



PO Box 492, Bega NSW 2550  
P. (02) 6499 2222  
F. (02) 6499 2200  
E. [council@begavalley.nsw.gov.au](mailto:council@begavalley.nsw.gov.au)  
[www.begavalley.nsw.gov.au](http://www.begavalley.nsw.gov.au)  
ABN. 26 987 935 332  
DX. 4904 Bega

Ref:

5 November 2021

Bega Valley Shire Council

Via email: [council@begavalley.nsw.gov.au](mailto:council@begavalley.nsw.gov.au) and [mfowler@begavalley.nsw.gov.au](mailto:mfowler@begavalley.nsw.gov.au)

**DA2019.359 Deferral of Determination of Stage 2 – Provision of Additional Information**

On 7 May 2021, the Southern Regional Planning Panel decided to defer the determination of Development Application 2019.259, requiring additional information to be provided within six months.

The additional information required comprised:

- *Detailed plans of the proposed Stage 2 extension, that include the height (and contents) of fill, and take-off and landing points.*
- *Clarification on whether a Coffey Dam and revetment wall(s) is required.*
- *An assessment of the removal of the existing Haulage Road to address DPI (Fisheries) concerns and to satisfy offsetting requirements under the Fisheries Management Act 1994. If so, details of the removal of the road and assessment of the impact of this removal on the adjoining aquatic environment and Aboriginal cultural heritage.*
- *Review of the Biodiversity Development Management Plan (BDAR) and proposed offset strategies under the Fisheries Management Act 1994 and Biodiversity Conservation Act 2016 and where required, revisions to address any impacts associated with Stage 2 works.*
- *Specific clarifications of the aircraft which will use the Stage 2 extended runway and the resultant noise impact on nearby residents and mitigation options if required*
- *Evidence of further consultation with relevant stakeholders, including Oyster Lease holders regarding the additional information.*

Please find enclosed a report from NGH Consulting in which all responses to the above points have been congregated.

Yours sincerely

*Daniel Djikic*

Daniel Djikic  
Manager Project Services  
Assets and Operations

Enclosure – NGH Consulting – Deferred Matters Report



**NGH**



# Deferred Matters

## Merimbula Airport Runway Extension Stage 2

November 2021

Project Number: 21-501





## Document verification

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**BEGA - ACT & SOUTH EAST NSW**

Suite 11, 89-91 Auckland Street  
(PO Box 470) Bega NSW 2550  
T. (02) 6492 8333

**BRISBANE**

T3, Level 7, 348 Edward Street  
Brisbane QLD 4000  
T. (07) 3129 7633

**CANBERRA - NSW SE & ACT**

Unit 8, 27 Yallourn Street  
(PO Box 62) Fyshwick ACT 2609  
T. (02) 6280 5053

**GOLD COAST**

19a Philippine Parade  
Palm Beach QLD 4221  
(PO Box 466 Tugun QLD 4224)  
T. (07) 3129 7633

E. [ngh@nghconsulting.com.au](mailto:ngh@nghconsulting.com.au)

**NEWCASTLE - HUNTER & NORTH COAST**

Unit 2, 54 Hudson Street  
Hamilton NSW 2303  
T. (02) 4929 2301

**SYDNEY REGION**

Unit 17, 21 Mary Street  
Surry Hills NSW 2010  
T. (02) 8202 8333

**WAGGA WAGGA - RIVERINA & WESTERN NSW**

35 Kincaid Street (PO Box 5464)  
Wagga Wagga NSW 2650  
T. (02) 6971 9696

**WODONGA**

Unit 2, 83 Hume Street  
(PO Box 506) Wodonga VIC 3690  
T. (02) 6067 2533

**NSW • ACT • QLD • VIC**

W. [www.nghconsulting.com.au](http://www.nghconsulting.com.au)

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# 1. Introduction

## 1.1 Background

Bega Valley Shire Council (BVSC) proposed to extend the Merimbula Airport Runway in two stages:

- Stage 1 Runway Extension ('Project EIS') proposes the construction of a 120m long runway 'starter extension' at each end of the existing runway pavement (northern and southern ends of the existing runway) and retains the existing point of take-off and landing. This work commenced in October 2021.
- Stage 2 Runway Extension ('Ultimate EIS') comprises an additional 80m starter extension to both the northern and southern ends of the runway and retains the existing point of take-off and landing, consistent with Stage 1. This stage would be completed when demand re This stage of the project may be as close or as far away as 25 years, as it is dependent upon demand.

Both stages were assessed in an Environmental Impact Statement for the Merimbula Airport Upgrade – Runway Extension (NGH 2019) in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), to support a development application (DA) for this Regionally Significant Development.

BVSC received approval for Stage 1 from the Southern Regional Planning Panel on 7<sup>th</sup> May 2021 however, the development consent for Stage 2 extension was deferred. The Southern Regional Planning Panel requested additional information to enable determination for Stage 2.

## 1.2 Purpose of this report

The purpose of this report is to address the additional information requirements outlined by the Southern Regional Planning Panel and thereby to enable approval for Stage 2 works. The information required by the Southern Regional Planning Panel is detailed below as well as where the information has been provided in this document. The request is provided in full in Appendix A.1.

Table 1-1 Southern Regional Planning Panel information requests and responses

Information request item	Response
Provide detailed plans of the proposed Stage 2 extension, that include the height (and contents) of fill, and take-off and landing points.	Addressed in Section 2. Details for the plans are set out in Section 2.1 and Appendix A.2.
Clarification on whether a Cofferd Dam and revetment wall(s) is required.	Addressed in Section 2. It has been confirmed that a Cofferd Dam and revetment wall <i>will not</i> be required. Further, the Water Quality Monitoring and Management Plan (WQMMP) has been reviewed in light of the detailed plans for Stage 2. Details are set out in Section 2. The WQMMP is included at Appendix A.3.

Information request item	Response
An assessment of the removal of the existing Haulage Road to address DPI (Fisheries) concerns and to satisfy offsetting requirements under the <i>Fisheries Management Act 1994</i> .	An assessment of the removal of the haul road is provided in Section 3.
If so, details of the removal of the road and assessment of the impact of this removal on the adjoining aquatic environment and Aboriginal cultural heritage.	Details of the removal are set out in Section 3.4. The works method plan is provided in Appendix B.  The impacts of the removal of the barrier on relevant environmental aspects, including the aquatic environment and Aboriginal cultural heritage, are assessed in Table 3-1.
Review of the Biodiversity Development Management Plan (BDAR) and proposed offset strategies under the <i>Fisheries Management Act 1994</i> and <i>Biodiversity Conservation Act 2016</i> and where required, revisions to address any impacts associated with Stage 2 works.	The updated BDAR V4 is attached in Appendix D and addresses the small additional terrestrial vegetation impact and corresponding <i>Biodiversity Conservation Act 2016</i> offset requirement generated by the haul road removal (noting the removal of this barrier has beneficial marine habitat impacts). The supporting GIS files are included within this submission and the credit calculation case file has been submitted to BCD (04/11/21).  The updated Offset Strategy, endorsed by DPI (Fisheries), is attached as Appendix E and confirms <i>Fisheries Management Act</i> offset requirements under the FM Act; the removal of the haul road is the key component of satisfying the project's offsets (for Stage 1 and 2). BCD and DPI (Fisheries) have had input into various versions of the strategy and have been provided this final V3.
Specific clarifications of the aircraft which will use the Stage 2 extended runway and the resultant noise impact on nearby residents and mitigation options if required	Addressed in Section 2.  Details of the aircraft are set out in Section 2. The noise assessments (ground and air) are included in Appendix G.
Evidence of further consultation with relevant stakeholders, including Oyster Lease holders regarding the additional information.	Addressed in Section 5.  The key stakeholders include: <ul style="list-style-type: none"> <li>• BCD - terrestrial biodiversity impacts and offsets</li> <li>• DPI (Fisheries) - marine habitat and offsets</li> <li>• Oyster lease holders – lessees to the immediate south of the runway and the Merimbula Lake oyster farming membership group</li> </ul> Details of the further consultation with agencies and the oyster lease holders are set out in Section 5 and Appendix C.



## 2. Stage 2 runway extension works method clarifications

This section addresses the following information requests by the Panel:

- Detailed plans of the proposed Stage 2 extension, that include the height (and contents) of fill, and take-off and landing points.
- Clarification on whether a Cofferdam and revetment wall(s) is required.
- Specific clarifications of the aircraft which will use the Stage 2 extended runway and the resultant noise impact on nearby residents and mitigation options if required.

### 2.1 Works method

The detailed works method was developed as follows:

- The engineering consultancy developed the detailed plans.
- A multi-disciplinary team comprising the engineering consultancy, the hydrology consultancy and the environmental consultancy developed an agreed works method.
- The works method included identification of key structural and environmental risks and their mitigations.
- Works methodology improvements suggested by the contractor for the first stage extension were evaluated by the team in terms of environmental outcomes and compliance with the approval, and incorporated into the works methods for both stages.
- Water quality risks and mitigation strategies were the subject of consultation with the oyster farmer leases.

This process is highly similar to that used for the Stage 1 works method development but builds in additional experience gained by the team from the progress of Stage 1 works (as of November 2021).

The works method overview is as follows (in accordance with the WQMMP, the ASSMP and the design documentation):

- The silt curtains are installed.
- The geotextile, geogrid and rock blanket are advanced in five metre widths, following the inner perimeter of the rock blanket footprint.
- Works will be timed in accordance with tidal conditions to ensure no sections cleared in advance of the advance of the rock blanket are subject to rising tides without the rock blanket being in place.
- Rock bags will be installed in the outer perimeter.
- The internal section of rock blanket will comprise stripping of vegetation, excavation of 100mm of the surface and spot removal of deeper pneumatophores/mangrove roots.
- Exposed surfaces and excavated material will be treated in accordance with the Acid Sulfate Soils Management Plan, with soils treatment occurring in the northern extension impact area.

- Composite geogrid and geotextile will be laid over the exposed surfaces, followed by the rock blanket.
- The layers of earthworks and biaxial grid will be constructed.
- The base layer of the pavement and then the pavement will be constructed.

Table 2-1 Photos of implementing Stage 1 works method (November 2021) and as per the work method for Stage 2 works







## **2.2 Clarifications for the Panel**

### **2.2.1 Fill estimates**

Key points to now clarified area as follows:

- The maximum fill height would be –
  - 0.91m for the northern extension (drawing B16582-02-21, with stage 1 as approved being 0.75m), and
  - 2.17m for the southern extension (drawing B16582-02-22, with stage 1 as approved being 2.07m).
- Fill estimates identified by the software modelling identify 4985m<sup>3</sup> for the northern extension and 12 536m<sup>3</sup> for the southern extension (drawings B16582-02-22 and 23), noting that these have been calculated by the software modelling. (The amount for the southern extension, identified in the tender from the successful construction contractor is 12 622m<sup>3</sup>.)

### **2.2.2 Take off and landing points**

- Take off and landing points are located in the same locations as prior to the commencement of works, which are the same locations prior to the commencement of the Stage 1 works (drawings B16582-02-10, 11, 20 and 21).

### **2.2.3 Cofferd Dam**

- A Cofferd Dam and revetment wall(s) is not required.

### **2.2.4 Specific clarifications of the aircraft utilising Stage 2 and the resultant noise impact on nearby residents and mitigation options if Required**

With regard to the specific aircraft that will utilise the stage 2 start extension, Lambert & Rehbein have addressed this matter in their letter in Appendix G. The letter also addresses the associated airborne noise assessment. The aircraft identified in the Lambert & Rehbein letter are consistent with the parameters adopted in the on ground noise assessment.

Together the airborne and on ground noise assessments have identified that other than the use of the B737 on the northern starter extension, the assessment outcomes are consistent with the pre extension approved master plan. In the case of the B737, the modelled results indicate that it could exceed noise goals by 8dB(A) (which is 6dB(A) louder than the Saab34 in use to the Stage 1 extension). The onground assessment then identifies mitigations, and the letter from Lambert & Rehbein at Appendix G identifies that this aircraft has limited application to Merimbula Airport and is only likely in periods of peak demand.

- Aircraft known to use the pre Stage 1 runway include single and multi engine aircraft; propeller, turbo propeller and jet engine aircraft; fixed wing and rotary wing aircraft; passenger and freight aircraft; private and commercial aircraft; and civilian and military aircraft. The dominant aerodrome users are passenger airline aircraft which at the time of writing are the Saab34 (since 2002) and the Dash8Q300 (since mid 2020).
- Adding the Stage 1 starter extensions to the runway increases the likelihood that the passenger aircraft used by airlines for services to Merimbula will expand to include ATR 42

(announced by Regional Express), ATR72 (announced by Regional Express and operated by Virgin Australia) and Dash8Q400 (operated by QANTASLink) aircraft. The onground and airborne noise assessment for the Stage 1 component of the development application assumed this to be the case.

- Adding the Stage 2 starter extension to the runway make it more likely that the commercial passenger aircraft used by airlines for services to Merimbula will expand to include F100, B717 and B737 aircraft. As identified in the Lambert & Rehbein letter in Appendix G, there are runway constraints outside its strength and length that make the frequent use by B737 aircraft a low probability. However, the onground and airborne noise assessments for the Stage 2 component of the development application assumed they would be present during peak passenger demand periods in order to deliver a worst case noise assessment.
- In their letter, Lambert & Rehbein identify that this fleet of aircraft has also informed the planning for other key elements of the Environmental Impact Statement and Submissions Report (see attachment to the Lambert & Rehbein letter at Appendix G).

### **2.2.5 Stage 2 operational noise assessment**

The Stage 2 noise assessments comprise on ground and airborne noise assessments.

#### **On ground noise**

With regard to on ground noise, RAPT Consulting's 'Noise Assessment – Merimbula Airport Runway Extension, October 2019'<sup>1</sup> addressed both Stage 1 and Stage 2, and was premised on the aircraft identified in Section 2.2 above. At page 20, it identifies that 'Based on the assumptions outlined above, results of the modelling indicate daytime operational noise goals can be met at the nearest sensitive receivers with the exception of the north to south take off for the Boeing 737 which modelled results indicate could exceed noise goals by 8dB(A). This is due to the initial take off location being closer in proximity to R1 and the adopted sound power level for the Boeing 737 being 6dB(A) louder than the Saab34. While noise goals are predicted to be achieved in most scenarios, it is recommended an operation noise management plan be implemented for the airport.

At page 29, the assessment recommended the development of an operational noise management plan, with the following inclusions:

- *Educate all airport staff, tenants and contractors of operational noise impacts on surrounding community and correct operation and maintenance of plant and equipment to minimise noise impacts;*
- *Minimise noise intensive ground-based operation activities to outside night-time periods;*
- *Investigate alternate quieter work procedures;*
- *Investigate the use of quieter plant and equipment;*
- *Ensure plant and equipment are regularly maintained, and repair or replace plant and equipment that becomes noisy;*
- *Ensure engines of plant and equipment are switched off when not in use;*
- *Investigate the installation of engineering noise controls such as noise screens and silencers to recued noise emissions from noise intensive plant and equipment;*

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<sup>1</sup> Submitted with the EIS.



- *Consultation with the local community and residences should be managed through an operation consultation plan;*
- *All noise complaints should be reported to airport management, recorded in a register and appropriately investigated;*
- *Noise compliance audit of the ground-based airport operations by way of continuous monitoring at nearest residential and sensitive receivers should be undertaken bi-annually to ensure compliance with the regulatory requirements. Monitoring should also be undertaken in response to justified adverse community response or compliant to the airport operation activities;*
- *Take offs should be located as far away as feasible from nearest sensitive receivers from the north and south;*
- *Where construction or maintenance activities may potentially impact on surrounding community, an environmental management plan specific to the activities should be developed to mitigate the risk.*

Extracted Figures 6, 7, 8 and 9 from the report identify the assessment for the Saab34 aircraft (currently in use) and the worst case B737 aircraft (Stage 2) for north to south and south to north take offs (presented below).

