consult with Eurobodalla Shire Council regarding fish cleaning waste management at the wharf.

2.2.15 Shower facility

Submission number(s)

15.8

Issue description

- Request for the inclusion of a shower rinse off facility for clients to use after tours.

Response

A shower rinse off facility is out of scope for this proposal. Transport for NSW would consider this as part of the wharf management plan moving forward.

2.2.16 Signage

Submission number(s)

15.9 and 15.10

Issue description

- Addition of 'No Fishing' signs in berthing areas, to reduce fishing adjacent to berthed vessels
- Addition of 'No swimming' signs in berthing areas

Response

Fishing is currently permitted at the wharf. The Narooma Wharf provides equitable use for all, and the ability to fish at the wharf would be retained.

Transport for NSW acknowledges all the uses and activities that occur at the wharf. The Narooma Wharf is a public operational wharf that services commercial operators and is an asset that provides equitable use for all. In keeping with the primary objectives of the proposal, Transport for NSW does not propose to change or restrict the current uses of the wharf.

Safety signage regarding swimming would be provided at the wharf to notify the public of the risks of recreational swimming at an operational wharf. The type of signage and content would be determined prior to construction.

2.2.17 Lighting

Submission number(s)

23.7

Issue description

- Artificial lighting can interrupt nesting, roosting and breeding behaviours in marine turtles, seabirds and shorebirds.
 - Artificial lighting for the proposal should be consistent with the following considerations:
 - lighting used in useful locations
 - lighting should be targeted
 - lighting should not be brighter than necessary
 - lighting should only be on when needed
 - lighting colour should be a warm colour like amber.
- Only one type of lighting source services pedestal can be identified on the plans. If there are intended to be other lighting types installed in the Narooma Wharf Upgrade precinct, DPI Fisheries request information about the type and location of the proposed lighting, and reasonable time for review.
- Consider using reflective paints or self-luminous markers for signs and steps to reduce the need for permanently installed outdoor lighting.
- Minimising lighting or choosing solar options align with NSW Government Net Zero Plan Stage 1: 2020-2030.

Response

No additional lighting would be provided along the main deck. Low powered lights would be provided on the floating pontoon. Transport for NSW would consult with DPI Fisheries prior to approval of lighting fixtures.

2.3 Biodiversity (aquatic ecology)

2.3.1 Construction impacts on the marine life at the wharf

Submission number(s)

17.1 and 18.2

Issue description

- There is high environmental and social value of the wharf
- Damage to marine life should be minimised, and recovery promoted
- Concern that environmental value has not been fully appreciated and that appropriate steps to mitigate harm to marine life will not be undertaken
- It is essential that effective, well researched and monitored methods are implemented to minimise damage to marine life and habitats, as well as supporting the recovery of such from any impacts during demolition and construction.

Response

Please refer to sections 2.3.3, 2.3.4, 2.3.5, and 2.3.11.

2.3.2 Habitat

Submission number(s)

6.3, 7.3, 8.3, 9.3, 10.4, 11.3, 14.1, 16.5, 16.7, 17.10, 17.11, 17.23, 18.4, 18.7, 19.4, 19.6, 21.2, 23.9 and 23.16

Issue description

- Request to retain as many of the original piles, especially high value habitat piles, where possible to retain marine habitat
- A further survey is required prior to demolition works to identify the piles with the highest biodiversity and habitat value
- Request to maintain and enhance the habitat opportunities at the wharf. New structures should encourage the settlement of flora and fauna and should mimic natural habitats. New infrastructure should include ropes, netting, crevices and other outcropping
- Recommendation to incorporate Living Seawalls or other habitat structures from the Wagonga Inlet Living Shoreline project to support marine life.

Response

Retention of original piles and additional surveys for high value piles

Where possible some of the most valuable piles with marine growth would be retained. Transport for NSW would consult with DPI Fisheries to determine the original piles that could be retained, as long as there are

no constructability or safety risks with retaining original piles. Additionally, a Waste Management Plan would be prepared for the proposal as part of the Construction Environmental Management Plan. The plan would include measures to re-use as much of the wharf infrastructure if feasible.

Additional surveys for high value piles

Transport for NSW would undertake additional biodiversity investigations and pre-work surveys prior to the start of construction and demolition works to identify the piles with the highest biodiversity and habitat value.

New infrastructure at the wharf

New infrastructure for the wharf, including the new piles, would consist of materials that support marine life, so that the new infrastructure is likely to become colonised by invertebrates, algal growth and other benthic fauna species leading to habitat restoration. Transport for NSW would consult with DPI Fisheries regarding the design and materials for the new wharf infrastructure.

Incorporation of Living Seawalls

Transport for NSW is considering the use of living seawalls at the wharf to provide additional habitat for marine life and encourage marine regrowth.

2.3.3 Species protection

Submission number(s)

6.4, 7.1, 8.1, 9.1, 10.1, 10.2, 11.1, 11.8, 12.2, 13.1, 14.2, 16.1, 16.8, and 17.18

Issue description

- Incorporate a plan to protect resident species such as seahorses and nudibranchs
- Please consider the biodiversity and vulnerable species of the wharf during the project and reduce impacts on marine life
- The wharf has rich diversity, and the redevelopment should be undertaken in an environmentally sensitive way with minimal disruption to existing marine life, and also enhance the marine life.
- Inclusion of signage on how Transport for NSW will minimise disruptions will be beneficial for the community during construction.
- The works will have an extremely detrimental impacts on the marine life, including protected species.
- There is the intention to relocate seahorses for the duration of the works, however, there remains other marine life which would still be impacted by the construction outside of seahorses.
- Protection of seagrass and partnering with researchers for macroalgae regeneration
- It is desirable to have a consistent approach with the Tathra Wharf Project, so that all factors are effectively considered in a similar way from one area to another.

Response

Incorporation of a plan to protect resident species

Various management plans would be prepared and implemented during construction to protect and manage impacts to the marine environment, including:

- a Marine Ecology Management Plan
- an Erosion and Sediment Control Plan
- a Marine Pest Species Management Plan.

The management plans would include measures to minimise the impact to marine habitat and fauna, such as low impact barge positioning to prevent scouring, establishing no-go zones, pest and fauna

management, erosion and sediment controls to reduce sedimentation, and other pre and post work surveys and monitoring.

A Syngnathids (Seahorses) Relocation Plan has also been prepared for the relocation of seahorses within the proposal site to appropriate habitat nearby prior to the commencement of construction activities. This plan would be implemented for all seahorse relocation activities required and outlines:

- potential receiving sites
- relocation methods
- timing of relocation
- permits required
- equipment personnel.

Additionally, the Syngnathids Relocation Plan has been reviewed by DPI Fisheries.

Consideration of the biodiversity at the wharf, undertaking works in an environmentally sensitive way, and reducing impacts on marine life

In addition to the response above, additional biodiversity investigations and a range of pre and post-work surveys would be undertaken to:

- determine baseline of marine life presence and identify high habitat value piles, and incorporate the outcomes of these surveys into the Marine Ecology Management Plan. Procedures to avoid and minimise impacts as far as practicable would be adopted, in consultation with DPI Fisheries, to ensure the outcomes of the surveys are captured in the plan
- identify and relocate Syngnathids and Black Rockcod
- remove marine growth and relocate marine life to similar habitat within the Wagonga Inlet
- monitor marine fish and vegetation following completion of construction, as agreed with DPI Fisheries and in accordance with the Marine Estate Permit conditions.

Additionally, the new infrastructure for the wharf is likely to become colonised by invertebrates, algal growth and other benthic fauna species leading to a restoration of habitat.

Inclusion of signage on how Transport for NSW will minimise disruptions

Signage would be installed prior to the start of construction, and the content would be confirmed at a later stage.

Detrimental impacts on the marine life

The biodiversity assessment of significance (Appendix G of the REF) assessed the potential impacts of the proposal many species listed under the *Environment Protection and Biodiversity Act 1999* (EPBC Act), *Biodiversity Conservation Act 2016* (BC Act) and *Fisheries Management Act 1994* (FM Act). The assessment determined that the proposal would not result in significant impacts on listed species within and immediately surrounding the proposal site.

Please also refer to the responses above.

Impacts on other marine life

Please refer to the responses above.

Protection of seagrass

The majority of mapped marine vegetation is located outside of the footprint of direct disturbance. The proposed new wharf would be located in the same location as the existing wharf and would be no wider than the current fixed wharf. Additionally, dredging is unlikely to be required as a construction method. As such, the disturbance footprint of the proposal has been reduced and would have less impacts on neighbouring seagrass populations.

The management of impacts on marine vegetation and fauna during construction would be managed through the implementation of a Marine Ecology Management Plan and a Marine Pest Species Management Plan.

Additionally, Transport for NSW is consulting with DPI Fisheries to identify measures to reduce the potential impacts on seagrasses and developing design measures for macroalgae regeneration.

Consistent approach to species protection with other wharf projects

Transport for NSW notes your submission. Transport for NSW would prepare marine management plans in consultation with DPI Fisheries, which would provide consistency to the management of potential impacts and recovery of the marine environment.

Additionally, Transport for NSW are considering the use of dense rock mesh to support marine growth at Narooma, which is consistent with the materials used at Tathra Wharf.

2.3.4 Species relocation

Submission number(s)

7.4, 8.5, 9.5, 10.5, 11.4, 17.5, 17.9, 18.9, 19.2, 21.3, 22.1 and 23.17

Issue description

- Temporarily relocate marine wildlife, such as seahorses, nudibranchs and ascidians, and marine species that are not threatened or protected
- Marine life that is not highly mobile and encountered below the mean high water level on any wharf structures or any marine vegetation or bed material (rock, sand and silt) are to be removed by hand and relocated to adjoining rocky reef or similar habitats.
- Concerns about measures to protect species that are not threatened or protected.
- Consult/liase with Nature Coast Marine Group for the relocation of species
- The visual inspection of the works area (prior to works commencing) should be done by scuba divers who can recognise the biodiversity. How will the feasibility of seahorse relocation be assessed?
- Support for the establishment of 'Seahorse Hotels' in the Wagonga Inlet at key locations prior to wharf construction, so the habitat is established and ready for relocation efforts

Response

Relocation of marine life, measures to protect species, and consultation with agencies

Various management plans would be prepared and implemented during construction to protect and manage impacts to the marine environment, including:

- a Marine Ecology Management Plan
- an Erosion and Sediment Control Plan
- a Marine Pest Species Management Plan
- a Syngnathids (Seahorses) Relocation Plan.

The management plans would include measures to minimise the impact to marine habitat and fauna, such as low impact barge positioning to prevent scouring, establishing no-go zones, pest and fauna management, erosion and sediment controls to reduce sedimentation, additional biodiversity investigations, and other pre and post work surveys and monitoring.

