



# Batemans Bay Bridge replacement – Partial retention of temporary jetty piles

Addendum review of environmental factors 4

**Transport for NSW**

July | 2022

# Batemans Bay Bridge replacement - Partial retention of temporary jetty piles Addendum review of environmental factors 4 Transport for NSW | July 2022

Prepared by John Holland and Transport for NSW

Pub No. 22.153

ISBN: 978-1-922875-08-2


Copyright: The concepts and information contained in this document are the property of Transport for NSW. Use or copying of this document in whole or in part without the written permission of Transport for NSW constitutes an infringement of copyright.

---



## Document controls

### Approval and authorisation

<b>Title</b>	Batemans Bay Bridge replacement – Partial retention of temporary jetty piles Addendum review of environmental factors
<b>Accepted on behalf of Transport for NSW by:</b>	Vivien Murnane Project Manager
<b>Signed:</b>	
<b>Dated:</b>	12/07/2022

# Executive summary

## The proposed modification

In 2018, Transport for New South Wales (Transport) determined a review of environmental factors (REF) for the Batemans Bay Bridge replacement project (the project REF). The REF considered both construction and operational aspects for the delivery of the Project which included construction of the new bridge, demolition of the existing structure and temporary works (such as jetties) to support the Project.

Investigations undertaken by the team (including attempts to retrieve the piles) have identified piles located within the bedrock associated with the temporary construction jetty, mooring and fender piles are unable to be removed.

The proposed modification would include cutting off the temporary jetty, mooring and fender piles, as opposed to complete removal and finishing works to ensure the area is made safe.

To address these proposed changes to the temporary jetty pile cut off inclusive of mooring and fender piles, an addendum REF has been prepared to document the potential environmental impacts of the proposed modification. Activities including backfilling voids and localised dredging have been captured under exiting approvals and therefore, do not require further assessment under this proposal. Retention of sediment, however, has been clarified as part of this proposal.

## Background

A REF was prepared for the project in November 2017 (referred to in this AREF as the project REF). The project REF was placed on public display between 8 November and 8 December 2017 for community and stakeholder comment. A submissions report, dated May 2018, was prepared to respond to issues raised during public display of the project REF.

An environmental impact statement (EIS) was also prepared for the project in November 2017, as a small part of the project is located in an area to which State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14) (now repealed) applied. Development consent for this part of the project was issued by Eurobodalla Shire Council in May 2018 (251/18).

Table 3-2 of the project REF identified the need for temporary jetties and section 4.4 of the submissions report describes complete removal of temporary jetties piles.

## Need for the proposed modification

The proposed modification is required as temporary jetty piles located within the bedrock are unable to be removed and therefore require partial retention.

## Proposal objectives

Section 2.3 of the project REF identifies the project objectives. The proposed modification does not change the identified primary and secondary project objectives as it responds to geological constraints with retention of piles balancing safety and environmental constraints should they remain. Specifically, the proposal is required to consider the following objectives:

- Impacts on coastal processes;
- maritime hazards in navigable waters; and
- public safety.

## Options considered

The various options considered for the proposed modifications are summarised below.

*Option P1 – Full removal of temporary jetty piles, fenders and moorings*

---

Remove all piles in their entirety. The approved Project identified that full removal of the piles would be undertaken with localised dredging and voids backfilled. This method was trialled with only one fender pile able to be removed.

#### *Option P2 – Full retention of the temporary jetty piles, fenders and moorings*

Retain the temporary jetty piles, moorings and fenders.

#### *Option P3 – Partial retention of temporary jetty piles, fenders and moorings to determined levels*

Piles would be cut off to determined levels (down to -4.5m reduced level (RL)). Levels have been selected with consideration to impacts on maritime safety, ecological values and public safety. Riverbed materials would be locally excavated around each pile location and temporarily stockpiled. Divers with underwater oxy cutting equipment will cut the piles to the determined levels.

#### *Option P4 – Partial retention of temporary jetty, fender and mooring piles to bedrock level*

Piles would be cut off at bedrock. Sand would need be dredged and excavated to reach bedrock level. Temporary works (i.e., excavation of a greater footprint) would be needed to allow for divers to undertake cutting activities safely to avoid material collapsing into the hole, thereby displacing greater quantities of material. The scale of works is likely to disturb submerged material (such as rocks and debris) which would require removal by excavator and storage on the shore and removal from site.

### **Preferred Option**

Option P3 is the preferred option. Option P1 is not considered feasible as attempts to fully remove the piles were not successful. Only one of the fender piles was successfully removed.

Option P2 was discounted due to unacceptable risk to maritime navigation, public safety, and coastal processes including increased scour and restriction of flood flows.

Option P4 would require a significant excavation and benching to allow for safe working. Compared to option P3, this option would result in higher risk and greater impacts during construction due to the increased depth and footprint of the works. It is unlikely these works would be consistent with environmental objectives and targets, specifically minimising riverbed disturbance and minimising impacts on coastal processes. Regulatory stakeholders were not in favour of this option due to the substantial riverbed disturbance.

Option P3 was considered to provide the best balance as it provides the safest and lowest environmental impact alternative to full removal of the temporary jetty, mooring and fender piles while still meeting relevant objectives set out in the project REF.

### **Statutory and planning framework**

The Batemans Bay Bridge Replacement Project was approved under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act) in April 2018. The EP&A Act provides the framework for environmental planning and development approvals in NSW and includes provisions to ensure that the potential environmental impacts of a development are assessed and considered in the decision-making process. This AREF is subject to assessment under Part 5 of the EP&A Act.

Transport for NSW (formally Roads and Maritime) is the proponent and determining authority for the proposed works outlined in this AREF 4. Clause 94 of the State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by, or on behalf of, a public authority

---

without consent. Due to the modification proposed being for a road development and to be carried out on behalf of Transport for NSW, it can be assessed under Division 5.1 of the EP&A Act. Development consent from Eurobodalla Shire Council is not required.

### **Community and stakeholder consultation**

Consultation regarding the proposed modification was undertaken with stakeholders via an Environmental Review Group (ERG) meeting on 16 November 2021. The following stakeholders were present at the ERG:

- Eurobodalla Shire Council (ESC)
- DPI (Batemans Marine Park)
- DPI (Fisheries and aquaculture)
- Environment Protection Authority (EPA)

Temporary jetty removal progress was discussed at the ERG including noting that full removal of piles would be unlikely due to deep embedment in rock. The proposed modification was discussed including the proposal to cut off temporary jetty piles to the following approximate levels:

- 500mm below riverbed level for Bent C and fender piles
- RL -2.9m for Bent A and Bent B piles

Separate consultation was undertaken with Transport for NSW Maritime Unit on 3 November 2021. Maritime provided guidance of safe vessel keel clearance in the vicinity of the piles which aligns with the proposed modification.

### **Environmental impacts**

#### *Hydrology and coastal processes*

A Flood and Scour Assessment for the Temporary Jetty Pile Removal (Jacobs, 2022) was prepared to assess the likely impacts arising from the partial retention of temporary jetty, mooring and fender piles. The assessment is attached in Appendix E. A desktop assessment was conducted to assess the flood and scour impacts of the partial retention of piles using conservative estimates based on retention of elements below RL -2.9m in shallower water, and -4.2 to -4.5m in deeper water with an approximate disturbance of 236m<sup>3</sup> of sediment.

The proposed modification would have no impact on flooding additional to that assessed in the approved project.

Scour impacts from both a local and global perspective would be minimal due to the dynamic nature of hydrological patterns at the location. Global scour processes have the potential to expose up to five of the temporary jetty and fender piles by up to approximately 1m above riverbed level, which could result in the piles becoming subject to local scour. The maximum local scour depths at these piles during a 1 in 100-year ARI flood event is expected to be approximately 1.7m. These levels are considered to be worst case and would not pose a material risk to the existing shoreline revetment wall. The risk of long-term impacts on the shoreline of Batemans Bay is considered negligible.

### **Justification and conclusion**

The proposed modification is needed as the temporary jetty piles located within the bedrock are unable to be fully removed and therefore require partial retention. The proposed

---

modification, as described and assessed in this addendum REF, does not change the strategic need or the objectives of the Project and remain consistent with the approval.

The need for the proposed modification is as follows:

- To respond to geotechnical conditions which prevent the full removal of piles
- To balance safety of future users and the need for appropriate keel clearances for watercraft
- To reduce excavation of material from the river bed which would be required for full removal of piles, and therefore minimise removal/mobilisation of sediment in the river system
- Return the site to a condition which balances current and future needs

The impacts of the proposed modification are minor in nature. Due to the above considerations, the proposed modification is considered justified.

The proposed modification is subject to assessment under Division 5.1 of the EP&A Act. This addendum REF has examined and fully considered all matters affecting or likely to affect the environment by reason of the proposed activity.

---

# Contents

1	Introduction.....	1
1.1	Proposed modification overview .....	1
1.2	Purpose of the report.....	3
2	Need and options considered .....	5
2.1	Strategic need for the proposed modification.....	5
2.2	Proposal objectives and development criteria.....	5
2.3	Alternatives and options considered .....	5
2.4	Preferred option .....	8
3	Description of the proposed modification .....	9
3.1	The proposed modification .....	9
3.2	Design.....	9
3.3	Main features of the modification.....	9
3.4	Construction activities .....	11
4	Statutory and planning framework.....	12
4.1	Environmental Planning and Assessment Act 1979.....	12
4.2	Other relevant NSW legislation.....	14
4.3	Commonwealth legislation.....	16
4.4	Confirmation of statutory position .....	17
5	Consultation.....	18
5.1	Consultation strategy.....	18
5.2	Consultation outcomes.....	18
5.3	Ongoing or future consultation.....	19
6	Environmental assessment.....	20
6.1	Hydrology and Coastal Processes.....	20
6.2	Other impacts.....	22
7	Environmental management .....	31
7.1	Environmental management plans .....	31
7.2	Licensing and approvals.....	58
8	Conclusion.....	59
8.1	Justification .....	59
8.2	Objects of the EP&A Act.....	59
8.3	Ecologically sustainable development .....	60
8.4	Conclusion .....	60
9	Certification.....	62
10	References .....	63

---



# 1 Introduction

---

## 1.1 Proposed modification overview

Transport for NSW (formerly Roads and Maritime Services) proposes to modify the Batemans Bay Bridge replacement project (The Project) by cutting off the temporary jetty, mooring and fender piles.

To facilitate demolition of the existing bridge, a temporary jetty was constructed on the northern foreshore about 50 metres downstream of the former bridge. The temporary jetty piles were driven into the underlying bedrock to around 5m in depth to secure the structure and to account for weights and loads expected as part of the preferred demolition. Mooring and fender piles were also installed to allow for barge movements.

Following completion of works, the Project attempted to fully remove each of the piles, however, were unable to retrieve these with exception of one fender pile. Reasonable and feasible measures, including the use of specialised equipment and seeking technical input proved unsuccessful. Following consideration of alternative options, partial cut off of piles is proposed.

The location of the proposed modification is shown in Figure 1-1 and Figure 1-2 and the proposed modification is shown in Figure 1-3. Chapter 3 describes the proposed modification in more detail.

A review of environmental factors (REF) was prepared for the Batemans Bay Bridge Replacement Project in November 2017 (referred to in this addendum REF as the project REF). The project REF was placed on public display between 8 November and 8 December 2017 for community and stakeholder comment. A submissions report dated May 2018 was prepared to respond to issues raised.

An environmental impact statement (EIS) was also published for the project in November 2017, as a small part of the project is located in an area to which the State Environmental Planning Policy No 14 – Coastal Wetlands (SEPP 14) (now repealed) applied. Development consent for this part of the project was issued by Eurobodalla Shire Council in May 2018.

In addition, the following addendum REFs and REF Consistency Reviews have been approved for the project:

- Batemans Bay Bridge replacement - former bowling club demolition Addendum REF 1 (September 2018)
- Batemans Bay Bridge replacement REF Consistency Review 1 – Kings Highway slip lanes and utility adjustment works (January 2019)
- Batemans Bay Bridge replacement - precast ancillary facility Addendum REF 2 (March 2019)
- Batemans Bay Bridge replacement REF Consistency Review 2 – Temporary boat ramp (April 2019)
- Batemans Bay Bridge replacement REF Consistency Review 5 – Stockpile on Kings Highway (April 2019)
- Batemans Bay Bridge replacement REF Consistency Review 4 – Pier 1 temporary working platform and temporary Bailey bridge (May 2019)
- Batemans Bay Bridge replacement REF Consistency Review 3 – Detailed design changes 1 (October 2019)

- Batemans Bay Bridge replacement REF Consistency Review 6 – Precast ancillary facility boundary adjustment (May 2020).
- Batemans Bay Bridge replacement – New Floating Pontoon Addendum REF 3 (May 2020)
- Batemans Bay Bridge Replacement REF Consistency review 7 – Princes Highway north electrical trenching works for street lighting (May 2021)
- Batemans Bay Bridge Replacement REF Consistency review 8 - Changes to existing pier cut off depths (July 2021)



**Figure 1-1 – Locality Plan**

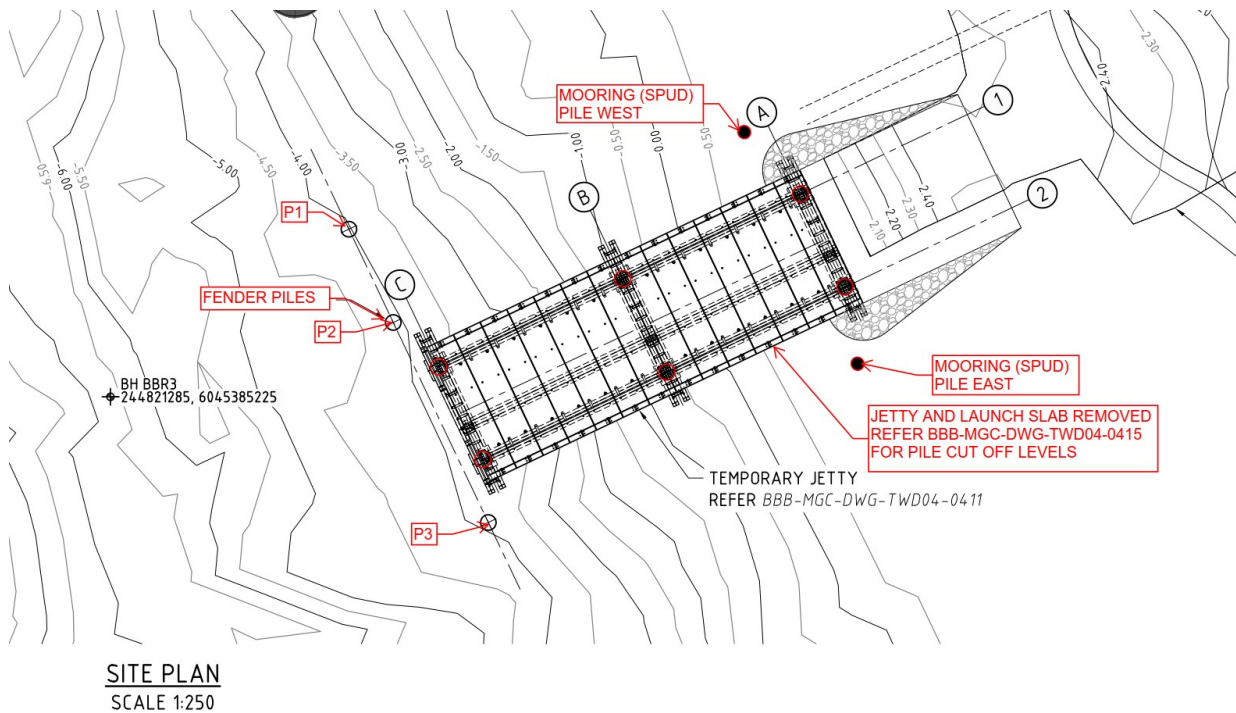


Figure 1-2 - Existing site layout and pile locations

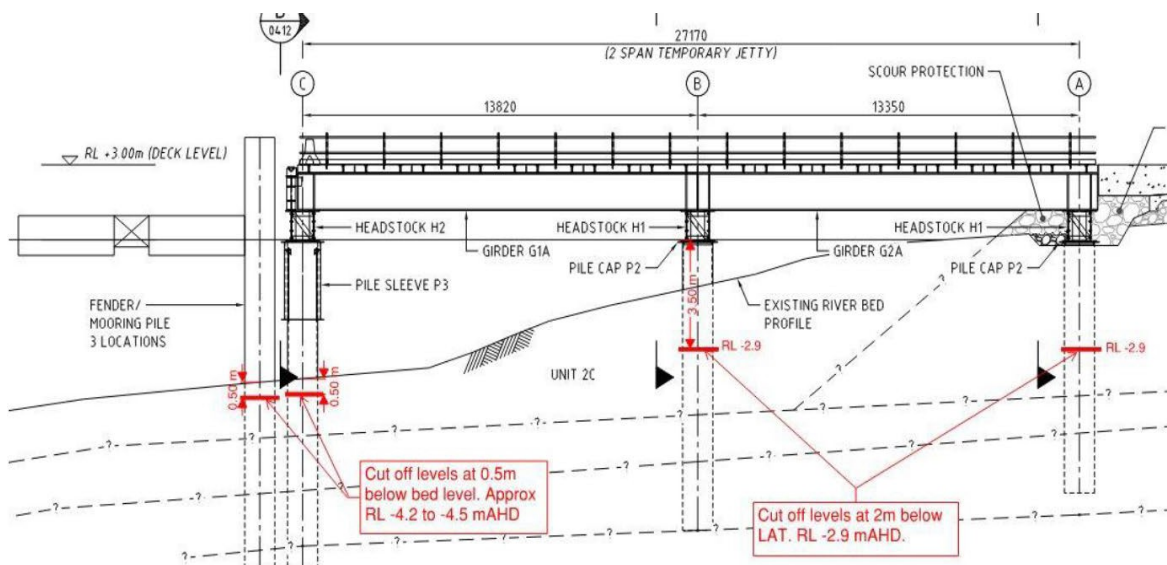


Figure 1-3 – proposed modification

## 1.2 Purpose of the report

This addendum review of environmental factors (REF) has been prepared by John Holland on behalf of Transport for NSW. For the purposes of these works, Transport is the proponent and the determining authority under Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This addendum REF is to be read in conjunction with the project REF, submissions report, previous addendum REFs and REF Consistency Reviews for the project. The purpose of this addendum REF is to describe the proposed modification, to document and

assess the likely impacts of the proposed modification on the environment, and to detail mitigation and management measures to be implemented.