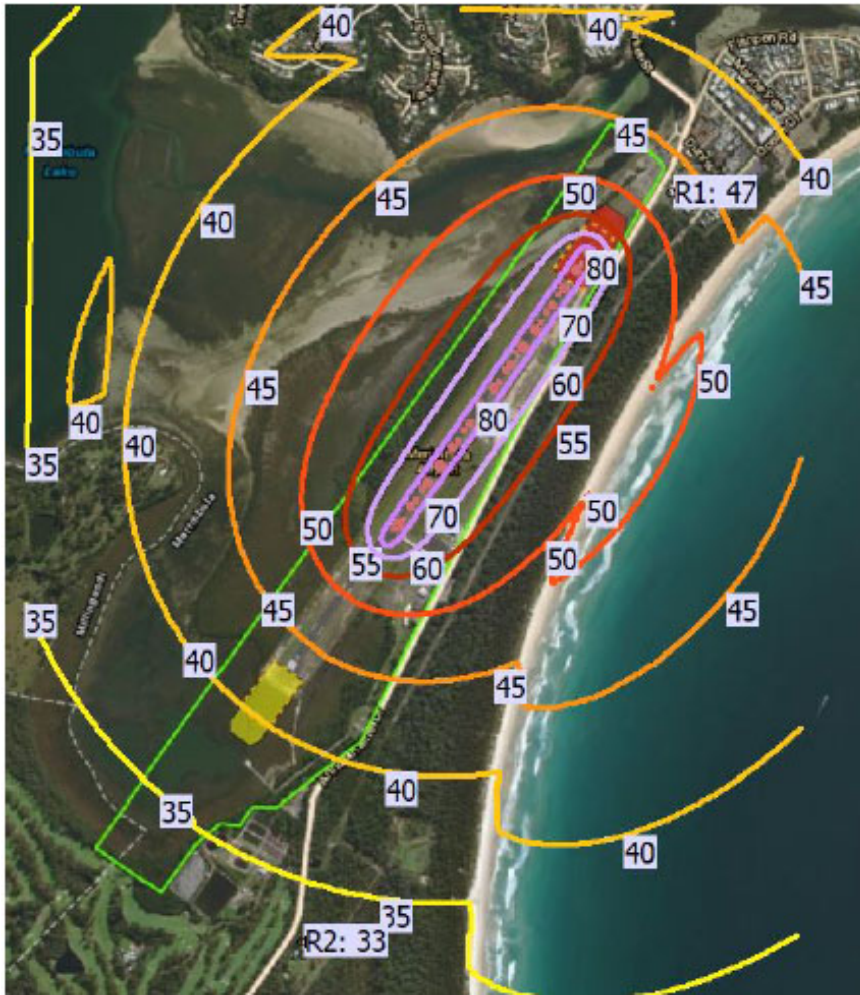


Figure 6 SAAB 34 North to South Take off dB(A) Leq(15min)



Figure 8 Boeing 737 North to South Take off dB(A) Leq(15min)





Figure 7 SAAB 34 South to North Take off dB(A) Leq(15min)

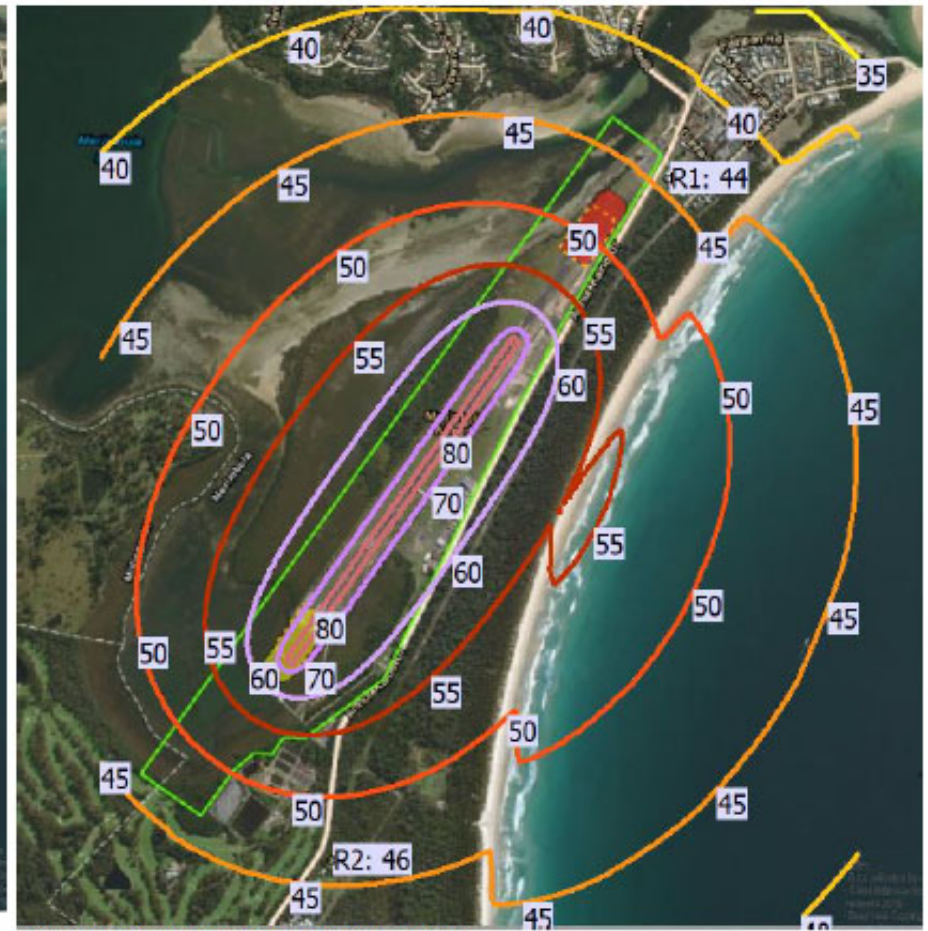


Figure 9 737 South to North Take off dB(A) Leq(15min)

Figure 2-1 Extracted Figures 6, 7, 8 and 9 (source: RAPT Consulting 2019)

## Airborne noise

With regard to airborne noise, Rehbein Airport Consulting's assessment (2020)<sup>22</sup> identified that:

*... a reasonable 'worst case' scenario, consistent with the current adopted Master Plan but with slightly expanded passenger capacity indicative of that expected to be enabled by the additional runway length' [200m – Stage 2 – starter extensions]. Table 1 compared the current (pre Stage 1) runway length to the completed (Stage 2) runway length and is repeated below.*

**Table 1: Assumed Comparative Passenger Aircraft Operations**

L.F. = 75%	2033 ANEC						203X ANEC					
	SF340/ J41	ATR72	Q400	F100	B717	B737	SF340/ J41	ATR72	Q400	F100	B717	B737
Seats	34	68	74	100	120	174	34	68	74	100	120	174
Pax/flight	26	51	56	75	90	131	26	51	56	75	90	131
Mon	14	6	8	-	-	-	-	6	4	4	4	
Tue	14	6	6	-	-	-	-	4	6	2	2	
Wed	14	6	8	-	-	-	-	6	4	4	4	
Thu	14	6	6	-	-	-	-	4	6	2	2	
Fri	14	6	8	-	-	-	-	6	4	4	4	
Ssat	7	3	2	-	-	-	-	2	4	1	1	2
Sun	7	3	2	-	-	-	-	2	4	1	1	2
Pax/week	2142	1836	2220	-	-	-	-	1530	1776	1350	1620	522
Weeks/yr	52	52	52	-	-	-	52	52	52	52	52	12
Annual Pax	111,384	95,472	115,440	-	-	-	-	79,560	92,352	70,200	84,240	6,264
Total annual Pax				322,296			Total annual Pax				332,616	
Total annual flights				8,320			Total annual flights				5,144	
Average weekly flights				160			Average weekly flights				99	

The outcomes of the report were presented in Figures 1, 2 and 3, replicated on the following pages.

The report concluded that:

*... the aircraft noise assessment within the Master Plan remains relevant for the strategic planning of land use around Merimbula Airport. While the runway extension (additional 80m starter extension to the south [to the 120m starter extension to the south and the 200m extension to the north]) will facilitate the operation of larger aircraft, an analysis of likely fleet types, forecast passenger demand and service frequency indicates this will have no material impact on the key aircraft noise measures of ANEC, N70 and N60. In particular:*

- *There is a small change to the extents of the ANEC, which is not material in terms of land use impacts, and*
- *No increase to the extent of the N60 and N70 contours.*

<sup>22</sup> Submitted with the Submission Report 2020, included here as Appendix I with additional cover letter.

*Future growth beyond the ANEC 203X scenario is well beyond that envisaged in the current Merimbula Airport Master Plan, and accordingly would be identified, modelled and assessed as part of a future master plan update.*









Figure 2-2 Extracted Figures 1, 2 and 3 (source: Rehbein Airport Consulting 2020)

### 3. Removal of the southern haulage road

This section addresses the following information requests by the Panel:

- **An assessment of the removal of the existing Haulage Road to address DPI (Fisheries) concerns and to satisfy offsetting requirements under the *Fisheries Management Act 1994*. If so, details of the removal of the road and assessment of the impact of this removal on the adjoining aquatic environment and Aboriginal cultural heritage.**

#### 3.1 Background

##### 3.1.1 Culvert proposed as part of Stage 1 works

By extending the southern runway into areas of Merimbula Lake, the Merimbula Airport Runway Extension Project EIS (NGH 2019) identified that tidal flow in this area would be reduced. The amount of reduction was modelled as 7% and deemed hydrologically insignificant but concerns were raised by key stakeholders. For oyster lease stakeholders, water quality is paramount to the health of their product and industry, and any reduction in flow was noted as of concern.

The project therefore, included a commitment to mitigate the reduction in tidal flow by increasing the size of the culverts beneath the southern haul road. Refer figure below for the location of the Stage 1 (Project EIS), Stage 2 (Ultimate EIS) and southern haul road.

This existing barrier of the haul road, created in the 1950's, restricts flow and has likely influenced the change in vegetation east of the barrier, from mangroves to drier saltmarsh vegetation. A small expansion to an existing culvert at the southern end of the proposal was included in the scope, to be constructed as part of Stage 1 (Project EIS footprint) works. This achieves a minor (1%) increase in tidal flow at Stage 1 (Project EIS footprint) and 2% increase with Stage 2 (Ultimate EIS footprint). The amount of change is still negligible but is increasing rather than reducing tidal flow in this area. This increase was agreed to be more acceptable to stakeholders as was approved as part of Stage 1 of the project.

##### 3.1.2 Agency preference for southern haul road removal

Agency meetings were held onsite and later by teleconference to consider the water quality, fisheries and biodiversity impacts of the project, during the preparation of the EIS. In these meetings, DPI Fisheries expressed a strong preference to remove the southern haul road, south of the southern runway extension. While not related to the project, its removal was considered likely to lead to a reinstatement of the natural hydrological function in areas to the east of the road and would therefore constitute an appropriate on-ground remediation strategy, that could be used to offset impacts to marine habitat under the Fisheries Management Act provisions. Refer to figure below for the location of the haul road.

### **3.1.3 Council consideration of southern haul road removal**

Council agreed to consider the action and this option was included in the Offset Strategy Draft v2 (September 2020), submitted with the EIS. Further hydrological assessment and consideration of the works method and management of the risks of removal was detailed in the Offset Strategy Final v2 (August 2021) updated as part of this document, in consultation with DPI Fisheries and BCD and is included as Appendix E (v3). To satisfy FM Act offsets, the haul road removal is now a commitment of Stage 2 of the project, to be implemented within 3 years of the commencement of Stage 1 works.

### **3.1.4 Deferred matters information request**

The Southern Regional Planning Panel has requested as part of determining Stage 2 of the project to provide an assessment of removing the existing southern haul road. The assessment will consider the environmental impact of this removal on the adjoining aquatic environment and Aboriginal cultural heritage. The assessments undertaken for this works component are now provided in this report, along with additional environmental safeguards required to manage the works; Section 3.5 of this report.



**Deferred Matters**  
**Merimbula Airport Runway Extension Stage 2**

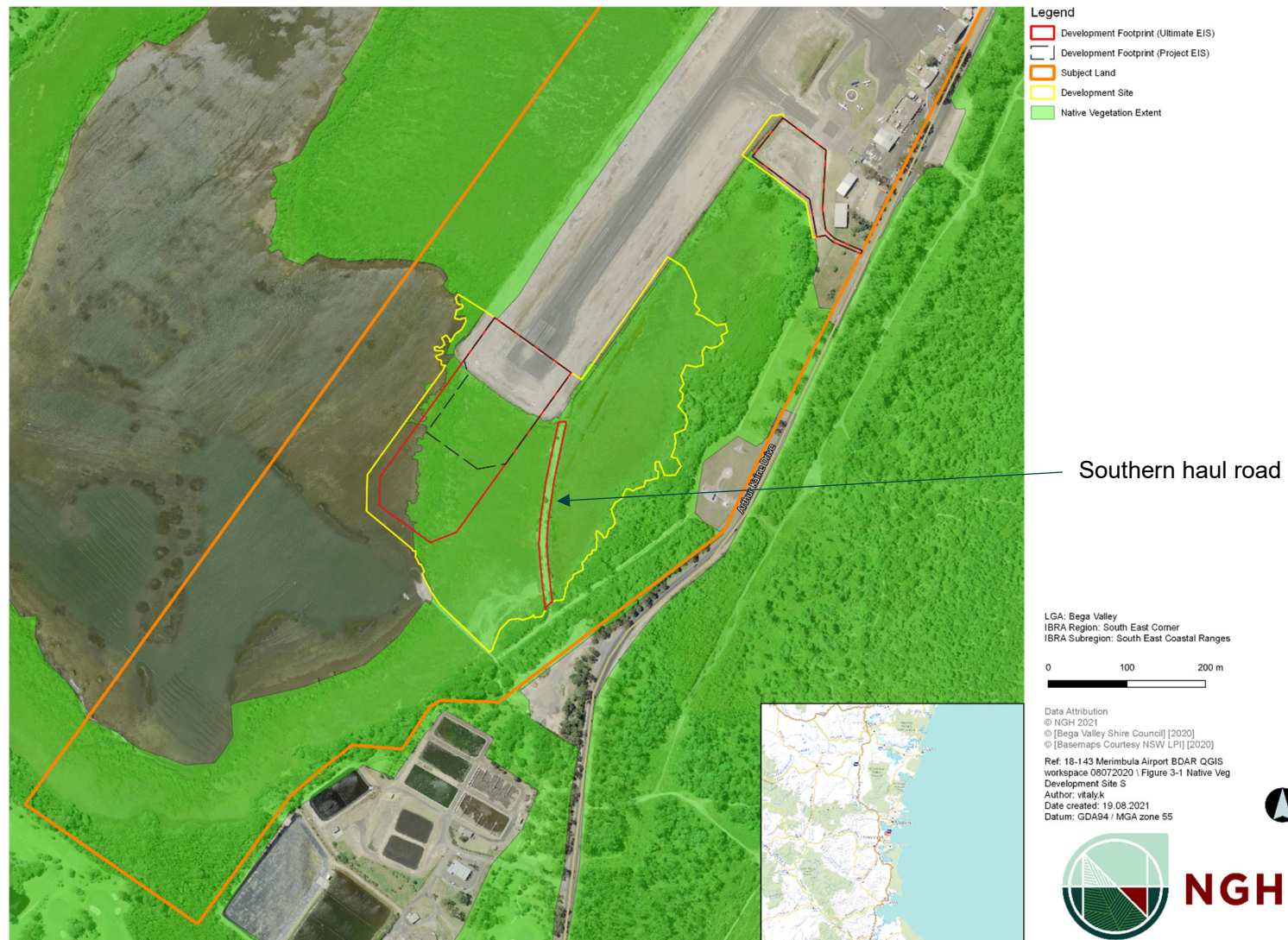


Figure 3-1 Location of the southern haul road (south runway)

### **3.2 Justification for southern haul road removal**

The key justification for removal of the southern haul road is to improve marine habitat. After engineering, hydrological and ecological investigations were undertaken, Council were convinced that the removal of the haul road:

- a) Could be undertaken in a managed way to protect water quality for local stakeholders and the sensitive marine environment.
- b) Could lead to a justifiable beneficial impact on natural ecosystems in the immediate area.

Regarding point a), coordination was facilitated by BVSC via consultation with its Engineering Design Section and its Natural Assets Section to develop the works method for the haul road removal (including environmental protection). The outcomes of this work are included in the works methodology presented in Section 3.4.

Regarding point b), the ecological and hydrological impacts of the haul road removal were considered using updated vegetation mapping and hydrological modelling (presented as Appendix C of the updated Offset strategy Final V3, which is included in this document as Appendix E). The areas of beneficial impact were calculated by NGH as 9.08 ha in total and include three specific areas:

1. *Total areas of tidal inundation*, east of the existing barrier, assuming Stage 2 runway extension is constructed and the southern haul road is removed. This totals 4.5 ha and is currently comprised of terrestrial vegetation:
  - o Saltmarsh: 3.57 ha
  - o Other (Bangalay and Swamp Oak Forest): 0.93 ha

The change is likely to lead to a change in vegetation composition as the adjacent Mangrove vegetation is favoured by the restored regime.