A Syngnathids (Seahorses) Relocation Plan has also been prepared as part of the REF (refer Appendix H) for the relocation of seahorses within the proposal site to appropriate habitat nearby prior to the

commencement of construction activities. This plan would be implemented for all seahorse relocation activities required and outlines:

- potential receiving sites
- relocation methods
- timing of relocation
- permits required
- equipment personnel.

Additionally, the Syngnathids Relocation Plan has been reviewed by DPI Fisheries.

Additional biodiversity investigations and a range of pre and post-work surveys would be undertaken to:

- determine baseline of marine life presence and identify high habitat value piles, and incorporate the outcomes of these surveys into the Marine Ecology Management Plan. Procedures to avoid and minimise impacts as far as practicable would be adopted, in consultation with DPI Fisheries, to ensure the outcomes of the surveys are captured in the plan
- identify and relocate Syngnathids and Black Rockcod
- remove marine growth and relocate marine life to similar habitat within the Wagonga Inlet
- monitor marine fish and vegetation following completion of construction, as agreed with DPI Fisheries and in accordance with the Marine Estate Permit conditions.

Additionally, the new infrastructure for the wharf is likely to become colonised by invertebrates, algal growth and other benthic fauna species leading to a restoration of habitat.

Visual inspection of works and seahorse relocation

The seahorse relocation site and methodology would be determined in consultation with and approved by DPI Fisheries. DPI Fisheries has already reviewed the proposed Syngnathiformes Relocation Plan and had no comments related to feasibility. The plan would be revised to capture updated information and reflect the project status.

Additionally, the preparation and implementation of a Syngnathiformes Relocation Plan is a standard practice where seahorse habitat is evident and there is a likelihood of seahorses being present. Seahorse relocation plans have been adopted for ferry wharf upgrade projects in Sydney and also in Eden. The relocation of seahorses would occur prior to the installation of construction controls at the proposal site.

Efforts to avoid and minimise impacts on other marine species would be via additional measures outlined in the Marine Ecology Management Plan, Marine Pest Species Management Plan, Erosion and Sediment Control Plan, and more broadly the Construction Environmental Management Plan. Please refer to above responses for more details.

2.3.5 Species recovery and rehabilitation

Submission number(s)

7.5, 8.6, 8.7, 9.6, 9.7, 10.6, 10.7, 11.5, 11.6, 13.1, 14.5, 18.5 and 19.9

Issue description

- Include recovery and rehabilitation strategies for the marine environment
- Consider breeding and recruitment periods of nearby reefs
- Request of a more detailed assessment to identify and relocate other at-risk marine species, not just seahorses
- Request for greater investment and planning into the recovery of the environment.

Response

The biodiversity assessment of significance (Appendix G of the REF) determined that the proposal would not impact the recovery of marine species listed under the EPBC Act and therefore no recovery plans or strategies would be required for this proposal. Additionally, the assessment of significance determined that the proposal would not result in significant impacts on listed species under the EPBC Act, BC Act and FM Act, and therefore recovery plans and strategies are not required for the proposal. The management of impacts on marine vegetation and fauna during construction would be managed through the implementation of a Marine Ecology Management Plan and a Marine Pest Species Management Plan.

Transport for NSW is considering the use of living seawalls at the wharf to support the reestablishment of marine life following construction.

Breeding and recruitment is outside the scope of the proposal. Construction works would be temporary and consider the breeding seasons of seahorses and seals. Construction works would also consider breeding seasons of the Wagonga Inlet Living Shoreline Project, should construction work methodologies identify impact pathways to the shoreline project.

Additionally, the NSW Marine Park has the responsibility for setting the management policy and strategy for the Marine Park. Transport for NSW would provide a copy of the Determination Report to NSW Marine Parks.

2.3.6 Surveys and monitoring

Submission number(s)

23.1

Issue description

The project will require the following surveys and monitoring:

- Pre-works survey to determine a baseline of marine fish, rays and sharks, invertebrates, marine vegetation (extent and condition) and identify high habitat value piles
- Pre-works survey to identify Syngnathids and Black Rockcod and if present relocate to similar habitat within the Wagonga Inlet
- Pre-works survey to remove any marine growth and collect oyster growth, nudibranchs, sea hares, sea stars and other marine invertebrates that are not highly mobile and relocate to similar habitat within the Wagonga Inlet. The pre-works surveys should be completed as close to the actual start date for works as possible and at most five days beforehand.
- Post works survey completed eight months after construction to monitor marine fish (including presence of Syngnathids and Black Rockcod), invertebrates and determine extent of marine vegetation disturbance (area and condition).

Response

Transport for NSW notes this submission. These surveys would be incorporated into the construction management plans, particularly the Marine Ecology Management Plan. Monitoring of marine fish, invertebrate and marine vegetation following the completion of construction will be undertaken as agreed with DPI Fisheries and in accordance with the Marine Estate Permit conditions.

2.3.7 Oyster growth

Submission number(s)

23.18

Issue description

- Oyster growth on the remaining piles should be carefully removed for re-use at the Oyster Reef Restoration site downstream of the wharf.

Response

High value piles with oyster growth would remain in situ, where possible.

2.3.8 Citizen science information

Submission number(s)

6.1, 8.4, 9.4, and 19.11

Issue description

- Recommendation to incorporate the citizen science database into the project.

Response

Transport for NSW has been consulting with DPI Fisheries throughout the development of the proposal. Various citizen science reports have been received by Transport for NSW, which are being considered during the proposal.

Citizen science information would be reviewed and considered during any further biodiversity investigations and marine surveys prior to and following construction.

2.3.9 Public information and involvement

Submission number(s)

16.2 and 16.3

Issue description

- Raise the profile of biodiversity at the wharf
- Consideration of marine stakeholders and other public events as part of the project

Response

Transport for NSW notes this submission and would pass this comment to the Narooma Town Wharf user group for consideration in the management of the wharf.

Marine stakeholders and upcoming public events would be considered as part of the contract documentation for the Community Liaison Management Plan, to be prepared by the construction contractor.

2.3.10 Light penetration

Submission number(s)

16.9, 19.3, and 22.5

Issue description

- New wharf decking should enable light penetration, and include gaps between the wharf and shoreline to allow micro and macro algae to grow
- Micro mesh should not be used to allow for maximum light penetration and viewing potential.

Response

The use of micro mesh is preferred for the wharf decking as it would allow for light penetration enabling essential photosynthesis to take place for continued growth and recolonisation (of any impacted areas) of seagrass and other marine vegetation.

Consultation with DPI Fisheries has been undertaken regarding the micro mesh. A micro mesh of 38mm x 38 mm, which allows around 68 per cent of light penetration, is preferred for the micro mesh areas. The area to the west of the wharf would not have any micro mesh covering.

Some timber decking would be retained to keep consistent to the heritage look of the wharf and safely support the loads of vehicles for commercial operations.

2.3.11 Aquatic ecology assessment

Submission number(s)

17.2, 17.3, 17.4, 17.6, 17.7, 17.16, 17.21, 18.1, 18.3, 19.1, and 19.11

Issue description

- The aquatic ecology assessment included limited field investigations and no night survey (there was a lack of assessment effort)
- The fauna list in Appendix 2 of the aquatic ecology assessment does not fully capture the wharf's biodiversity and high marine biomass. Very few of the flora and fauna actually recorded due to lack of in-water surveys for the REF / assessments.
- Thorough and comprehensive biodiversity surveys must be undertaken (before, during and after the Narooma Wharf Project)
- The aquatic ecology assessment (Biosis, 2021) states that no seahorses were recorded and that there are no previous records for seahorses in the study area, however this is untrue as observers regularly see seahorses in the area (and have photographs)
- The desktop record search for Black Rockcod was inadequate - the search for Black Rockcod should have been extended into the broader Wagonga Inlet. Consultation with Batemans Marine Park staff should have occurred to identify marine wildlife.
- Public participation and local knowledge should have been included in the preparation of the REF and Biosis Report.

Response

Limited field investigations for the aquatic ecology assessment and request for additional surveys

Please refer to sections 2.3.1, 2.3.2 and 2.3.6.

Incomplete fauna list and lack of flora and fauna recorded

The biodiversity review (undertaken in addition to the Biosis aquatic ecology assessment) reviewed information from the following:

- DAWE Protected Matters Search Tool for matters protected by the EPBC Act
- NSW Environment, Energy and Science (EES) BioNet Atlas of NSW Wildlife, for entities listed under the BC Act
- NSW Department of Primary Industries (DPI) Spatial Data Portal for FM Act listed threatened species, populations, and communities, and estuarine macrophyte mapping
- Atlas of Living Australia Spatial Portal tool
- high resolution aerial imagery of the proposal site.

Additionally, the biodiversity likelihood of occurrence (Appendix F of the REF) identified 15 different listed marine species which are likely or may occur within and surrounding the proposal site. These species informed the biodiversity assessment of significance, to determine potential impacts on listed (vulnerable, endangered etc) species and identify mitigation measures for specific species.

There are limitations to the surveys used for the REF and the citizen science information would be valuable for the project and any additional surveys planned (please refer to section 2.3.8).

Additional mitigation measures would be used to minimise impacts on marine fauna during construction (please refer to sections 2.3.1 to 2.3.4).

Aquatic ecology commentary on seahorses

In addition to the Biosis Aquatic Ecology Assessment, a desktop ecological assessment was undertaken for the REF to identify and collate existing information on the known or predicted environmental values within the proposal site. The desktop assessment included a Biodiversity likelihood of occurrence (Appendix F of the REF) where species are assessed on their likelihood of occurrence within/surrounding the Narooma Wharf, and a Biodiversity assessment of significance (Appendix G of the REF), where potential impacts on a species are assessed.

The Likelihood of occurrence did not identify the White's Seahorse within the proposal site based on available records. The assessment of significance noted that it is not uncommon to not detect the species due to the cryptic nature, without a targeted survey specially for the species. However, the assessment of significance also identified that there is suitable habitat on site for the species and therefore for the impact assessment it was presumed that the species is present at Narooma Wharf.

To further confirm the presence of Syngnathiformes within the proposal site, pre-start surveys would be undertaken to identify and relocate Syngnathiformes prior to construction, in accordance with the measures outlined in the Marine Ecology Management Plan and Syngnathiformes Relocation Plan. Surveys would be undertaken as close to summer as practicable to relocate as many as possible.

Aquatic ecology comment on Black Rockcod

The desktop assessment included a Biodiversity likelihood of occurrence (Appendix F of the REF) where species are assessed on their likelihood of occurrence within/surrounding the Narooma Wharf, and a Biodiversity assessment of significance (Appendix G of the REF), where potential impacts on a species are assessed.

The Likelihood of occurrence identified the Black Rockcod as likely to occur as it's known to occur within Batemans Marine Park and has been observed within the Wagonga Inlet. To further confirm the presence of Black Rockcod within the proposal site, pre-start surveys would be undertaken to identify and relocate Black Rockcod in accordance with the measures outlined in the Marine Ecology Management Plan.