The description of the proposed work and assessment of associated environmental impacts has been undertaken in context of clause 228 of the Environmental Planning and Assessment Regulation 2000, *Is an EIS Required? Best Practice Guidelines for Part 5 of the Environmental Planning and Assessment Act 1979* (Is an EIS Required? guidelines) (DUAP, 1995/1996), Roads and Road Related Facilities EIS Guideline (DUAP, 1996), the *Biodiversity Conservation Act 2016* (BC Act), the *Fisheries Management Act 1994* (FM Act), and the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In doing so, the addendum REF helps to fulfil the requirements of:

- Section 5.5 of the EP&A Act including that Transport examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity

The findings of the addendum REF would be considered when assessing:

- Whether the proposed modification is likely to result in a significant impact on the environment and therefore the necessity for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act
- The significance of any impact on threatened species as defined by the BC Act and/or FM Act, in section 1.7 of the EP&A Act and therefore the requirement for a Species Impact Statement or a Biodiversity Development Assessment Report
- The significance of any impact on nationally listed biodiversity matters under the EPBC Act, including whether there is a real possibility that the activity may threaten long-term survival of these matters, and whether offsets are required and able to be secured
- The potential for the proposed modification to significantly impact any other matters of national environmental significance or Commonwealth land and therefore the need to make a referral to the Australian Government Department of Agriculture, Water and the Environment for a decision by the Australian Government Minister for the Environment on whether assessment and approval is required under the EPBC Act.

Table 3-2 of the Project REF captures the need for temporary jetties as part of the approved Project. Following exhibition of the REF, a Submissions Report was prepared responding to community and agency feedback. Section 4.4 of the Submission Report describes complete removal of temporary jetties (including elements such as the piles) as part of demolition activities, including the need for demolition, excavation and dredging as part of these tasks. These elements, therefore, represent the approved Project and do not require further assessment under this AREF.

## **2 Need and options considered**

---

### **2.1 Strategic need for the proposed modification**

Chapter 2 of the Batemans Bay Bridge Replacement REF addresses the strategic need for the wider project and construction/demolition methodologies along with the project objectives and the options that were considered.

The proposed modification is needed as the temporary jetty piles located within the bedrock are unable to be removed and therefore require partial retention. The proposed modification, as described and assessed in this addendum REF, does not change the strategic need or the objectives of the Project and remain consistent with the approval.

To facilitate demolition of the existing bridge, a temporary jetty was constructed on the northern foreshore about 50 metres downstream of the former bridge in accordance with the project approval. The temporary jetty piles were driven into the underlying bedrock to around 5m in depth to secure the structure and to account for weights and loads expected as part of the preferred demolition. Mooring and fender piles were also installed to allow for barge movements.

Following completion of works, the Project attempted to fully remove each of the piles, however, were unable to retrieve these with exception of one fender pile. Reasonable and feasible measures, including the use of specialised equipment and seeking technical input proved unsuccessful. Partial retention of the piles is now being pursued.

Therefore, the need for the proposed modification is as follows:

- To respond to geotechnical conditions which prevent the full removal of piles
- To balance safety of future users and the need for appropriate keel clearances for watercraft
- To reduce excavation of material from the riverbed which would be required for full removal of piles, and therefore minimise removal/mobilisation of sediment in the river system
- Return the site to a condition which balances current and future needs

### **2.2 Proposal objectives and development criteria**

The proposed modification does not change the identified primary and secondary project objectives as it responds to potential geographical constraints with retention of piles to determined levels (up to RL -4.5m in depth) balancing safety and environmental constraints within the locality and not impact marine activities.

### **2.3 Alternatives and options considered**

As part of the approved Project temporary jetties in the Clyde River were identified as a measure to support construction of the new bridge and demolition of the existing bridge. Section 4.4 of the submissions report describes and assesses the use of temporary jetties during construction and outlines they would be removed at the end of the Project.

A single jetty was installed on the northern foreshore to support demolition activities over water. The temporary jetty piles are unable to be removed in full due to geotechnical conditions and an alternate methodology is now required. Multiple options have been considered and are presented below.



### **2.3.1 Methodology for selection of preferred option**

Options were evaluated against the following criteria which were developed in response to the unique Project constraints:

- Consistency with existing environmental objectives and commitments
- Safety of staff working below and above the water level
- Stakeholder feedback satisfaction
- Minimising riverbed disturbance and impacts to surrounding sensitive areas
- Feasibility.
- Impacts on coastal processes
- Maritime hazards in navigable waters
- Public safety

Each option was ranked based on the criterion with the preferred option being the option that best satisfied the criteria.

### **2.3.2 Identified options**

#### **Option P1 – Full removal of temporary jetty piles, fenders and moorings**

Remove all piles in their entirety. The approved Project identified that full removal of the piles would be undertaken with localised dredging and voids backfilled. This method was trialled with only one fender pile able to be removed.

#### **Option P2 – Full retention of the temporary jetty piles, fenders and moorings**

Retain the temporary jetty piles, moorings and fenders.

#### **Option P3 – Partial retention of temporary jetty piles, fenders and moorings to determined levels**

Piles would be cut off to determined levels (down to -4.5m reduced level (RL)). Levels have been selected with consideration to impacts on maritime safety, ecological values and public safety. Riverbed materials would be locally excavated around each pile location and temporarily stockpiled. Divers with underwater oxy cutting equipment will cut the piles to the determined levels.

#### **Option P4 – Partial retention of temporary jetty, fender and mooring piles to bedrock level**

Piles would be cut off at bedrock. Sand would need be dredged and excavated to reach bedrock level. Temporary works (i.e., excavation of a greater footprint) would be needed to allow for divers to undertake cutting activities safely to avoid material collapsing into the hole, thereby displacing greater quantities of material. The scale of works is likely to disturb submerged material (such as rocks and debris) which would require removal by excavator and storage on the shore and removal from site.

### **2.3.3 Analysis of options**

Option analysis was undertaken in accordance with the criteria detailed in section 2.3.1 Methodology for selection of preferred option and is detailed below.

### **Option P1 - Full removal of temporary jetty piles, fenders and moorings**

This method would result in full removal of all structures. It was trialled with only one fender pile able to be removed. Full removal is no longer technically feasible or reasonable due to ground conditions and the lack of mechanical means for removal in the market.

### **Option P2 - Full retention of the temporary jetty piles entirely**

This option would result in permanent structures in the waterway which present the following risks:

- Retention of the temporary jetty piles, or parts thereof, would present a maritime hazard in the navigable waterway
- Over time deterioration of the temporary jetty piles without continued maintenance, would cause the potential for associated safety, environmental and navigational impacts
- Retention of the temporary jetty piles within Batemans Bay would present a constraint to flood flows.
- The potential for increased scour as the result of the retention of the temporary jetty piles may impact on river morphology and coastal processes.

### **Option P3 - Partial retention of temporary jetty piles, fenders and moorings to determined levels**

This method would result in partial retention of structures with the retained portions being below riverbed level. Key items of note include:

- This option would meet the project REF commitment to prioritise the safety of workers and technical risks associated with the potential full removal of temporary jetty piles.
- No structures would remain above riverbed level removing risk to maritime hazards, coastal processes and public safety.
- Some riverbed disturbance and potential impacts to water quality would occur during dredging.
- Riverbed materials would only be excavated around each pile location with scale of disturbance localised to provide access to cut the pile.

### **Option P4 - Partial retention of temporary jetty, fender and mooring piles to bedrock level**

This method would result in partial retention of structures with the retained portions being below bedrock level. Key items of note include:

- No structures would remain above bedrock or riverbed level removing risk to maritime hazards, coastal processes and public safety.
- In addition, temporary works (i.e., excavation of a greater footprint) would be needed to allow for divers to undertake cutting activities safely to avoid material collapsing into the hole, thereby displacing greater quantities of material.
- Substantial riverbed disturbance, increased footprint, and potential impacts to water quality would occur during dredging to reach bedrock. The works are likely to generate the risk of larger sediment plumes and have the potential to increase water quality impacts within the Clyde River, irrespective of tidal patterns. This could increase potential additional indirect risks to nearby seagrass.
- Combined with tidal forces, the excavation would also be subject to inflows of sediment which would require concurrent cutting and sediment removal for the duration of works.

- This option may require removal of dredge material and redeposition within the Clyde River is likely to be required outside the Project footprint (if it complies with dredge management guidelines). If this cannot be achieved, material would be removed from the system for offsite disposal.
- Regulatory stakeholders were not in favour of this option due to the substantial riverbed disturbance.

## **2.4 Preferred option**

Option P3 is the preferred option. Option P1 is not considered feasible as attempts to fully remove the piles were not successful. Only one of the fender piles was successfully removed.

Option P2 was discounted due to unacceptable risk to maritime navigation, public safety, and coastal processes including increased scour and restriction of flood flows.

Option P4 would require a significant excavation and benching to allow for safe working. Compared to option P3, this option would result in higher risk and greater impacts during construction due to the increased depth and footprint of the works. It is unlikely these works would be consistent with environmental objectives and targets, specifically minimising riverbed disturbance and minimising impacts on coastal processes. Regulatory stakeholders were not in favour of this option due to the substantial riverbed disturbance.

Option P3 was considered to provide the best balance as it provides the safest and lowest environmental impact alternative to full removal of the temporary jetty, mooring and fender piles while still meeting relevant objectives set out in the project REF.



## 3 Description of the proposed modification

---

### 3.1 The proposed modification

Transport for NSW proposes to modify the Batemans Bay Bridge Replacement Project by cutting off the piles of the temporary jetty, fenders and moorings below riverbed level as opposed to complete removal. The proposed modification is shown in Figure 1-3 and the general arrangement shown in Figure 3-1. Further details of the proposal can be found in Table 3-1. An indicative concept design for the new proposed cut off levels are provided in Appendix A.

### 3.2 Design

#### 3.2.1 Design criteria

The proposed modification would be designed using the same standards and criteria described in section 3.2 of the project REF.

#### 3.2.2 Engineering constraints

The engineering constraints presented in section 3.2.2 of the project REF apply to the proposed modification and would be managed in the same manner as described in the project REF. With respect to the partial retention of the piles, the following constraints have driven the method proposed:

- Waterway - Depth of water in the river at cut off points and the movement of sediment along the riverbed into the dredge holes (prior to completing the cutting of the piles). This would be mitigated by the proposed dredge form installation around the cut-off point of the piles.
- Dredging impacts –The location of dredge line, angle of deposition on to the river and scale of disturbance would aid containment processes.

### 3.3 Main features of the modification

#### Existing Jetty, Mooring and Fender Pile configuration

The temporary jetty is supported on 6 x 1055mm diameter steel driven piles which have been granted a letter and number based on the pile arrangement (C-1, C-2, B-1, B-2, A-1 and A-2). Each pile was embedded deep into the bedrock in order to achieve enough capacity to allow sections of the former bridge (the steel spans) to be lifted onto a barge, moored at this location and lifted onto a processing area at Korner's Park.

To facilitate complex barge movements and heavy lift operations an additional 3 x 1050mm diameter fender piles (Fender Pile P1-P3) and 2 x 610mm diameter mooring piles (MP east and MP west) were driven to bed rock to support operations and reduce the need for anchors in the riverbed.



**Figure 3-1 - Temporary Jetty and pile general arrangement**

### 3.3.1 Pile cut off Levels

To determine acceptable pile cut-off levels, the Project consulted with a range of stakeholders, including DPI Fisheries, DPI Batemans Marine Park, and TfNSW Maritime Unit. This was to identify potential safety concerns and identify minimum depths required for safe navigation of watercraft.

The proposed approximate pile cut off levels are provided in Table 3-1 below.

**Table 3-1: Proposed approximate temporary jetty pile cut off depths**

Pile	Approved project pile cut off depth	Proposed modification pile cut off depth	Final Depth
Fender Pile P1	Complete removal	Approximately 250-500mm below riverbed	-4.4 RL*
Fender Pile P2	Complete removal	Approximately 250-500mm below riverbed	-4.48 RL*
Fender Pile P3	Complete removal	Approximately 250-500mm below riverbed	-3.72 RL*
C-1	Complete removal	Approximately 250-500mm below riverbed	-3.38 RL*
C-2	Complete removal	Approximately 250-500mm below river bed	-3.38 RL*
B-1	Complete removal	Minimum -2.9m RL*	-3.23 RL*

B-2	Complete removal	Minimum -2.9m RL*	-3.02 RL*
A-1	Complete removal	Minimum -2.9m RL*	-3.09 RL*
A-2	Complete removal	Minimum -2.9m RL*	-3.09 RL*
Mooring Pile East M1	Complete removal	Minimum -2.9m RL*	-2.97 RL*
Mooring Pile West M2	Complete removal	Minimum -2.9m RL*	Complete removal

\*-2.9m RL - based on consultation with Maritime Unit who require minimum keel clearance of 2m below Lowest Astronomical Tide (LAT) in navigable waters.

### 3.4 Construction activities

The proposed modification relates to operation only. All related construction activities were carried out in accordance with the project approval.

## 4 Statutory and planning framework

---

### 4.1 Environmental Planning and Assessment Act 1979

#### 4.1.1 State Environmental Planning Policies

##### **State Environmental Planning Policy (Infrastructure) 2007**

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) aims to facilitate the effective delivery of infrastructure across the State.

Clause 94 of ISEPP permits development on any land for the purpose of a road or road infrastructure facilities to be carried out by or on behalf of a public authority without consent.

As the proposed modification is for a road and/or road infrastructure facilities and is to be carried out by Transport for NSW or on behalf of Transport for NSW, it can be assessed under Division 5.1 of the EP&A Act. Development consent from council is not required.

The proposed modification is not located on land reserved under the *National Parks and Wildlife Act 1974* and does not require development consent or approval under State Environmental Planning Policy (Coastal Management) 2018 (CM SEPP), State Environmental Planning Policy (State and Regional Development) 2011 or State Environmental Planning Policy (State Significant Precincts) 2005.

Part 2 of ISEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. Consultation, including consultation as required by ISEPP (where applicable), is discussed in section 5 of this addendum REF.

##### **State Environmental Planning Policy (Coastal Management) 2018**

Since determination of the project REF, coastal management legislation has been amended to repeal State Environmental Planning Policy No. 14 – Coastal Wetlands, No. 71 – Coastal Protection and No. 26 – Littoral Rainforests, which were considered in the project REF.

The Coastal Management SEPP gives effect to the objectives of the Coastal Management Act 2016 from a land use planning perspective, by specifying how development proposals are to be assessed if they fall within the coastal zone (DPE, 2018).

The project REF was prepared prior to the Coastal Management SEPP commencing. As such, the project and the proposed modification are subject to clause 21(2) 'Savings and transitional provisions' of the Coastal Management SEPP. While the Coastal Management SEPP does not apply to the proposed modification, as best practice, the provisions of the Coastal Management SEPP have been considered.

The proposed modification is located approximately 430 metres from mapped Coastal Wetlands and approximately 330 metres away from any proximity areas. Impacts to coastal wetlands (and their proximity areas) are therefore not anticipated and further consideration of the Coastal Management SEPP is not required.