2. *Areas of increased flushing*, west of the existing barrier. The area totals 4.34 ha (mapped as the area between the existing haul road and where the mangroves end and the deeper water commences). The breakdown is currently comprised of:
  - o Mangrove: 0.102 ha
  - o Saltmarsh: 0.133 ha
  - o Seagrass (*Zostera/Halophila*): 0.064 ha

The change is unlikely to lead to a change in vegetation / marine habitat composition but the increased flushing is expected to have localised water quality benefits.

3. The *area now occupied by barrier*. Once removed this would be recolonised by native vegetation and constitute marine habitat once again. The denuded area available to be recolonised is currently 0.24 ha.

In July 2021, DPI Fisheries confirmed the following would be acceptable as a key component of meeting FM offset obligations for this project:

- Removal of southern haulage road: Improved hydrological connectivity to 3.57 ha saltmarsh (upstream of road) and restoration of 0.24 ha saltmarsh/mangrove wetland under road footprint.

Item 2, *Areas of increased flushing*, would not count toward the offset. As required by DPI Fisheries, a three-year monitoring program would be developed to evaluate the actual impact of the action and would include as a minimum:

- Monitor the extent of regeneration of marine vegetation in the footprint of the haul road after removal.
- Monitor the extent of tidal flushing upstream of the road following removal.
- Record obvious changes in the distribution of marine vegetation community types in this area.
- Provide annual status reports to DPI Fisheries (3 years).

### 3.3 Timing proposed

The Council now commit to undertaking the southern haul road removal *as part of the Stage 2 works*, but the removal will be undertaken within 3 years from the commencement of Stage 1 works, in advance of the other Stage 2 works components. In terms of associated permits and approvals, the following timing is proposed specific to the removal of the southern haul road:

**Within 3 years of commencement of Stage 1 works:**

1. Approval for haul road received
2. Once approval for haul road removal is obtained, seek FM Act Stage 1 permit amendment or a new FM Act permit to apply to this activity.
3. Prepare detailed monitoring program for areas east of the haul road.
4. Haul road removal.
5. Bank guarantee returned in full (should haul road not be removed within 3 years, the bank guarantee will be retained by DPI Fisheries).
6. Three year monitoring program implemented for areas east of the haul road. This monitoring period will commence once the road has been removed.

**Before Stage 2 works:**

7. Fisheries permit for Stage 2 works.
8. Pay out residual offset requirement directly (or agree to an additional restoration action with DPI Fisheries in lieu of part or all of this payment).
9. Stewardship site to meet Stage 2 BC Act offsets established. As part of this, manage areas of vehicle damage as part of this in perpetuity agreement.

### 3.4 Detailed works description: removal of the southern haul road

#### 3.4.1 Overview

The works method to remove the southern haul road (developed by Council's Engineering Design Section with consultation from its Natural Assets Section) presented graphically in Appendix B and described as follows:

- Silt curtains would be deployed along the length of both sides of the haul road.
- Excavation would take place from on top of the haul road, not in adjacent wetland areas.
- Only the imported fill material would be and not below, which mitigates the risk of exposing ASS.

- Excavators on the haul road will remove material from in front of one end of the excavator and load it onto truck at the other end of the excavator (also on the haul road).
- Erosion control matting (coir matting or equivalent material) will be laid on the excavated surface. Erosion control logs (coir logs or equivalent) will be pinned on to both edges of the matting along its length.<sup>3</sup>
- Excavated material will be either deployed into site works if they are being undertaken at the same time; stockpiled in the sites established for the new precinct as identified in the REF; or deployed into land shaping around the northern end of the airstrip.
- The full removal could be done in 4-8 days based on number of excavators used.
- The work would initially coincide across the 6-8 hours of lowest tidal movement - avoiding work across the 4-6 hours of highest point in the tidal cycle, particularly while the excavated portion is narrow. As the gap widens, and if the movement of water is shown to be sufficiently low and slow at the higher tidal times, works will then continue at these times as well. The tidal flows will be partly determined by the general height of tides during the works – giving rise to the need for this flexible approach.

The works area required would be approximately:

- 230m long x 10m wide (average) by 0.6m deep average (down to the sea bed only and not below).

The works method would be submitted with a Fisheries Permit to undertake the works.

### **3.4.2 Equipment**

Equipment required for the works would entail:

- 30 tonne excavator (possibly two starting at the centre and one working back towards Arthur Kaine Drive and one towards the runway)
- 12 tonne trucks x 6-7 total for one excavator and double that for two excavators for 8 days (four for two excavators)
- Silt protection could be progressive and move as the excavator/s moves.

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<sup>3</sup> This approach to erosion control has been deployed by Bega Valley Shire Council in similar salt marsh and mangrove environments during 2021.



### 3.5 Detailed environmental impacts and mitigation strategies

The removal of the southern haul road, which acts as a barrier to tidal flow, has been justified in terms of the beneficial impact it will provide to offset marine habitat impacts of the runway extension, under the FM Act. Table 3-1 sets out the key social and environmental impacts of the removal of the southern haul road. Overall, the impacts are considered well justified and manageable.

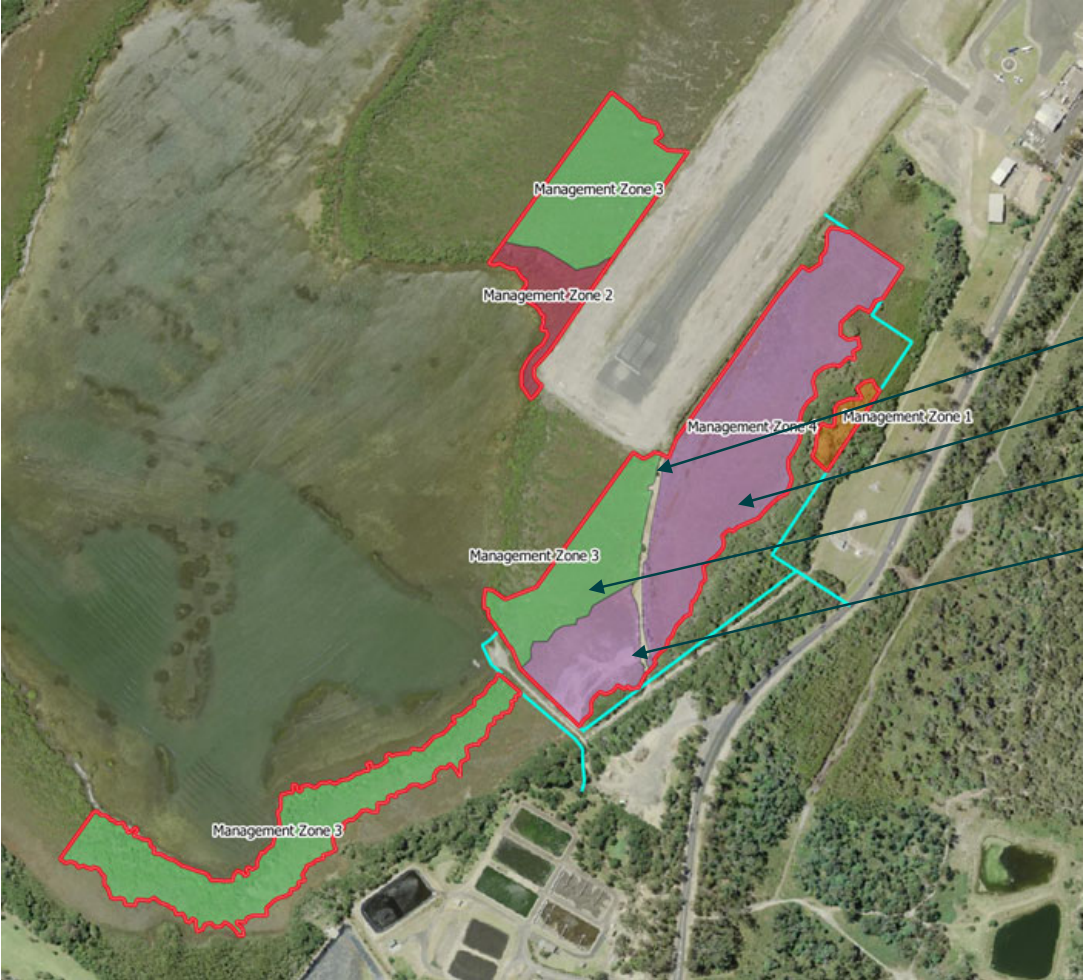
Table 3-1 Impact impacts and mitigation measures for the removal of the southern haul road.

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
Hydrology	Short term negative Long term positive	<p>During the removal works, there is potential to interrupt hydrology of the area with the placement erosion and sediment controls and use of equipment in waterways. The interruptions would be minor, short term and manageable. The key management measure has been to develop a removal works method involving input from engineering, hydrological and ecological specialists. This ensures the timing and devices employed manage the short term risks of the works.</p> <p>Once the barrier is removed, there will be settling period where the system adjusts to the new tidal regime. The modelling provided in Appendix C of the Offset Strategy (Appendix E in this document) suggests:</p> <ul style="list-style-type: none"> <li>a) Areas of increased inundation will be minor and peripheral to the areas of current inundation. Large changes are not expected. The largest changes would be infrequent, during periods of king tides.</li> <li>b) Areas of increased flushing are already subject to flushing. These occur in the shallow waters between the existing barrier and the deeper water westward. As above, large changes are</li> </ul>	<p>A works method has been developed to minimise risks to water quality and hydrology, with input from SE Engineering and Environmental.</p> <p>The EIS and Submissions Report include measures to address Hydrology and coastal processes and would be applied to the removal of the southern haul road, including a Water Quality Management Plan.</p> <p>No additional measures are required based on this further assessment.</p>

<sup>4</sup> A consolidated list of mitigation measures to be included for all works including the removal of the southern haul road will be listed in the CEMP.

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
		<p>not expected. The largest changes would be infrequent, during periods of king tides.</p> <p>c) The area left bare to be recolonised would be small; 0.24 ha.</p> <p>After the settling period, the long term hydrological outcomes would be as modelled in Appendix C of Appendix E. Removal of the barrier will restore the natural hydrological regime to this area, expanding inundation and flushing, improving long term water quality and marine habitat for the area.</p> <p>Overall the negative and positive impacts outlined above would be minor in comparison to project scale changes resulting from the upgrading of the Merimbula Airport.</p>	
<b>Aquatic ecology and marine habitat</b>	Long term positive	<p>As above, DPI Fisheries have endorsed the removal of southern haulage road to improve hydrological connectivity to 3.57 ha saltmarsh (upstream of road) and restoration of 0.24 ha saltmarsh/mangrove wetland under road footprint. This forms the key component of meeting FM offset obligations for both Stage 1 and Stage 2 of this project. This endorsement stipulates fisheries permit requirements (Stage 1 Fisheries permit has been issued).</p> <p>The action also removes a key threatening process under the FM Act: Installation and operation of instream structures and other mechanisms that alter natural flow regimes of rivers and streams.</p> <p>Additionally, these areas and an area east of the existing barrier that has been damaged by vehicle access will be included in a Stewardship site, being developed to meet Stage 2 BC Act offset obligations. This management will provide long term protection for the areas of beneficial impact gained by removal of the barrier. Refer to Figure 3-2.</p>	<p>A works method has been developed to minimise risks to water quality and hydrology, with input from SE Engineering and Environmental.</p> <p>The EIS, Submissions Report, and updated BDAR and updated Offset Strategy include measures to address aquatic ecology and marine habitat, and will apply the removal of the southern haulage road.</p> <p>Additional mitigation requirements that form new commitments for the removal of the southern haul road include (all contained within the updated Offset Strategy v3):</p> <ul style="list-style-type: none"> <li>• A three-year monitoring program would be developed to evaluate the actual impact of removal of the barrier and would include as a minimum: <ul style="list-style-type: none"> <li>○ Monitor the extent of regeneration of marine vegetation in the footprint of the haul road after removal.</li> <li>○ Monitor the extent of tidal flushing upstream of the road following removal.</li> </ul> </li> </ul>

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
		An updated Offset Strategy Final V3 (Appendix E) has been provided addressing FM Act obligations and reflecting agency input. Where required, actions are carried over as new commitments of the project.	<ul style="list-style-type: none"> <li>○ Record obvious changes in the distribution of marine vegetation community types in this area.</li> <li>○ Provide annual status reports to DPI Fisheries (3 years).</li> <li>● Regarding the area damaged by vehicles: <ul style="list-style-type: none"> <li>○ Maintain the fence to restrict any vehicle access to this area.</li> <li>○ Continue security monitoring on foot.</li> </ul> </li> <li>● Include these areas above, as much as possible, within the in-perpetuity Stewardship site, being undertaken to meet BC Act offset obligations. As part of this commitment: <ul style="list-style-type: none"> <li>○ The existing vegetation extent and condition will be represented (and summarised as a 'vegetation integrity score' providing a base line condition status).</li> <li>○ In addition to required management actions (such as fencing, signage and weed control), the area will be subject to additional active management measures (to be detailed in the management plan for this area, submitted with the Biodiversity Stewardship Site Assessment Report; BSSAR).</li> </ul> </li> <li>● Once lodged with BCT, a copy of the BSSAR management plans will be provided to DPI Fisheries.</li> </ul>

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
<div style="display: flex; align-items: flex-start;">  <div style="margin-left: 20px;"> <p>Preliminary Stewardship site management zones, showing:</p> <ul style="list-style-type: none"> <li>Existing barrier (southern haul road) to be removed</li> <li>Increased inundation will occur east of the barrier, upon its removal</li> <li>Increased flushing will occur west of the barrier, upon its removal</li> <li>Areas damaged by vehicles would be included in the Stage 2 offset site.</li> </ul> </div> </div>			
<p>Figure 3-2 Areas proposed to be included in the Stewardship site to satisfy the Stage 2 BC Act obligations (in progress) that will additionally allow better management of new areas of inundation and areas previously damaged by vehicles.</p>			



Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>																																																																		
Terrestrial ecology	Long term positive	<p>The haul road and the buffer required to manage its removal (10m total width) includes a small amount of native vegetation. This has been determined as sufficient to remove the road, including with the installation of environmental controls to manage the removal process.</p> <p>The BDAR V4 was undertaken after the approval of Stage 1 works to assess the removal of this barrier which is considered an environmental remediation action supported in principle by BCD. As above, it aims to improve hydrological function surrounding the southern extension by removing a barrier to flow.</p> <p>The adverse impact of the removal of 0.09 ha of native vegetation has been assessed in this BDAR (v4). The beneficial impacts of reestablishment of native vegetation in the area now occupied by the barrier (0.24 ha) and increased inundation to the east, modelled as 4.5 ha, are long term benefits of the action. Further the action a key threatening process under the BC Act: Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands.</p> <p>The impacts on terrestrial vegetation, as calculated using the NSW BC Act's Biodiversity Assessment Method, generate additional credits for Stage 2 of the project as follows:</p> <ul style="list-style-type: none"><li>One additional ecosystem credit for ZONE 5 PCT 920 Mangroves (was 27 ecosystem credits now 28).</li><li>One additional species credit for Pied Oystercatcher (was 62, now 63 for addition of zone 5 mangrove inside haulage track).</li><li>One additional species credit for Sooty Oystercatcher (was 62, now 63 for addition of zone 5 mangrove inside haulage track).</li></ul>	<p>The EIS, Submissions Report, updated BDAR and updated Offset Strategy include measures to address terrestrial ecology, and will apply to the removal of the southern haulage road.</p> <p>One new measure is required based on this further assessment:</p> <ul style="list-style-type: none"><li>The credit requirement has been updated and is now summarised from the BDAR v4 as follows:</li></ul> <table><tr><th>Zone ID</th><th>PCT ID</th><th>PCT name</th><th>Stage 1 credits required (Project EIS)</th><th>Additional for Stage 2 credits required</th><th>Stage 1+2 credits required (Ultimate EIS)</th></tr><tr><td>1</td><td>659</td><td>Bangalay Scrub (Nth Runway)</td><td>0</td><td>2</td><td>2</td></tr><tr><td>3</td><td>920</td><td>Grey Mangrove (Nth Runway)</td><td>0</td><td>1</td><td>1</td></tr><tr><td>4</td><td>920</td><td>Grey Mangrove (Sth Runway)</td><td>9</td><td>26</td><td>35</td></tr><tr><td>5</td><td>920</td><td>Grey &amp; River Mangrove (Sth Runway)</td><td>19</td><td>9</td><td>28</td></tr><tr><td>6</td><td>1126</td><td>Mown Saltmarsh (Nth Runway)</td><td>1</td><td>1</td><td>2</td></tr><tr><th colspan="3">Species credits</th><th>Stage 1 credits required (Project EIS)</th><th>Additional for Stage 2 credits required</th><th>Stage 1+2 credits required (Ultimate EIS)</th></tr><tr><td colspan="3">Sooty Oystercatcher</td><td>29</td><td>35</td><td>64</td></tr><tr><td colspan="3">Pied Oystercatcher</td><td>29</td><td>35</td><td>64</td></tr><tr><td colspan="3">Southern Brown Bandicoot</td><td>0</td><td>2</td><td>2</td></tr><tr><td colspan="3">Long-nosed Potoroo</td><td>0</td><td>2</td><td>2</td></tr></table>	Zone ID	PCT ID	PCT name	Stage 1 credits required (Project EIS)	Additional for Stage 2 credits required	Stage 1+2 credits required (Ultimate EIS)	1	659	Bangalay Scrub (Nth Runway)	0	2	2	3	920	Grey Mangrove (Nth Runway)	0	1	1	4	920	Grey Mangrove (Sth Runway)	9	26	35	5	920	Grey & River Mangrove (Sth Runway)	19	9	28	6	1126	Mown Saltmarsh (Nth Runway)	1	1	2	Species credits			Stage 1 credits required (Project EIS)	Additional for Stage 2 credits required	Stage 1+2 credits required (Ultimate EIS)	Sooty Oystercatcher			29	35	64	Pied Oystercatcher			29	35	64	Southern Brown Bandicoot			0	2	2	Long-nosed Potoroo			0	2	2
Zone ID	PCT ID	PCT name	Stage 1 credits required (Project EIS)	Additional for Stage 2 credits required	Stage 1+2 credits required (Ultimate EIS)																																																																
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Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
		No changes to Stage 1 result from the update. The updated BDAR V4 is provided in Appendix D.	
<b>Water quality</b>	Short term negative Long term positive	<p>During the removal of the southern haul road, there is potential to impact the water quality of the area through sedimentation by proposed earthworks. The use of machinery and equipment also introduces the risk of pollution from spills or leaks including hydrocarbons and lubricants. Considering the location of the barrier, pollution risks are considered minor and localised, and are manageable with the implementation of mitigation measures.</p> <p>The removal of the haul road would improve long term hydrology and therefore improve water quality in the long term via improved flushing and increased inundation.</p> <p>The removal of the road also reduces the possibility of impacting water quality through any future vehicle (including spills and dust).</p>	<p>A works method has been developed to minimise risks to water quality and hydrology, with input from SE Engineering and Environmental and Council's Natural Assets section.</p> <p>The EIS and Submissions Report include measures to address water quality and contamination will apply the removal of the southern haulage road.</p> <p>One new measure is recommended based on this further assessment:</p> <ul style="list-style-type: none"> <li>The removal of the haulage road would only take place during low tide periods when the existing road is not inundated to reduce the risk of spills or leaks including hydrocarbons and lubricants entering the waterway.</li> </ul>
<b>Soils</b>	Short term minor negative	<p>The removal of the haul road would involve earthworks, which have potential to disturb either Potential Acid Sulfate Soils (PASS) or Acid Sulfate soils (ASS). The leaching of acid sulfate substances into surrounding environment can lead to a decline in water quality and be harmful to marine vegetation and fauna.</p> <p>The detailed works method developed for this activity requires that only the imported fill material would be removed and not below<sup>5</sup>, which mitigates the risk of exposing ASS.</p> <p>An Acid Sulfate Soils Management Plan has been prepared for the project It has been reviewed</p>	<p>A works method has been developed to minimise risks to ASS.</p> <p>Mitigation measures established in the Acid Sulfate Soils Management Plan, EIS and Submissions Report will apply the removal of the southern haulage road.</p> <p>One new measure is required based on this further assessment:</p> <ul style="list-style-type: none"> <li>If the removal of the haul road disturbs natural ground, an ASS investigation and update to the ASSMP will be required.</li> </ul>

<sup>5</sup> Geotechnical investigation during October 2021 confirmed that the imported material is readily distinguished from the original natural.

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
		<p>concerning these works and does not require updating to address the impacts of this activity. As long as the haul road removal is not disturbing natural ground, no drilling or sampling is required. If however, the haul road disturbs natural ground an ASS investigation and update to the ASSMP will be required. The risks are manageable with the implementation of mitigation measures.</p> <p>Extensive PASS and ASS study has been undertaken in the Acid Sulfate Soils Management Plan. In comparison the broader scope of Merimbula Airport upgrade works, the risks of the southern haulage road are very minor and will be manageable with mitigation measures.</p>	
<b>Aboriginal Heritage</b>	Minor negative	<p>The southern haul road has a previously recorded AHIMS site. During site surveys these artefacts of poor integrity on top of imported fill material were recorded, which was likely brought to site with the fill. These items are related to AHIMS #62-80814 and consisted of four stone artefacts. The site is labelled 'Merimbula Airport Access Track' in Figure 7-2 (pg. 93) of the ACHA (NGH, 2021).</p> <p>This site would be directly impacted by the works. The assessment of the removal of the haul road was covered within Table 7-1 (pg. 91) of the ACHA (NGH, 2021). Impact to the site has been covered in an AHIP application which has been issued.</p> <p>An AHIP has been issued for the proposed works Appendix F. The AHIP includes the proposed works for '<i>...removal of the haul road used for the original runway construction</i>' (pg 2). AHIMS #62-80814 is listed in Schedule B and Schedule C as an object that may be harmed through the proposed works (Appendix F pg.12).</p>	<p>As an AHIP applies to this activity, the sole additional Aboriginal heritage measure required is:</p> <ul style="list-style-type: none"> <li>Implement conditions of the AHIP (Appendix F).</li> </ul>

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
<b>Historic heritage</b>	Negligible	<p>No known historic heritage items will be impacted by the removal of the southern haul road. Contingency measures would be applied if items suspected of having heritage value are uncovered on site during the works.</p> <p>Aesthetic impacts to historic heritage items such as viewpoints from “Courunga” and “Greenpoint” local heritage properties would not be affected by the small footprint of the southern haul road removal.</p>	<p>The EIS and Submissions Report include measures to address historic heritage.</p> <p>No additional measures are required based on this further assessment.</p>
<b>Socio-economic</b>	<p>Minor short term negative</p> <p>Long term minor Positive</p>	<p>The cost of the haul road removal would be borne by Council and BVSC ratepayers. The cost is expected to be in the order of \$50 000.</p> <p>Additionally, the removal of the haul road and encouraging the reinstatement of native vegetation to the immediate east of this area, comes at an <i>opportunity cost</i> to Council. In 2014, a master plan for Merimbula airport was formally adopted, after an extensive planning and consultative process. It identified compliance with the South Coast Regional Strategy, the Bega Valley Local Environmental Plan 2013 (including consistency with the site’s SP2 Special Purposes zone), the Bega Valley Development Control Plan and the Merimbula Airport and Precinct Strategy (as drafted and exhibited). Excerpts identify, areas north of the original haul road formed integral components of the master plan elements, including relocation of the terminal and aprons. The substitution of an alternative use in the form of environmental offsets requires significant adjustment of the master</p>	<p>There are no economic mitigation strategies included in the EIS and Submissions Report. Section 4.3 pg 47-48 of the Submissions Report identifies that the proposal would have an overall benefit to the community in four areas, these are:</p> <ul style="list-style-type: none"> <li>• Ensuring the ongoing provision and operational feasibility of a runway and associated airport that is fit for purpose as determined by aircraft the community’s need for air transport and the aircraft available to meet that demand.</li> <li>• Addressing regional disadvantage by offering ongoing employment opportunities</li> <li>• Improving health services by increasing the supporting the regions reliance on fly in fly out practitioners</li> <li>• Providing education opportunities to local students by reducing travel times.</li> </ul> <p>One new measure is required based on this further assessment:</p> <ul style="list-style-type: none"> <li>• Consult key oyster lease stakeholders, regarding the expected impacts of removing the southern haul road and mitigation measures proposed.<sup>6</sup></li> </ul>

<sup>6</sup> Consultation with oyster lease holders is already mitigation commitment of the EIS and Submissions Report. This additional measure relates to the specifics of the southern haul road removal such as potential contamination impacts and how they will be mitigation and also the positive impacts of a return to natural hydrological processes along the roads footprint.



Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
		<p>plan, sacrifice of otherwise valid land usage and will place additional demands on other parts of the site.</p> <p>The haul road removal can however be justified on both a cost basis (the removal is less expensive than the direct payment of FM Act offsets) and for the hydrological and marine habitat benefits that it will bring. There are also positive impacts expected for visual amenity, which is expanded on below.</p> <p>The removal of the haul road would ultimately serve to reinstate this strip of estuarine vegetation and thus would not affect nearby oyster leases, but rather would bring a positive impact as better long term water flow is projected as stated in the water quality impact section.</p> <p>The removal of the southern haul road would result in the removal of a barrier. With its removal the area will experience an increase in inundation and flushing potentially improving the marine habitat for the area. The improvements in hydrology and water quality for the lake, will be positive for oyster growing within Merimbula Lake.</p> <p>Additional consultation with the oyster lease holders has been undertaken as part of the assessment.</p>	
<b>Amenity impacts</b>	<p>Minor short term negative</p> <p>Long term minor Positive</p>	<p>The removal of the haul road would involve earthworks that have potential to generate dust and result in visual impacts for receivers. The use of machinery and construction works will generate noise and traffic within the area during the works. The closest receivers would be users of Merimbula Lake. However cumulative amenity impacts would be negligible given the broader construction program occurring across the airport precinct.</p> <p>The removal of the road would have a positive impact on the visual character of the area, removing a man made structure. Tourists touching down at the airport</p>	<p>The EIS and Submissions report commit to mitigation measures that relate to amenity impacts (noise, traffic, and air quality).</p> <p>No additional measures are required based on this further assessment.</p>

Environmental parameter	Positive / Negative	Impact assessment	Mitigation strategies required to manage the works <sup>4</sup>
		<p>and recreational boaters with potential sightlines to the southern haul road would experience improved visual amenity with the removal of the road. Tourism opportunities focus on the integrity of natural landscapes in the area, and these works would positively contribute to these impressions.</p> <p>The proposed works are minor and unlikely to generate significant impacts for the community and tourists as stated above. The risks are manageable with the implementation of mitigation measures.</p>	
<b>Resource use and waste</b>	Short term minor negative	<p>The use of machinery and equipment will use fuel and lubricants. The supply of the materials required for the construction are not currently limited or restricted. The construction phase is unlikely to place significant pressure on the availability of local or regional resources.</p> <p>The proposal would generate approximately 1,380m<sup>2</sup> spoil from the removal of the haul road. The spoil will be reused onsite as stated in Section 3.5. As such there would be no additional resource use or waste produced by the removal of the southern haul road.</p>	<p>The EIS and Submissions Report include measures to address resource use and waste generation, in addition, and will apply to the removal of the southern haulage road.</p> <p>No additional measures are required based on this further assessment.</p>

## 4. BDAR and offset strategies

This section addresses the following information requests by the Panel:

- Review of the Biodiversity Development Management Plan (BDAR) and proposed offset strategies under the *Fisheries Management Act 1994* and *Biodiversity Conservation Act 2016* and where required, revisions to address any impacts associated with Stage 2 works.

### 4.1 Terrestrial biodiversity assessment under the BC Act

Updates to the BDAR (Final V3.1 now replaced by V4) and Offset Strategy (Final V1 now replaced by V3) are summarised below and appended in full as Appendix D and Appendix E.

#### 4.1.1 Changes to address updates to the BDAR v4

An update to the BDAR (now V4) was undertaken after the approval of Stage 1 works to assess the removal of this barrier which is considered an environmental remediation action supported in principle by BCD.

The adverse impact of the removal of 0.09 ha of native vegetation has been assessed in this BDAR (v4). The action removes a key threatening process under the BC Act: Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands. The beneficial impacts of reestablishment of native vegetation in the area now occupied by the barrier (0.24 ha) and increased inundation to the east, modelled as 4.5 ha, are long term benefits of the action but do not influence the updated offset requirement for the project.

The impacts on terrestrial vegetation, as calculated using the NSW BC Act's Biodiversity Assessment Method, generate additional credits for Stage 2 of the project as follows:

- One additional ecosystem credit for Zone 5 PCT 920 Mangroves (was 27 ecosystem credits now 28 for the Ultimate EIS; Stage 1+Stage 2).
- One additional species credit for Pied Oystercatcher (was 63, now 64 for addition of zone 5 mangrove inside haulage track for the Ultimate EIS; Stage 1+Stage 2).
- One additional species credit for Sooty Oystercatcher (was 63, now 64 for addition of zone 5 mangrove inside haulage track for the Ultimate EIS; Stage 1+Stage 2).

No changes to Stage 1 result from the update. The updated BDAR V4 is provided in Appendix D. The supporting GIS files are included in this package and should be forwarded directly to BCD. The credit calculation file has been submitted to BCD (04/11/21).

*Note, the BDAR and appended credit report are required to retain 14 day currency with the DA submission. Should DA lodgement be delayed, the report, profiles and credit calculator may require updated submission also.*

#### 4.1.2 Changes to address DPI Fisheries consultation

In July 2021, DPI Fisheries confirmed the following would be acceptable for offsetting this project:

- Removal of southern haulage road: Improved hydrological connectivity to 3.57 ha saltmarsh (upstream of road) and restoration of 0.24 ha saltmarsh/mangrove wetland under road footprint.
- Restoration of vehicle impacted marine vegetation south of the airport: Restoration of 0.392 ha saltmarsh/mangroves.

DPI Fisheries confirmed there is a shortfall of 0.738 ha in meeting the full 4.94ha 2:1 offset requirements. They stated:

*The accepted proposed onground offsets satisfy the 2:1 offset requirement for loss of mangrove and saltmarsh from both stages, and 0.062ha of the 0.8ha offset required for seagrass. Seagrass harm will only occur during Stage 2 works.*

The shortfall of 0.738 ha in required seagrass FM Act offsets will be addressed by paying out the obligation in accordance with the FM Act, prior to Stage 2 works.

Given that the Stage 2 works may not be undertaken for several years, it is possible that BVSC may investigate an additional restoration action to be agreed by DPI Fisheries prior to these works, however no current commitment is provided at this time.

Key management actions now included in the updated Offset Strategy Final V3 (Appendix E) and now included as commitments of the Stage 2 project include:

**Southern haul road removal:**

A three-year monitoring program would be developed and would include as a minimum:

1. Monitor the extent of regeneration of marine vegetation in the footprint of the haul road after removal.
2. Monitor the extent of tidal flushing upstream of the road following removal.
3. Record obvious changes in the distribution of marine vegetation community types in this area.
4. Provide annual status reports to DPI Fisheries (3 years).

**Remediation works associated with vehicle damage, south of the airport (see Figures below):**

1. Maintain the fence to restrict any vehicle access to this area.
2. Continue security monitoring on foot.
3. Include the area within the in perpetuity Stewardship site, being undertaken to meet BC Act offset obligations. Refer to Figure 4-3 that shows the current status of the Stewardship site boundary. As part of this commitment:
  - a. The existing vegetation extent and condition will be represented (and summarised as a 'vegetation integrity score' providing a base line condition status).
  - b. In addition to required management actions (such as fencing, signage and weed control), the area will be subject to additional active management measures (to be detailed in the management plan for this area, submitted with the Biodiversity Stewardship Site Assessment Report (BSSAR). Once lodged with BCT, a copy of the plan will be provided to DPI Fisheries.





Figure 4-1 Damaged vegetation and fencing to restrict further vehicle access - overview.