Additionally, the search for species are generally undertaken within the proposal site and immediate surrounding area to determine the potential for impacts at the proposal site.

Public participation and use of local knowledge in assessments

Pre-construction surveys would be undertaken by diving ecologists. Public participation during surveys presents safety risks for Transport for NSW and the general public. However the citizen science information provided to Transport for NSW would be supplied to the ecologists prior to any further surveys.

2.3.12 Consultation

Submission number(s)

17.12 and 18.8

Issue description

- Consult with the managers of the Wagonga Inlet Living Shoreline Project and Living Seawalls project to obtain information on the optimum design of appropriate structures to support marine life.

Response

Transport for NSW has been in contact with representatives of the Wagonga Inlet Living Shoreline Project through DPI Fisheries. This consultation is ongoing.

2.3.13 Construction impacts

Submission number(s)

17.24

Issue description

- Works from both projects (Wagonga Inlet Living Shoreline Project and Narooma Wharf Upgrade) should be staged to minimise disruption to biological processes

Response

Transport for NSW is currently consulting with DPI Fisheries and representatives of the Wagonga Inlet Living Shoreline project to determine if marine life within the proposal site can be relocated to the Wagonga Inlet Living Shoreline project areas. A review would be undertaken, prior to construction, of the project status to understand the potential cumulative construction impacts and develop mitigation measures to avoid and minimise potential impacts on marine ecology and coastal processes.

2.3.14 Marine education

Submission number(s)

21.4 and 22.2

Issue description

- Seahorse hotels should be used for educational purposes in local schools.

Response

The use of seahorse hotels for educational purposes is outside the scope of this proposal.

2.4 Justification

2.4.1 Project purpose

Submission number(s)

12.1

Issue description

- What is the necessity of the project and are there options which are less costly and involve minimal works to restore the wharf? Can the wharf be moved?

Response

The upgrade of the wharf is required as the structural integrity of the wharf has been assessed as being in a poor condition due to the age and degradation of the concrete section, and it cannot meet the requirements for public and commercial use.

Chapter 2 of the REF outlines the need for the proposal in terms of its strategic setting and operational need.

The upgrade of the Narooma Wharf forms part of numerous strategies plans for NSW, including the NSW Government's Coastal Infrastructure Program (to rebuild and repair key maritime assets to prolong service and avoid critical failure) and the NSW Regional Ports Strategy (guides the investment, operations and growth of regional ports and infrastructure). Table 2.1 of the REF outlines additional strategies and policies and how the Narooma Wharf Upgrade is aligned with these policy aims and objectives.

Four alternative options were identified for the proposal, one option of 'doing nothing' and three design options. The 'Do Nothing' option was discounted as the wharf would continue to degrade resulting in increased safety risks for vessels and passengers and also access issues for passengers. Alternative options were discounted as it would not meet accessibility requirements or stakeholder needs for loading/unloading vessels from a stable platform. Alternative options would also have increased impact on seagrass populations within and surrounding the wharf.

Further design refinements have taken place in response to submissions received for the proposal. These changes include:

- removal of the lower level landing
- provision of an additional loading platform to provide a total of four loading platforms for 10-tonne vehicles along the wharf
- adjustment of the pontoon shoreward to reduce shading
- increase of the gangway clear width to 1.8 metres
- lowering of powered lighting on the pontoon.

2.4.2 Alternative options

Submission number(s)

17.14

Issue description

- It is not clear from the documentation whether Transport for NSW has given sufficient attention to options that might enable these objectives to be achieved without putting the wharf's environmental values at risk.
- Only one photo within the REF shows the current problems at the wharf.
- Additional options should have been provided for a less intrusive project that might involve some installation of new infrastructure combined with ongoing maintenance of the existing structure.
- No cost benefit analysis is included as to the costs of replacing the wharf compared with maintaining the existing structure.

Response

Please refer to section 2.3.1.

The concrete infrastructure at the wharf is in critical condition and needs to be updated. The design life of much of the infrastructure at the wharf has been exceeded, and therefore repairs/upgrades are required to prevent failure of the wharf infrastructure, in particular, the concrete elements. Design life refers to the length of time before a piece of infrastructure/material begins to deteriorate and requires an upgrade or replacement.

Additional photos of the deteriorated concrete infrastructure at the wharf are provided in Figure 2.1 to Figure 2.3.



Figure 2.1 Deteriorated concrete infrastructure at Narooma Wharf



Figure 2.2 Deteriorated concrete infrastructure at Narooma Wharf



Figure 2.3 Deteriorated concrete infrastructure at Narooma Wharf

Additionally, the costs to maintain the wharf would far exceed the replacement value of the wharf, particularly as the concrete section of the wharf is not recoverable.

2.4.3 Current wharf use

Submission number(s)

1.4

Issue description

- The wharf is primarily for commercial activity and the upgrades should remain as such.

Response

Transport for NSW notes this submission. The proposed design has delivered the primary objectives of the Narooma Wharf Upgrade, which is to:

- improve the safety and structural integrity of the wharf
- upgrade access and operational safety for vessels
- improve the accessibility of the wharf for those with mobility impairments and parents/carers with prams
- provide on-shore services for commercial vehicles.

Please refer to section 2.2.16.

2.4.4 Future wharf use

Submission number(s)

15.12

Issue description

- Consideration of the potential growth into the future and the needs of the wharf.

Response

The proposal involves the provision of a new micro mesh deck area between the new timber deck wharf and the existing footpath. It also includes the provision of a new floating pontoon at the eastern section of the wharf (66 metres long x 3 metres wide). These proposed features would provide additional space for the unloading and loading of vessels and for passengers to safely access vessels.

2.5 Construction

2.5.1 Construction staging and areas

Submission number(s)

1.7

Issue description

- Suggestion to commence work on the western end of the wharf.

Response

The final construction staging would be confirmed by the construction contractor. Sufficient notice of construction works would be provided to operators at the wharf.

2.5.2 Program and coordination

Submission number(s)

19.5

Issue description

- Project construction should coordinate with Wagonga Inlet Living Shoreline project.

Response

Transport for NSW is currently consulting with DPI Fisheries and representatives of the Wagonga Inlet Living Shoreline project.

2.5.3 Construction methodology

Submission number(s)

6.2

Issue description

- The development of the wharf should cause as little impact as possible.

Response

Construction works would be undertaken within a small disturbance footprint. The works would also be temporary and staged and be undertaken in accordance with a range of management plans. These plans include a Construction Environmental Management Plan, Erosion and Sediment Control Plan, Marine Ecology Management Plan, and Marine Pest Species Management Plan.

Additionally, the construction methodology has been revised based on the findings of a hydrological assessment, and it is now considered that dredging is unlikely to be required.

2.5.4 Work method considerations

Submission number(s)

23.10

Issue description

- All works must be carefully planned, the contractor must use a range of work methods which avoid or mitigate impacts as much as practicable
- A comprehensive risk assessment and preparation of an Environmental Works Method Statement (EWMS) or Construction Environmental Management Plans (CEMP) inclusive of all relevant sub-plans must be prepared before any work begins and will be reviewed as part of the Marine Estate Permit assessment and application process.
- The environmental controls must be selected to isolate and control the potential risk of the task.
- Anything generated by the works must be contained within the immediate footprint for that task
- Any water leaving the site should comply with the Batemans Marine Park water quality benchmarks.
- Sediment curtains which may drag on adjoining seagrass beds should not be used for works adjacent those sections of the wharf and alternative controls used.

Response

Transport for NSW has noted these work method considerations. These guidelines are included in the Transport for NSW assessment documentation and would be placed in the contract for the construction contractor.

2.5.5 Dredging

Submission number(s)

7.2, 8.2, 9.2, 10.3, 11.2, 14.3, 17.8, 18.6, and 23.13

Issue description

- Please consider the least possible disturbance and dredging methods during the build
- Minimise intrusive and destructive engineering works, such as dredging
- Dredging from a barge with an excavator is not supported

Response

It is unlikely that dredging would be required as a construction methodology, as the findings of a hydrological survey determined there would be sufficient water at low water levels to facilitate construction works.

2.5.6 Sea wall

Submission number(s)

23.14

Issue description

- Transport for NSW to confirm if the sea wall works are required once the demolition works commence and a determination can be made - these works would become an amendment to the permit issued by DPI Fisheries.

Response

The requirement for sea wall works would remain unknown until demolition of the wharf has been completed. Currently there is no access to the seawall. Provisional inspections to accessible areas show the seawall in fair condition, and once demolition is carried out an engineering survey would be completed.

2.5.7 Concrete removal and piling works

Submission number(s)

23.15 and 23.19

Issue description

- The removal of the existing subsurface and intertidal structures during the demolition phase must be carefully managed. Wherever possible all marine growth should be removed by hand in the water

before these structures are removed. The creation of large volumes of decaying marine growth should not occur during any stage of the works.

- Old piles should be removed without excessive disturbance to the bottom sediments. Where possible, new piles should be installed in the same hole as the old pile with a pile driver

Response

The removal of existing subsurface and intertidal structures

Transport for NSW would consider this in the contract documentation for the construction contractor

The removal of old piles

The construction contractor would prepare detailed construction staging and methodology plans. Environmental controls would be installed and managed through the Contractor's CEMP.

2.6 Statutory and planning framework

2.6.1 Marine parks inconsistency

Submission number(s)

17.16

Issue description

- The consistency of the REF proposal with the purposes of marine parks (Table 4.2 (b) of the REF) is inadequate because it only addresses impact on vegetation and completely fails to address the fauna that can be found under the wharf.

Response

The commentary in Table 4.2 refers to vegetation only, as impacts to vegetation are the main anticipated direct impact on biodiversity as assessed and described in section 6.7 of the REF. It is noted that impacts on vegetation, including habitat, would have a direct impact on fauna, and as such it was considered suitable to consider vegetation impacts in Table 4.2(b).

Marine fauna may be impacted by the proposal as construction would most likely affect fish through an increase in turbidity from suspended sediment, potentially affecting the feeding ability of fish including potential gill damage.

2.6.2 Network Marine Park Management Plan

Submission number(s)

17.17

Issue description

- The Draft Network Marine Park Management Plan referred to in Section 4.2.1 of the REF should not be referred to as the draft was heavily criticised during the statutory consultation period and no final plan has been released.

Response

Transport for NSW has noted this submission.

2.7 Consultation

2.7.1 Consideration of stakeholder and community feedback

Submission number(s)

2.6

Issue description

- Community interest in how Transport for NSW will address the concerns raised and whether any changes will be made to the proposal.

Response

Submissions received from the community have been reviewed by Transport for NSW. A Determination Report (this report) has been prepared to address the received submissions and outline any changes made to the design / construction methodology during the consultation period. The Determination Report would be made available on the Project website.

Design changes made following the review of submissions are discussed in Chapter 3.