## 4.1.2 Local Environmental Plans

### Eurobodalla Local Environmental Plan 2012

Located within the Eurobodalla Local Government Area (LGA), the proposed modification is subject to the Eurobodalla Local Environmental Plan (LEP) 2012. According to the Eurobodalla LEP, the land where the proposed modification is located is zoned SP2 (Infrastructure), W2 (Recreational waterways) and W1 (Natural Waterway). Table 4-1 outlines the land zoning objectives and development permissibility applicable to the land zone that would be subject to the proposed modification.

**Table 4-1: LEP Land Zones subject to this Addendum REF.**

Land Zone	Objectives	Consistency of proposed modification with objectives
<b>RE1 – Public Recreation</b>	<ul style="list-style-type: none"> <li>To enable land to be used for public open space or recreational purposes.</li> <li>To provide a range of recreational settings and activities and compatible land uses.</li> <li>To protect and enhance the natural environment for recreational purposes.</li> <li>To conserve the scenic and environmental resources of the land including the protection of environmental assets such as remnant vegetation, waterways and wetlands, and habitats for threatened species, populations and communities.</li> </ul>	The proposed modification is not expected to have significant impacts on public open space or recreational purposes, the natural environment or environmental resources as work would be undertaken at a depth which does not impede future activities
<b>W1- Natural Waterways</b>	<ul style="list-style-type: none"> <li>To protect the ecological and scenic values of natural waterways</li> <li>To prevent development that would have an adverse effect on the natural values of waterways in this zone</li> <li>To provide for sustainable fishing industries and recreational fishing</li> </ul>	The proposed modification is not expected to have significant impacts on ecological, natural and fishing values beyond what has already been characterised in the determined project.

Clause 5.12 of the Eurobodalla LEP states that:

*‘...this Plan does not restrict or prohibit, or enable the restriction or prohibition of, the carrying out of any development, by or on behalf of a public authority, that is permitted to be carried out with or without development consent, or that is exempt development, under State Environmental Planning Policy (Infrastructure) 2007’.*

As the proposed modification is permitted without consent under the ISEPP (refer to Section 4.1.1), the development consent requirements of the Eurobodalla LEP 2012 do not apply

## 4.2 Other relevant NSW legislation

### 4.2.1 Coastal Management Act 2016

The *Coastal Management Act 2016* (CM Act) replaced the *Coastal Protection Act 1979* which was repealed on 3 April 2018. The CM Act establishes a new strategic framework and objectives for managing coastal issues in NSW. The CM Act defines the coastal zone as comprising four coastal management areas: coastal wetlands and littoral rainforests area; coastal vulnerability area; coastal environment area; and coastal use area.

The proposed modification is situated within land identified by the Coastal Management SEPP as a coastal environment area and coastal use area. Under section 8(2) of the CM Act, the management objectives for the coastal environment area are:

- 'To protect and enhance the coastal environmental values and natural processes of coastal waters, estuaries, coastal lakes and coastal lagoons, and enhance natural character, scenic value, biological diversity and ecosystem integrity,
  - a) to reduce threats to and improve the resilience of coastal waters, estuaries, coastal lakes and coastal lagoons, including in response to climate change,
  - b) to maintain and improve water quality and estuary health,
  - c) to support the social and cultural values of coastal waters, estuaries, coastal lakes and coastal lagoons,
  - d) to maintain the presence of beaches, dunes and the natural features of foreshores, considering the beach system operating at the relevant place,
  - e) to maintain and, where practicable, improve public access, amenity and use of beaches, foreshores, headlands and rock platforms.'

Under section 9(2) of the CM Act, the management objectives for the coastal use area are:

- 'To protect and enhance the scenic, social and cultural values of the coast by ensuring that:
  - I. the type, bulk, scale and size of development is appropriate for the location and natural scenic quality of the coast, and
  - II. adverse impacts of development on cultural and built environment heritage are avoided or mitigated, and
  - III. urban design, including water sensitive urban design, is supported and incorporated into development activities, and
  - IV. adequate public open space is provided, including for recreational activities and associated infrastructure, and
  - V. the use of the surf zone is considered,
- to accommodate both urbanised and natural stretches of coastline.'

The proposed modification would remain consistent with the objectives for the coastal environment and coastal use areas.

#### **4.2.2 Marine Estate Management Act**

A summary of the *Marine Estate Management Act 2014* is included in section 4.3.2 of the project REF. The proposed modification is consistent with the intent of the *Marine Estate Management Act 2014* as outlined in the project REF.

As the proposed modification is within a marine park declared under the *Marine Estate Management Act 2014* (Batemans Marine Park), consultation with the Department of Planning, Infrastructure, and Environment (DPIE) (Regions, Industry, Agriculture & Resources), Department of Primary Industries (DPI) (Fisheries and aquaculture) and DPIE (Batemans Marine Park) is required under the ISEPP (refer to section 5).

A Marine Parks Permit under Clause 1.19(2)(b) of the Marine Estate Management (Management Rules) Regulations 1999 will be required for the 'works in a habitat protection zone'. Any Marine Parks Permit application required for the proposed modification would be assessed independently by DPI Batemans Marine Park against Clause 9 of the Marine Estate Management Regulation 2017. The assessment criteria for a Marine Parks Permit are detailed in Table 2-2 of the submissions report.

#### **4.2.3 Biodiversity Conservation Act 2016**

The *Biodiversity Conservation Act 2016* (BC Act) is discussed in Section 4.3.11 of the project REF. The proposed modification would not require any vegetation clearing and is not expected to result in any impacts to threatened or endangered species or communities. The proposed modification would therefore be consistent with the BC Act. Please refer to Section 6.3 (other impacts) of this addendum REF for the environmental assessment of biodiversity impacts.

#### **4.2.4 Heritage Act 1977**

The *Heritage Act 1977* (Heritage Act) is discussed in Section 4.3.5 of the project REF. The proposed modification is not expected to result in any impacts to non-Aboriginal heritage sites or values. The proposed modification is therefore considered to be consistent with this Act. Please refer to Section 6.3 (other impacts) of this addendum REF for the environmental assessment of non-Aboriginal heritage impacts.

#### **4.2.5 National Parks and Wildlife Act 1979**

The *National Parks and Wildlife Act 1974* (NPW Act) is discussed in Section 4.3.4 of the project REF. The proposed modification is not expected to result in any impacts to Aboriginal Cultural Heritage and therefore would be consistent with the requirements of this Act. Please refer to Section 6.3 (other impacts) of this addendum REF for the environmental assessment of Aboriginal Cultural heritage impacts.

#### **4.2.6 Protection of the Environment Operations Act 1997**

A summary of the *Protection of the Environment Operations Act 1997* (POEO Act) is included in section 4.3.3 of the project REF. The proposed modification does not require a separate environment protection licence (EPL) for scheduled activities or scheduled development work outlined in Schedule 1 of the POEO Act. However, the proposed modification would be carried out under the existing project EPL which covers 'Extractive activities', including dredging.

#### **4.2.7 Biosecurity Act 2015**

The Noxious Weeds Act 1993 (NW Act) is discussed in section 4.3.12 of the project REF. Since determination of the project, the NW Act was repealed by the Biosecurity Act 2015 on 1 July 2017. Any noxious weeds identified during construction of the proposed modification would be managed in accordance with the requirements of the Biosecurity Act 2015 and DPIE (Regions, Industry, Agriculture & Resources) requirements. Safeguards and management measures relevant to weed management are provided in Table 7-1 of this addendum REF.

#### **4.2.8 Water Management Act**

A summary of the Water Management Act 2000 is included in section 4.3.6 of the project REF. The proposed modification remains consistent with the requirements of the Act. An environmental assessment of impacts to water quality is provided in Section 6.1 of this addendum REF.

#### **4.2.9 Fisheries Management Act**

The *Fisheries Management Act 1994* (FM Act) aims to conserve, develop, and share the fishery resources for the benefit of present and future generations.

Section 199 of the FM Act states that an approval is not required for a public authority to undertake dredging or reclamation work. The public authority is required to give the Minister written notice of the proposed works and consider any matters received from the Minister within 21 days of the notice. The proposed modification remains consistent with the requirements of the Act.

### **4.3 Commonwealth legislation**

#### **4.3.1 Environment Protection and Biodiversity Conservation Act 1999**

Under the EPBC Act a referral is required to the Australian Government for proposed 'actions that have the potential to significantly impact on matters of national environmental significance or the environment of Commonwealth land. These are considered in Appendix C and chapter 6 of the addendum REF.

A referral is not required for proposed road actions that may affect nationally listed threatened species, endangered ecological communities and migratory species. This is because requirements for considering impacts to these biodiversity matters are the subject of a strategic assessment approval granted under the EPBC Act by the Australian Government in September 2015. Potential impacts to these biodiversity matters are also considered as part of chapter 6 of the addendum REF

#### **Findings – matters of national environmental significance (other than biodiversity matters)**

The assessment of the proposed modification's impact on matters of national environmental significance and the environment of Commonwealth land found that there would be no change to the findings of the determined activity and would be unlikely to cause a significant impact on matters of national environmental significance or the environment of Commonwealth land. A referral to the Australian Government Department of Agriculture, Water and the Environment is not required.

#### **4.3.2 Other relevant Commonwealth legislation**

No other Commonwealth legislative requirements are triggered by the proposal.



#### **4.4 Confirmation of statutory position**

The proposed modification is categorised as development for the purpose of a road and/or road infrastructure facilities and is being carried out by or on behalf of a public authority. Under clause 94 of ISEPP the proposed modification is permissible without consent. The proposed modification is not State significant infrastructure or State significant development. The proposed modification can be assessed under Division 5.1 of the EP&A Act. Consent from Council is not required.

## 5 Consultation

### 5.1 Consultation strategy

The consultation strategy used for the proposed modification is consistent with the strategy outlined in Section 5.1 of the project REF. The proposed modification has been developed following consultation with DPI (Batemans Marine Park), DPI (Fisheries and aquaculture), TfNSW Maritime Unit, NSW EPA and other stakeholders, as outlined in the following section.

### 5.2 Consultation outcomes

Consultation regarding the proposed modification was undertaken with stakeholders via an Environmental Review Group (ERG) meeting on 16 November 2021. The following stakeholders were present at the ERG:

- Eurobodalla Shire Council (ESC)
- DPI (Batemans Marine Park)
- DPI (Fisheries and aquaculture)
- Environment Protection Authority (EPA)

Temporary jetty removal progress was discussed at the ERG including noting that full removal of piles would be unlikely due to deep embedment in rock. The proposed modification was discussed including the proposal to cut off temporary jetty piles to the following approximate levels:

- 500mm below riverbed level for Bent C and fender piles
- RL -2.9m for Bent A and Bent B piles

The following issues regarding the proposed modification were raised and/or discussed by the relevant stakeholders at the ERG:

**Table 5-1: Summary of issues raised by Agencies**

Stakeholder	#	Issues Raised	Response
DPI (Batemans Marine Park) and DPI (Fisheries and aquaculture)	1	DPI raised concerns regarding justification of extent of excavation and riverbed disturbance, highlighting the need to protect the Marine Park.	The proposed modification minimises the extent of riverbed disturbance while meeting flooding, scour, safety, and maritime requirements.
NSW Environment Protection Authority	2	No specific issues raised	Not required
Eurobodalla Shire Council	3	No specific issues raised	Not required

Additional representations were made by agencies post the ERG, raising concerns with full depth removal and the resultant likely environmental and aquatic impacts. The proposed modification responds to these concerns by balancing technical requirements against these items.

Separate consultation was undertaken with Transport for NSW Maritime Unit on 3 November 2021. Maritime provided guidance of safe vessel keel clearance in the vicinity of the piles which aligns with the proposed modification.

### **5.3 Ongoing or future consultation**

Due to the scope of works proposed and negligible impacts anticipated, ongoing and future consultation regarding the proposed modification is not required.

## 6 Environmental assessment

---

This section of the addendum REF provides a detailed description of the potential environmental impacts associated with the construction and operation of the proposed modification of the Batemans Bay Bridge replacement project. All aspects of the environment potentially impacted upon by the proposed modification are considered. This includes consideration of the guidelines *Roads and Related Facilities EIS Guideline* (DUAP, 1996) and *Is an EIS required?* (DUAP, 1999) the factors specified in section 171 of the Environmental Planning and Assessment Regulation 2021. The factors specified in section 171(2) of the Environmental Planning and Assessment Regulation 2021 are also considered in Appendix B.

Chapter 6 of the project REF provides information about the existing environment, potential impacts from the project and site-specific safeguards and management measures to be implemented to ameliorate the identified potential impacts. After consideration of the issues raised in the submissions, the environmental management measures for the project were revised and included in the submissions report.

Potential impacts and safeguards and mitigations measures for the proposed modification are identified in the following sections. The addendum REF provides detailed information on the key issues associated with the proposed modification which are hydrology and coastal processes.

Desktop assessments of other issues, including noise and vibration, soil and water quality, landscape character and visual impact, traffic and transport, socio-economic, waste management, air quality, Aboriginal heritage, property and land use, non-Aboriginal heritage and climate change and sustainability, and cumulative impacts have also been carried out for this addendum REF and are assessed in section 6.5. Site-specific safeguards and management measures are provided to ameliorate the identified potential impacts.

### 6.1 Hydrology and Coastal Processes

A summary of hydrology and coastal processes is included in section 6.3.2 of the project REF. The project REF includes a hydrology and coastal processes assessment in Appendix E. In March 2019, subsequent to the determination of the project, an independent assessment was undertaken (Batemans Bay Independent Coastal Impact Assessment, GHD 2019).

#### 6.1.1 Methodology

A Flood and Scour Assessment for the Temporary Jetty Pile Removal (Jacobs, 2022) was prepared to assess the likely impacts arising from the partial retention of temporary jetty, mooring and fender piles. The assessment is attached in Appendix E. A desktop assessment was conducted to assess the flood and scour impacts of the partial retention of piles using conservative estimates based on retention of elements below RL -2.9m in shallower water, and -4.2 to -4.5m in deeper water with an approximate disturbance of 236m<sup>3</sup> of sediment.

#### 6.1.2 Potential Impacts

##### **Construction**

The proposed modification would not result in any construction impacts.

## ***Operation***

### ***Flooding***

The proposed modification would have no impact on flooding additional to that assessed in the approved project.

### ***Scour***

Scour impacts from both a local and global perspective would be minimal due to the dynamic nature of hydrological patterns at the location. Global scour processes have the potential to expose up to five of the temporary jetty and fender piles by up to approximately 1m above riverbed level, which could result in the piles becoming subject to local scour. The maximum local scour depths at these piles during a 1 in 100-year ARI flood event is expected to be approximately 1.7m. These levels are considered to be worst case and would not pose a material risk to the existing shoreline revetment wall. The risk of long-term impacts on the shoreline of Batemans Bay is considered negligible.

### **6.1.3      Safeguards and management measures**

The impacts of the proposed modification would be managed through the implementation of the safeguards and management measures identified in Table 7-1 of this addendum REF.

## 6.2 Other impacts

An assessment of other environmental factors is detailed in the Table 6-1 below. Impacts have been assessed from both a construction and operational perspective and any mitigation and management measures detailed in Table 6-1.