Figure 4-2 Damaged vegetation and fencing to restrict further vehicle access - image

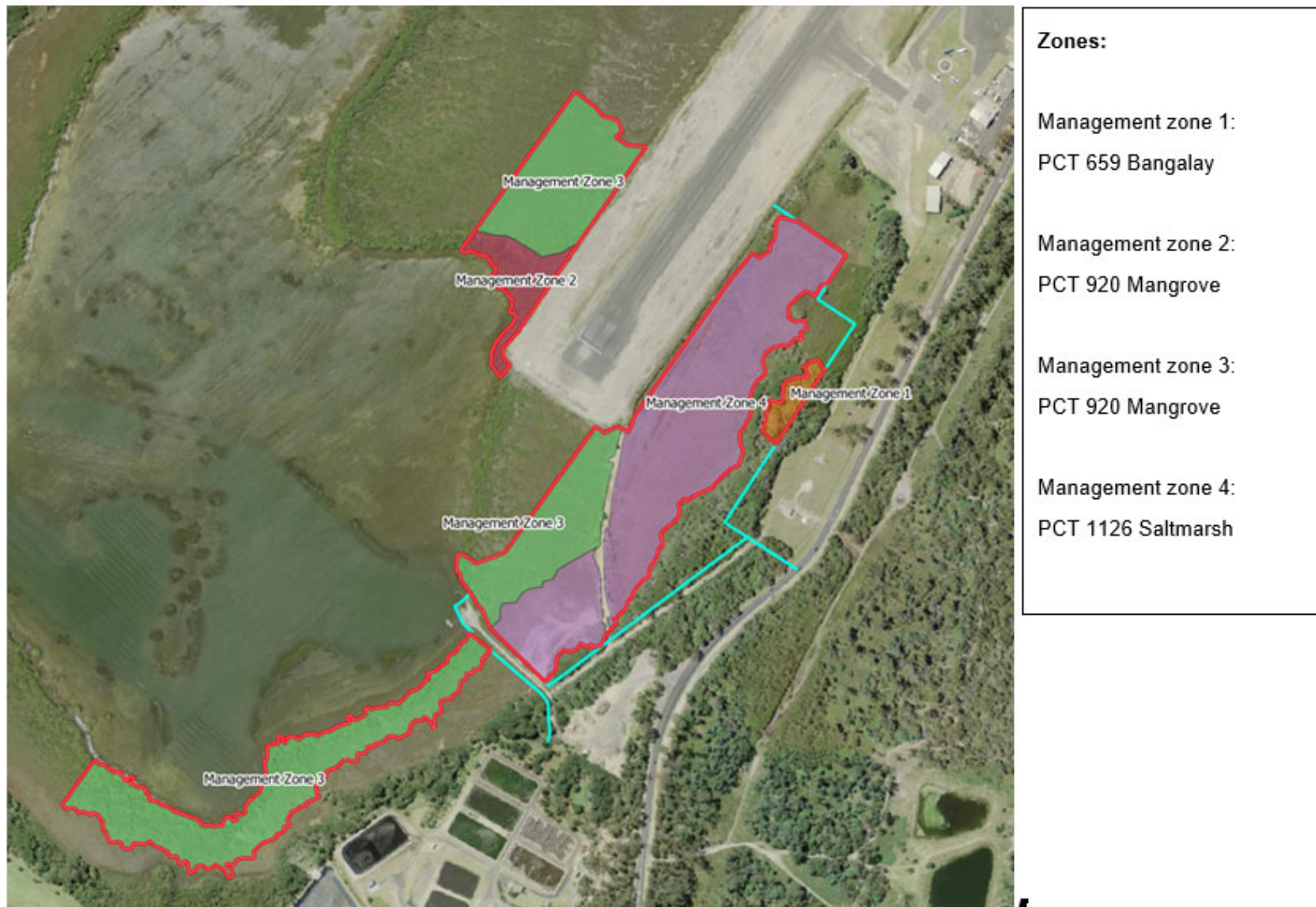


Figure 4-3 Areas currently proposed to be included in the Stewardship site to satisfy most of the Stage 2 BC Act offset requirements (in progress).



### 4.1.3 Summary of updated Offset Strategy Final V3

An updated Offset Strategy Final V3 (Appendix E) has been provided addressing:

- Increased BC Act offset obligations, and adjusting the timing in relation to establishment of a Stewardship site.
- DPI Fisheries input regarding FM Act obligations, contingencies, timing of securing offsets and additional monitoring and management commitments. Endorsement was provided by DPI Fisheries on 22/09/2021.

The aims of the Offset Strategy remain unchanged; to set out a clear method that can be endorsed by both the Department of Primary Industries Department of Primary Industries (DPI) and Biodiversity Conservation Division (BCD) regarding meeting the offset obligations for the Merimbula Airport Runway Extension project; Stage 1 and 2.

The updated strategy timing, by stage, is provided below (refer to Table 4-1). In summary, the offset obligations for the project will be met by a combination of direct payments and on ground works.

Table 4-1 Summary of strategies by stage.

BC Act	FM Act
<b>Stage 1</b>	
Making payments into the Biodiversity Conservation Fund using the offset payments calculator.	Payment of a bond to DPI Fisheries, to provide certainty, in advance of removing the southern haul.
	Continue to protect vehicle impacted marine vegetation south of the airport.
<b>Within 3 years of Stage 1 commencing</b>	
NA	Removal of southern haulage road.
	Monitor marine vegetation in this area for 3 years.
<b>Stage 2</b>	
Establishment of a new Stewardship Site under the BOS, adjacent to the Merimbula Airport.	Active management to enhance vehicle impacted marine vegetation south of the airport.

## 5. Consultation

**This section addresses the following information requests by the Panel:**

- Evidence of further consultation with relevant stakeholders, including Oyster Lease holders regarding the additional information.

The key stakeholders for this project include:

- BCD – terrestrial biodiversity impacts and offsets
- DPI (Fisheries)\_ - marine habitat and offsets
- Oyster lease holders – Wheelers Oysters and the Boyton family (leaseholders at the southern end of the lake); also the entire membership of the Merimbula Lake oyster farming interest group was invited to a briefing (attended by the group's secretariat and two members).

Further consultation to date regarding Stage 2 is summarised below and provided in detail in Appendix C.

This log is restricted to consultation post Stage 1 approval (7 May 2021).

Stakeholder and consultation dates	Results
<b>BCD – terrestrial biodiversity impacts and offsets</b>	
27/08/2021 - Updated BDAR v4 showing removal of the southern haul road provided in advance for comment . Offer of staff available to discuss the assessment.	Several questions raised and answered regarding process of assessment, relationship to the Stewardship site and Biodiversity Management Plan, management actions, other offset sites investigated.
02/09/2021 - Updated Offset Strategy V2 showing that Stage 1 credits would now be paid out and Stage 2 credits largely met via establishment of Stewardship site adjacent to the impact areas. Offer of staff available to discuss the document.	
20/09/2021 - Updated Offset Strategy V3 with minor clarification around Fisheries permit process included. No changes to BC Act requirements. Offer of staff available to discuss the document.	
<b>DPI (Fisheries)_ - marine habitat and offsets</b>	
26/08/2021 – NGH requested advice on documentation required to accompany the Fisheries permit for Stage 1 works.	27/08/2021 - Advice received.



Stakeholder and consultation dates	Results
02/09/2021 – Fisheries permit, design details for Stage 1 works and Updated Offset Strategy V2 provided. The strategy addresses Stage 2 offsets as well as Stage 1.	13/09/2021 - Further comments made and clarifications sought. 24/09/2021 - DPI advice provided on Stage 1 management plans.
20/09/2021 - Updated Offset Strategy V3 addressing additional Fisheries permit process included. The strategy addresses Stage 2 offsets as well as Stage 1.	22/09/2021 – Offset Strategy, Stage 1 Fisheries permit endorsed and provided by DPI.
<b>Oyster lease holders</b>	
07/10/2021– Wheelers Oysters and Boyton family members – leaseholders in the southern lake – briefed regarding Stage 2 design and offset mechanisms, including the haul road removal; and water testing results for Stage 1 construction so far (provided by the Site Surveillance Officer).	
14/10/2021– Merimbula Lake oyster growers secretariat and two growers (all growers having been invited) briefed regarding the works, offset measures and environmental protection.	

## **6. Conclusion**

BVSC received approval for Stage 1 of the Merimbula Airport Runway extension from the Southern Regional Planning Panel on 7<sup>th</sup> May 2021 however, the development consent for Stage 2 extension was deferred.

The report provides the additional information requirements outlined by the Southern Regional Planning Panel and thereby to enable approval for Stage 2 works.

All information requests, as provided in Appendix A.1, have been fully addressed. Specifically, detailed design drawings for the works have been included in Appendix A.2.

The impacts of Stage 2, which now includes the removal of the southern haul road as a mitigation strategy, have been fully assessed and found to be highly manageable. Supporting environmental management strategies and plans, as well as detailed work methods and engineering designs are provided to demonstrate this.

## **7. References**

RAPT Consulting 2019 'Noise Assessment – Merimbula Airport Runway Extension, October 2019, provided with the Merimbula Airport Runway Extension EIS.

Rehbein Airport Consulting 2020 Aircraft Noise Assessment (Airborne – Operational), provided with the Merimbula Airport Runway Extension Submissions Report.

## **Appendix A RFI and detailed design**

### **A.1 Request for Information, SRPP**

## **A.2 Detailed design drawings Stage 2 extensions**



## **A.3      Draft Water quality management plan**

## **Appendix B Haul road removal plan**



## Appendix C Evidence of consultation

### C.1 BCD

**From:** Brooke Marshall  
**Sent:** Tuesday, 5 October 2021 5:23 PM  
**To:** Allison.Treweek@environment.nsw.gov.au; ROG South East Region Mailbox <rog.southeast@environment.nsw.gov.au>  
**Cc:** Symons, Jennifer <JSymons@begavalley.nsw.gov.au>; Jane Love <jane.l@nghconsulting.com.au>  
**Subject:** FW: Merimbula Airport Runway Extension Offset strategy

Hi Allison, thanks for these comments. I have some responses below that I hope will clarify key issues.

This is a multi faceted project with lots of history so happy for a chat if that's easier.

#### **BMP for Stage 1**

Firstly the construction BMP, SWMP and CEMP are the critical path for Council as they are preparing to start works next week.

If you can prioritise these (they are looking for endorsement by Friday) that will make everyone breathe easier.

There will be an operational BMP and Stage 2 BMP but these have not been prepared as yet and aren't required for some time.

#### **Modification – remove beach stone curlew credits**

Gillian Young has reached out to Nicola Hargraves to resolve issues related to the BDAR lodgement for the Mod. Essentially we are looking to remove beach stone curlew credits as suggested by BCD originally.

Timing of lodgement meant the updated version of the BDAR wasn't lodged in time to be considered by the Planning team and it therefore wasn't passed on to BCD at the time. The beach stone curlew credit requirement relates to Stage 1 works.

#### **Offset Strategy Stage 1 impacts**

Correct, these have been paid out (with the exception of the beach stone curlew credits). While the client's preference was to use stewardship for this stage, the timing has precluded this. We have reduced the BSSAR scope to just be Stage 2, as stage 1 works are now imminent.

#### **Offset Strategy for Stage 2**

Work on a BSSAR for land based offsets is well progressed but its focus has now pivoted to Stage 2 (in anticipation that it too will achieve consent).

We are about 90% through the BSSAR to satisfy most of the stage 2 ecosystem credits (note the BDAR v4 has been provided in advance to BCD but is not proposed for submission until November).

None of the background searches and checks or consideration of interaction with the airport suggests the land adjacent to the impact isn't appropriate.

We will now contact BCT and discuss this to make sure they agree, as you suggest.

The works method developed for Stage 1 (black dash) and 2 (red outline) ensure that all impacts are contained within the footprints shown below. I have participated in these meetings with the



hydrologist and engineers to ensure the least impact results for the construction process. Some improvements have been developed by the Stage 1 contractor which suggest it will be less than shown. There is no overlap of the runway extensions and the stewardship site. One area of overlap however, is the haul road removal (now proposed to be removed as part of Stage 2 works). Currently the BSSAR does not assume any credits for restoration of the existing bare road areas over time. Nor does it consider the impact area required for its removal (a 10m buffer). The calculator is a coarse tool to model this but we will discuss our approach with BCT and make any adjustments they require to ensure the final number of credits generated here is acceptable.

We have workshopped the current BSSAR boundary with Council concurrent with more BAM plot collection to ensure the Offset strategy credit number is sufficient to offset stage 2 works (see table 1 of the offset strategy). Additionally, the location of the boundary makes best use of:

local offsets close to the impact areas

consolidating the areas for easier management

facilitating management actions and monitoring as part of the airport management

overlapping FM and BC act management actions

It is however only looking for ecosystem credits. It can easily be expanded if required to encompass more vegetation but the species credits assumed in the BDAR are not likely to be found here and the strategy is therefore to pay these out.

### **Management actions for the BSSAR**

The management actions stipulated in the BSSAR will provide for long term management and have been drafted for discussion with BCT. Are these the ones you mean?

The BMP is only dealing with construction impact management not operational monitoring, which is addressed in a later condition of consent.

The offset strategy does however detail the FM Act management strategies in a bit more detail as they don't have a similar offset framework. We are working on a 3 year operational monitoring plan for areas upstream of the haul road, at their request.

### **Other offset sites investigated**

Land based offsets were always Council's preference, and remain so for Stage 2. The cost is much cheaper and it makes for good local land management outcomes. A real shame we couldn't see this outcome for stage 1.

*Appendix B BVSC's Consideration of alternative offset sites* of the Offset strategy shows the other sites considered – again looking for ecosystem credits not species credits which have proved too difficult. The investigation was undertaken with the assistance of Council's Natural Assets Team. The comments in the summary table show most areas are too small.

I think that's captured your queries but please reach out if not

Cheers, Brooke





**BROOKE MARSHALL**  
**MANAGER – NSW SE & ACT**  
**PRINCIPAL – RENEWABLE ENERGY ASSESSMENTS**  
Certified Environmental Practitioner  
Please note I do not work Wednesdays  
**T.** 02 6492 8303 **M.** 0437 700 915  
**E.** [brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)  
Suite 11, 89-91 Auckland St  
(PO Box 470) Bega NSW 2550



**BEGA · BRISBANE · CANBERRA · GOLD COAST · NEWCASTLE · SYDNEY · WAGGA WAGGA**  
**[WWW.NGHCONSULTING.COM.AU](http://WWW.NGHCONSULTING.COM.AU)**

**From:** Allison Treweek <[Allison.Treweek@environment.nsw.gov.au](mailto:Allison.Treweek@environment.nsw.gov.au)>  
**Sent:** Friday, 1 October 2021 5:39 PM  
**To:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>; Fowler, Mark <[MFowler@begavalley.nsw.gov.au](mailto:MFowler@begavalley.nsw.gov.au)>  
**Cc:** Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>; Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>; Nicola Hargraves <[Nicola.Hargraves@environment.nsw.gov.au](mailto:Nicola.Hargraves@environment.nsw.gov.au)>  
**Subject:** RE: Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Good afternoon Brooke and Jennifer, sorry for the late afternoon email, we have lots of large projects on at the moment.

I have spoken to Mark Fowler about the offsets strategy and indicated I would provide some comments back to you.

At this stage I understand you are going to pay into the BCT fund for stage 1 of the project.  
Confirmed

We only received the BMP for review at the beginning of the week and we also received the modification request.

In regards to the offset strategy for stage 2, we need some clarification in regards to the impacts and the design of the proposed offset area.

So we seek some further clarification on the following:

The stewardship site appears to run along the side of the existing airport and also appears to coincide with the area identified as the development site in the BDAR. If this area is going to be impacted as part of the development then I am not sure how you can also use it as an offset.

Has the BCT been consulted on the stewardship site? The BCT will need to support your proposal in regards to having the stewardship site so close to the airport.

The long term management of the site is a key consideration and as I have not undertaken a review of the BMP I cannot comment on whether or not the proposed site will be able to generate the credits required to offset the development for Stage 2.

The offset strategy does not indicate that any other sites have been investigated to determine if there are other options for council to have a land based offset rather than paying into the fund. It is BCD preferred option that a land based local offset be part of the offset strategy to ensure that the biodiversity impacts of the development are offset locally, this cannot be guaranteed by paying the remainder into the fund. If the site next to the airport cannot generate the credit required BCD would prefer if other sites were explored.

I also note that the mapping of the stewardship site currently overlaps with a direct impact area for stage 2 according to the plans so more detailed mapping of the direct and indirect impacts associated with stage 2 will need to be provided to allow us to provide detailed comment.

I understand you require our endorsement of the plan at this point there is not enough detail in the plan for us to be able to comment so we seek some further detail on the management actions before we can provide any further comment.

We will continue to review the BMP as per the request from Mark. I will provide comment on the BMP as soon as we can.

I apologise again for the [delay.in](#) getting these comments back to you.

Thanks have a good weekend

Allison

**Allison Treweek**  
**Senior Team Leader Planning**

Biodiversity and Conservation | Department of Planning, Industry and Environment  
T 02 62297082 | M 0400706004 | E [allison.treweek@environment.nsw.gov.au](mailto:allison.treweek@environment.nsw.gov.au)  
Level 3, Farrer Place, Queanbeyan NSW 2620  
[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)

In order to ensure a high level of customer service and monitor work flow, South East Planning Team has an email address: [rog.southeast@environment.nsw.gov.au](mailto:rog.southeast@environment.nsw.gov.au). Please address all further email correspondence in relation to Planning and Aboriginal cultural heritage regulation matters to this address. If appropriate, emails can be marked to the attention of your usual contact in the team.



## **C.2      DPI Fisheries**

**From:** Carla Ganassin <carla.ganassin@dpi.nsw.gov.au>  
**Sent:** Friday, 24 September 2021 10:54 AM  
**To:** Symons, Jennifer <jsymons@begavalley.nsw.gov.au>  
**Cc:** Brooke Marshall <brooke.m@nghconsulting.com.au>; Jane Love <jane.l@nghconsulting.com.au>; Mick Bettanin <mick.bettanin@dpi.nsw.gov.au>  
**Subject:** DPI Fisheries comment on Merimbula Airport Stage 1 Construction Plans

Dear Jenny,

This email is in response to the construction and environmental plans for stage 1 Merimbula Airport runway extension works, submitted to DPI Fisheries for review on 22-23 September 2021.