2.7.2 Community update

Submission number(s)

3.1, 5.1, 16.4, 19.10 and 21.7

Issue description

- The Community Update newsletter via letter box drop was not received.

Response

A community update was delivered to several homes which also promoted the information sessions. During the distribution outsourcing, Transport for NSW were made aware that some areas had not received the community update as requested. As a result, Transport for NSW increased the have your say feedback period from five weeks to nine weeks to allow those who had not received the community update to have additional time to comment on the project.

Transport for NSW would use this feedback to help in future planning of information sessions, such as changing the distribution supplier to ensure delivery areas requested are completed.

2.7.3 Additional meetings

Submission number(s)

3.2, 14.4 and 15.13

Issue description

- Request for further consultation with Transport for NSW to discuss the proposal.

Response

No future formal meetings are proposed. Transport for NSW would continue to consult with DPI Fisheries, and also provide community updates throughout the project phase.

2.7.4 Ongoing consultation

Submission number(s)

17.13

Issue description

- Community consultation should be ongoing.

Response

Transport for NSW would keep the community informed of the process through the community update newsletters and project website. Transport for NSW would also identify any further issues as they arise and develop additional mitigation measures to minimise the impacts of the proposal. The interaction with the community would be undertaken in accordance with the Community Stakeholder Engagement Plan and the construction contractor's Community Liaison Plan to be developed before construction starts.

2.7.5 Community engagement plan

Submission number(s)

17.19

Issue description

- There is reference in Section 5.1 of the REF to a 'Community and Stakeholder Engagement Plan'. Where is the plan?

Response

The Community and Stakeholder Engagement Plan (CSEP) is an internal document for planning consultation activities. A summary of the consultation strategy is included in the REF in Section 5, published. This information adequately demonstrates the consultation planned and undertaken to date on the project.

The CSEP is not required to be published as it is an internal planning document.

2.7.6 Stakeholder engagement

Submission number(s)

17.20

Issue description

- Has there been consultation with the Batemans Marine Park Advisory Committee?

Response

Transport for NSW has been consulting with DPI Fisheries and NSW Marine Parks representatives throughout the project phases.

2.7.7 Public information sessions

Submission number(s)

17.22

Issue description

- The public information sessions were unsatisfactory for the following reasons:
 - poor attendance by the community
 - the venue not noy appropriate for public participation
 - it was unclear what elements of the project were negotiable
 - the Community Update mail out was not received.

Response

Transport for NSW appreciates the feedback concerning the information sessions and community updates.

Transport for NSW conducted two information sessions at the Narooma Sports and Leisure Centre on the following dates:

- Thursday 26 May 2022, 6 pm to 8 pm
- Saturday 28 May 2022, 2 pm to 4 pm.

The local advertisement appeared on the following dates to promote the information sessions:

- The Beagle 24 May 2022
- Narooma News online 24 May 2022

A community update was delivered to several homes which also promoted the information sessions. During the distribution outsourcing, Transport for NSW were made aware that some areas had not received the community update as requested. As a result, Transport for NSW increased the have your say feedback period from five weeks to nine weeks to allow those who had not received the community update to have additional time to comment on the proposal.

The information sessions had 50-60 people attend, and Transport for NSW received 23 submissions on the project covering 170 issues. The venue was selected because there were limited options in the local area to have out-of-business information sessions. The information sessions in regional areas are uncommon to be held out of these types of venues.

The project team carefully considers all feedback received during the have your say feedback period. Transport for NSW do not restrict what elements of the project are negotiable; Transport for NSW need to comply with design and engineering standards and ensure that any suggestions are feasible and within scope and budget.

Transport for NSW would use this feedback to help in future planning of information sessions. Such examples may include:

- change the distribution supplier to ensure delivery areas requested are completed
- look at other available venues, if there are options
- increase advertising of information sessions
- add an option for an online meeting.

2.8 Land surface

2.8.1 Sediment analysis

Submission number(s)

23.11

Issue description

- Request for Transport for NSW to seek further advice from EPA Queanbeyan about recent fuel spills and suitable sediment testing regimes for the proposal and site.

Response

Transport for NSW has consulted with EPA Queanbeyan and the provisional advice is that further sediment testing is not required.

2.8.2 Potential acid sulfate soils

Submission number(s)

23.12

Issue description

- If potential acid sulfate soils (PASS) material is disturbed during the works it must be stored at least 50 metres from the waterway in an impervious bund and removed from the site.

Response

The soils were tested in the Sediment Quality Assessment (Advison, 2022) and were not identified as PASS. The Sediment Quality Assessment was provided as Appendix D of the Narooma Wharf Upgrade REF.

2.9 Noise and vibration

2.9.1 Noise and vibration management

Submission number(s)

23.20

Issue description

- Consideration of the following noise and vibration recommendations during construction:
 - A wildlife expert is to be engaged to monitor the response of seals during piling works
 - Regular observations to be undertaken by site personnel for seals and other marine mammals during noisy/vibratory works
 - Minimum distance requirements to be established from each pile driving site should seals move into the works footprint area
 - Cessation of works resulting in significant noise and vibration if mammals are observed within the minimum distance area
 - Implementation of soft start procedures.

Response

The following measures would be incorporated into the construction noise and vibration management measures:

- **Soft-start Procedure:**
 - If after the 30 minute pre-start observation no seals or marine mammals have been spotted within the observation or shut-down zones a soft start procedure may commence with a gradual increase in piling impact energy of no more than 50 per cent of full impact energy for 10 minutes. The soft-start procedure must be implemented after breaks in piling driving of 30 minutes or more.
- **Stand by Procedure:**
 - If a seal or marine mammal is spotted within the observation zone during the soft-start procedure the operator of the piling equipment must be placed on standby to shut-down the piling rig and a trained crew member is to continuously monitor the seals or marine mammals in sight at all times.
- **Normal Piling Procedure:**
 - If no seals or marine mammals have been sighted during the soft-start procedure full impact piling may commence.
- **Shut-down requirements:**
 1. If visibility is poor and the marine mammal observer is unable to clearly identify objects to the full observation zone distance, a vessel or aircraft search must be conducted, or the action postponed until visibility has improved.
 2. Piling is not permitted between 6.00 pm and 7.00 am.
 3. If any seals or marine mammals are spotted within the shut-down zone, piling must cease immediately until the seals or marine mammals have moved outside of the shut-down zone.
 4. All piling must cease for a minimum of one hour after the last sighting of a seal or marine mammal within the observation zone. Piling must recommence at the pre-start observation stage of the procedure after the one-hour shutdown has elapsed.
- All standard management and mitigation measures in Section 5.3 of the *Underwater Piling Noise Guidelines* (Government of South Australia, 2012) are to be implemented during piling activities.

2.10 Aboriginal cultural heritage

2.10.1 Native Title considerations

Submission number(s)

23.2

Issue description

- Section 24HA of the *Native Title Act 1993* authorises that the granting of a lease, licence, permit or authority under legislation that is valid and relates to the management or regulation of surface and subterranean water and living aquatic resources, which includes permits issued under the *Marine Estate Management Act 2014* (NSW) must be referred to Native Title Service Corporation as the representative Aboriginal/Torres Strait Islander body for NSW and as legal representative for the South Coast People.

Response

The Section 24KA letters and notification has been sent out and responded to.

2.11 Safety

2.11.1 Safe waiting spaces on the wharf

Submission number(s)

1.3

Issue description

- Concerns over the queueing of large numbers of people (up to 150 people) and safety risks as the queue spills over onto the shared pathway and cycleway.
- Recommendation to enclosing the mesh area along the whole wharf to provide a safe waiting space for passengers boarding and disembarking during peak times.

Response

The proposed new micro mesh areas at the centre of the wharf and floating pontoon at the eastern section of the wharf would provide additional space at for the loading and unloading of vessels. The current wharf layout has around 511m² of area; the new layout would be 832m², and 311m² would be directly connected to the footpath. The new waiting area would be designed to crowd loading of 5 KPA, which would comfortably exceed the current passenger numbers.

2.11.2 Safe use of wharf

Submission number(s)

1.4 and 15.11

Issue description

- There is a need to minimise the risk for potential accidents between commercial activities and the public using the wharf for non-commercial activities.

Response

The proposal involves the provision of a new micro mesh deck area between the new timber deck wharf and the existing footpath and a new floating pontoon at the eastern section of the wharf. These proposed features would provide additional space for commercial activities to be undertaken at the wharf, minimising the risk of accidents between commercial activities and the general public.

Safety signage regarding swimming would be provided at the wharf to notify the public of the risks of recreational swimming at an operational wharf. The type of signage and content would be determined prior to construction.

Please refer to sections 2.2.16 and 2.12.5.

2.12 Recreational use of the wharf / out of scope

2.12.1 Public use

Submission number(s)

2.3, 9.9, and 17.15

Issue description

- There is a lack of areas which can be used by the general public. The proposed plan does not identify areas on the wharf for general public use, such as areas to swim, snorkel, fish or observe the marine life. Recommendation for the new design to incorporate a clear area (a viewing platform, fishing platform, seating area or simply a place to relax right next to the water) at each end of the wharf, where people can simply enjoy the wharf without impacting on the business of the commercial operators. Also, there is a concern about the limitations of having the platform as one level, as users would be directly next to commercial vehicles.
- The marine environment is beautiful and important to the community, and it is used by more than just the boats.
- Environmental considerations, such as care for the environmental values of the wharf and improvement of access and facilities for in-water users of the wharf, should have been reflected in the proposal objectives of the Narooma Wharf Upgrade.
- The proposal could include facilities for in-water users, such as a handrail leading into the water at the fish cleaning platform and other access facilities.

Response

Transport for NSW appreciates the feedback concerning public use activities for the Narooma Wharf replacement proposal. The key aim of the proposal is to improve the maritime infrastructure to help the boating and broader community safely access and navigate our rivers and coastal waterways.

The Narooma Wharf is an operational wharf that services commercial operators. Transport for NSW is improving its longevity and upgrading it to meet current safety and accessibility standards. For example, the floating pontoon would allow easier access to vessels for people with disabilities.

Although commercial operators use the area, Transport for NSW understands the importance of other community uses. The provision of a public berth that is not continuously occupied allows wider community private boating use for loading and unloading and access to the sewerage pump-out facility. When not in use by a vessel, this can also provide a fishing platform area and relaxation area to be used by the public.

There are many other public use benefits such as viewing, fishing, or seating at the wharf. To accommodate all commercial and recreational activities, the Narooma Wharf would ideally need to be increased in length. However, the proposal cannot provide these additional design suggestions as the length of the wharf cannot be increased due to environmental constraints on either side of the wharf.

The area currently has fish cleaning tables and seating nearby, which would remain following construction and provide adequate public amenities. The provision of other facilities for recreational use of the wharf is outside the scope of this proposal.