### 6.2.1 Existing environment and potential impacts

Table 6-1: Existing environment and potential impacts

Environmental factor	Existing environment	Potential impacts
<b>Traffic, transportation and access</b>	A summary of the existing traffic and transport environment is included in section 6.7.2 of the project REF.	<p>Potential traffic and transport impacts associated with the determined project are included in section 6.7.2 of the project REF and section 4.1.2 of the submissions report.</p> <p><b>Construction</b></p> <p>Neutral impact – no impacts would occur during construction</p> <p><b>Operation</b></p> <p>Neutral impact – no impacts would occur during operation</p> <p><b><i>Safeguards and management measures</i></b></p> <p>The impacts of the proposed modification would be managed through the implementation of the traffic and transport safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Soil and water quality</b>	A summary of the existing soil and water quality environment is included in section 6.4.2 of the project REF.	<p>Potential soil and water quality impacts are identified in section 6.4.3 of the project REF and section 4.8.4 of the submissions report.</p> <p><b>Construction</b></p> <p>Neutral impact – no impacts would occur during construction</p>

Environmental factor	Existing environment	Potential impacts
		<p><b>Operation</b></p> <p>Neutral impact – no impacts would occur during operation</p> <p><b><i>Safeguards and management measures</i></b></p> <p>The impacts of the proposed modification would be managed through the implementation of the traffic and transport safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Biodiversity</b>	A summary of biodiversity matters environment is included in section 6.2 and Appendix D of the project REF.	<p>Potential impacts on biodiversity from construction and operation are included in section 6.2 of the project REF and were further detailed within the submissions report, including supplementary studies for matters relating to Biodiversity.</p> <p><b>Construction</b></p> <p>Neutral impact –Piles are not located in areas within or near seagrass. Impacts are not expected beyond that approved.</p> <p><b>Operation</b></p> <p>Neutral impact – no impacts would occur during operation</p> <p><b><i>Safeguards and management measures</i></b></p> <p>The impacts of the proposed modification would be managed through the implementation of the traffic and transport safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Land use and property</b>	A summary of the existing land use and property environment is included in section 6.8.2 of the project REF.	Potential impacts on property and land use associated with the determined project are included in section 6.8.2

Environmental factor	Existing environment	Potential impacts
		<p>of the project REF and section 4 of the submissions report.</p> <p><b>Construction</b></p> <p>Neutral impact – No land use and property impacts additional to those assessed in the project REF and submissions report would be expected due to the proposed modification during construction.</p> <p><b>Operation</b></p> <p>Neutral impact – no impacts would occur during operation</p> <p><b><i>Safeguards and management measures</i></b></p> <p>The impacts of the proposed modification would be managed through the implementation of the land use and property safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Noise and vibration</b>	A summary of the existing noise and vibration environment is included in section 6.6.3 of the project REF.	<p>A summary of the existing noise and vibration environment is included in section 6.6.3 of the project REF. Potential noise and vibration impacts are included in 6.6.4 of the Project REF.</p> <p><b>Construction</b></p> <p>Neutral impact – no impacts would occur during construction</p> <p><b>Operation</b></p> <p>Neutral impact – no impacts would occur during operation</p> <p><b><i>Safeguards and management measures</i></b></p> <p>The impacts of the proposed modification would be managed through the implementation of the noise and</p>



Environmental factor	Existing environment	Potential impacts
		vibration safeguards and management measures identified in Table 7-1 of this addendum REF.
<b>Aboriginal cultural heritage</b>	A summary of the existing Aboriginal cultural heritage is included in section 6.5.2 of the project REF.	<p>A summary of the existing Aboriginal heritage is included in section 6.5.2 of the project REF. An Aboriginal cultural heritage assessment and consultation in accordance with the Procedure for Aboriginal cultural heritage consultation and investigation (the PACHCI) was carried out for the project.</p> <p><b>Construction</b></p> <p>Neutral impact - No Aboriginal heritage impacts additional to those assessed in the project REF and submissions report would be expected due to the proposed modification during construction.</p> <p><b>Operation</b></p> <p>Neutral impact - No impacts would occur during operation.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the Aboriginal heritage safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Non-Aboriginal heritage</b>	A summary of the existing non-Aboriginal cultural heritage is included in section 6.10.3 of the project REF.	<p>Potential impacts on non-Aboriginal heritage associated with the determined project are included in section 6.10.3 of the project REF and section 4.8.7 of the submissions report.</p> <p><b>Construction</b></p> <p>Neutral impact - No non-Aboriginal heritage impacts additional to those assessed in the project REF and</p>

Environmental factor	Existing environment	Potential impacts
		<p>submissions report would be expected due to the proposed modification during construction.</p> <p><b>Operation</b></p> <p>Neutral impact - No impacts would occur during operation.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the non-Aboriginal heritage safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<p><b>Landscape character and visual impacts</b></p>	<p>A summary of the existing landscape character and visual impact environment is included in section 6.1.2 of the project REF.</p>	<p>A summary of the existing landscape character and visual impact environment is included in section 6.1.2 of the project REF. Potential impacts on landscape character and visual are included in section 6.1.3 of the project REF and section 4.8.1 of the submissions report.</p> <p><b>Construction</b></p> <p>Neutral impact - No visual impacts additional to those assessed in the project REF and submissions report would be expected due to the proposed modification during construction</p> <p><b>Operation</b></p> <p>Neutral impact - No visual impacts are expected during operation as piles would be cut off to a depth which would not be visible.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the Landscape character and visual impacts safeguards and</p>

Environmental factor	Existing environment	Potential impacts
		management measures identified in Table 7-1 of this addendum REF.
<b>Air quality</b>	A summary of the existing air quality environment is included in section 6.12.2 of the project REF.	<p>A summary of the existing air quality environment is included in section 6.12.2 of the project REF. Potential impacts of the project on air quality are included in section 6.12.3 of the project REF.</p> <p><b>Construction</b></p> <p>Neutral Impact – No air quality impacts additional to those assessed in the project REF and submissions report would be expected due to the proposed modification during construction.</p> <p><b>Operation</b></p> <p>Neutral impact - No air quality impacts are expected during operation.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the air quality safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Socio-economic issues</b>	A summary of the existing socio-economic environment is included in section 6.9.2 of the project REF.	<p>A summary of the existing socioeconomic environment is included in section 6.9.2 of the project REF. Potential socio-economic impacts of the project are included in section 6.9.3 of the project REF and section 4.1.2 of the submissions report.</p> <p><b>Construction</b></p> <p>Neutral Impact - No socio-economic impacts additional to those assessed in the project REF and submissions</p>

Environmental factor	Existing environment	Potential impacts
		<p>report would be expected due to the proposed modification during construction</p> <p><b>Operation</b></p> <p>Neutral Impact – No socio-economic impacts are expected during operation as piles in-situ are unlikely to change watercraft movements or operations in the area.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the socio-economic safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<p><b>Climate change and sustainability</b></p>	<p>A summary of the existing environment in regard to climate change and sustainability is included in section 6.13.1 of the project REF.</p>	<p>A summary of the existing environment in regard to climate change and sustainability is included in Section 6.13.1 of the project REF.</p> <p><b>Construction</b></p> <p>Neutral Impact - No climate change and sustainability impacts additional to those assessed in the project REF and submissions report would be expected due to the proposed modification during construction.</p> <p><b>Operation</b></p> <p>Neutral Impact – No climate change and sustainability impacts are expected during operation.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the climate change and sustainability management safeguards and</p>

Environmental factor	Existing environment	Potential impacts
		management measures identified in Table 7-1 of this addendum REF.
<b>Waste and resource management</b>	A description of waste management for the project is included in section 6.11 of the project REF.	<p>A description of potential waste management sources and impacts is included in section 6.11.1 of the project REF and section 6.2 of the submissions report.</p> <p><b>Construction</b></p> <p>Positive Impact - The proposed modification is expected to have a minor reduction in the need to recycle the piles, as some of the pile would now be retained within the bedrock foundation.</p> <p><b>Operation</b></p> <p>Neutral Impact – No waste and resource impacts are expected during operation.</p> <p><b>Safeguards and management measures</b></p> <p>The impacts of the proposed modification would be managed through the implementation of the waste management safeguards and management measures identified in Table 7-1 of this addendum REF.</p>
<b>Cumulative Impacts</b>	A summary of the nearby projects in regard to possible cumulative impacts is included in section 6.14.1 of the project REF.	<p><b>Construction</b></p> <p>No additional projects have been identified that may contribute to cumulative impacts associated with construction of the proposed modification.</p> <p><b>Operation</b></p> <p>No impacts additional to those assessed in the project REF, as amended by the submission report, would be expected due to the proposed modification during operation.</p>

Environmental factor	Existing environment	Potential impacts
		<p><b><i>Safeguards and management measures</i></b></p> <p>The impacts of the proposed modification would be managed through the implementation of the cumulative impacts safeguards and management measures identified in Table 7-1 of this addendum REF.</p>

## **7 Environmental management**

---

### **7.1 Environmental management plans**

A number of safeguards and management measures have been identified to minimise adverse environmental impacts, including social impacts which, could potentially arise as a result of the proposed modification. Should the proposed modification proceed, these management measures would be addressed if required during detailed design and incorporated into the Contractors Environmental Management Plan (CEMP) and applied during the construction and operation of the proposed modification.

Measures within the CEMP are considered sufficient to manage impacts. Further, an Environmental Work Method Statement would be updated for the work area to incorporate the proposed scope.

### 7.1.1 Safeguards and management measures

Environmental safeguards and management measures applicable to this modification for the Batemans Bay Bridge Replacement Project are summarised in Table 7-1. Additional safeguards and management measures identified in this addendum REF are included in bold and italicised font. The safeguards and management measures will be incorporated into the EWMS and implemented during construction and operation of the proposed modification, should it proceed. These safeguards and management measures will minimise any potential adverse impacts arising from the proposed works on the surrounding environment.

**Table 7-1: Summary of safeguards and management measures**

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
GEN1	General - minimise environmental impacts during construction	<p>A CEMP would be prepared in consultation with relevant government agencies and submitted for review and endorsement of the Roads and Maritime Representative prior to commencement of the activity.</p> <p>As a minimum, the CEMP would address the following:</p> <ul style="list-style-type: none"> <li>• any requirements associated with statutory approvals</li> <li>• details of how the project would implement the identified safeguards outlined in the REF and EIS</li> <li>• issue-specific environmental management plans</li> <li>• roles and responsibilities</li> <li>• communication requirements</li> <li>• induction and training requirements</li> <li>• procedures for monitoring and evaluating environmental performance, and for corrective action</li> <li>• reporting requirements and record-keeping</li> <li>• procedures for emergency and incident management</li> <li>• procedures for audit and review</li> <li>• a Demolition Management Plan for the existing bridge removal to address sequencing, contamination and safety issues.</li> </ul>	Contractor / TfNSW	Detailed design Pre-construction Construction	Submissions report, Table 6-1



No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		The endorsed CEMP would be implemented during the undertaking of the activity.			
GEN2	General - notification	All businesses, residents and other key stakeholders (eg schools, local councils) affected by the activity would be notified at least five days prior to commencement of the activity.	Contractor	Pre-construction Construction	
GEN3	General – environmental awareness	<p>All personnel working on site would receive training to ensure awareness of environment protection requirements to be implemented during the project. This would include up-front site induction and regular "toolbox" style briefings.</p> <p>Site-specific training would be provided to personnel engaged in activities or areas of higher risk. These include:</p> <ul style="list-style-type: none"> <li>• working in and near waterways</li> <li>• construction noise management</li> <li>• areas of Aboriginal heritage sensitivity</li> <li>• threatened species habitat</li> <li>• threatened ecological communities</li> <li>• SEPP 14 wetlands</li> </ul>	Contractor	Pre-construction Construction	Submissions report, Table 6-1
<b>Landscape character and visual impact</b>					
LC1	General	An Urban Design and Landscape Plan (UDLP) will be prepared to support the final detailed project design and implemented as part of the CEMP. The UDLP will present an integrated urban design for the project, providing practical detail on the application of design principles and objectives identified in the environmental assessment. The UDLP will include:	Contractor	Detailed design Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> <li>proposed revegetation plan that will include:               <ul style="list-style-type: none"> <li>species to be used</li> <li>screening of infrastructure where required and practical</li> <li>minimising the impacts of headlight glare on surrounding residents</li> <li>planting of foreshore areas to be determined in consultation with Council.</li> <li>procedures for monitoring and maintaining landscaped or rehabilitated areas.</li> </ul> </li> <li>design treatments for:               <ul style="list-style-type: none"> <li>built elements including retaining walls and the bridge and consider application of crime prevention through environmental design strategies</li> <li>pedestrian and cyclist elements including shared use path locations, paving types and pedestrian crossings</li> <li>fixtures such as seating, lighting, fencing and signs</li> <li>details of the staging of landscape works taking account of related environmental controls such as erosion and sedimentation controls and drainage.</li> </ul> </li> </ul> <p>The UDLP will be prepared in accordance with relevant guidelines, including:</p> <ul style="list-style-type: none"> <li>Beyond the Pavement urban design policy, process and principles (Roads and Maritime 2014c)</li> <li>Landscape Guideline (RTA 2008)</li> <li>Bridge Aesthetics (Roads and Maritime 2012c)</li> </ul>			

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> <li>Shotcrete Design Guideline (RTA 2005c).</li> </ul>			
LC2	Integration of earthworks design with existing landform	The potential visual impact of the earthworks will be minimised by careful design that integrates with adjoining landforms. This could be achieved through rounding of the top of cut batters, tailing off of cut batters and a gradual flattening of grades at ends of fill embankments in order to avoid sharp transitions at ends.	Contractor	Detailed design Construction	Submissions report, Table 6-1
LC3	Integration of earthworks design with existing landform	Retaining walls will be constructed to minimise the construction footprint and removal of existing vegetation, where possible. Consideration will be given to screen planting below walls and the use of visually recessive materials in order to minimise the visual dominance of retaining walls.	Contractor	Construction	Submissions report, Table 6-1
LC4	Retention of existing vegetation	The proposal will be designed to avoid impact to prominent trees and vegetation communities where possible. Water quality structures and drainage lines will be designed to avoid existing vegetation where possible.	Contractor	Detailed design	Submissions report, Table 6-1
<b>Biodiversity</b>					
B1	Biodiversity – general	A Biodiversity Management Plan will be prepared as part of the CEMP and implemented throughout construction.	Contractor	Pre-construction Construction	Submissions report, Table 6-1
B2	Biodiversity – general	Roads and Maritime will determine and implement a suitable offset for impacts to key fish habitat and Illawarra and south coast lowland forest and woodland critically endangered ecological community in accordance with the Guideline for Biodiversity Offsets (Roads and Maritime 2016) and the DPI's Policy and guidelines for fish habitat	TfNSW	Detailed design	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		conservation and management (DPI 2013), in consultation with DPI (Fisheries) and OEH.			
B3	Removal of native vegetation	Measures to minimise clearing of native vegetation within the proposal area, including marine vegetation, will be investigated during detailed design and implemented where practicable and feasible.	Contractor	Detailed design Construction	Submissions report, Table 6-1
B4	Flora and flora management guidelines	Biodiversity management and mitigation will be undertaken in accordance with the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) and the associated guides and procedures.	Contractor	Pre-construction Construction	Submissions report, Table 6-1
B5	Loss of potential microbat roosts on existing bridge	The whole of the existing bridge will be inspected for signs of roosting microbats by an ecologist prior to its demolition. Should any roosting microbats, or signs of them, be identified, a Microbat Management Plan will be prepared and implemented.	Contractor	Construction	Submissions report, Table 6-1
B6	Changes to hydrological regimes	The new bridge piers and drainage structures associated with the new road alignment will be located and designed to maintain or improve existing hydrological regimes as far as possible. Particular care should be taken to avoid or minimise additional scour of the extensive sandbar downstream of the existing bridge.	Contractor	Detailed design	Submissions report, Table 6-1
B7	Turbidity, sedimentation and erosion	The extent of instream works will be kept to the minimum necessary for the proposal, and all instream works will be undertaken in a manner that reduces potential for increased turbidity (ie that minimises disturbance to and mobilisation of instream substrates, including potential acid sulfate soils).	Contractor	Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
B8	Turbidity, sedimentation and erosion	Bridge piles will be constructed using a system that minimises mobilisation of sediments, including acid sulfate soils.	Contractor	Construction	Submissions report, Table 6-1
B9	Increased light	Measures to minimise light spill into the waterway and vegetated areas from the new bridge and approaches and new floating pontoon on the southern foreshore will be considered during detailed design.	Contractor	Detailed design	Submissions report, Table 6-1
B10	Ancillary facilities	The Korner's Park ancillary facility boundary would be screened to reduce visual disturbance to threatened shorebirds from movements of vehicles, machinery and people.	Contractor	Construction	Submissions report, Table 6-1
B11	Disturbance to aquatic habitats	Aquatic habitat will be protected in accordance with Guide 10: Aquatic habitats and riparian zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA 2011) and section 3.3.2 Standard precautions and management measures of the Policy and guidelines for fish habitat conservation and management Update 2013 (DPI (Fisheries NSW) 2013).	Contractor	Construction	Submissions report, Table 6-1
B12	Aquatic pests and diseases	All machinery and vessels used during construction are to be verified as clean and free of potential weeds, pests and pathogens prior to arrival to site. Procedures to prevent the introduction or spread of aquatic pests, diseases and saltwater weeds will be developed in consultation with DPI Aquatic Biosecurity and implemented during construction.	Contractor	Construction	Submissions report, Table 6-1
B13	Impacts to fish	Fisheries NSW is to be immediately notified of any fish kills in the vicinity of the works.	Contractor	Construction	Submissions report, Table 6-1
<b>Hydrology and coastal processes</b>					