DPI Fisheries has reviewed all of the plans stated below and provides the following comment:

*Construction Environmental Management Plan – Merimbula Airport Runway Extension Stage 1 (September 2021, Project No. 21-465, NGH & Symal)*

The referral of this plan complies with Condition 9 of Fisheries Permit No. PN21/384. DPI Fisheries is supportive of this plan as drafted. We request a minor amendment to include oyster farming activities as a nearby sensitive receiver in this plan and that the oyster industry be contacted as required should pollution events occur during construction.

*Soil and Water Management Plan – Merimbula Airport Runway Extension Stage 1 (September 2021, Project No. 21-465, NGH & Symal)*

The referral of this plan complies with Condition 9 of Fisheries Permit No. PN21/384. DPI Fisheries is supportive of this plan, with the following amendments:

In Appendix A, where it refers to dewatering activities being conducted in accordance with the Water Quality Management Plan, can the following specific measures also be included in the SWMP:

Dewatering operations must ensure retention of dredge spoil for a long enough period to allow mobilised sediments to settle out.

Sediment levels in water being returned to the waterway must be equal or less than that of ambient water upstream of the worksite.

A visual inspection of the waterway is to be conducted at all times during dewatering operations to ensure that no visible turbid plumes are generated within the waterway from dewatering operations. Inclusion of an Erosion and Sediment Control Plan for the northern runway extension site. This is to include the use of sediment curtains and other relevant measures to ensure runoff from the site does not impact upon the adjoining aquatic environment.

We note the SWMP includes a measure to: 'ensure the weighted chain of the silt curtain does not inadvertently drag across the seabed or interfere with adjacent aquaculture infrastructure'. We do have some concern regarding disturbance to seagrass from this silt curtain, and are interested in hearing of how the contractors are planning to achieve this. If it becomes evident once construction commences that it is possible to install the silt curtains fully within the mangrove habitat (and still be effective), then this would be DPI Fisheries preference. If not, then can we ensure the silt curtains are set close to the seaward edge of the mangrove habitat, the silt curtains are not oversized for their purpose and other measures that could minimise potential impacts to seagrass are employed. Please keep us informed of the methodologies used around the silt curtains in seagrass.

*Acid Sulphate Management Plan – Merimbula Airport Upgrade, Runway Extension (November 2020, Project No. 18-143)*

The referral of this plan complies with Condition 10 of Fisheries Permit No. PN21/384. DPI Fisheries is supportive of this plan as drafted.

*Biodiversity Management Plan – Merimbula Airport Runway Extension Stage 1 (September 2021, Project No. 21-465, NGH & Symal)*

DPI Fisheries is supportive of this plan as drafted.

DPI Fisheries is fine with reviewing any SWMSs you think have relevance to potential impacts on the aquatic environment.

Note, either myself or Mick Bettanin (DPI Fisheries habitat compliance officer) may request to inspect these construction works at some stage.

Please call if you have any questions about these comments.

Regards,

Carla Ganassin | Senior Fisheries Manager - South | Coastal Systems

NSW Department of Primary Industries | Fisheries

Block E, Level 3, 84 Crown Street, Wollongong NSW 2500

SEND MAIL TO: PO Box 97, Huskisson NSW 2540

T: (02) 4222 8342 | M: 0447 644 357 | E: [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>

**Sent:** Wednesday, 22 September 2021 11:36 AM

**To:** Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>

**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>; Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>

**Subject:** RE: HPE CM: RE: Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Thanks Jane.

DPI Fisheries supports this final version of the offset strategy.

FYI – The permit is currently at approval stage. Will send it once it comes through that process. Hopefully today or tomorrow.

Regards,

Carla Ganassin | Senior Fisheries Manager - South | Coastal Systems

NSW Department of Primary Industries | Fisheries

Block E, Level 3, 84 Crown Street, Wollongong NSW 2500

SEND MAIL TO: PO Box 97, Huskisson NSW 2540

T: (02) 4222 8342 | M: 0447 644 357 | E: [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>

**Sent:** Wednesday, 22 September 2021 3:44 PM

**To:** Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>  
**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>; Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>  
**Subject:** DPI Fisheries Permit - Merimbula Airport Stage 1 Runway Extension Works

Dear Jennifer,

DPI Fisheries Part 7 Permit for the Stage 1 Merimbula Airport Runway Extension works is attached.

The permit specifies the construction related plans that will need to be referred to DPI Fisheries prior to commencement of stage 1 construction. We note that these plans have not yet been referred to DPI Fisheries. When sending these plans through for review, please email them to: [ahp.central@dpi.nsw.gov.au](mailto:ahp.central@dpi.nsw.gov.au) and [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

Please note the conditions regarding the bank guarantee. The permit has conditioned DPI Fisheries review of this document prior to lodgement with the bank. Also, DPI Fisheries will need to obtain the signed original copy of this document prior to the commencement of stage 1 construction works. Please contact me to arrange pick up of this document by a local Fisheries Officer.

If you have any questions about this, please call.

Regards,

**Carla Ganassin** | Senior Fisheries Manager - South | Coastal Systems  
NSW Department of Primary Industries | Fisheries  
Block E, Level 3, 84 Crown Street, Wollongong NSW 2500  
**SEND MAIL TO:** PO Box 97, Huskisson NSW 2540  
**T:** (02) 4222 8342 | **M:** 0447 644 357 | **E:** [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

**From:** Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>  
**Sent:** Monday, 20 September 2021 12:07 PM  
**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>; DPI AHP Central Mailbox <[ahp.central@dpi.nsw.gov.au](mailto:ahp.central@dpi.nsw.gov.au)>  
**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>; Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>; Kyle Mercer <[kyle.m@nghconsulting.com.au](mailto:kyle.m@nghconsulting.com.au)>  
**Subject:** RE: Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Hi Carla,

Thanks for the comments on the offset strategy and request for clarifications for the stage 1 permit.

Please find attached the updated offset strategy addressing all your comments. BVSC and NGH understand that the haul road removal will be part of the stage 1 FM Act permit, and once the haul road removal has been approved we would require to undertake an amendment to the stage 1 permit.

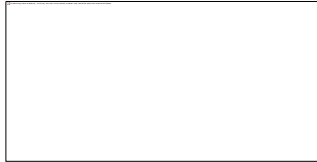
In regards to the clearing areas outlined in the application, those were correct and have been updated in the offset strategy. Stage 1 will impact 0.95ha of mangroves and 0.02ha saltmarsh.



Let me know if you have any questions. Brooke Marshall is probably the best person to discuss any specific questions regarding the offset strategy.

Kind regards  
Jane

**JANE LOVE**  
**SENIOR ENVIRONMENTAL CONSULTANT**  
B. EnvSc (land and water), MEM  
M. 0400 360 665 D. 02 6492 8315  
E. [jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)  
Suite 11, 89-91 Auckland St  
(PO Box 470) Bega NSW 2550



**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Sent:** Monday, 13 September 2021 9:43 AM  
**To:** Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>; DPI AHP Central Mailbox <[ahp.central@dpi.nsw.gov.au](mailto:ahp.central@dpi.nsw.gov.au)>  
**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>; Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>; Kyle Mercer <[kyle.m@nghconsulting.com.au](mailto:kyle.m@nghconsulting.com.au)>  
**Subject:** RE: Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Dear Jane,

DPI Fisheries is in the process of assessing the Stage 1 Fisheries Permit for the Merimbula Airport expansion works. This email is to seek some clarification on a few points in relation to the permit application (including some requested minor edits to the offset strategy).

DPI Fisheries will progress with assessing the permit application and will aim to do this as a priority, once Council provides a copy of the Offset Strategy with the requested amendments and clarification of the area of marine vegetation harmed during stage 1 works is provided.

#### **Offset strategy and permit application**

DPI Fisheries has noted that the *Offset Strategy Merimbula Airport Expansion August 2021* is much improved. Prior to endorsing this plan and issuing the stage 1 permit however, DPI Fisheries requires a few minor amendments and clarifications to this plan, as shown in the edited attached document. These comments mostly relate to:

The haul road removal being linked to the stage 1 permit;  
stage 2 offset requirements in the event that the haul road removal does not occur within 3 years of stage 1 works commencement;  
clarifications on the area of marine vegetation harmed and area of vehicle damage offset;  
permitting requirements for the haul road removal; and  
bank guarantee matters.

The haul road removal works will be required as part of the stage 1 Fisheries permit. As these works have not yet been approved, the FM Act permit required for the haul road removal cannot be

issued at this stage. Once these works have been approved, FM Act permitting requirements will need to be finalised prior to commencement of these works. Pending the planning pathway used for the authorisation of these works, this could occur via amendment to the Stage 1 permit or an additional FM Act permit. Note that construction methodology, environmental mitigation measures etc will be assessed as part of the approval and permit process. Care is to be taken during haul road removal works to ensure minimal impact to the surrounding wetland.

The EIS and offset strategy have identified that the Stage 1 works will result in the direct harm of 1ha of mangroves only. However, the permit application states that 0.95 ha of mangroves and 0.02ha of saltmarsh will be harmed during these works. It is unclear at this stage, how the proposed area of marine vegetation harmed during Stage 1 can be different to that assessed in the EIS. Please explain these differences, and verify the area of marine vegetation to be harmed during stage 1 works.

If you wish to discuss what has been raised in this email, please call.

Thanks,

**Carla Ganassin** | Senior Fisheries Manager - South | Coastal Systems

**NSW Department of Primary Industries | Fisheries**

Block E, Level 3, 84 Crown Street, Wollongong NSW 2500

**SEND MAIL TO:** PO Box 97, Huskisson NSW 2540

**T:** (02) 4222 8342 | **M:** 0447 644 357 | **E:** [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

**From:** Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>

**Sent:** Thursday, 2 September 2021 10:01 AM

**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>; DPI AHP Central Mailbox <[ahp.central@dpi.nsw.gov.au](mailto:ahp.central@dpi.nsw.gov.au)>

**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>; Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>; Kyle Mercer <[kyle.m@nghconsulting.com.au](mailto:kyle.m@nghconsulting.com.au)>

**Subject:** RE: Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Hi Carla,

Thanks for the confirmation.

Please find attached the permit, designs for stage 1 and offset strategy. Below is a link to access the EIS and submissions report.

 [Merimbula Airport Runway Extension Stage 1 FP](#)

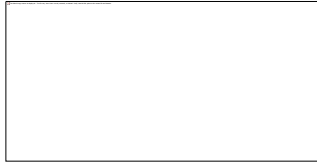
The management plans are currently being prepared, so these will need to be provided at a later date. Noted about the plans being provided at least 2 weeks prior to works commencing.

Let me know if you require any further information.

Kind regards

Jane

**JANE LOVE**  
**SENIOR ENVIRONMENTAL CONSULTANT**  
B. EnvSc (land and water), MEM  
M. 0400 360 665 D. 02 6492 8315  
E. [jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)  
Suite 11, 89-91 Auckland St  
(PO Box 470) Bega NSW 2550



**From:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Sent:** Friday, 27 August 2021 1:08 PM  
**To:** Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>  
**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>  
**Subject:** RE: Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Hi Jane,

The following will need to be submitted with the completed permit application:  
Plans and detailed design of the works  
The Offset Strategy

Also, DPI Fisheries will also need to review and endorse the following construction related plans as part of the permit approval process. If these plans are not ready when the permit application is submitted they can be submitted up to 2 weeks prior to the commencement of construction.

Construction Environment Management Plan  
Soil and Water Management Plan  
Acid Sulphate Soil Management Plan  
Dewatering Plan (if dewatering is to occur)

It is important that the above provides a description of how construction will be conducted and the measures to be used during construction to mitigate impacts on the aquatic environment. The permit application will also need to clearly identify the area of marine vegetation to be harmed during stage 1 works.

Regards,

**Carla Ganassin** | Senior Fisheries Manager - South | Coastal Systems  
**NSW Department of Primary Industries | Fisheries**  
Block E, Level 3, 84 Crown Street, Wollongong NSW 2500  
**SEND MAIL TO:** PO Box 97, Huskisson NSW 2540  
**T:** (02) 4222 8342 | **M:** 0447 644 357 | **E:** [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

**From:** Jane Love <[jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)>  
**Sent:** Thursday, 26 August 2021 10:20 AM  
**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Cc:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>  
**Subject:** Merimbula Airport Runway Extension Stage 1 Fisheries Permit

Hi Carla,

I hope you are well.

We are just putting together the fisheries permit for Merimbula Airport Runway Extension Stage 1 on behalf Bega Valley Shire Council. As you would be aware, Stage 1 was assessed in an Environmental Impact Statement (NGH 2019) in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) to support a development application (DA) for Regionally Significant Development. BVSC received approval for Stage 1 from the Southern Regional Planning Panel on 7<sup>th</sup> May 2021. A contractor has also now been awarded to complete the work.

Can you please confirm what documents need to be submitted with the permit?

Kind regards

Jane

**JANE LOVE**  
**SENIOR ENVIRONMENTAL CONSULTANT**  
B. EnvSc (land and water), MEM  
**M.** 0400 360 665 **D.** 02 6492 8315  
**E.** [jane.l@nghconsulting.com.au](mailto:jane.l@nghconsulting.com.au)  
Suite 11, 89-91 Auckland St  
(PO Box 470) Bega NSW 2550



## **C.3 Oyster lease stakeholders**



# Merimbula Airport – Consultation with Southern Extension Oyster Lessees



## Record of Meeting

Held at **Merimbula Airport Departures Terminal** on **7 October 2021**

<b>Attendees:</b>	Chris Boyton	Oyster Lessee
	Shelley Boyton	Oyster Lessee
	Hugh Wheeler	Oyster Lessee
	Austin Legler – Austin Legler & Associates (second half of meeting)	BVSC Site Surveillance Officer - Runway Extension Works
	Jenny Symons	BVSC Project Manager – Airport Projects

The status as at the last meeting was discussed:

- The purpose of the runway extensions is to both secure existing airline services (as aircraft types in use change – and particularly as the Saab34 reaches the end of its service life) and to service the increase in passenger demand over time.
- The runway extension is a two stage process, the first comprising a 120m starter extension at both ends of the runway and the second comprising an additional 80m starter extension at both ends of the runway.
- For stage one the impact on lake water flows caused by the extension would be offset by enlargement of the culverts under the original haul road.
- The water quality plan had identified the monitoring and management requirements, including water testing locations and testing regimes and methods to protect the lake environment including silt curtains, rock bags and geotextiles at the work site.
- The water test results were to be made available to the attendees.
- An acid sulfate soils management plan will apply to the works.

The following update was also discussed:

- The DA for the first starter extensions has been determined and the DA for the second starter extensions has been deferred.
- The offset strategy for both stages has been developed.
- In particular, in order to achieve the offset requirements under the FMA, the original haul road will now be removed. This will satisfy both stage 1 and stage 2 requirements under the FMA.
- It has become possible due to Council foregoing the opportunity to develop some parts of the airport site, and instead utilise them for offsets for the runway extension.
- Credit requirements as required by the BCD would also be partially addressed via the use of airport land.
- The consequence is that offsets for stage 2, and the associated benefits to the lake environment will occur at the same time as the offsets for stage 1 – well in advance of the construction of stage 2 and the associated impacts.
- The works for stage 1 have been put out to tender and commencement of work is imminent.

- A methodology for construction of stage 2 and a methodology for the haul road removal (including associated environmental protection) have both been developed.

Austin Legler joined the meeting and the three sets of water quality test results were discussed:

- The locations in accordance with the Water Quality Management and Monitoring Plan reconfirmed.
- It was agreed that the testing be extended to included dissolved Al, as well solids in order to provide more meaningful results.
- The frequency of testing was also confirmed (with increased frequency occurring after rainfall events).

The meeting closed.