The proposed design has delivered the primary objectives of the Narooma Wharf Upgrade, which is to:

- improve the safety and structural integrity of the wharf
- upgrade access and operational safety for vessels
- improve the accessibility of the wharf for those with mobility impairments and parents/carers with prams
- provide on-shore services for commercial vehicles.

2.12.2 Public viewing area

Submission number(s)

21.5, 21.6, 22.3, and 22.6

Issue description

- Request for an area or step-down platform to view the marine environment and access the water without being near commercial vessels.

Response

The provision of facilities for recreational use of the wharf is outside the scope of this proposal.

2.12.3 Public access

Submission number(s)

16.6 and 19.7

Issue description

- Request to provided dedicated access, such as access ladders, on the wharf for recreational users.

Response

The provision of facilities for recreational use of the wharf, such as snorkeling and diving, is outside the scope of this proposal. Ladders would be provided at the wharf for safety management.

2.12.4 Facilities and signage

Submission number(s)

7.6, 8.8, 9.8, 10.8 and 11.7

Issue description

- Request to provide facilities and signage to encourage and facilitate safe snorkelling and diving around the wharf, and to educate the public on the marine environment under the wharf.

Response

The provision of facilities for recreational use of the wharf is outside the scope of this proposal. Safety signage regarding swimming would be provided at the wharf to notify the public of the risks of recreational swimming at an operational wharf. Modernised signage regarding the new facility would be erected in due course.

2.12.5 Safety measures between boats and recreational users

Submission number(s)

19.8

Issue description

- Safety measures are needed on boat mooring side of the wharf to provide a barrier between boats and recreational snorkellers/divers using the wharf

Response

The provision of facilities for recreational use of the wharf, such as snorkelling and diving, is outside the scope of this proposal. Safety signage regarding swimming would be provided at the wharf to notify the public of the risks of recreational swimming at an operational wharf. Modernised signage regarding the new facility would be erected in due course.

3. Changes to the proposal

3.1 Design changes

During the public display of the REF, minor modifications to the concept design of the proposal have occurred. These include:

- removal of the lower level landing
- provision of an additional loading platform to provide a total of four loading platforms for 10-tonne vehicles along the wharf
- adjustment of the floating pontoon shoreward
- increase of the gangway clear width to 1.8 metres
- lowering of powered lighting on the floating pontoon.

These modifications are minor and do not change the extent of the proposal site, nor do they introduce new elements that have not already been assessed in the REF. The environmental assessment presented in the REF remains valid and no additional assessment is considered necessary. Following approval of the REF, elements of the proposal would continue to be further refined during the detailed design phase.

The design changes to the proposal are shown in Figure 3.1.

3.1.1 Removal of lower level landing

The original proposal in the REF included the installation of a ten metre long lower-level landing, halfway along the main fixed wharf, with stairs connecting the landing to the main wharf and shore level.

In response to the outcomes of the community consultation, the proposed design has been amended to remove the lower level landing, and instead the whole of the main wharf would be one level. This design change would benefit more commercial operators by providing more space along the main wharf to berth, load and unload vessels. It would also provide more space for the boarding of passengers.

3.1.2 Provision of an additional loading platform

The original proposal in the REF included the provision of two loading platforms on the main wharf to allow vehicles to access the wharf for the refuelling, loading and unloading of vessels. Following community consultation, two additional loading platforms have been included into the revised design for the refuelling of smaller boats on the eastern side of the wharf and for National Park and Wildlife Services towards the middle of the wharf.

3.1.3 Adjustment of the floating pontoon shoreward

The original proposal in the REF included the installation of a floating pontoon on the eastern side of the wharf, connected to the shore-side platform via a gangway. Following consultation with DPI Fisheries, the floating pontoon has been moved 300mm closer to the shoreline to reduce shading on the adjacent seagrass populations.

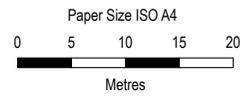
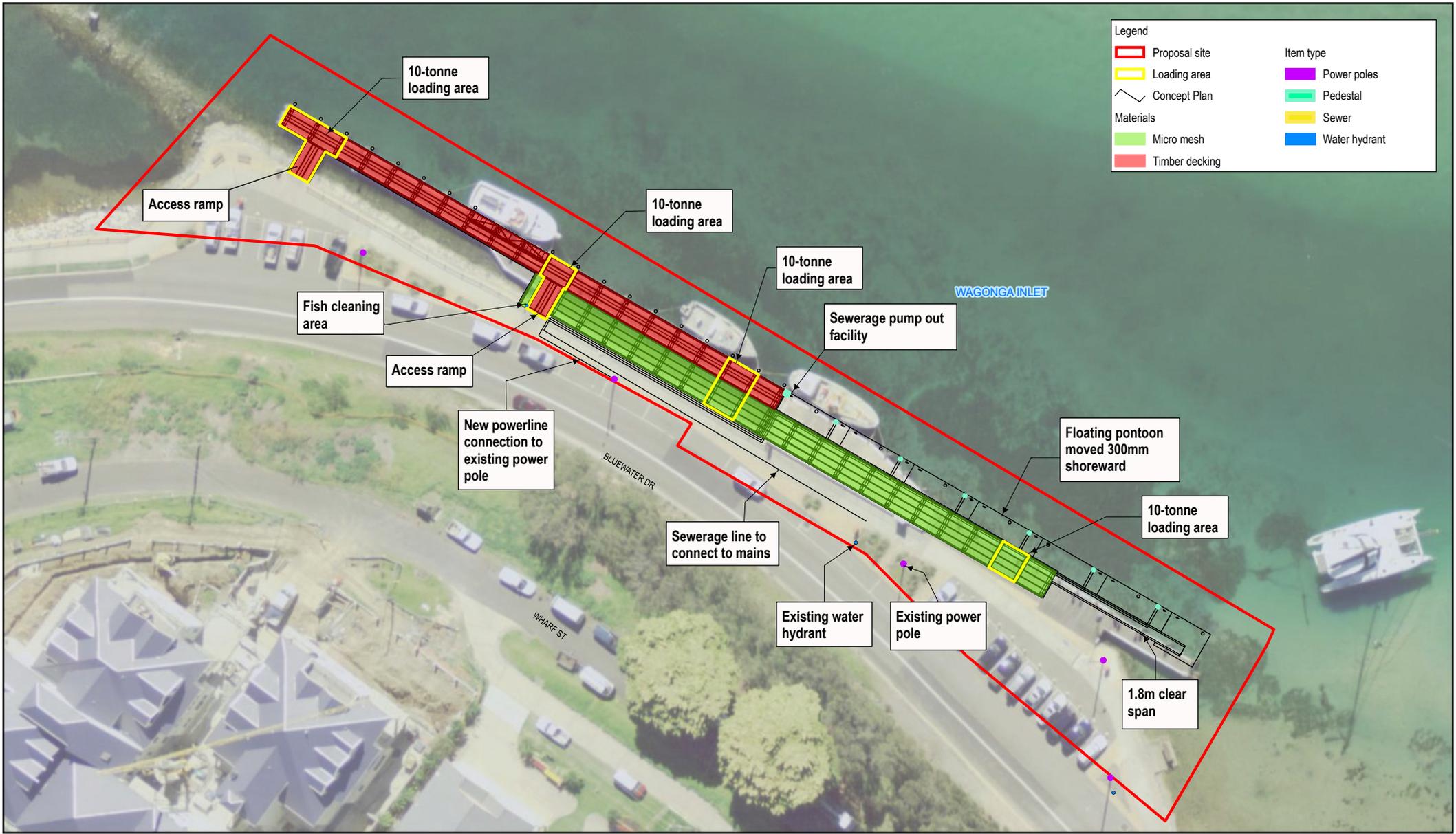
3.1.4 Increase of the gangway clear width

The original proposal in the REF included the provision of a gangway to the floating pontoon with a clear width of 1.6 metres. Following community consultation and a review of relevant standards, the clear width of the gangway has been increased to 1.8 metres. The width of 1.8 metres is the minimum span required

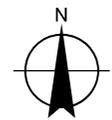
for accessibility compliance. A gangway with a width of greater than 1.8 metres would pose constructability risks for the pontoon, whereby any greater widths would affect the floatation of the pontoon.

3.1.5 Lowering of power lighting on the floating pontoon

The original proposal in the REF included the provision of berthing and mooring infrastructure including lighting. Artificial lighting can interrupt nesting, roosting and breeding behaviours in marine turtles, seabirds and shorebirds. Following consultation with DPI Fisheries, the powered lighting on the floating pontoon would be lowered to reduce the potential impacts of artificial lighting on the marine environment.



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56



Transport for NSW
 Narooma Wharf Upgrade
 Submissions Report

Project No. 12589922
 Revision No. 0
 Date 7/10/2022

Revised proposal

FIGURE 1.3

4. Environmental management

The REF for the Narooma Wharf Upgrade identified the framework for environmental management, including safeguards and management measures that will be adopted to avoid or reduce environmental impacts (section 7.2 of the REF).

After consideration of the issues raised in the public submissions and changes to the proposal, the safeguard and management measures have been revised. Additional safeguards and management measures have been included to further minimise potential impacts to biodiversity.

Should the proposal proceed, environmental management will be guided by the framework and measures outlined below.

4.1 Environmental management plans (or system)

A number of safeguards and management measures have been identified in order to minimise adverse environmental impacts, including social impacts, which could potentially arise as a result of the proposal. Should the proposal proceed, these management measures will be incorporated into the detailed design and applied during the construction and operation of the proposal.

A CEMP will be prepared to describe safeguards and management measures identified. The CEMP will provide a framework for establishing how these measures will be implemented and who will be responsible for their implementation.

The CEMP will be prepared prior to construction of the proposal and must be reviewed and certified by environment staff and Transport for NSW (South) prior to the commencement of any on-site works. The CEMP will be a working document, subject to ongoing change and updated as necessary to respond to specific requirements. The CEMP will be developed in accordance with the specifications set out in the QA Specification G36 – Environmental Protection (Management System), and QA Specification G38 – Soil and Water Management (Soil and Water Plan).

4.2 Summary of safeguards and management measures

The REF for the Narooma Wharf Upgrade identified a range of environmental outcomes and management measures that will be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the public submissions, the environmental management measures for the proposal (refer to Chapter 7 of the REF) have been revised. Should the proposal proceed, the environmental management measures in Table 4.1 will guide the subsequent phases of the proposal. Additional and/or modified environmental safeguards and management measures to those presented in the REF have been underlined and deleted measures, or parts of measures, have been struck out.