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
H1	General construction impacts	Temporary drainage structures will be constructed in accordance with the Technical Guideline – Temporary Stormwater Drainage for Road Construction (Roads and Maritime 2011c).	Contractor	Construction	Submissions report, Table 6-1
H2	Stormwater	<p>Additional or alternative ancillary facilities sites will meet the following site assessment criteria, where possible:</p> <ul style="list-style-type: none"> <li>• operational during a flood event and avoid or minimise impacts to surrounding properties</li> <li>• more than 40 metres from a watercourse</li> <li>• more than 50 metres from residential dwellings</li> <li>• in previously disturbed areas that do not require the clearing of native vegetation</li> <li>• in plain view of the public to deter theft and illegal dumping</li> <li>• outside the drip line of trees</li> <li>• on relatively level ground</li> <li>• away from areas of heritage conservation value.</li> </ul> <p>Where additional or alternative ancillary facilities do not meet all of the above criteria, additional relevant controls and assessment (where relevant) will be identified and implemented in consultation with the Roads and Maritime Senior Environment Officer.</p>	Contractor	Construction	Submissions report, Table 6-1
H3	Flooding	Further operational flood modelling will be undertaken during detailed design to confirm that afflux, flood extent and scour are equivalent to or better than assessed in the REF.	Contractor	Detailed design	Submissions report, Table 6-1
H4	Flooding	As part of the CEMP, a Flood Risk Management Plan will be prepared that details the processes for monitoring and mitigating flood risk. The plan will specify the steps to be	Contractor	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		taken in the event of a flood warning, including removal or securing of loose material, equipment, fuels and chemicals.			
H5	Flooding	Further modelling of the one per cent AEP flood event will be carried out for the construction phase of the proposal. This is to consider the cumulative impact of the existing and new bridges and temporary jetties in the Clyde River. Where required, appropriate mitigation will be implemented to avoid any newly flooded properties, buildings or additional flooding to flood evacuation routes.	Contractor	Detailed design	Submissions report, Table 6-1
H6	Scour	A bathymetric survey will be undertaken one to two years after removal of the existing bridge, during normal weather conditions. Survey data will be provided to DPI (Fisheries) for information.	TfNSW	Operation	Submissions report, Table 6-1
H7	Temporary working platform	Consideration will be given to construction methods that eliminate the need for a temporary working platform. If required for construction, the temporary working platform will be designed to minimise disturbance to the shoreline and riverbed. The temporary working platform would be designed in consultation with, and to the satisfaction of, DPIE (Regions, Industry, Agriculture & Resources and Batemans Marine Park).	Contractor	Detailed design	This addendum REF
H8	Temporary working platform - existing rock revetment	Should a temporary working platform be required, the following will be undertaken: <ul style="list-style-type: none"> <li>• a review of work-as-constructed drawings (if available)</li> <li>• a dilapidation survey and condition assessment of the existing revetment on the southern foreshore at least 100m up- and downstream of the temporary working platform location prior to commencement of construction of the new floating pontoon</li> <li>• monitoring of the stability of the existing revetment will be carried out during construction</li> </ul>	Contractor	Detailed design/construction	This addendum REF

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> <li>following a high-discharge flow event, an assessment will be undertaken to confirm the stability of the existing revetment at least 100m up- and downstream of the temporary working platform location.</li> </ul>			
H9	Impact to riverbed and flow conditions	<p>The new floating pontoon will be designed to minimise scour and disturbance to the natural river flow conditions. The following measures should be considered during detailed design:</p> <ul style="list-style-type: none"> <li>minimising the number of piles in the waterway</li> <li>alternative fixing methods such as elastic mooring and anchoring</li> <li>minimising scour by providing additional pile length, implementation of scour protection, or a combination of multiple measures.</li> </ul>	Contractor	Detailed design	This addendum REF
<b>Soil and water quality</b>					
SW1	Water quality monitoring	A water quality monitoring program would be developed in consultation with relevant government agencies and implemented during construction in accordance with Roads and Maritime Guideline for Construction Water Quality Monitoring (Roads and Maritime, 2003).	Contractor	Pre-construction Construction	Submissions report, Table 6-1
SW2	Contaminated land	<p>A Contamination Management Plan will be prepared in accordance with the Guideline for the Management of Contamination (Roads and Maritime, 2013) and implemented during construction. The plan would include, but not be limited to:</p> <ul style="list-style-type: none"> <li>capture and management of any contaminated surface runoff</li> <li>further investigations required to determine the extent, concentration and type of contamination relevant to</li> </ul>	Contractor	Pre-construction Construction	Submissions report, Table 6-1



No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		<p>the proposal, including asbestos, lead and treated timber</p> <ul style="list-style-type: none"> <li>remediation and subsequent validation of identified contaminated land, including any certification required</li> <li>a procedure for the management of unexpected contamination identified during construction</li> <li>measures to ensure the safety of site personnel, local communities and the environment during construction</li> <li>identification of licenced contractor engaged to remove any asbestos containing materials.</li> </ul>			
SW3	Contamination of surface water	All fuels, chemicals, and liquids stored on land will be stored at least 40 metres away from waterways (including existing stormwater drainage system) and will be stored in a sealed bunded area within the ancillary facility. On barges and jetties, fuels, chemicals and liquids will be stored within a bunded area.	Contractor	Construction	Submissions report, Table 6-1
SW4	Contamination of surface water	The refuelling and maintenance of land-based plant and equipment will be undertaken in a designated sealed bunded area at ancillary facilities, where possible. Refuelling of marine based plant and vessels will be undertaken in a suitably bunded area (through use of silt curtain or booms) to minimise risk of spills.	Contractor	Construction	Submissions report, Table 6-1
SW5	Contamination of surface water	Vehicle wash downs and concrete washouts will be carried out within designated sealed bunded areas at ancillary facilities, or carried out off-site. All construction water will either be treated to appropriate levels for reuse or discharge or be removed from site to an appropriately licenced facility.	Contractor	Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
SW6	Contamination of surface water	Regular visual water quality checks (include for turbid plumes and hydrocarbon spills or slicks) will be carried out when working in or near the waterway.	Contractor	Construction	Submissions report, Table 6-1
SW7	Accidental spill	A site specific emergency spill plan will be developed, and include spill management measures in accordance with the Roads and Maritime Code of Practice for Water Management (RTA, 1999) and relevant Environment Protection Authority (EPA) guidelines. The plan would address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including Roads and Maritime and EPA).	Contractor	Pre-construction Construction	Submissions report, Table 6-1
SW8	Accidental spill	Emergency spill kit would be kept on site at all times. Spill kits will be located at all ancillary facilities and main construction work areas, including barges and temporary jetties. All staff would be made aware of the location of the spill kit and trained in its use	Contractor	Construction	Submissions report, Table 6-1
SW9	Acid sulfate soils	An Acid Sulfate Soils Management Plan will be developed as part of the CEMP and implemented during construction. This plan will be prepared in accordance with the Roads and Maritime Guidance for the Management of Acid Sulphate Materials 2005 (RTA 2005a).	Contractor	Pre-construction Construction	Submissions report, Table 6-1
SW10	Soil and water - general	A Soil and Water Management Plan (SWMP) will be prepared and implemented as part of the CEMP. The SWMP will identify all reasonably foreseeable risks relating to soil erosion and water pollution and describe how these risks would be addressed during construction. The SWMP will be reviewed by a soil conservationist on the Roads and Maritime list of Registered Contractors for	Contractor	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Erosion, Sedimentation and Soil Conservation Consultancy Services.			
SW11	Construction surface water	<p>A site specific Erosion and Sediment Control Plan/s will be prepared and implemented as part of the Soil and Water Management Plan. This plan will develop further on the Conceptual Erosion and Sedimentation Management Report located in Appendix F of the REF. Erosion and sediment controls would be developed following the guidelines of the 'Blue Book' (Landcom, 2004 and DECC 2008).</p> <p>The Plan will include:</p> <ul style="list-style-type: none"> <li>• rock armouring of construction sediment basin outlets</li> <li>• preferential reuse of water in construction sediment basins</li> <li>• a basin dewatering procedure in accordance with Roads and Maritime's Technical Guideline Environmental Management of Construction Site Dewatering (2011) including use of floating siphon devices for dewatering where possible</li> <li>• arrangements for managing wet weather events, including monitoring of potential high risk events (such as storms) and specific controls and follow-up measures to be applied in the event of wet weather.</li> </ul>	Contractor	Pre-construction Construction	Submissions report, Table 6-1
SW12	Construction surface water	Surface water diversions will be installed in accordance with the erosion and sedimentation control plan (ESCP) prior to construction commencing.	Contractor	Pre-construction Construction	Submissions report, Table 6-1
SW13	Soil and water - general	A soil conservationist on the Roads and Maritime list of Registered Contractors for Erosion, Sedimentation and Soil Conservation Consultancy Services will be engaged	Contractor	Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		and consulted throughout the construction of the overall proposal.			
SW14	Stormwater runoff	Operational water quality treatment and quantity will be identified during detailed design in consideration of the Roads and Maritime Water Sensitive Urban Design Guidelines (2017), impacts to SEPP 14 wetlands and the capacity of Council's stormwater systems.	Contractor	Detailed design	Submissions report, Table 6-1
SW15	Spill containment	Operational spill containment of a minimum of 20,000 litres will be provided at either end of the bridge to ensure that spills on the new bridge and approaches can be captured before reaching sensitive environments.	Contractor	Detailed design	Submissions report, Table 6-1
SW16	Rehabilitation	Progressive rehabilitation will be carried out during construction, whereby rehabilitation will commence as soon as practicable after works are completed in any area.	Contractor	Construction	Submissions report, Table 6-1
SW17	Groundwater	Further investigations will be undertaken during detailed design to confirm the depth of groundwater near the overall proposal and any potential impacts. If groundwater impacts are likely, a Groundwater Management Plan will be developed and form part of the CEMP. If required, an approval under the <i>Water Management Act 2000</i> will also be obtained following consultation with the DPI Water.	Contractor	Detailed design	Submissions report, Table 6-1
<b>Aboriginal heritage</b>					
AH1	Aboriginal heritage - general	An Aboriginal Heritage Management Plan (AHMP) will be prepared in accordance with the Procedure for Aboriginal cultural heritage consultation and investigation (Roads and Maritime, 2012) and implemented as part of the CEMP. The AHMP will include the Standard Management	Contractor	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Procedure - Unexpected Heritage Items (Roads and Maritime, 2015). It will provide specific guidance on measures and controls to be implemented for managing impacts on Aboriginal heritage. The AHMP will be prepared in consultation with all registered Aboriginal parties.			
AH2	AHIP	An Aboriginal heritage impact permit (AHIP) will be sought for the overall proposal area, including archaeological salvage excavation at sites B Bay Shell 1 and B Bay Shell 2. Salvage excavations will be completed prior to any activities (including pre-construction activities) which may harm Aboriginal objects at these site locations.	Contractor	Construction	Submissions report, Table 6-1
AH3	Unexpected finds	The Unexpected Heritage Items - Heritage Procedure 02 (Roads and Maritime, 2015) will be followed in the event that a potential heritage item is found during construction.	Contactor	Construction	Submissions report, Table 6-1
<b>Noise and vibration</b>					
NV1	Construction noise and vibration	<p>A Noise and Vibration Management Plan (NVMP) will be prepared and implemented as part of the CEMP. The NVMP will be prepared in accordance with the Construction Noise and Vibration Guideline (Roads and Maritime 2016) and identify:</p> <ul style="list-style-type: none"> <li>• all potential significant noise and vibration generating activities associated with the activity</li> <li>• a monitoring program to assess performance against the noise and vibration criteria</li> <li>• arrangements for consultation with affected neighbours and sensitive receivers, including notification and complaint handling procedures</li> </ul>	Contactor	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> <li>contingency measures to be implemented in the event of non-compliance with noise and vibration criteria.</li> </ul>			
NV2	Out of hours work	Out of hours works will be undertaken in accordance with the Construction Noise and Vibration Guideline (Roads and Maritime 2016).	Contractor	Construction	Submissions report, Table 6-1
NV3	Construction vibration	Attended vibration monitoring should be undertaken to determine site-specific minimum working distances for structural damage and human response. Site-specific minimum working distances should be determined whenever significant vibration generating plant will be working close to or within the recommended minimum working distances listed in Appendix I of the REF.	Contractor	Pre-construction Construction	Submissions report, Table 6-1
NV4	Construction vibration	Further attended vibration monitoring should be conducted whenever significant vibration generating plant items are operating close to or within the determined minimum working distances. Locations for vibration monitoring during particular works would be determined by the construction contractor.	Contractor	Construction	Submissions report, Table 6-1
NV5	Construction vibration	Dilapidation surveys will be conducted at all residential and other vibration sensitive receivers within 50 metres of the construction site. Notification of residences potentially affected by vibration by letterbox drop will be carried out for all occupied buildings within 100 metres of the construction site.	Contractor	Pre-construction	Submissions report, Table 6-1
NV6	Operational noise mitigation	Operational noise mitigation requirements will be reviewed during detailed design. At-property treatments will be agreed upon and implemented in consultation with property owners	TfNSW	Detailed design	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
NV7	Operational noise mitigation	Where practical operational noise treatments would be implemented at the start of the construction period.	Contractor	Pre-construction	Submissions report, Table 6-1
NV8	Operational noise	Post construction noise monitoring will be undertaken in accordance with Noise Criteria Guideline (Roads and Maritime 2016) and Noise Mitigation Guideline (Roads and Maritime 2016) within two to twelve months of proposal completion, at selected representative locations along the proposal route.	TfNSW	Post-construction	Submissions report, Table 6-1
<b>Traffic and transport</b>					
T1	Traffic and transport - Construction impacts	<p>An overarching Traffic Management and Safety Plan (TM&amp;SP) with targeted Traffic Management Plans (TMPs) will be prepared and implemented for road and marine traffic during construction. The road, marine and bridge segment delivery TMPs will be prepared in accordance with the Roads and Maritime Traffic Control at Work Sites Manual (Roads and Maritime, 2018) and Batemans Bay Bridge Project Specification D&amp;C G10 Traffic Management (Roads and Maritime, 2017). The TMP will include:</p> <ul style="list-style-type: none"> <li>• confirmation of haulage routes</li> <li>• measures to maintain access to local roads, properties and the waterway</li> <li>• site specific traffic control measures (including signage) to manage and regulate traffic movement</li> <li>• measures to maintain pedestrian and cyclist access</li> <li>• requirements and methods to consult and inform the local community of impacts on the local road network and the waterway</li> </ul>	Contractor	Pre-construction Construction	Addendum REF 2

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		<ul style="list-style-type: none"> <li>access to ancillary facility including entry and exit locations and measures to prevent construction vehicles queuing on public roads</li> <li>a response plan for any construction road or marine traffic incident</li> <li>consideration of other developments that may be under construction to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic</li> <li>monitoring, review and amendment mechanisms.</li> </ul>			
T2	Traffic and transport - Construction impacts	Consultation would be undertaken with all local and regional bus companies that operate in Batemans Bay to confirm any bus diversions and bus stop relocations including a T-Wharf Road and Clyde Street during construction and any operational road network changes.	Contractor	Pre-construction Construction	Submissions report, Table 6-1
T3	Traffic and transport - Construction impacts	Partial road closures (or any short-term full road closures) would be timed to avoid peak periods such as holiday periods when vehicle traffic is high along the highway, where practicable.	Contractor	Construction	Submissions report, Table 6-1
T4	Traffic and transport - Construction impacts	Pedestrian and cyclists connectivity across the construction area would be maintained during construction. The community would be notified of any access changes including alternative routes.	Contractor	Construction	Submissions report, Table 6-1
T5	Traffic and transport - Construction impacts	Access to private properties would be maintained during construction, wherever possible. Where changes to access arrangements or disruption to access are necessary, owners and occupiers would be consulted regarding alternative access arrangements.	Contractor	Construction	Submissions report, Table 6-1



No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
T6	Traffic and transport - Construction impacts	Traffic control plans would be prepared for the construction area and progressively updated as the works progress. The plans would be prepared and implemented by suitably qualified personnel.	Contractor	Construction	Submissions report, Table 6-1
T7	Traffic and transport - Construction impacts	A Road Occupancy Licence would be obtained where required.	Contractor	Construction	Submissions report, Table 6-1
T8	Traffic and transport - Construction impacts	Impacts to parking along the northern and southern foreshores of the Clyde River will be minimised during construction where possible. Where impacts are unavoidable, the community will be notified in advance.	Contractor	Construction	Submissions report, Table 6-1
T9	Traffic and transport - Construction impacts	Consultation would be undertaken with the relevant local schools with students who catch buses to and from Springwater Place, Jeremadra to confirm any changes to or bus stop relocations required during construction.	Contractor	Construction	Addendum REF 2
T10	Traffic and transport - Construction impacts	The local utility provider (Essential Energy) must be consulted as part of the bridge segments and other precast elements transport route assessment.	Contractor	Construction	Addendum REF 2
<b>Property and land use</b>					
P1	Property acquisition	All property acquisition will be carried out in accordance with the Land Acquisition Information Guide (Roads and Maritime, 2012) and the <i>Land Acquisition (Just Terms Compensation) Act 1991</i> .	TfNSW	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
P2	Property acquisition	Property acquisition of Crown Land would be undertaken in accordance with the <i>Crown Lands Act 1989</i> .	TfNSW	Pre-construction and construction	Submissions report, Table 6-1
P3	Property acquisition	Consultation will be undertaken with the owners of properties to be acquired regarding the potential impacts of the acquisition. Where partial acquisition is required, adjustment methods such as vegetation screening requirements would be discussed.	TfNSW	Pre-construction Construction	Submissions report, Table 6-1
P4	Loss of car parking	Consultation will be carried out with Council and the shopping complex owners to identify alternative parking arrangements to replace car parking lost during construction	Contractor	Pre-construction Construction	Submissions report, Table 6-1
P5	Foreshore areas	Consultation will be carried out with Council regarding the rehabilitation and future use of foreshore areas.	TfNSW	Pre-construction Construction	Submissions report, Table 6-1
P6	River access	At least one of the two boat ramps within the proposal area will be available to the public at all times. The public will be notified in advance of access restrictions during construction.	Contractor	Construction	Submissions report, Table 6-1
P7	Changes to boat moorings	Roads and Maritime will consult with boat owners with moorings that will need to be relocated as a result of construction or operation of the new bridge.	TfNSW	Pre-construction Construction	Submissions report, Table 6-1
P8	Rehabilitation of land	Land leased during construction would be reinstated in a manner agreed with the property owner.	Contractor	Operation	Submissions report, Table 6-1
<b>Socio economic</b>					