# Merimbula Airport – Consultation with Southern Extension Oyster Lessees



## Record of Meeting

Held at **Merimbula Airport Departures Terminal** on **14 October 2021**

<b>DPI advice to work through Merimbula Gourmet Oysters (MGO) resulted in MGO providing a list of lessee contacts for all of Merimbula Lake, with advice that invitation by text would be the most effective method</b>	<b>Invitees:</b> Dominic Boyton Adie Sterling Merv Hansen Darren Death Wane Hansen John Mckiy Rodney Rutter Clam Man Tim Jones Lisa Kennedy Surf N Turf Matthew Nutt James Wheeler Spunge Tim Brown Ian	<b>Attendees:</b> Dominic Boyton Rebecca Darren Death Jenny Symons	 0487240260 0408952012 0427609822 64956772 0418469773 0428373190 0427639585 0427260948 0427962007 0417288109 0457303083 0432931270 0466484787 0429453545 0414646550 0488240258  Oyster Lessee Merimbula Gourmet Oysters Oyster Lessee BVSC Project Manager – Airport Projects
---	---	--	--

The following information was discussed:

- The program of works across all parts of the airport was identified, along with the assessment pathway and approval mechanism for each element.
- The purpose of the runway extensions is to both secure existing airline services (as aircraft types in use change – and particularly as the Saab34 reaches the end of its service life) and to service the increase in passenger demand over time.
- The runway extensions require a development approval with an environmental impact statement (EIS). The EIS has been developed, progressed through consultative phases, submission, and assessment.
- The runway extension is a two stage process, the first comprising a 120m starter extension at both ends of the runway and the second comprising an additional 80m starter extension at both ends of the runway.
- The DA for the first starter extensions has been determined and the DA for the second starter extensions has been deferred.
- A water quality plan has identified the monitoring and management requirements during and after construction, including water testing locations and testing regimes and methods to

protect the lake environment including silt curtains, rock bags and geotextiles at the work site.

- The water test results will be made available to the via the internet.
- An acid sulfate soils management plan will apply to the works.
- Both stages require environmental offsets for both the FMA and for biodiversity
- The offset strategy for both stages has been developed.
- In particular, in order to achieve the offset requirements under the FMA, the original haul road will now be removed. This will satisfy both stage 1 and stage 2 requirements under the FMA.
- It has become possible due to Council foregoing the opportunity to develop some parts of the airport site, and instead utilise them for offsets for the runway extension.
- Credit requirements as required by the BCD would also be partially addressed via the use of airport land.
- The consequence is that offsets for stage 2, and the associated benefits to the lake environment will occur at the same time as the offsets for stage 1 – well in advance of the construction of stage 2 and the associated impacts.
- The works for stage 1 have been put out to tender and commencement of work is imminent.
- A methodology for construction of stage 2 and a methodology for the haul road removal (including associated environmental protection) have both been developed.

The three sets of water quality test results were noted:

- The locations in accordance with the Water Quality Management and Monitoring Plan were identified.
- It was agreed that the testing is being extended to included dissolved Al, as well solids in order to provide more meaningful results.
- The frequency of testing was also confirmed (with increased frequency occurring after rainfall events).

The discussion identified the air freight opportunities that would be supported by the airport projects (once completed).

The meeting closed.

## Appendix D Updated BDAR Final v4

Cover note on BDAR submission:

At the time of finalising V4, BDAR V3.1 was still being reviewed by BCD.

In finalising the V4 credit calculations for submission in the calculator, NGH found that we could not:

- change or submit the most recent revision in the submitted child case.
- create a new child case, as the parent case has been submitted.

To resolve this, NGH created a new case for V4 and re-entered all the data in order to allow submission of the V4 credit calculations.

In attempting to print the updated credit profiles, NGH found that we could not export the credit profiles due to an error message in the calculator. The credit profile outputs were verified by NGH to be identical to the last printed copies (provided to BDC for review in 27/08/2021) and so these older copies are appended to the BDAR v4. To demonstrate the currency of the credit profile however, the screen shots as of 05/11/2021 are provided below and it is noted that BCD now have access to the final and updated V4 credit calculations as of 04/11/21.



Credit profile currency screen shots 05/11/21:

RE: 21-501 - Merimbula airport extension: deferred matters



Alex Santiago  
To Brooke Marshall

You replied to this message on 5/11/2021 8:37 AM.



Reply

Reply All

Forward






Fri 5/11/2021 8:30 AM

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00029199/BAAS17086/21/00029201 / Revision: 0

LOGOUT



1. Assessment details

2. Site context

3. Vegetation

4. Habitat suitability: Predicted

5. Habitat suitability: Candidate

6. Habitat survey

7. Credits

8. Credit classes

9. Price

Message!

If you would like to meet your offset obligation by making a payment to the Biodiversity Conservation Fund, please contact the BCT team at [bct@environment.nsw.gov.au](mailto:bct@environment.nsw.gov.au)

IBRA subregion: South East Coastal Ranges

PCT list

Include	PCT common name	Credit
<input checked="" type="checkbox"/>	659 - Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin Bioregion and South East Corner Bioregion	2
<input checked="" type="checkbox"/>	920 - Estuarine mangrove forest	64
<input checked="" type="checkbox"/>	1126 - Estuarine saltmarsh	2

Species list

Include	Species	Credit
<input checked="" type="checkbox"/>	<i>Haematopus fuliginosus</i> (Sooty Oystercatcher)	64
<input checked="" type="checkbox"/>	<i>Haematopus longirostris</i> (Pied Oystercatcher)	64
<input checked="" type="checkbox"/>	<i>Isodon obesulus obesulus</i> (Southern Brown Bandicoot (eastern))	2
<input checked="" type="checkbox"/>	<i>Potorous tridactylus</i> (Long-nosed Potoroo)	2

CALCULATE

CALCULATE

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

IBRA sub region	PCT common name	Threat status	Offset trading group	Risk premium	Administrative cost	Methodology adjustment factor	Price per credit	No. of ecosystem credits	Final credits price
South East Coastal Ranges	659 - Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin Bioregion and South East Corner Bioregion	Yes	Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions	18.83%	\$117.55	3.0005	\$3,609.69	2	\$7,219.37
South East Coastal Ranges	920 - Estuarine mangrove forest	No	Mangrove Swamps >=70% and <90%	18.87%	\$352.55	2.1837	\$10,829.33	64	\$693,077.39
South East Coastal Ranges	1126 - Estuarine saltmarsh	No	Saltmarshes >=50% and <70%	20.69%	\$351.64	1.7151	\$10,961.63	2	\$21,923.27
Subtotal (excl. GST)									\$722,220.03
GST									\$39,999.66
Total ecosystem credits (incl. GST)									\$784,442.03

Species credits for threatened species

Species profile ID	Species	Threat status	Price per credit	Risk premium	Administrative cost	No. of species credits	Final credits price	
10385	<i>Haematopus fuliginosus</i> (Sooty Oystercatcher)	Vulnerable	\$463.67	20.6900%	\$80.00	64	\$40,934.61	
10386	<i>Haematopus longirostris</i> (Pied Oystercatcher)	Endangered	\$309.97	20.6900%	\$80.00	64	\$29,062.58	
10439	<i>Isodon obesulus obesulus</i> (Southern Brown Bandicoot (eastern))	Endangered	\$5,974.37	20.6900%	\$238.97	2	\$14,898.88	
10662	<i>Potorous tridactylus</i> (Long-nosed Potoroo)	Vulnerable	\$463.67	20.6900%	\$80.00	2	\$1,279.21	
Subtotal (excl. GST)							\$86,175.28	
Total species credits (incl. GST)							\$84,792.81	
Calculated as on: 05/11/2021 08:20:36							Grand total	\$889,234.84


Breakdown of ecosystem credits:

OPEN

PRINT -

00029199/BAAS17086/21/00029201 / Revision: 0

LOGOUT



1. Assessment details

2. Site context

3. Vegetation

4. Habitat suitability: Predicted

5. Habitat suitability: Candidate

6. Habitat survey

7. Credits

8. Credit classes

9. Price

Ecosystem credits for plant communities types (PCT), ecological communities & threatened species habitat

Zone	Vegetation zone name	Vegetation integrity loss	Area	Species sensitivity to gain class (for BRW)	Biodiversity risk weighting	Potential SAIL	Ecosystem credits
Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin Bioregion and South East Corner Bioregion							
1	659_Plot4_Nth_Scrub	50.8	0.07 hectares	High Sensitivity to Potential Gain	2		2
2	659_P8-7-9-14NthGras	8	8.4 hectares	High Sensitivity to Potential Gain	2		0
Subtotal: 2							
Estuarine mangrove forest							
3	920_Plot3_Nth_GMangrove	82.9	0.03 hectares	High Sensitivity to Potential Gain	2		1
4	920_Plot1_Sth_GMangrove	69.9	1 hectares	High Sensitivity to Potential Gain	2		35
5	920_Plot2_Sth_RGMangrove	55	1 hectares	High Sensitivity to Potential Gain	2		28
Subtotal: 64							
Estuarine saltmarsh							
6	1126_Plot5_Nth_Saltmarsh	75.4	0.05 hectares	High Sensitivity to Potential Gain	1.75		2
7	1126_Plot10_Sth_Saltmarsh	11.9	0.07 hectares	High Sensitivity to Potential Gain	1.75		0
Subtotal: 2							

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| D-I

Total: 68

Breakdown of species credits:

Species credits for threatened species

Vegetation zone name	Habitat condition (vegetation integrity) loss	Area / Count	Biodiversity risk weighting	Potential SAIL	Species credits
Haematopus fuliginosus / Sooty Oystercatcher ( Fauna )					
920_Plot1_Sth_GMangrove	69.9	1 hectares	2	False	35
920_Plot2_Sth_RGMangrove	55	1 hectares	2	False	28
920_Plot3_Nth_GMangrove	82.9	0.03 hectares	2	False	1
					Subtotal: 64
Haematopus longirostris / Pied Oystercatcher ( Fauna )					
920_Plot1_Sth_GMangrove	69.9	1 hectares	2	False	35
920_Plot2_Sth_RGMangrove	55	1 hectares	2	False	28
920_Plot3_Nth_GMangrove	82.9	0.03 hectares	2	False	1
					Subtotal: 64
Isoodon obesulus obesulus / Southern Brown Bandicoot (eastern) ( Fauna )					
059_Plot4_Nth_Scrub	50.8	0.07 hectares	2	False	2
					Subtotal: 2
Potorous tridactylus / Long-nosed Potoroo ( Fauna )					
059_Plot4_Nth_Scrub	50.8	0.07 hectares	2	False	2
					Subtotal: 2

## **Appendix E Updated Offset Strategy Final v3**



# **OFFSET STRATEGY**

## **Merimbula Airport Runway Extension**

September 2021

**Project Number: 21-031**



# DOCUMENT VERIFICATION

Project Title: Merimbula Airport Runway Extension

Project Number: 21-031

Project File Name: 20-031 Merimbula Airport Runway Extension Offset Strategy Final\_v3

Revision	Date	Prepared by	Reviewed by	Approved by
Draft v1	4/08/2020	Brooke Marshall	Gillian Young	Brooke Marshall
Draft v2	28/09/2020	Brooke Marshall	Nick Graham-Higgs	Brooke Marshall
Final V1	11/05/2021	Brooke Marshall	N/A Minor Changes	Brooke Marshall
Final V2	31/08/2021	Address DPI advice: Brooke Marshall	Jane Love	Brooke Marshall
Final V3	17/09/2021	Address DPI comments Jane Love	Brooke Marshall	Brooke Marshall

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**W.** [www.nghconsulting.com.au](http://www.nghconsulting.com.au)

**BEGA - ACT & SOUTH EAST NSW**

Suite 11, 89-91 Auckland Street  
(PO Box 470) Bega NSW 2550  
**T.** (02) 6492 8333

**BRISBANE**

Suite 4, Level 5, 87 Wickham Terrace  
Spring Hill QLD 4000  
**T.** (07) 3129 7633

**CANBERRA - NSW SE & ACT**

Unit 8, 27 Yallourn Street  
(PO Box 62) Fyshwick ACT 2609  
**T.** (02) 6280 5053

**GOLD COAST**

19a Philippine Parade  
Palm Beach QLD 4221  
(PO Box 466 Tugun QLD 4224)  
**T.** (07) 3129 7633

**E.** [ngh@nghconsulting.com.au](mailto:ngh@nghconsulting.com.au)

**NEWCASTLE - HUNTER & NORTH COAST**

Unit 2, 54 Hudson Street  
Hamilton NSW 2303  
**T.** (02) 4929 2301

**SYDNEY REGION**

Unit 17, 21 Mary Street  
Surry Hills NSW 2010  
**T.** (02) 8202 8333

**WAGGA WAGGA - RIVERINA & WESTERN NSW**

35 Kincaid Street (PO Box 5464)  
Wagga Wagga NSW 2650  
**T.** (02) 6971 9696

**WODONGA**

Unit 2, 83 Hume Street  
(PO Box 506) Wodonga VIC 3690  
**T.** (02) 6067 2533

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# 1. INTRODUCTION

## 1.1. The Merimbula Airport Runway Extension: the Project

Bega Valley Shire Council (BVSC) are proposing to increase the Merimbula Airport runway lengths via extensions to the northern and southern ends. The airport is located within the town of Merimbula, NSW within BVSC Local Government Area (LGA) which forms part of the NSW Far South Coast region. The airport was constructed in the late 1950's and is owned by the BVSC. The airport includes both terrestrial and marine areas. It is located approximately 1.2 kilometres (km) south of Merimbula town centre and approximately 26km south from Bega.

Notable features within the locality include:

- Merimbula Lake and oyster farming operations;
- Merimbula Main Beach and other significant Sapphire Coast beaches and coastline; and
- National Parks including Ben Boyd National Park located just to the south of the proposal site.

The Merimbula Airport Runway Extension project is Regionally Significant Development as defined by *the State Environmental Planning Policy (State and Regional Development) 2011*. An assessment of terrestrial and aquatic impacts was undertaken within the proposal's Environmental Impact Statement (EIS) and subsequent Submissions Report, with supporting biodiversity and aquatic impact assessments.

BVSC proposed to extend the Merimbula Airport Runway in two stages:

- Stage 1 Runway Extension (represented as the 'Project EIS') proposes the construction of a 120m long runway 'starter extension' at each end of the existing runway pavement (northern and southern ends of the existing runway) and retains the existing point of take-off and landing. This work will commence in the third quarter of 2021.
- Stage 2 Runway Extension (represented as the 'Ultimate EIS footprint') includes an additional 80m starter extension to both the northern and southern ends of the runway and retains the existing point of take-off and landing, consistent with Stage 1. This stage of the project may be as close as 10 or far away as 25 years, as it is dependent upon demand.

### Approval status August 2021

BVSC received approval for Stage 1 from the Southern Regional Planning Panel on 7<sup>th</sup> May 2021, however the development consent for Stage 2 extension has been deferred. The Southern Regional Planning Panel requested additional information to enable determination for Stage 2.

Part of the information request included:

*'An assessment of the removal of the existing Haulage Road to address DPI (Fisheries) concerns and to satisfy offsetting requirements under the Fisheries Management Act 1994. If so, details of the removal of the road and assessment of the impact of this removal on the adjoining aquatic environment ...*

*Review of the Biodiversity Development Management Plan (BDAR) and proposed offset strategies under the Fisheries Management Act 1994 and Biodiversity Conservation Act 2016 and where required, revisions to address any impacts associated with Stage 2 works.'*

This Offset Strategy has been updated to address these requests in that it reflects:

- That the existing haul road will be removed as part of Stage 2 of the project (noting it will be removed ahead of other Stage 2 components and that the requirement to remove the existing haul road will be linked to the Stage 1 FM Act permit)
- The updated offset requirement under the BC Act, due to the removal of the existing haul road.

The Deferred Matters assessment report is in progress and is expected to be submitted in November 2021.

## **1.2. The Project's requirement to offset**

On the basis of the impacts to native vegetation and marine habitat that the project cannot avoid, the project will generate offset obligations under both the Biodiversity Conservation and Fisheries Management Acts.

While the Biodiversity Conservation Act provides several clear pathways to meet offset obligations, the added complexity of the meeting the somewhat overlapping Fisheries Management Act obligations have required that an Offset Strategy be prepared for the project.

NGH has undertaken investigations and consultation to inform this Offset Strategy. Key source information is drawn from:

- NGH 2019 Merimbula Airport Runway Extension EIS and supporting Biodiversity Development Assessment Report (BDAR) and Aquatic Impact Assessment.
- NGH 2020 Submissions report and supporting updated Biodiversity Development Assessment Report <sup>1</sup>.
- Creese, R.G., Glasby, T.M., West, G. and Galen, C. 2009. *Mapping the habitats of NSW estuaries*. Industry & Investment NSW Fisheries Final Report Series 113. Port Stephens, NSW, Australia.
- NGH 2021 Merimbula Airport Deferred Matters Report and supporting updated Biodiversity Development Assessment Report (BDAR v4, August 2021).
- NGH 2021 Merimbula Airport Biodiversity Stewardship Site Assessment Report (BSSAR) in progress.