Table 4.1: Summary of environmental safeguards and management measures

No.	Impact	Environmental safeguards and management measures	Responsibility	Timing	Reference
GEN1	General - minimise environmental impacts during construction	<p>A CEMP <u>and all relevant sub-plans</u> will be prepared and submitted for review and endorsement of the Transport for NSW Environment Manager prior to commencement of the activity.</p> <p>As a minimum, the CEMP will address the following:</p> <ul style="list-style-type: none"> • any requirements associated with statutory approvals • details of how the project will implement the identified safeguards outlined in the REF • issue-specific environmental <u>controls and management plans</u> • roles and responsibilities • communication requirements • induction and training requirements • procedures for monitoring and evaluating environmental performance, and for corrective action • reporting requirements and record-keeping • procedures for emergency and incident management • procedures for audit and review. • The endorsed CEMP will be implemented during the undertaking of the activity. <p><u>The CEMP will be reviewed as part of the Marine Estate Permit assessment and application process.</u></p>	Contractor / Transport for NSW Project Manager	Pre-construction/ detailed design	Standard safeguard
GEN2	General - notification	All businesses, residential properties and other key stakeholders (e.g. schools, local councils) affected by the	Contractor/ Transport for NSW project manager	Pre-construction	

		activity will be notified at least five days prior to commencement of the activity.			
GEN3	General – environmental awareness	<p>All personnel working on site will receive training to ensure awareness of environment protection requirements to be implemented during the project. This will include up-front site induction and regular "toolbox" style briefings.</p> <p>Site-specific training will be provided to personnel engaged in activities or areas of higher risk. These include:</p> <ul style="list-style-type: none"> • dredging and water quality impacts • marine ecology and Batemans Marine Park • spill response procedures • adjoining residential areas requiring particular noise management measures • managing complaints and enquiries during construction. 	Contractor/ Transport for NSW project manager	Pre-construction/ construction	Standard safeguard
GEN4	<u>General – consultation</u>	<u>The Community Liaison Management Plan will consider marine stakeholders and upcoming public events.</u>	<u>Contractor</u>	<u>Pre-construction/construction</u>	<u>Additional safeguard</u>
SW1	Soil and water	<p>A Soil and Water Management Plan (SWMP) will be prepared and implemented as part of the CEMP.</p> <p>The SWMP will identify all reasonably foreseeable risks relating to soil erosion, sediment dispersion and water pollution and describe how these risks will be addressed during construction. <u>This will include consideration of the NSW Water Quality and River Flow Objectives for the estuaries of the catchments of the Clyde, Moruya and Tuross Rivers.</u></p>	Contractor	Pre-construction	Standard safeguard

		<p>Erosion and sediment control measures are to be implemented and maintained (in accordance with the Landcom/Department of Housing <i>Managing Urban Stormwater, Soils and Construction Guidelines</i> (the Blue Book)) to:</p> <ul style="list-style-type: none"> • prevent sediment moving off-site and sediment laden water entering any water course, drainage lines, or drain inlets • reduce water velocity and capture sediment on site • minimise the amount of material transported from site to surrounding waters and pavement surfaces • divert clean water around the site • Additionally, sediment controls are to be implemented and maintained for the marine environment when dredging and undertaking marine-side construction work. 			
SW2	Erosion and sedimentation	<p>Silt curtain/s are to be installed prior to and around the area of works that may disturb the seabed.</p> <p>Silt curtains are to be installed, monitored and maintained as needed to contain any sediment.</p> <p><u>Silt curtains which may drag on adjacent seagrass beds will not be used for works adjacent those sections of the wharf and alternative controls will be used.</u></p>	Contractor	Pre-construction	Additional safeguard
SW3	Erosion and sedimentation	Select and regularly check baseline sites around the construction area to confirm impacts are not migrating out of the construction zone.	Contractor	Pre-construction and Construction	Additional safeguard
SW4	Erosion and sedimentation	Dredging to take place at low tide only and during stable weather and wave conditions.	Contractor	Construction	Additional safeguard

SW5	Erosion and scour	Positioning of barges, drilling and pile driving will <u>should</u> occur during standard construction hours and calm conditions to prevent excessive scouring and minimise any safety risks.	Contractor	Construction	Additional safeguard
SW6	Erosion and scour	Construction marine vessel speeds will be kept to the posted limit and will be 4 knots during construction	Contractor	Construction	Additional safeguard
SW7	Acid sulphate soils	Potential or actual acid sulphate soils will <u>are to</u> be managed in accordance with the Transport for NSW <i>Guidelines for the Management of Acid Sulphate Materials 2005</i> and a Construction Acid Sulphate Management Plan. The Plan will <u>is to</u> include procedures for testing, material classification, treatment and disposal.	Contractor	Construction	Standard safeguard
SW8	Acid sulphate soils	Minimise the The disturbance and exposure of sediment and/or the underlying soils to oxygen will be minimised.	Contractor	Construction	Additional safeguard
SW9	Contaminated land	If contaminated soils and sediments are encountered, prepare and implement <u>a Contaminated Land Management Plan will be prepared and implemented.</u> Any unexpected finds of contamination will <u>are to</u> be managed in accordance with an Unexpected Finds Procedure outlined in the Contaminated Land Management Plan. The procedure will include actions to cease work and to consult with the Transport for NSW Environment Manager and/or EPA.	Contractor	Construction	Additional safeguard
WQ1	Water quality	There is to be no release of dirty water into drainage lines and/or waterways.	Contractor	Construction	Standard safeguard
WQ2	Water quality	Visual monitoring of local water quality (i.e. turbidity, hydrocarbon spills/slicks) will <u>is to</u> be undertaken on a regular	Contractor	Construction	Standard safeguard

		basis to identify any potential spills or deficient silt curtains or erosion and sediment controls.			
WQ3	Water quality	Vessels (including barges) are will only to be used at suitable tides when no less than 600 mm clearance is available between the underside of the vessel and the bed of the waterway.	Contractor	Construction	Standard safeguard
WQ4	Water quality	A spill kit is to will be available on site and accessible at all times. The spill kit must be appropriately sized for the volume of substances at the work site. Spill kits for construction barges must be specific for working within the marine environment. All workers will be advised of the location of the spill kit and trained in its use. Ensure all liquids in use on site are securely stored, handled and disposed of to prevent spills or leaks.	Contractor	Construction	Standard safeguard
WQ5	Water quality	Ensure a All on-water plant and equipment <u>will be</u> adequately maintained and regularly inspected for fluid leaks. Prior to use at the site and / or entry into the waterway, machinery should will be appropriately cleaned, degreased and serviced	Contractor	Pre-construction and construction	Standard safeguard
WQ6	Water quality	Ensure that t The CEMP <u>will</u> includes procedures for safe materials storage, handling, use and incident response plans for the proposed works.	Contractor	Construction	Additional safeguard
WQ7	Water quality	Prepare a An Environmental Work Method Statement <u>will be prepared</u> for dredging activities that identifies the sequence of the activity, potential impacts and management controls. The	Contractor	Construction	Additional safeguard

		EWMS must also address the handling and management of dredge spoil.			
WQ8	Water quality	<p>Capture and store aAny waste drilling fluids <u>will be captured and stored</u> for appropriate on-shore disposal according to legislative requirements</p> <p>Ensure that aAll liquids including fuel and other liquids used on barges during construction <u>will be</u> securely contained.</p>	Contractor	Construction	Additional safeguard
WQ9	Water quality	Vessel speeds will be limited to 4 knots to minimize turbidity being generated from propellor wash.	Contractor	Construction	Additional safeguard
W1	Waste	<p>A Waste Management Plan (WMP) will be prepared in accordance with the WARR Act. A WMP is to be prepared as part of the CEMP. The WMP will include the following:</p> <ul style="list-style-type: none"> • measures to avoid and minimise waste associated with the proposal • Classification of waste and management options (re-use, recycles, stockpile, disposal). • statutory approvals required for managing both on and off-site waste, or, application of any relevant resource recovery exemptions. • procedures for storage, transport and disposal. • monitoring, record keeping and reporting. 	Contractor	Pre-construction/ Construction	Standard safeguard
W2	Waste	Waste management, littering and general construction site tidiness will be monitored during routine site inspections.	Contractor	Construction	Additional safeguard

W3	Waste	All waste will be classified in accordance with the EPA's <i>Waste Classification Guidelines: Part 1 Classifying Waste</i> (EPA, 2014) prior to being disposed of at a licensed waste facility.	Contractor	Construction	Additional safeguard
W4	Waste	Timber and other components of the existing wharf, deck and piles will <u>must</u> be reused and/or recycled if feasible.	Contractor	Construction	Additional safeguard
W5	Waste	Waste material will <u>must</u> not be left on site once work has been completed.	Contractor	Construction	Additional safeguard
W6	<u>Waste</u>	<u>Any waste generated by the construction activities will be contained within the footprint of that task.</u>	<u>Contractor</u>	<u>Construction</u>	<u>Additional safeguard</u>
W6	Resource use	Recycled, durable, and low embodied energy products will be considered to reduce primary resource demand in instances where the materials are cost and performance competitive and comparable in environmental performance (e.g. where quality control specifications allow)	Transport for NSW	Detailed design	Additional safeguard
W7	Sustainability	During construction, the construction contractor is to <u>will</u> monitor waste and recycling quantities using Transport for NSW <i>Waste Data Collection Workbook – DMS-FT-436</i> to support compulsory requirement 4 of the <i>Transport for NSW Sustainable Design Guidelines version 4.0</i> .	Contractor	Construction	Additional safeguard
NV1	Construction noise and vibration	A Construction Noise and Vibration Management Plan (CNVMP) will be prepared and incorporated into the CEMP, including: <ul style="list-style-type: none"> reasonable and feasible noise control measures to reduce impacts at sensitive receivers identification of the sensitive receivers in the study area details of the construction hours and construction works 	Contractor	Pre-construction	Standard safeguard

		<ul style="list-style-type: none"> the Standard mitigation measures to be implemented (Appendix B of CNVG) the additional mitigation measures to be implemented (refer to Table 6.7 and Table 6.8 of the REF). 			
NV2	Construction noise and vibration	<p>Staged notifications <u>will be</u> delivered to sensitive receivers at least 7 days prior to commencement of relevant works in each stage of construction. Notifications will describe all upcoming construction activities.</p> <p>Prior to demolition and construction works, notify residences <u>will be notified</u> that they may be highly noise affected.</p> <p>The notifications will include the timing and nature of the works, as well as the expected noise levels, duration and impacts prior to construction works.</p> <p>Provide Contact details <u>will be provided</u> to affected receivers for noise complaints and enquiries regarding construction works.</p>	Contractor	Pre-construction/ Construction	Additional safeguard
NV3	Construction noise	Where feasible and reasonable, construction should <u>will be</u> carried out during the standard daytime working hours. Work generating noise with special audible characteristics and/or vibration levels should <u>will be</u> scheduled during less sensitive time periods and undertaken within safe working distances.	Contractor	During construction	Additional safeguard
NV4	Construction noise	Noise with special audible characteristics and vibration generating activities (including jack and rock hammering and rock breaking) <u>will</u> may only be carried out in continuous blocks, not exceeding 3 hours each, with a minimum respite period of one hour between each block.	Contractor	During construction	Additional safeguard