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
S1	Social impacts	<p>A Community and Stakeholder Engagement Plan will be prepared that details:</p> <ul style="list-style-type: none"> <li>• management of complaints and enquires</li> <li>• procedures and mechanisms that will be implemented in response to the key social impacts identified for the proposal</li> <li>• procedures and mechanisms that will be used to engage with affected land owners, business owners and the wider community to identify potential access, parking, business visibility and other impacts and develop appropriate management measures</li> <li>• procedures to keep the community informed about construction and any associated changes to conditions (eg detours or lane closures) such as through advertisements in local media and advisory notices or variable message signs.</li> </ul>	Contractor	Pre-construction Construction	Submissions report, Table 6-1
S2	Foreshore works	Further consultation will be carried out with government agencies, stakeholders and the community regarding the final design of the river foreshore areas.	Contactor	Pre-construction	Submissions report, Table 6-1
S3	Businesses	Consultation will be carried out with Council regarding a signage strategy for the proposal.	Contactor	Pre-construction	Submissions report, Table 6-1
<b>Non-Aboriginal heritage</b>					
NAH1	Non-Aboriginal heritage - general	A Non-Aboriginal Heritage Management Plan (NAHMP) will be prepared and implemented as part of the CEMP. It will provide specific guidance on measures and controls to be implemented to avoid and mitigate impacts to Non-	Contactor	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Aboriginal heritage, in particular for the southern Car Ferry Ramp.			
NAH2	Unexpected finds	The Unexpected Heritage Items - Heritage Procedure 02 (Roads and Maritime, 2015) will be followed in the event that a potential heritage item is found during construction.	Contactor	Construction	Submissions report, Table 6-1
NAH3	Impacts to local heritage items	An archival record will be prepared for the Batemans Bay Bridge and the northern Car Ferry Ramp. All archival recording will be completed in accordance with the Heritage Branch guidelines How to Prepare Archival Records for Heritage Items and Photographic Recording of Heritage Items Using Film or Digital Capture (Heritage Office 2001, revised 2004, 2006).The archival recording will be deposited with the Roads and Maritime Library, NSW Heritage Division Library, Eurobodalla Shire Council Libraries and the NSW State Library.	TfNSW	Pre-construction	Submissions report, Table 6-1
NAH4	Impacts to local heritage items	A heritage interpretation strategy will be prepared including an interpretation of archaeological remains should any be uncovered. The interpretation strategy will emphasise and enhance heritage values of the existing bridge such as the commercial, social and economic development of Batemans Bay due to its proximity to the Clyde River.	Contractor	Operation	Submissions report, Table 6-1
NAH5	Heritage awareness	The site induction will include details of the kinds of historical relics, structures or deposits which may be encountered during the construction works and the process should unexpected archaeological remains are encountered.	Contractor	Pre-construction Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
NAH6	Removal of Batemans Bay Bridge	The Office of Environment and Heritage will be provided with written notice at least 14 days prior to the removal of the Batemans Bay Bridge from the Roads and Maritime section 170 Register.	TfNSW	Pre-demolition	Submissions report, Table 6-1
<b>Waste management</b>					
W1	Waste management - general	<p>A Waste Management Plan (WMP) will be prepared and implemented as part of the CEMP. The WMP will include but not be limited to:</p> <ul style="list-style-type: none"> <li>• measures to avoid and minimise waste associated with the project</li> <li>• classification of wastes and management options (re-use, recycle, stockpile, disposal)</li> <li>• statutory approvals required for managing both on and off-site waste, or application of any relevant resource recovery exemptions</li> <li>• procedures for storage, transport and disposal</li> <li>• monitoring, record keeping and reporting.</li> </ul> <p>The WMP will be prepared taking into account the Environmental Procedure - Management of Wastes on Roads and Maritime Services Land (Roads and Maritime, 2014) and relevant Roads and Maritime Waste Fact Sheets.</p>	Contractor	Pre-construction Construction Demolition	Submissions report, Table 6-1
W2	Waste management - general	All wastes will be managed and disposed of in accordance with the POEO Act.	Contractor	Construction	Submissions report, Table 6-1
W3	Waste management - general	Appropriate portable toilets or pump out facilities will be provided for construction sites workers and sewage will	Contractor	Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		disposed of appropriately and in accordance with relevant legislation.			
W4	Waste management - general	Noxious weeds removed during construction will be managed in accordance with Department of Primary Industries requirements and relevant legislation.	Contractor	Construction	Submissions report, Table 6-1
W5	Waste management - general	Site inductions will include waste management and disposal requirements and facilities.	Contractor	Construction	Submissions report, Table 6-1
W6	Fill material	Excavated material will be reused on-site where feasible and suitable for the intended reuse to reduce demand on resources. Where excavated material cannot be used on site, opportunities for reuse on nearby projects will be investigated.	Contractor	Construction	Submissions report, Table 6-1
W7	Fill material	Any additional fill material required will be sourced from appropriately licensed facilities and/or other construction projects wherever possible. Additional fill material will be sourced and verified as suitable for use in accordance with relevant EPA and Roads and Maritime guidelines.	Contractor	Construction	Submissions report, Table 6-1
W8	Management of green waste	Where possible and suitable for use, mulch would be used on-site.	Contractor	Construction	Submissions report, Table 6-1
W9	Disposal of waste	All waste and excess excavated material will be disposed of at an appropriate licensed facility.	Contractor	Construction	Submissions report, Table 6-1
W10	Management of tannins	A tannin leachate management protocol will be developed in consultation with DPI (Fisheries) in accordance with Roads and Maritime' Environmental Direction –	Contractor	Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
		Management of Tannins from Vegetation Mulch (Roads and Maritime, 2012) to manage the stockpiling of mulch and use of cleared vegetation and mulch filters for erosion and sediment control			
<b>Air quality</b>					
A1	General air quality impacts	<p>An Air Quality Management Plan (AQMP) will be prepared and implemented as part of the CEMP. The AQMP will include:</p> <ul style="list-style-type: none"> <li>• identification of potential risks/impacts due to the work/activities as dust generation activities</li> <li>• management measures to minimise risk of dust generation</li> <li>• a process for monitoring dust on-site</li> <li>• a process for altering management measures as required and reprogramming construction activities if the safeguards and management measures do not adequately restrict dust generation.</li> </ul>	Contractor	Pre-construction Construction	Submissions report, Table 6-1
A2	Dust emissions	Work will cease when levels of visible airborne dust become excessive.	Contractor	Construction	Submissions report, Table 6-1
A3	Dust emissions	Works that disturb vegetation, soil or stockpiles will not be carried out during strong winds (over 40 km/h) when this may affect receivers (visibility on roads dust and debris near recreational areas residences and commercial premises).	Contractor	Construction	Submissions report, Table 6-1
A4	Dust emissions	Stockpiled materials will be covered stabilised or stored in areas not subject to high wind.	Contractor	Construction	Submissions report, Table 6-1

No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
A5	Dust emissions	All trucks will be covered when transporting material to and from the site.	Contractor	Construction	Submissions report, Table 6-1
<b>Climate change and sustainability</b>					
C1	Greenhouse gas emissions	The use of alternative fuels and power sources for construction plant and equipment will be investigated and implemented, where appropriate.	Contractor	Pre-construction	Submissions report, Table 6-1
C2	Greenhouse gas emissions	The energy efficiency and related carbon emissions will be considered in the selection of vehicle and plant equipment	Contractor	Pre-construction	Submissions report, Table 6-1
C3	Greenhouse gas emissions	Construction equipment, plant and vehicles will be appropriately sized for the task.	Contractor	Construction	Submissions report, Table 6-1
C4	Greenhouse gas emissions	Equipment will be serviced frequently to ensure they are operating efficiently.	Contractor	Construction	Submissions report, Table 6-1
C5	Greenhouse gas emissions	Where possible, materials will be delivered as full loads and local suppliers will be used.	Contractor	Construction	Submissions report, Table 6-1
<b>Cumulative impacts</b>					
CU1	Cumulative impacts	Ongoing coordination and consultation will be undertaken between the contractors from the Nelligen and Batemans Bay bridge replacement projects to ensure cumulative traffic impacts are appropriately assessed and managed particularly during peak holiday periods.	TfNSW / Contractor	Detailed design Construction	Submissions report, Table 6-1



No.	Impact	Environmental safeguards	Responsibility	Timing	Reference
CU2	Cumulative impacts	The CEMP will be revised to consider potential cumulative impacts from surrounding development activities as they become known.	Contractor	Construction	Submissions report, Table 6-1

## 7.2 Licensing and approvals

All relevant licenses, permits, notifications and approvals needed for the modification are listed in Table 7-2.

**Table 7-2: Summary of licensing and approval required**

<b>Instrument</b>	<b>Requirement</b>	<b>Timing</b>
<b><i>Protection of the Environment Operations Act 1997 (s43)</i></b>	Environment protection licence (EPL) for scheduled activities being road construction from the EPA.	Prior to start of the activity (EPL in place)
<b><i>Fisheries Management Act 1994 (s205)</i></b>	Permit to harm marine vegetation from the Minister for Primary Industries.	Prior to start of the activity (permit previously issued for the Project)
<b><i>National Parks and Wildlife Act 1974 (s90)</i></b>	Aboriginal heritage impact permit (AHIP) from the Chief Executive of OEH.	Prior to start of the activity (AHIP in place for Project)
<b><i>Marine Estate Management Act 2014</i></b>	Marine Parks Permit for work in the Batemans Bay Marine Park.	Amendment to existing permit to allow works to be undertaken (being work within the Batemans Marine Park).
<b><i>Crown Land Management Act 2016 (s6)</i></b>	Licence to occupy areas of Crown land.	Obtained prior to start of the Project.

## 8 Conclusion

### 8.1 Justification

The proposed modification is needed as the temporary jetty piles located within the bedrock are unable to be fully removed and therefore require partial retention. The proposed modification, as described and assessed in this addendum REF, does not change the strategic need or the objectives of the Project and remain consistent with the approval.

The need for the proposed modification is as follows:

- To respond to geotechnical conditions which prevent the full removal of piles
- To balance safety of future users and the need for appropriate keel clearances for watercraft
- To reduce excavation of material from the riverbed which would be required for full removal of piles, and therefore minimise removal/mobilisation of sediment in the river system
- Return the site to a condition which balances current and future needs

The impacts of the proposed modification are minor in nature. Due to the above considerations, the proposed modification is considered justified.

### 8.2 Objects of the EP&A Act

Table 8-1: Objects of the EP&A Act

Object	Comment
<b>1.3(a) To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.</b>	Not relevant to the proposed modification.
<b>1.3(b) To facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment.</b>	Not relevant to the proposed modification.
<b>1.3(c) To promote the orderly and economic use and development of land.</b>	Not relevant to the proposed modification.
<b>1.3(d) To promote the delivery and maintenance of affordable housing.</b>	Not relevant to the proposed modification.
<b>1.3(e) To protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats.</b>	Not relevant to the proposed modification.
<b>1.3(f) To promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).</b>	Not relevant to the proposed modification.

<b>1.3(g) To promote good design and amenity of the built environment.</b>	Not relevant to the proposed modification.
<b>1.3(h) To promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants.</b>	Not relevant to the proposed modification.
<b>1.3(i) To promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State.</b>	Not relevant to the proposed modification.
<b>1.3(j) To provide increased opportunity for community participation in environmental planning and assessment.</b>	Not relevant to the proposed modification.

### **8.3 Ecologically sustainable development**

Ecologically sustainable development was addressed in Section 8.2 of the project REF. The proposed modification is consistent with this assessment.

### **8.4 Conclusion**

This addendum REF has examined and taken into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the proposed activity.

This has included consideration where relevant, of conservation agreements and plans of management under the NPW Act, biodiversity stewardship sites under the BC Act, wilderness areas, areas of outstanding value, impacts on threatened species, populations and ecological communities and their habitats and other protected fauna and native plants. It has also considered potential impacts to matters of national environmental significance listed under the Federal EPBC Act.

A number of potential environmental impacts from the proposed modification have been avoided or reduced during the design development and options assessment. The proposed modification as described in the addendum REF best meets the project objectives but would still result in some impacts on coastal processes where short-term minor impacts have been identified. Safeguards and management measures as detailed in this addendum REF would ameliorate or minimise these expected impacts.

The proposed modification would reduce the extent of riverbed disturbance and potential soil and water quality impacts. On balance the proposed modification is considered justified and the following conclusions are made.

#### **Significance of impact under NSW legislation**

The proposed modification would not result in a change to the findings of the project REF, Submissions Report, and Addendum REF's 1-3 and would be unlikely to cause a significant impact on the environment. Therefore, it is not necessary for an environmental impact statement to be prepared and approval to be sought from the Minister for Planning and Public Spaces under Division 5.2 of the EP&A Act. A Biodiversity Development Assessment Report or Species Impact Statement is not required. The proposed modification is subject to assessment under Division 5.1 of the EP&A Act. Consent from Council is not required.

#### **Significance of impact under Australian legislation**

The proposed modification would not likely cause a significant impact on matters of national environmental significance or the environment of Commonwealth land within the meaning of the EPBC Act. A referral to the Australian Government Department of Agriculture, Water and the Environment is not required.

## 9 Certification

This addendum review of environmental factors provides a true and fair review of the proposed modification in relation to its potential effects on the environment. It addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposed modification.



Mark Turner

Environment and Approvals Manager

John Holland

Date: 12/07/22

I have examined this addendum review of environmental factors and accept it on behalf of Transport for NSW.



Vivien Murnane

Project Manager

Regional project Development and Delivery (South)

Date: 12/07/2022

## 10 References

---

- Department of Urban Affairs and Planning (1996) Roads and Related Facilities EIS Guideline.
- Department of Urban Affairs and Planning (1999) Is an EIS required?
- DoEE (2018) EPBC Act Protected Matters Report. <http://www.environment.gov.au/webgis-framework/apps/pmst/pmst.jsf>
- DPE (2018) Coastal Management. <https://www.planning.nsw.gov.au/Policy-and-Legislation/Coastal-management>
- EPA (2018a) Contaminated land - record of notices.  
<https://apps.epa.nsw.gov.au/prclmapp/aboutregister.aspx>
- EPA (2018b) List of NSW contaminated sites notified to the EPA.  
<https://www.epa.nsw.gov.au/your-environment/contaminated-land/notification-policy/contaminated-sites-list>
- NSW (2016) Coastal Management Act 2016.  
<https://www.legislation.nsw.gov.au/#/view/act/2016/20/part2>
- OEH (2011) Southeast NSW Native Vegetation Classification and Mapping - SCIVI. VIS\_ID 2230 via NSW Government Sharing and Enabling Environmental Data (SEED)  
[https://datasets.seed.nsw.gov.au/dataset/southeast-nsw-native-vegetation-classification-and-mapping-scivi-vis\\_id-223006f8a](https://datasets.seed.nsw.gov.au/dataset/southeast-nsw-native-vegetation-classification-and-mapping-scivi-vis_id-223006f8a)
- OEH (2015) Australian Soil Classification (ASC) Soil Type map of NSW.  
<https://datasets.seed.nsw.gov.au/dataset/australian-soil-classification-asc-soil-type-map-of-nswaaa10>
- OEH (2018) NSW Bionet, species sightings search.  
[https://www.environment.nsw.gov.au/atlaspublicapp/UI\\_Modules/ATLAS\\_/AtlasSearch.aspx](https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx)

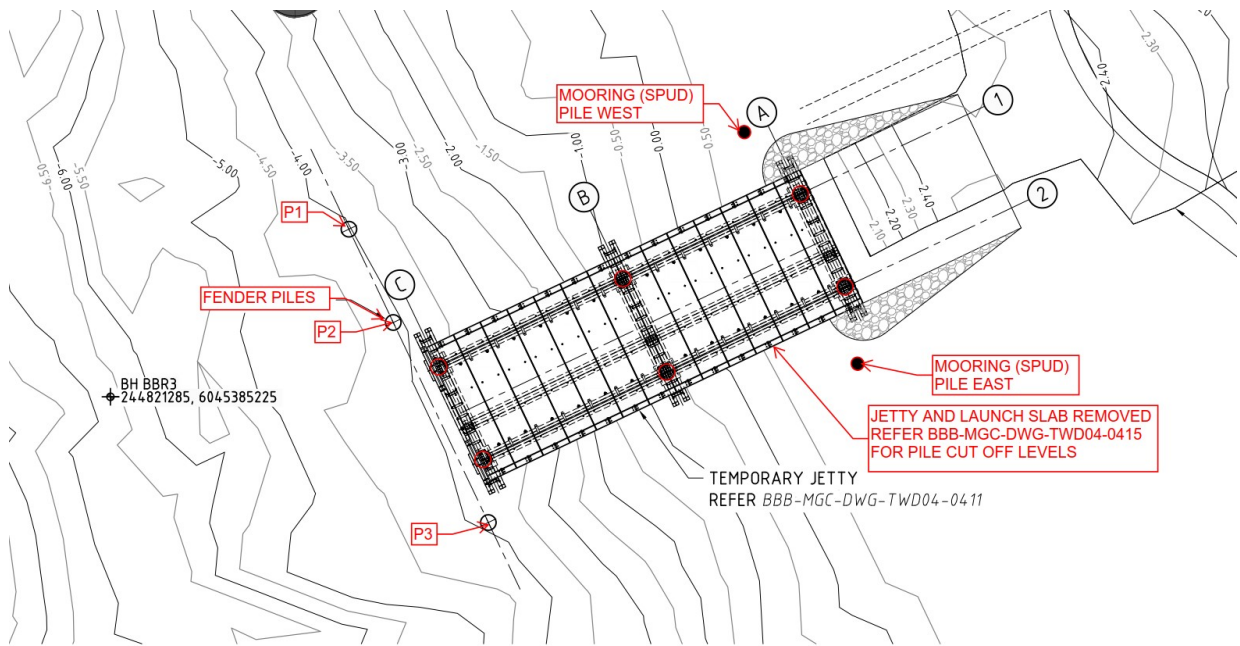
Terms and acronyms used in this addendum REF

Term / Acronym	Description
<b>BC Act</b>	<i>Biodiversity Conservation Act 2016 (NSW).</i>
<b>CEMP</b>	Construction environmental management plan
<b>EIA</b>	Environmental impact assessment
<b>EP&amp;A Act</b>	Environmental Planning and Assessment Act 1979 (NSW). Provides the legislative framework for land use planning and development assessment in NSW
<b>EPBC Act</b>	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth). Provides for the protection of the environment, especially matters of national environmental significance, and provides a national assessment and approvals process.
<b>ESD</b>	Ecologically sustainable development. Development which uses, conserves and enhances the resources of the community so that ecological processes on which life depends, are maintained and the total quality of life, now and in the future, can be increased
<b>FM Act</b>	<i>Fisheries Management Act 1994 (NSW)</i>
<b>Heritage Act</b>	<i>Heritage Act 1977 (NSW)</i>
<b>ISEPP</b>	State Environmental Planning Policy (Infrastructure) 2007
<b>LALC</b>	Local Aboriginal Land Council
<b>LEP</b>	Local Environmental Plan. A type of planning instrument made under Part 3 of the EP&A Act.
<b>LoS</b>	Level of Service. A qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers.
<b>NES</b>	Matters of national environmental significance under the Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
<b>NPW Act</b>	<i>National Parks and Wildlife Act 1974 (NSW)</i>
<b>Roads and Maritime</b>	NSW Roads and Maritime was dissolved by the Transport Administration Amendment Bill in August 2019, all function are now managed by Transport for NSW
<b>SEPP</b>	State Environmental Planning Policy. A type of planning instrument made under Part 3 of the EP&A Act.
<b>SEPP 14</b>	State Environmental Planning Policy No.14 – Coastal Wetlands
<b>TSC Act</b>	<i>Threatened Species Conservation Act 1995 (NSW)</i>
<b>QA Specifications</b>	Specifications developed by Roads and Maritime Services for use with road work and bridge work contracts let by Transport for NSW.



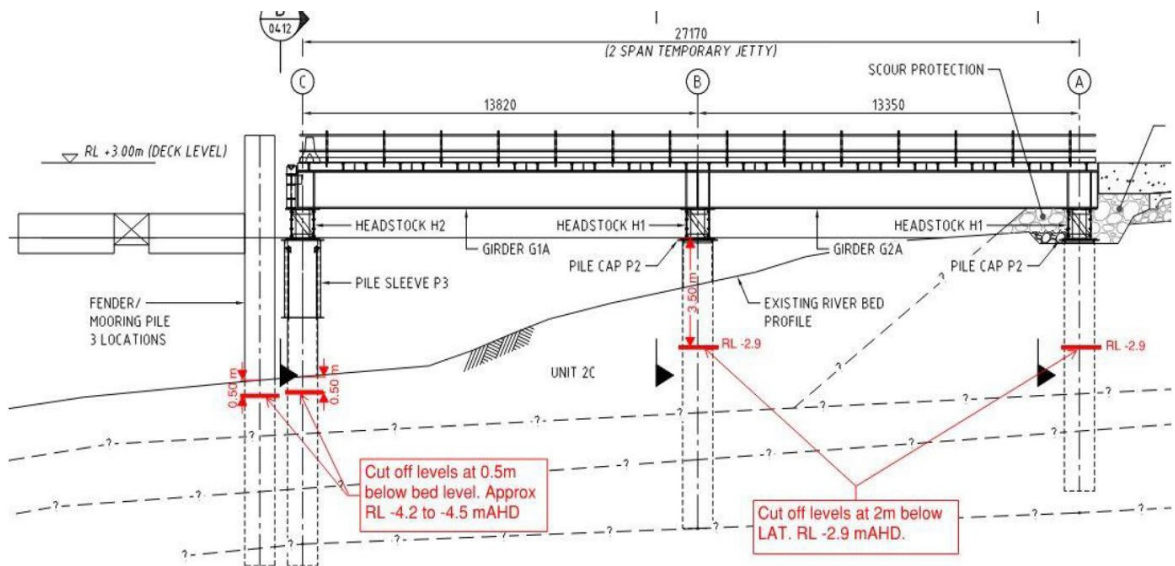
# Appendix A

Figures - Indicative concept design



**SITE PLAN**  
SCALE 1:250

**Plan view**



**Elevation**

## **Appendix B**

**Consideration of section 171(2) factors**

## Clause 171(2) Checklist

In addition to the requirements of the Is an EIS required? (1995/1996) guideline and the Roads and Related Facilities EIS Guideline (DUAP, 1996) as detailed in the addendum REF, the following factors, listed in clause 171(2) of the Environmental Planning and Assessment Regulation 2021, have also been considered to assess the likely impacts of the proposed modification on the natural and built environment.

Factor	Impact
Any environmental impact on a community?	Nil
Any transformation of a locality?	Nil
Any environmental impact on the ecosystems of the locality?	Nil
Any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality?	Nil
Any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?	Nil
Any impact on the habitat of protected fauna (within the meaning of the <i>National Parks and Wildlife Act 1974</i> )?	Nil
Any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air?	Nil
Any long-term effects on the environment?	Nil
Any degradation of the quality of the environment?	Nil
Any risk to the safety of the environment?	Nil
Any reduction in the range of beneficial uses of the environment?	Nil
Any pollution of the environment?	Nil
Any environmental problems associated with the disposal of waste?	Nil
Any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply?	Nil
Any cumulative environmental effect with other existing or likely future activities?	Nil
Any impact on coastal processes and coastal hazards, including those under projected climate change conditions?	Potential minor impacts. Potential for some pile remnants in deeper water to be exposed. Potential minor

Factor	Impact
	localised scour at these pile locations during a 1 in 100-year ARI flood event.
<b>Applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1</b>	Applicable plans are addressed in section 2.1 of the project REF and Chapter 4 of this Addendum REF
<b>Other relevant environmental factors</b>	Nil

## **Appendix C**

**Consideration of matters of National Environmental Significance and Commonwealth land**

## Matters of National Environmental Significance and Commonwealth land

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance and impacts on Commonwealth land are required to be considered to assist in determining whether the proposed modification should be referred to the Australian Government Department of Water, Agriculture and the Environment.

Under the EPBC Act strategic assessment approval a referral is not required for proposed road actions that may affect nationally listed threatened species, populations, endangered ecological communities and migratory species. Impacts on these matters are assessed in detail as part of this addendum REF in accordance with Australian Government significant impact criteria and taking into account relevant guidelines and policies.

Factor	Impact
Any impact on a World Heritage property?	Nil
Any impact on a National Heritage place?	Nil
Any impact on a wetland of international importance?	Nil
Any impact on a listed threatened species or communities?	Nil
Any impacts on listed migratory species?	Nil
Any impact on a Commonwealth marine area?	Nil
Does the proposed modification involve a nuclear action (including uranium mining)?	Nil
Additionally, any impact (direct or indirect) on Commonwealth land?	Nil

## **Appendix D**

### **Statutory consultation checklists**



# Infrastructure SEPP

## Development within the Coastal Zone

Issue	Description	Yes / No / NA	ISEPP clause
Development with impacts on certain land within the coastal zone	Is the proposal within a coastal vulnerability area and is inconsistent with a certified coastal management program applying to that land?	No	ISEPP cl. 15A

## Council related infrastructure or services

Issue	Potential impact	Yes / No	ISEPP clause
<b>Stormwater</b>	Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	No	ISEPP cl.13(1)(a)
<b>Traffic</b>	Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	No	ISEPP cl.13(1)(b)
<b>Sewerage system</b>	Will the works involve connection to a council owned sewerage system? If so, will this connection have a substantial impact on the capacity of any part of the system?	No	ISEPP cl.13(1)(c)
<b>Water usage</b>	Will the works involve connection to a council owned water supply system? If so, will this require the use of a substantial volume of water?	No	ISEPP cl.13(1)(d)
<b>Temporary structures</b>	Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow?	No	ISEPP cl.13(1)(e)
<b>Road &amp; footpath excavation</b>	Will the works involve more than minor or inconsequential excavation of a road or adjacent footpath for which council is the	No	ISEPP cl.13(1)(f)

Issue	Potential impact	Yes / No	ISEPP clause
	roads authority and responsible for maintenance?		

### Local heritage items

Issue	Potential impact	Yes / No	ISEPP clause
<b>Local heritage</b>	Is there is a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?	No	ISEPP cl.14

### Flood liable land

Issue	Potential impact	Yes / No	ISEPP clause
<b>Flood liable land</b>	Are the works located on flood liable land? If so, will the works change flood patterns to more than a minor extent?	No	ISEPP cl.15
<b>Flood liable land</b>	Are the works located on flood liable land? (To any extent). If so, do the works comprise more than minor alterations or additions to, or the demolition of, a building, emergency works or routine maintenance	No	ISEPP cl.15AA

Note: Flood liable land means land that is susceptible to flooding by the probable maximum flood event, identified in accordance with the principles set out in the manual entitled Floodplain Development Manual: the management of flood liable land published by the New South Wales Government.

### Public authorities other than councils

Issue	Potential impact	Yes / No	ISEPP clause
<b>National parks and reserves</b>	Are the works adjacent to a national park or nature reserve, or other area reserved under the <i>National Parks and Wildlife Act 1974</i> , or on land acquired under that Act?	No	ISEPP cl.16(2)(a)
<b>National parks and reserves</b>	Are the works on land in Zone E1 National Parks and Nature Reserves	No	ISEPP

Issue	Potential impact	Yes / No	ISEPP clause
	or in a land use zone equivalent to that zone?		cl. 16(2)(b)
<b>Aquatic reserves and marine parks</b>	Are the works adjacent to an aquatic reserve or a marine park declared under the <i>Marine Estate Management Act 2014</i> ?	Yes	ISEPP cl.16(2)(c)
<b>Sydney Harbour foreshore</b>	Are the works in the Sydney Harbour Foreshore Area as defined by the <i>Sydney Harbour Foreshore Authority Act 1998</i> ?	No	ISEPP cl.16(2)(d)
<b>Bush fire prone land</b>	Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional centre or group home in bush fire prone land?	No	ISEPP cl.16(2)(f)
<b>Artificial light</b>	Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	No	ISEPP cl. 16(2)(g)
<b>Defence communications buffer land</b>	Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhardt LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).	No	ISEPP cl. 16(2)(h)
<b>Mine subsidence land</b>	Are the works on land in a mine subsidence district within the meaning of the <i>Mine Subsidence Compensation Act 1961</i> ?	No	ISEPP cl. 16(2)(i)

## **Appendix E**

### **Flooding and Scour Assessment (Jacobs)**

---

<b>Subject</b>	<b>Flood &amp; Scour Assessment for the Temporary Jetty Pile Removal</b>	<b>Project Name</b>	Batemans Bay Bridge Design & Construct
<b>Attention</b>	Ed McPhillips	<b>Project No.</b>	IA192900
<b>From</b>	Shane Ruscheinsky & Joris Jorissen		
<b>Date</b>	8 July 2022		
<b>Copies to</b>	Peter Chon		

---

### 1. Introduction

The Batemans Bay Bridge replacement project is located on the Clyde River at Batemans Bay where the scope is the construction of a new bridge with associated road re-alignment and demolition of the existing bridge.

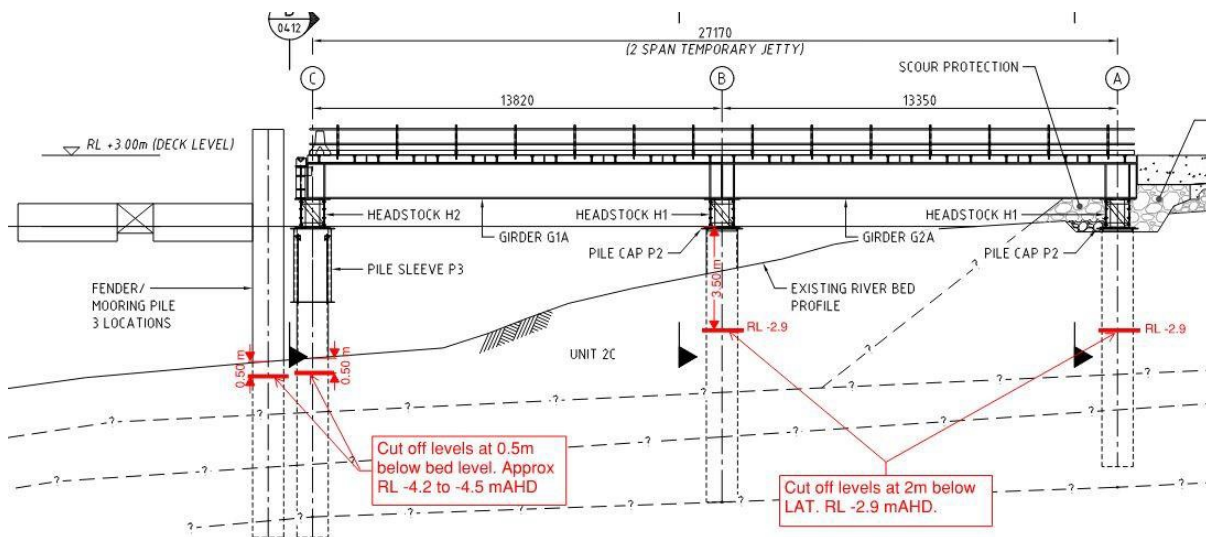
To facilitate demolition of the existing bridge, John Holland Group (JHG) constructed a two-span temporary jetty on the northern foreshore about 50 metres south east (downstream) of the existing bridge. To achieve the required lateral loads, the temporary jetty piles were driven into the underlying bedrock to a depth of 4 to 5 meters.

Following an assessment of the piles pull out resistance, JHG now proposes to cut off the piles at the levels displayed in Table 1-1 and shown on Figure 1-1.

**Table 1-1 – Proposed pile cut off levels**

Piles	Number and diameter of piles	Cut off level
Bent A	2 x 1050mm diameter, 2 x 610mm diameter	2m below LAT (RL-2.9 m AHD)
Bent B	2 x 1050mm diameter	2m below LAT (RL-2.9 m AHD)
Bent C	2 x 1050mm diameter	250-500mm below bed level (around RL-4.2 to -4.5 m AHD*)
Fender	3 x 1050mm diameter	250-500mm below bed level (around RL-4.2 to -4.5 m AHD*)

\* Based on most recent bathymetric survey data.