NV5	Construction noise and vibration	All employees, contractors and subcontractors will <u>are to</u> receive an environmental induction	Contractor	Pre-construction	Additional safeguard
NV6	Construction noise	A noise monitoring program should <u>will</u> be carried out for the duration of works in accordance with the Construction Noise and Vibration Management Plan and any approval and licence conditions. This should <u>will</u> include noise monitoring at the nearest receiver within NCA1 during demolition/construction as a minimum.	Contractor	During construction	Additional safeguard
NV7	Construction noise and vibration	Use of Quieter and less vibration emitting construction methods <u>will be used</u> where feasible and reasonable (i.e. bored piling/torque head method instead of impact piling).	Contractor	During construction	Additional safeguard
NV8	Construction noise and vibration	Plan Traffic flow, parking and loading/unloading areas <u>will be planned</u> to minimise reversing movements within the site.	Contractor	Pre- construction/ Construction	Additional safeguard
NV9	Construction noise	Non-tonal reversing beepers (or an equivalent mechanism) will <u>must</u> be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work, including delivery vehicles.	Contractor	During construction	Additional safeguard
LV1	Landscape and visual	Hoarding will be erected around the construction compound where possible, to reduce visibility.	Contractor	Construction	Additional safeguard
B1	Biodiversity	Notify DPI (Fisheries) <u>will be notified</u> in accordance with clause 199 of the Fisheries Management Act. Transport for NSW would apply for and receive a permit under section 205 of the Fisheries Management Act to address harm to seagrass and macroalgae.	Transport for NSW / Contractor	Detailed design/ Pre construction	Additional safeguard

B2	Biodiversity – aquatic habitats	<p>A Marine Ecology Management Plan (MEMP) will be prepared as part of the CEMP. This will include, but not be limited to, measures relating to the following activities to minimise the impact to marine habitat:</p> <ul style="list-style-type: none"> • low impact barge positioning to prevent propeller scouring and thrust wash onto sensitive habitats • minimise footprint and establish no-go zones in sensitive habitats • accidental waste/material overboard response (e.g. construction materials dropped into the harbour) • biological hygiene (e.g. prevent spread of noxious species on and off the site) • aquatic fauna management. 	Contractor	Pre-construction /construction	Additional safeguard
B3	Biodiversity – aquatic habitats	<p>Minimise construction works and movements in identified seagrass meadows will be minimised. The works will be clearly defined and limited if the activity is unavoidable, and clearly define and limit the activity if it is unavoidable.</p>	Transport for NSW / Contractor	Pre- construction/ construction	Additional safeguard
B4	Benthic community disturbance and threatened aquatic fauna species and habitat	<p>Undertake Seabed construction work <u>will be undertaken</u> outside of the seahorse breeding season, between September to February. Where this is not possible, implement the Seahorse Relocation Plan <u>will be implemented</u> at least 1 month prior to the start of the breeding season.</p> <p>Conduct a A visual inspection of the works area <u>will be conducted</u> before commencing works on the wharf with specific attention for protected mobile fauna such as seahorses and sea dragons (i.e. <i>Syngnathids</i>). If present, these are to be relocated to adjacent habitats by a qualified person, outside the zone of influence of the construction works, where feasible.</p>	Contractor	Pre-construction /construction	Additional safeguard

B5	Smothering and reduced light penetration	<p>Ensure that the <u>The</u> Erosion and Sediment Control Plan will be followed to prevent sediment transport beyond the silt curtain and into Wagonga Inlet.</p> <p>Limit the <u>The</u> movement or re-anchoring of construction barges <u>will be limited</u> to reduce the potential disturbance of sediments to as low as reasonably possible. Minimise or eliminate the use of anchors and seabed contact from on-water plant and equipment.</p> <p>Avoid the <u>The</u> use of propellers in shallow areas <u>will be avoided</u> where possible to limit sediment disturbances and damage to macroalgae.</p> <p>Carry out in-water construction works using control methods appropriate to the sediment characteristics in disturbed areas.</p>	Contractor	Construction	Additional safeguard
B6	Smothering and reduced light penetration	<p>Ensure that the <u>The</u> proposed wharf design <u>will</u> offers maximum light penetration to the seabed to minimise impacts to macroalgal and seagrass growth.</p>	Transport for NSW	Detailed design	Additional safeguard
B7	Landscape amenity and tree protection	<p>Trenching is to <u>will</u> avoid direct impact to tree root zones, where possible. Allocate <u>Exclusion areas will be allocated</u> for root protection during trenching works.</p> <p>Replace any <u>Any</u> vegetation removed <u>will be replaced</u> as part of the works with a similar plant and in accordance with Landscaping Plans.</p>	Contractor	Construction	Additional safeguard
B8	Piling construction noise impacts on aquatic fauna	<p>Follow the <u>The</u> standard operational procedures below <u>will be followed</u> to manage the impact of underwater construction noise from piling activities, on marine fauna (DPTI, 2012):</p> <ul style="list-style-type: none"> te Pre-start procedure – A suitably trained crew member is will observe the site and surroundings from the wharf for the presence of marine mammals for at least 30 	Contractor	Pre-construction /construction	Additional safeguard

minutes before beginning the soft start procedure (see next step).

- An acoustic harassment/deterrent device ~~could~~ will be sounded prior to the commencement of any underwater activity to provide the opportunity for sensitive marine fauna, such as seals, to relocate temporarily if hauling out nearby.
- Soft start procedure – If marine mammals have not been sighted within or are unlikely to enter the shutdown zone during the pre-start procedure, the soft start procedure will ~~may~~ commence in which the piling impact energy is gradually increased over a 10-minute period. The soft start procedure ~~should~~ will also be used after long breaks of more than 30 minutes in piling activity. Visual observations of marine mammals within the safety zones ~~should~~will be maintained by trained crew throughout soft starts. The soft start procedure may alert marine mammals to the presence of the piling rig and enable animals to move away to distances where injury is unlikely.
- Normal operation procedure – If marine mammals have not been sighted within or are not likely to enter observation zone during the soft start procedure, piling may start at full impact energy. Trained crew ~~should~~ will continuously undertake visual observations during piling activities and shut-down periods.
- After long breaks in piling activity or when visual observations ceased or were hampered by poor visibility, the pre-start procedure ~~should~~ will be used. Low visibility operations may proceed provided that no more than three shut-downs occurred during the preceding 24 hour period.
- Stand-by operations procedure – If a marine mammal is sighted within the observation zone during the soft start

or normal operation procedures, the operator of the piling rig ~~should~~ will be placed on standby to shut down the piling rig. An additional trained crew member ~~should~~ will continuously monitor the marine mammal in sight.

- Shut-down procedure – If a marine mammal is sighted within or about to enter the construction zone, the piling activity ~~should~~ will be stopped immediately. If a shut-down procedure occurred and marine mammals have been observed to move outside the shut-down zone, or 30 minutes have lapsed since the last marine mammal sighting, then piling activities ~~should~~ will recommence using the soft start procedure. If marine mammals are detected the shut-down zone during poor visibility, operations ~~should~~ will stop until visibility improves.
- Where possible, timing of the works will be outside of the breeding months (summer months) for the Australian Fur Seal and New Zealand Fur Seal to alleviate any noise related stress the species may experience.

Refer to the Australian Guidelines for Whale and Dolphin Watching (DoEE, 2017) for sea-faring activities for the works.

B9	Pest introduction and proliferation	<p>The following controls and processes should <u>will</u> be employed when possible, in order to mitigate or eliminate the risk of introducing pests:</p> <ul style="list-style-type: none"> • Vessels and construction barges will be locally sourced (within NSW waters) to complete the construction works, where possible. <p>A Marine Pest Species Management Plan will be prepared and implemented in accordance with the National System for the Prevention and Management of Marine Pest Incursions (National System) and NSW requirements for IMP identification and management. If an IMP is identified or suspected, then the</p>	Contractor	Pre-construction /construction	Additional safeguard
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		contractor will notify the NSW Department of Primary Industries Aquatic Biosecurity Unit immediately (within 24 hours) hotline on (02) 4916 3877.			
B10	Pest control	Ensure that the The use of on-water plant and equipment <u>will</u> be is adequately checked and cleaned to prevent the spread of invasive and non-indigenous species	Contractor	Pre-construction /construction	Additional safeguard
B11	Marine fauna interaction	The following controls may <u>will</u> be adopted and should be executed when possible to mitigate or eliminate the risk of collision between vessels and marine fauna: <ul style="list-style-type: none"> operations of vessels will be commensurate with Part 8 of the EPBC Regulations (Interacting with Cetaceans and Whale Watching). The Australian Guidelines for Whale and Dolphin Watching (DoEE, 2017) for sea-faring activities will be implemented across the entire project.	Contractor	Pre-construction /construction	Additional safeguard
B12	Threatened aquatic flora and fauna species and habitat	If unexpected threatened fauna or flora species are discovered, stop works will be stopped immediately and follow the Roads and Maritime Services <i>Unexpected Threatened Species Find Procedure in the Roads and Maritime Services Biodiversity Guidelines 2011 – Guide 1</i> (Pre-clearing process) <u>will be followed</u> .	Contractor	Pre-construction /construction	Additional safeguard
B13	Threatened aquatic fauna species and habitat	Undertake a A survey of existing wharf piles for the presence of seahorses <u>will be undertaken</u> before the start of construction. If seahorses are observed, implement the Seahorse Relocation Plan (Appendix H) <u>will be implemented</u> before the start of construction. Relocation will require a permit under Section 37 of the FM Act.	Contractor	Pre-construction/construction	Additional safeguard

B14	Marine habitats, aquatic fauna and water quality	<p>Detailed design will consider is to consider including:</p> <ul style="list-style-type: none"> waste disposal bins at the wharf to minimise the potential for litter to enter Wagonga inlet. signage to encourage wharf users to dispose of waste appropriately and keep Batemans Bay Marine Park litter free. 	Transport for NSW	Detailed design	Additional safeguard
B15	Biodiversity offsets	Consultation will occur with NSW Department of Industries on final direct and indirect impacts of the detailed design and required offset and compensation requirements in accordance with the Policy and Guidelines for Fish Habitat Conservation and Management (2013 Update).	Transport for NSW	Detailed design	Additional safeguard
B16	<u>Pre and post-work surveys</u>	<p><u>Additional biodiversity investigations and a range of pre and post-work surveys will be undertaken to:</u></p> <ul style="list-style-type: none"> <u>determine baseline of marine life presence and identify high habitat value piles, and incorporate the outcomes of these surveys into the Marine Ecology Management Plan. Procedures to avoid and minimise impacts as far as practicable will be adopted, in consultation with DPI Fisheries, to ensure the outcomes of the surveys are captured in the plan</u> <u>identify and relocate Syngnathids and Black Rockcod</u> <u>remove marine growth and relocate marine life to similar habitat within the Wagonga Inlet</u> <u>monitor marine fish and vegetation following completion of construction, as agreed with DPI Fisheries and in accordance with the Marine Estate Permit conditions.</u> 	<u>Transport for NSW and contractor</u>	<u>Pre-construction/construction/post-construction</u>	<u>Additional safeguard</u>
B17	<u>Disturbance to marine life</u>	<p><u>The removal of the existing subsurface and intertidal structures during the demolition phase will be carefully managed. Wherever possible all marine growth will be removed by hand</u></p>	<u>Contractor</u>	<u>Pre-construction/construction</u>	<u>Additional safeguard</u>