**Figure 1-1 – Sketch of proposed pile cut off levels**

Localised excavation and dredging around the piles will be required to achieve the cut off levels. JHG has estimated that removal of approximately 236m<sup>3</sup> of sediment will be required to allow the piles to be cut off and the launching pad to be removed.

An Addendum to the Review of Environmental Factors (REF) is required to assess the potential impacts of the proposed cut off activities and leaving the piles partially in situ.

Jacobs has been commissioned by JHG to carry out a desktop assessment to assess the flood and erosion impacts of these activities, which are documented in this memorandum.

## 2. Flood impacts

Assessment of existing flood behaviour (prior to the bridge replacement) and flooding impacts associated with the operation and construction of the new bridge have been completed for the detailed design and construction phase service (CPS) and are documented in:

- Design Report – Flooding Assessment dated 15 February 2019 (document number BBB-JAC-REP-DR-0002).
- Flood Modelling for the Construction Phase (Updated Bathymetry) dated 26 May 2021 (document number BBB-JAC-MEM-HE-0003).

The operational phase flood modelling previously completed for the detailed design showed reductions in flood levels upstream of the new bridge compared to existing conditions before the bridge replacement.

The proposed cut-off of the temporary jetty piles would not affect the previously reported operational flood model results and impacts as the proposed cut off levels are all below the river-bed level used to represent the bathymetry surface in the flood model.

## 3. Scour Impacts

To assess the impacts of the pile residues on the erosion risks of existing assets, a desktop assessment was undertaken to estimate the scour potential around the pile due to the combined effect of global scour and local scour.

Global scour refers to the lowering of the bed that occurs irrespective of the presence of a structure and includes erosion due to deficits in the sediment supply, channel migration and coastal entrance dynamics. Local scour refers to the lowering of the bed in the vicinity of a structure due to accelerations and decelerations of the near-bed velocities and the associated turbulence (vortices) leading to an increase of the local sand transport capacity.

### **Global scour**

The entrance of the Clyde River and the inner part of Batemans Bay is a highly dynamic system that is constantly adapting to ever changing tidal and fluvial flows, waves, storms, and sediment availability. A description of the sediment transport regime of the entrance system, including conceptual model, is provided in Jacobs (2020).

The foreshore around the site of the temporary jetty is also highly dynamic and has experienced significant erosion and accretion cycles in the past. These erosion and accretion cycles are primarily related to the way sand is supplied and transport through the beach system.

Both waves and currents have substantial effect in shaping the foreshore area around Korner's Park. At most times, low to moderate wave action and ebb/flood tidal currents interact to cause slow but significant progressive sand transport and shoreline changes over time. The dominant direction of the sand transport during these times is towards the north.

Typically, a shore-attached sand wave is formed at Surfside Beach West and most of the transport from this beach northwards occurs as a migrating shore-attached slug, which usually is dispersed gradually by tidal currents as it migrates northwards past Korner's Park, as illustrated by the aerial photographs in Appendix A. Occasionally a well-established sand spit can be formed at the southern end of Wharf Road.

During flood events, flow currents from the Clyde River dominate the sand transport. Major floods can result in a substantial re-distribution of sand in the river entrance and can lead to significant changes in the shoreline around the temporary jetty site. When currents dominate the sand movement, the shoreline tends to run more or less east-west from the river channel to Surfside Beach West.

Due to the highly dynamic behaviour of the area, the shoreline has seen substantial variation in shape and position in recorded history. Figure A-1 shows that in August 2011 the shoreline at the site of the temporary jetty was located significantly further landwards compared to the surveyed shoreline position and at the time there was no intertidal beach in front of the seawall.

Based on this, it is estimated that as a result of global scour processes, bed levels around the shoreline of the temporary jetty could occasionally be up to about 3m lower than the bed levels of the latest survey. Consequently, a global scour allowance of 3m is recommended for those piles located in the inshore area (i.e. piles of Bent A and B).

The bed level fluctuations in the deeper areas along the temporary jetty are expected to be smaller, as these areas are less morphologically active. For the purposes of assessing the scour risk of the cut off piles, a global scour allowance of 1.5m (compared to surveyed levels) is recommended for the piles of Bent C and the fender/mooring piles.

### **Local scour**

To assess if the cut-off piles of the temporary jetty could impact on the erosion risk of any existing infrastructure, the maximum local scour depths around the piles were estimated using the

"Superposition of Scour Component Method" as documented in "Evaluating Scour at Bridges – Fifth Edition" (US Department of Transportation, 2012).

Flow current and water level inputs for the calculations were obtained from Jacobs' flood model (Q100 design flood event).

As a precautionary approach, the scour depths were calculated on the assumption that a design flood event would occur when the beach is in an eroded state at the onset of the flood event. Assuming undisturbed bed levels around the pile group A and B being 3m below the surveyed riverbed levels and 1.5m around pile group C and the fender/mooring piles.

The calculated local design scour depths for each pile are presented in Table 3-1.

### Total scour risks

The estimated maximum design scour level at each pile is presented in Table 3-1

The table demonstrates that the piles of Bent A and B are expected to remain buried after cut-off, even after a global scour event, and thus there will be no significant local scour around these piles. For piles of Bent C and P, the local scour potential during a 1 in 100-year ARI flood is approximately 1.7m., which means that the scour hole around these piles could potentially erode to bedrock.

Immediately following a flood event, a scour hole with steep side slopes (approximately equal to the natural angle of repose of the bed material) can be left on the bed. However, there is a wider zone around this hole where the ground has reduced bearing capacity. Typically, this zone extends from the bottom of the scour hole under a slope of about 3 to 1 (Horizontal to Vertical). Structures founded on sand within this wider zone of reduced bearing capacity could be impacted.

The distance between the outer piles (Bent C and P) and the existing rock seawall along Korner's Park is such that these cut off piles cannot pose a material risk to the existing seawall.

**Table 3-1- Estimated scour potential around cut-off piles**

Pile ID	Riverbed Level (RL)	Estimated Rock Level (RL)	Final Pile Toe (RL)	Proposed Cut off level (RL)	global scour allowance (m)	adopted undisturbed bed level (RL)	Outcropping pile height (m)	Local scour depth (m)	Total Design Scour Level (RL)#
A-1	1.1	-4.8	-10.4	-2.9m (2m below LAT)	3.0	-1.9	0.0	0.0	-1.9
A-2	1.0	-6.3	-9.6	-2.9m (2m below LAT)	3.0	-2.0	0.0	0.0	-2.0



Pile ID	Riverbed Level (RL)	Estimated Rock Level (RL)	Final Pile Toe (RL)	Proposed Cut off level (RL)	global scour allowance (m)	adopted undisturbed bed level (RL)	Outcropping pile height (m)	Local scour depth (m)	Total Design Scour Level (RL) <sup>#</sup>
B-1	0.1	-5.9	-12.6	-2.9m (2m below LAT)	3.0	-2.9	0.0	0.0	-2.9
B-2	0.3	-5.7	-13.2	-2.9m (2m below LAT)	3.0	-2.7	0.0	0.0	-2.7
C-1	-4.0	-7.1	-12.1	-4.5m (500mm below bed)	1.5	-5.5	1.0	1.7	-7.1
C-2	-3.7	-6.7	-13.7	-4.2m (500mm below bed)	1.5	-5.2	1.0	1.7	-6.7
P-1	-3.7	-6.0	-11.2	-4.2m (500mm below bed)	1.5	-5.2	1.0	1.7	-6.0
P-2	-3.7	-6.5	-11.5	-4.2m (500mm below bed)	1.5	-5.2	1.0	1.7	-6.5
P-3	-4.0	-6.7	-13.6	-4.5m (500mm below bed)	1.5	-5.5	1.0	1.7	-6.7

# Total design scour levels in red indicate that scour is controlled by bed rock

#### 4. Impacts of sediment removal

Localised excavation and dredging around the piles will be required to achieve the cut off levels. JHG has estimated that removal of approximately 236m<sup>3</sup> of sediment will be required to allow the piles to be cut off and the launching pad to be removed.

The sediment removal will result in an equivalent loss of sediment volume from the entrance system. FAInitially, the loss will be concentrated in the inshore area around the site, but the loss is expected to distribute relatively quickly along the broader shoreline of Korner's Park where it temporarily may cause some erosion. In absence of significant flood events, the disturbance will progressively migrate to the north, and the erosion impact will become less intense. The disturbance would result in a temporary reduction of sediment supply from the Korner's Park beach system to the main river channel by tidal currents, from where it is dispersed throughout the broader entrance system. The impact of the sediment removal on East Riverside beach will reduce over time and is expected to become negligible within a year after removal.

A flood event will accelerate the dispersion of the disturbance to the broader entrance system and reduce the time required for the beach system to adapt.

Once the disturbance has been dispersed from the East Riverside beach system into broader Clyde River entrance system, it is expected that the sediment removal will have no significant impact on the overall geomorphic processes due to the volume of the sediment removal. The volume of the sediment removal is small in the context of the total sediment volume being present in the system and the typical rate of sediment transport in the area of deposition. Hence, the risk of long-term impacts on the shoreline of Batemans Bay is considered negligible.

## 5. Conclusions

Based on the desktop assessment, the following can be concluded:

- The proposed partial retention of temporary jetty piles would have no impact on flooding additional to those previously assessed.
- Global scour processes do not have the potential to expose the cut-off piles of Bent A and B and these piles are expected to remain buried after cut-off.
- Global scour processes have the potential to expose the cut-off piles of Bent C and the fender by up to approximately 1m, which could result in the piles becoming subject to local scour. The calculated maximum local scour depths during a 1 in 100-year ARI flood event is approximately 1.7m at these piles. The distance between the outer piles (Bent C and P) and the existing rock revetment along Korner's Park is such that scour around these piles cannot pose a material risk to the existing revetment after cut-off.
- The sediment removal to allow the piles to be cut off and the launching pad to be removed will result in some erosion effects along East Riverside beach. However, these erosion effects are temporary and relatively small in magnitude. The risk of long-term impacts on the shoreline of Batemans Bay is considered negligible.
- The erosion/accretion cycles that have occurred along the Wharf Road precinct in the past arise from fluctuations in the transport of sediment into and out of the area which are determined by complex interactions of various morphological processes. In the absence of sand supply entering the beach system from the east, the beach around Wharf Road experiences erosion which can lead to significant shoreline recession. The proposed partial retention of temporary jetty piles will not materially affect these processes.

## 6. References

Jacobs (2020), Batemans Bay Bridge Replacement – Assessment of Erosion Effects of Temporary Works, Doc. Ref. BBB-JAC-MEM-ST-0005, prepared for John Holland Group, November 2020

### Appendix A: Historical aerial photography



Figure A-1: Aerial photograph – August 2011

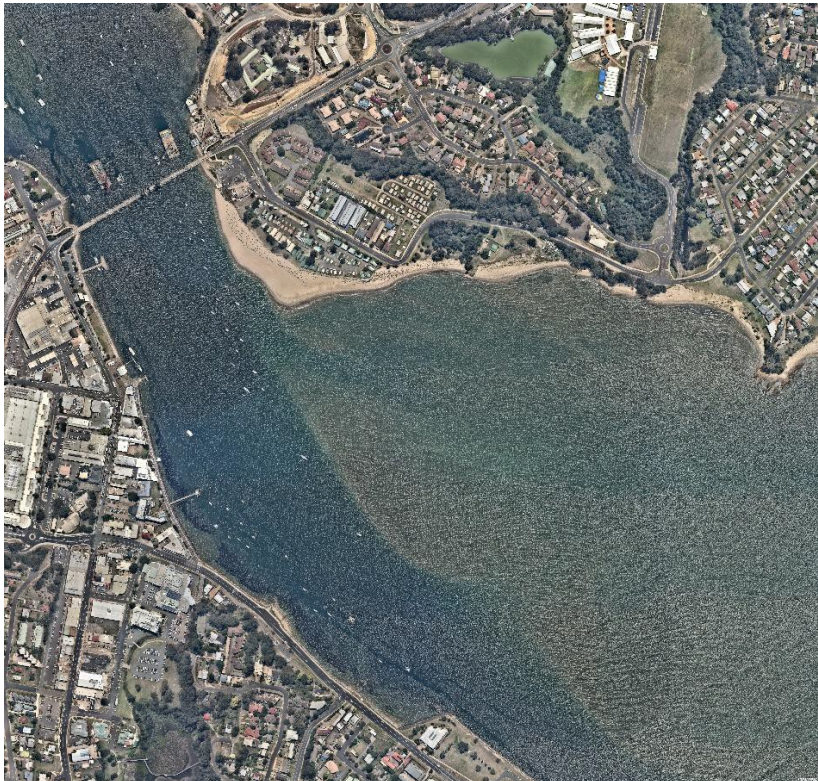


Figure A-2: Aerial photograph – 15 July 2018





**Figure A-3: Aerial photograph – 14 September 2019**



**Figure A-4: Aerial photograph – 31 January 2020**



Transport  
for NSW

# MEMO

**TO:** Joanne Parrott, A/Regional Director, South  
**COPIED TO:** Kye Limberger, A/Director Projects, South  
**FROM:** Graham Roche, Senior Manager Environment and Sustainability, RPDD South  
**DATE:** 12/07/2022  
**FILE NO:** SF2015/090242  
**PAGES:** 3  
**SUBJECT:** Addendum REF Decision Memo – Batemans Bay Bridge replacement – Partial retention of temporary jetty piles

---

## Proposal

Batemans Bay Bridge replacement - Partial retention of temporary jetty piles.

## Location

The proposal is located within the Batemans Bay Bridge replacement project. The temporary jetty piles are located on the northern foreshore of the Clyde River to the east of the bridge.

## Context

Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies to the proposal. The addendum review of environmental factors (REF) has been reviewed and considered against the requirements of sections 5.5 and 5.7 of the EP&A Act.

In considering the proposal this assessment has examined and taken into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of that activity as addressed in the addendum REF, and associated information. This assessment is considered to be in accordance with the factors required to be considered under section 171 of the Environmental Planning and Assessment Regulation 2021.

In addition, this assessment has considered impacts to threatened species, ecological communities and migratory species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The consideration of these matters is in accordance with the strategic assessment approval granted under the EPBC Act in September 2015.

## Discussion

### *Significance of impact on the environment*

The proposal described in the addendum REF will have some environmental impacts which can be ameliorated satisfactorily. This assessment has considered that these impacts are unlikely to be significant and therefore an environmental impact statement does not need to be prepared and approval for the proposal does not need to be sought under Division 5.2 of the EP&A Act. Various safeguard and management measures are proposed.



### ***Significance of impact on NSW-listed biodiversity matters***

The assessment has considered the potential impacts of the proposal on areas of outstanding value and on threatened species, ecological communities or their habitats for both terrestrial and aquatic species as defined by the *Biodiversity Conservation Act 2016* (BC Act) and the *Fisheries Management Act 1994* (FM Act).

The proposal described in the addendum REF will not affect areas of outstanding value or significantly affect other biodiversity values listed under the BC Act. Therefore the concurrence of the Coordinator-General Environment, Energy and Science, DPE and a species impact statement or Biodiversity Development Assessment Report (BDAR) is not required.

### ***Significance of impact on nationally listed biodiversity matters***

The assessment has considered the potential impacts of the proposal on threatened species, ecological communities and migratory species as defined by the EPBC Act.

The proposal is not likely to significantly impact nationally listed threatened species, ecological communities or migratory species.

### ***Impacts to Commonwealth land and [other] matters of national environmental significance***

The assessment has also addressed the potential impacts of the proposal on [other] matters of national environmental significance and any impacts on the environment of Commonwealth land and concluded that there will be no significant impacts. Therefore there is no need for a referral to be made to the Australian Government Department of Agriculture, Water and the Environment for a decision by the Australian Government Minister for the Environment on whether assessment and approval is required under the EPBC Act.

### ***Quality of the addendum REF***

The addendum REF is considered to be of adequate quality and meets all relevant requirements.

## Recommendation

It is recommended that the proposal to partially retain temporary jetty piles at Batemans Bay as described in the Batemans Bay Bridge replacement – Partial retention of temporary jetty piles addendum REF dated July 2022 proceed subject to the implementation of all safeguards identified in the addendum REF and compliance with all other relevant statutory approvals, licences, permits and authorisations.

This project determination will remain current for five years until July 2027 at which time it shall lapse if works have not been physically commenced.

## Recommended by



12/07/2022

Charlie Payne

A/Senior Manager Environment and Sustainability, RPDD South

## Supported by:



Digitally signed by

Kye Limberger

Date: 2022.07.12

17:31:46 +10'00'

Kye Limberger

A/Director Projects, South

**Determined** in accordance with the above recommendation under delegated authority and in accordance with sections 5.5 and 5.7 of the EP&A Act.



Joanne Parrott

A/Regional Director, South

**Date:** 13 July 2022

## Attachments

1. Batemans Bay Bridge replacement – Partial retention of temporary jetty piles addendum REF dated July 2022