		<p><u>in the water before these structures are removed. The creation of large volumes of decaying marine growth will not occur during any stage of the works.</u></p> <p><u>Old piles will be removed without excessive disturbance to the bottom sediments. Where possible, new piles will be installed in the same hole as the old pile.</u></p>			
B18	<u>Oyster growth</u>	<u>Oyster growth on the remaining piles will be carefully removed for re-use at the Oyster Reef Restoration site downstream of the wharf, or another site as advised by DPI Fisheries.</u>	<u>Transport for NSW and contractor</u>	<u>Pre-construction /construction</u>	<u>Additional safeguard</u>
B19	<u>Consultation</u>	<u>Ongoing consultation will occur between Transport for NSW, DPI Fisheries, Living Seawall project and Wagonga Inlet Living Shoreline project through the project phases. Relevant consultation outcomes will be included in the Marine Ecology Management Plan.</u>	<u>Transport for NSW</u>	<u>Pre-construction /construction /post-construction</u>	<u>Additional safeguard</u>
T1	Land transport, parking and access	<p>A Traffic Management Plan (TMP) will be prepared and will include the following:</p> <ul style="list-style-type: none"> • a safe and alternative pedestrian and cyclist access to be maintained with consideration to temporary security fencing and wayfinding being implemented for each construction stage. • designated parking for construction workforce that minimises impacts on public car parking spaces at the wharf. • maintaining current local traffic movements along Bluewater Drive. • a Road Traffic Control Plan in accordance with the 'Traffic control at work sites manual' (RTA, 2010a) and Australian Standard 1742.3 Manual of uniform control 	Contractor	Construction	Standard safeguard

		devices for any planned traffic disruptions or road occupancy of Bluewater Drive.			
T2	Land transport	A Road Traffic Control Plan will be prepared and implemented in accordance with the ' <i>Traffic control at work sites manual</i> ' (RTA, 2010a) and Australian Standard 1742.3 <i>Manual of uniform control devices</i> for any planned traffic disruptions or road occupancy of Bluewater Drive.	Contractor	Pre-construction /construction	Standard safeguard
T3	Water transport	A Construction Marine Traffic Management Plan (CMTMP) will be prepared and implemented. The CMTMP will identify: <ul style="list-style-type: none"> • navigational safety requirements for all construction vessels and water-based equipment • a response plan for implementation including 24-hour contact details, management and communication protocols for enquiries, complaints and emergencies. • retrieve any material associated with the construction of the development that enters the water to prevent the obstruction of vessel movements 	Contractor	Construction	Additional safeguard
T4	Water transport	Where possible, current vessel movements and public access to the waterway and foreshore area are to <u>will</u> be maintained during works. Any disturbance is to <u>will</u> be minimised as much as practicable.	Contractor	Construction	Additional safeguard
T5	Water transport	Commercial, recreational operators, private services and the community that use the existing wharf will be advised of: <ul style="list-style-type: none"> • the commencement of construction, well in advance of work starting including the location of the compound site and temporary loss of car parking bays 	Transport for NSW	Pre-construction	Additional safeguard

		<ul style="list-style-type: none"> any changes to pedestrian routes to safely access the wharf. the partial wharf closure at least two weeks prior to closure 			
T6	Water transport	<p>A navigation exclusion zone will be established during construction to prevent unauthorised vessels entering the area.</p> <p>This zone will be clearly defined to communicate access for other water users.</p>	Contractor	Pre-construction /construction	Additional safeguard
AH1	Aboriginal heritage	<p>If Aboriginal heritage items are uncovered during the works, all works in the vicinity of the find must <u>will</u> cease and the Transport for NSW Aboriginal cultural heritage officer and regional environment manager contacted immediately. Steps in the Transport for NSW Standard Management Procedure: Unexpected Heritage Items <u>will</u>must be followed.</p>	Contractor	Construction	Standard safeguard
H1	Non-Aboriginal Heritage	<p>If unexpected heritage items are uncovered during the works, all works must <u>will</u> cease in the vicinity of the material/find and the steps in the Transport for NSW's <i>Standard Management Procedure: Unexpected Heritage Items</i> must <u>will</u> be followed. Transport for NSW Senior Environment Specialist – Heritage must <u>will</u> be contacted immediately.</p>	Contractor	Construction	Standard safeguard
H2	Maritime heritage	<p><u>Consultation will occur</u> with NSW Heritage to notify of the proposal to replace the Narooma Wharf, the location to which is listed on the maritime heritage register. Consultation will also identify any additional design or permit requirements prior to construction.</p>	Transport for NSW	Detailed design	Additional safeguard
H3	Local heritage	<p>Construction activities near to the local heritage item, Wharf Pylon Item no. I184, must <u>will</u> be within safe working distances</p>	Contractor	Construction	Additional safeguard

		for cosmetic damage identified in the Construction Noise and Vibration Guideline (RMS 2016). If safe working distances cannot be achieved with standard equipment, then low vibration equipment should <u>will</u> be selected.			
AQ1	Air quality	<p>Air quality during construction will be considered and addressed within the CEMP and will include methods to manage work during strong winds or other adverse weather conditions as required. As a minimum, the following measures will be included:</p> <ul style="list-style-type: none"> • covering all loaded trucks and vessels • machinery to be turned off rather than left to idle when not in use • water to be used for dust suppression during concrete breaking and saw cutting • maintenance of all vehicles, including trucks and vessels entering and leaving the site in accordance with the manufacturers specifications to comply with all relevant legislation • maintenance of all plant and equipment to ensure good operating conditions and exhaust emissions comply with the <i>Protection of the Environment Operations Act 1997</i> • maintaining the work site in a condition that minimises fugitive emissions such as minor dust. • appropriate sediment and erosion controls for any exposed earth or stockpiled waste. 	Contractor	Construction	Additional safeguard
HZ1	Hazard and risk	Construction areas will be kept tidy, objects tied down to prevent falling into the water and land-based work areas fenced.	Contractor	Construction	Additional safeguard

		Weather conditions will be actively monitored. In the event of adverse weather, wet-weather preparedness measures will be implemented including construction areas being made safe, erodible material stabilised, equipment tied down, moorings and anchors checked to ensure construction barges and vessels can withstand the expected weather conditions.			
HZ2	Hazard and risk	Refuelling of land based plant and equipment will is to occur in impervious bunded areas located a minimum of 50 metres from drainage lines or waterways.	Contractor	Construction	Core safeguard
HZ3	Hazard and risk	Refuelling of marine plant and equipment and storage of hazardous materials on barges will is to occur within a double-bunded area.	Contractor	Construction	Core safeguard
HZ4	Hazard and risk	If an incident (e.g. spill) occurs, the Transport for NSW Environmental Incident Classification and Reporting Procedure is to will be followed and the Transport for NSW Contract Manager notified as soon as practicable. Incidents will be reported to other agencies, where required, to comply with the requirements of the <i>Protection of the Environment Operations Act 1997</i> .	Contractor	Construction	Core safeguard
HZ5	Hazard and risk	Emergency contacts will be kept in an easily accessible location on vehicles, vessels, plant and site office. All workers will be advised of these contact details and procedures.	Contractor	Construction	Core safeguard
SE1	Socio-economic	A Communications and Stakeholder Engagement Plan will be prepared to provide timely and accurate information to wharf users, surrounding sensitive receivers, businesses, stakeholders and the local community of:	Transport for NSW and Construction Contractor	Construction	Core safeguard

- construction activities well in advance of construction starting.
- project updates to the progress in construction including the stage construction program. Wharf users will be notified and informed on which sections of the wharf will be opened or closed for public use.
- any disruptions to local road traffic.
- contact name and telephone number for enquiries or for making a complaint.

A webpage and free-call number will be established for enquiries and will remain active for the duration of construction. All enquiries and complaints will be tracked and acknowledged within 24 hours of being received.

C1

Cumulative construction impacts

Construction will include notification prior to the start of the works.

Updates on any delays or changes to the construction period will also be communicated.

Transport for NSW

Pre-construction/ Construction

Additional safeguard

4.3 Licensing and approvals

The required licences and approvals for the proposal are outlined in Table 4.2 below.

Table 4.2: Summary of licensing and approval required

Instrument	Requirement	Timing
<i>Fisheries Management Act 1994 (s199)</i>	Notification to the Minister for Agriculture and Western NSW prior to any dredging or reclamation works.	A minimum of 28 days prior to the start of work.
<i>Fisheries Management Act 1994 (Part 7 and s205)</i>	Agreement on proposed offsets. Permit to harm marine vegetation from the Minister for Primary Industries.	Detailed design/ prior to start of the activity.
<i>Fisheries Management Act 1994 (s37)</i>	Permit for the relocation of seahorses	Prior to the start of the activity
<i>Heritage Act 1977</i>	The location of the Narooma Wharf is listed on the maritime heritage register identifying historical wharves in that location. However, no curtilage is defined. Consultation will be undertaken with NSW Heritage to identify any notification or permitting requirements.	Detailed design/ prior to start of the activity.
<i>Marine Estate Management (Management Rules) Regulation 1999 (clause 1.22(2))</i>	Permit for construction and demolition works. Permit application must be supported by a Construction Environmental Management Plan, site environmental plan, environmental work method statement, environmental risk assessment and erosion and sediment control plan.	Prior to start of the activity
<i>Marine Estate Management Regulation 2017 (Part 2)</i>	Permit for infrastructure development within Batemans Marine Park special purpose zones from the Marine Estate Management Authority	Prior to start of the activity
<i>Roads Act 1993</i>	Road occupancy licence if any construction work is to occupy and impact the operation of Bluewater Drive	Prior to start of the activity
<i>Marine Safety Regulation 2016 (section 97(1))</i>	Aquatic licence would be required from Transport of NSW (maritime division) under section 97(1) for navigational exclusion zones installed while construction work is taking place.	Prior to start of the activity

5. References

Transport for NSW, 2022, *Narooma Wharf Upgrade – Review of Environmental Factors*. April 2022

Transport for NSW, 2022, *Narooma Wharf Replacement*. Available at:

<https://roads-waterways.transport.nsw.gov.au/maritime/projects/narooma-wharf-replacement/index.html>

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