This Offset Strategy (version Final V2) includes input provided from Department of Primary Industries (DPI) and Biodiversity Conservation Division (BCD):

- A meeting was held on 20 July 2020 to discuss the offset requirements under the Biodiversity Conservation Act and the Fisheries Management Act with BCD and DPI. Key issues for the agencies were included in the draft Offset Strategy v1, which was provided to the agencies for comment on 17 August 2020.
- Comments were received from DPI (Carla Ganassin, Senior Fisheries Manager - South Coastal Systems NSW Department of Primary Industries) on 7 September 2020 and 25 November 2020 and have been addressed in this updated final Offset Strategy.

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<sup>1</sup> Final changes have been made to the BDAR in consultation with BCD since Submissions Report lodgement. Additional changes are being made to reflect adding the haul road removal to Stage 2 activities (V4).

- Comments were received from BCD (Nicola Hargraves, Senior Conservation Planning Officer, Biodiversity and Conservation, Department of Planning, Industry and Environment) on 19 August 2020.
- Additional comments were received from DPI (Carla Ganassin, Senior Fisheries Manager - South Coastal Systems NSW Department of Primary Industries) on 19 July 2021.

Refer to Appendix A for specific agency responses.

### **1.3. Aims and scope**

The aims of this Offset Strategy are to set out a clear method that can be endorsed by both the Department of Primary Industries (DPI) and Biodiversity Conservation Division (BCD) regarding meeting the offset obligations for the project. This Offset Strategy aims to provide:

- Certainty to the proponent and agency stakeholders that suitable physical offset site/s exist for securing the as much of the project's offset obligations as possible.
- Direction regarding the appropriate types of management within the offset site.
- Set out a process and timeline for meeting the offset obligations for this project.

This strategy summarises:

- The offset obligations of the project.
- The proposed offset mechanisms.
- The results of on ground offset investigations to date.
- The pathway forward to securing the offsets for this project.

Supporting information is appended and includes:

- A. Agency feedback to date.
- B. Consideration of alternative offset sites.
- C. Hydrological analysis of an active management option: Removal of the southern haul road, south of the project site and within the offset site investigation area.
- D. Preliminary offset site investigations.
- E. BVSC's consideration of the southern haul road removal.





Figure 1 Merimbula airport, Merimbula NSW

## 2. REQUIREMENT TO OFFSET

The proposed works will impact biodiversity values and aquatic habitat at the Merimbula airport site. The Environmental Impact Statement (EIS) and specifically the Biodiversity Development Assessment Report (BDAR; NGH 2020 and updated NGH 2021) investigated ways to avoid and minimise impacts as much as possible. The residual impacts which cannot be avoided are required to be offset.

The project's final impact areas have been determined with input from engineering, aviation and hydrological specialists, to minimise the works footprint and provide certainty regarding containment of indirect impacts; documented within the Submissions Report (NGH 2020). This is particularly important for managing water quality in the adjacent Merimbula Lake.

The direct removal of terrestrial and marine vegetation and associated habitat for the project is as follows:

	<b>Project EIS (Stage 1)</b>	<b>Additional to complete Stage 2</b>	<b>Ultimate EIS (Stage 1+2)</b>
<b>Bangalay forest</b>	7.64	0.88	8.52
<b>Saltmarsh</b>	0.02	0.03	0.05
<b>Mangroves</b>	0.95	1.07	2.02
<b>Seagrass communities</b>	0.00	0.40	0.40

It will also remove the as well as the habitat they provide to terrestrial and marine species. Residual impacts that cannot be avoided will generate an offset obligation for the project.

## 2.1. Strategy to meet the offset obligations: overview

The project will be undertaken in two stages; broken down in the EIS as the 'Project EIS' (Stage 1) and the Ultimate EIS (Stage 1+2). The impact areas and relevant offset requirements are set out separately in the sections below, specific to the BC and FM Act requirements.

## 2.2. BC Act

### 2.2.1. Policy framework

Under the BC Act, an offset obligation is calculated through the application of the Biodiversity Assessment Methodology (BAM). This generates a 'credit' requirement. The retirement of these credits must be carried out in accordance with the NSW Biodiversity Offsets Scheme (BOS) which allows the following three options:

- (a) Retiring credits under the Biodiversity Offsets Scheme, or
- (b) Making payments into the Biodiversity Conservation Fund using the offset payments calculator, or
- (c) Funding a biodiversity action that benefits the threatened entity impacted by the development (as set out in the Ancillary rules: Biodiversity conservation actions, published under clause 6.5 of the *Biodiversity Conservation Regulation 2017*).

This Offset Strategy proposes a combination of options a and b. The option to use ancillary rules (option c) is not relevant to any of the species being impacted by this project:

<https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/biodiversity-offsets-scheme/rules>, and as such this option is not investigated further in this strategy.

### 2.2.2. Offset strategy

The establishment of a new Stewardship Site under the BOS (option a) adjacent to the Merimbula Airport is the Council's preferred offset strategy. This method has the advantages including:

- Offsets sourced close to the impact area, maximising the 'like for like' aspect of the offset.
- Utilises land that is owned by Council, that may be:
  - Cohesively monitored and managed in line with other airport precinct land management activities.
  - More affordable than seeking out and purchasing additional land that is not owned by Council.
- Addresses key threats to local biota and specifically marine vegetation occurring in this area, proactively and in the long term.

The site must also provide 'additionality'; that is, additional environmental benefits from management, on top of that already provided by existing zoning or management plans. The vegetation in the area is currently protected as it is in public ownership (i.e. the land is Council owned) and is within a Coastal Wetland under the State Environmental Planning Policy (Coastal Management). The land is zoned SP2 -Infrastructure. The objectives for development in this zone are:

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

It is subject to activities and threats as investigated in Appendix D. These include:

- Adjacent land uses: operational airport precinct, golf course, sewage treatment plant.
- Future development: the 2014 master plan for Merimbula airport identifies areas within the investigation area for master plan elements including a commercial development precinct.

Delineating a Stewardship Site, to be established under the BOS, within the areas investigated (set out in Appendix D and delineated in Figure 2 below) is considered feasible. Preliminary calculations have shown it can provide significant contribution to the overall offset requirement. As well, it provides opportunities to monitor and manage existing threats.



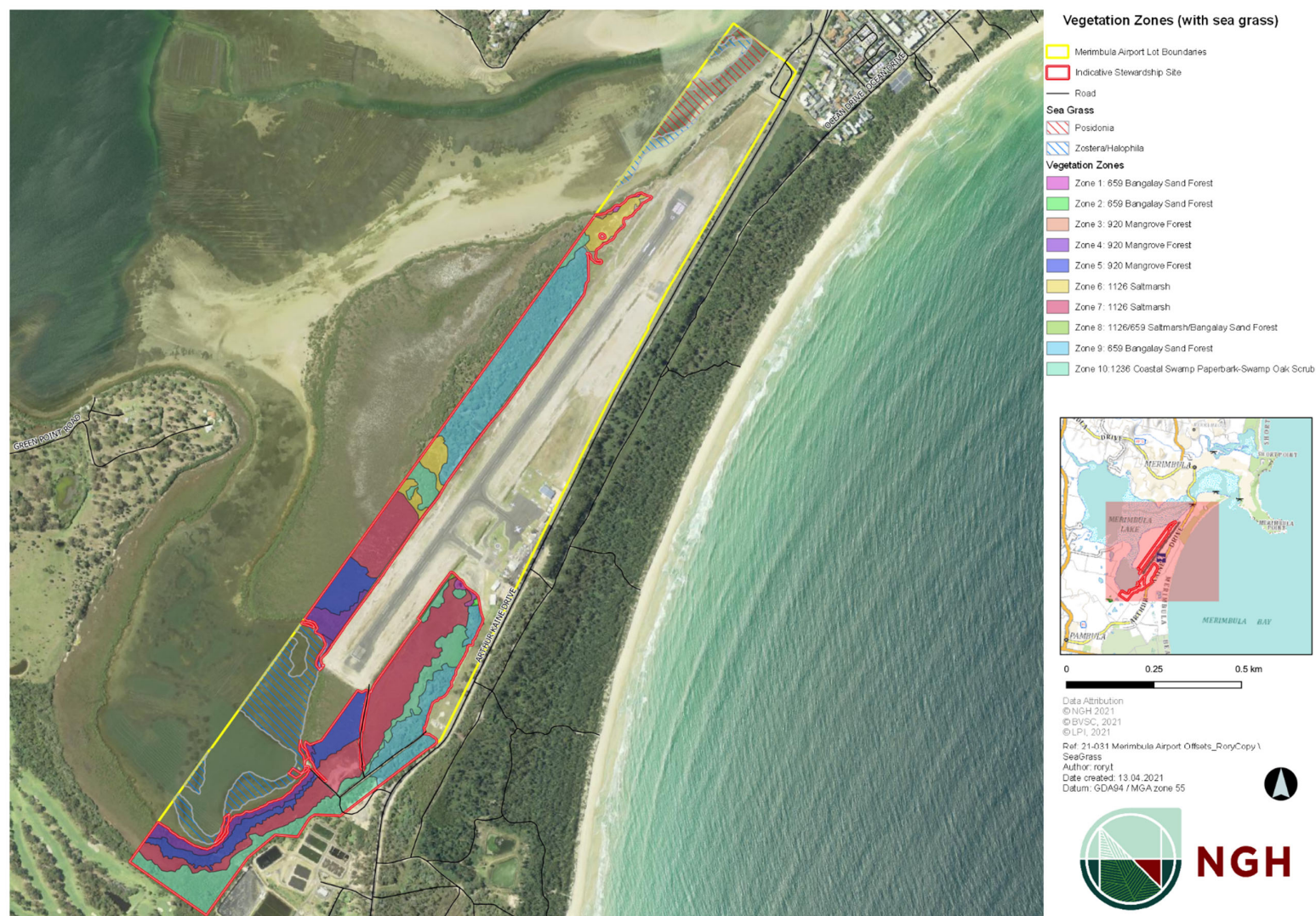


Figure 2 Preliminary area investigated for the stewardship site

### **2.2.3. Specific breakdown of offsets proposed**

Earlier versions of the Offset strategy proposed to secure as much of the offset obligation as possible through the establishment of a Stewardship site, adjacent to the impact areas, paying out residual offset obligations which could not be met on this site.

As set out in Section 1.1, BVSC have received approval for Stage 1 of the Merimbula Airport Runway Extension project and pre construction activities are underway to commence this work. As such, expedition of retirement of Stage 1 offsets is required, ruling out the option of a Stewardship site for this component. While commenced, Stewardship site investigations and endorsement of a Biodiversity Stewardship Site Assessment Report (BSSAR), cannot be achieved in the project's Stage 1 timeline.

BVSC proposed to:

1. Pay out the full consented Stage 1 offset obligation to the Biodiversity Conservation Fund using the offset payments calculator, prior to commencement of Stage 1 works.
2. Continue to work towards establishing a Stewardship site (and BSSAR) to meet the majority of the Stage 2 credit requirement, prior to the commencement of Stage 2 works.
3. Pay out the residual consented Stage 2 offset obligation to the Biodiversity Conservation Fund using the offset payments calculator, prior to commencement of Stage 2 works.

As of August 2021, the likely credits able to be generated at the Stewardship site (a smaller area delineated within the investigation area, shown in Figure 3) is shown in Table 1.

Table 1 BC Act entity offset strategy breakdown

Entity		Offset requirement as of July 2021			Estimated credits generated at the Stewardship site (in progress)
		Project EIS (Stage 1)	Additional to complete Stage 2	Ultimate EIS (Stage 1+2)	Generated at Stewardship site <sup>2</sup>
PCT 659	Bangalay	0 credits	2 credits	<b>= 2 credits</b>	<b>1 credit</b>
PCT 920	Mangrove	28 credits	35 credits	<b>= 63 credits</b>	<b>40 credits</b>
PCT 1126	Saltmarsh	1 credit	1 credit	<b>= 2 credits</b>	<b>13 credits</b>
	Beach Stone-curlew	43 credits	52 credits	<b>= 95 credits <sup>3</sup></b>	<b>0 credits</b>
	Sooty Oystercatcher	29 credits	34 credits	<b>= 63 credits</b>	<b>0 credits</b>
	Pied Oystercatcher	29 credits	34 credits	<b>= 63 credits</b>	<b>0 credits</b>
	Southern Brown Bandicoot	0 credits	2 credits	<b>= 2 credits</b>	<b>0 credits</b>
	Long-nosed Potoroo	0 credits	2 credits	<b>= 2 credits</b>	<b>0 credits</b>

<sup>2</sup> The data set are not complete. Assessment is in progress.

<sup>3</sup> Further consultation is being undertaken with BCD and it is anticipated that Beach Stone Curlew credits will not be consented for this project as the site does not constitute key breeding habitat for Beach Stone Curlew. It is considered a vagrant in the subregion with no breeding pairs known south of the Manning River, NSW. A further update to the BDAR is in progress to include the impact of the removal of the southern haul road; this will have a minor impact on the offset obligation for Stage 2.





**Zones:**

Management zone 1:  
PCT 659 Bangalay

Management zone 2:  
PCT 920 Mangrove

Management zone 3:  
PCT 920 Mangrove

Management zone 4:  
PCT 1126 Saltmarsh

Figure 3 Areas proposed to be included in the Stewardship site to satisfy the BC Act (in progress).

## 2.3. FM Act

### 2.3.1. Policy framework

Regarding this project, DPI have advised that an on-ground 2:1 offset measure is preferred and where these are not achievable, then monetary compensation will apply. It is noted that to ensure management of an offset area in a way that satisfies DPI Fisheries' offset policy, the proponent will need to centre an offset proposal that will address the key threats and direct risks to marine vegetation at that site.

### 2.3.2. Offset strategy

In consultation with the DPI Fisheries, actions to address key risks were investigated. The key action investigated was the removal of the southern haul road and what beneficial impacts (and risks) this may pose. Additionally, DPI Fisheries considered some work undertaken to restore saltmarsh damaged by vehicle activity could be considered an appropriate action for this project. These two actions, detailed below, constitute the proposed on ground FM Act offsets.

#### Areas of beneficial impact; southern haul road removal

The areas of beneficial impact were calculated as 9.08 hectares (ha) in total and include three areas:

1. *Total areas of inundation*, east of the existing barrier (investigated in Appendix C). The updated breakdown (assuming Stage 2 is constructed) is comprised of:
  - a. Saltmarsh: 3.57 ha
  - b. Other (Bangalay and Swamp Oak Forest): 0.93 ha
  - c. Total area = 4.5 ha
2. *Areas of increased flushing*, west of the existing barrier (investigated in Appendix C). The areas total 4.34 ha in full (mapped as the area between the existing haul road and where the mangroves end and the deeper water commences). The breakdown is comprised of:
  - a. Mangrove: 0.102 ha
  - b. Saltmarsh: 0.133 ha
  - c. Seagrass (*Zostera/Halophila*): 0.064 ha
3. The *area now occupied by barrier*, which when removed could be recolonised by native vegetation and constitute marine habitat once again (estimated as 0.24 ha).

Areas 1 (for saltmarsh only) and 3 were considered acceptable to DPI Fisheries.

#### Management actions

A three-year monitoring program would be developed and would include as a minimum:

1. Monitor the extent of regeneration of marine vegetation in the footprint of the haul road after removal.
2. Monitor the extent of tidal flushing upstream of the road following removal.
3. Record obvious changes in the distribution of marine vegetation community types in this area.

4. Provide annual status reports to DPI Fisheries (3 years following haul road removal).

### **Remediation works associated with vehicle damage, south of the airport**

The blue rectangle below (Figure 4) marks the approximate area damaged by vehicles. The restoration action undertaken by BVSC was to fence the area and leave it to recover. Within the blue rectangle, approximately 0.392 ha of saltmarsh (shown as purple) is in better condition either side of the area still recovering from damage. All vegetation within the rectangle is saltmarsh with the exception of a small patch of Coastal Swamp Paperbark-Swamp Oak Scrub on the southern boundary (refer to Figure 2 for broader context).

The additional area of fencing required is estimated to cost about \$5,740. Inspection of the security fence is now required and done on foot which is also an additional cost to Council.

### **Management actions**

Management actions that would be undertaken to improve management of this area include:

1. Maintain the fence to restrict any vehicle access to this area.
2. Continue security monitoring on foot.
3. Include the area within the in perpetuity Stewardship site, being undertaken to meet BC Act offset obligations. Refer to Figure 3 that shows the current status of the Stewardship site boundary. As part of this commitment:
  - a. The existing vegetation extent and condition will be represented (and summarised as a 'vegetation integrity score' providing a base line condition status).
  - b. In addition to required management actions (such as fencing, signage and weed control), the area will be subject to additional active management measures (to be detailed in the management plan for this area, submitted with the Biodiversity Stewardship Site Assessment Report (BSSAR). Once lodged with BCT, a copy of the plan will be provided to DPI Fisheries.





Figure 4 Damaged vegetation; purple areas of saltmarsh (0.32 ha) surround the central more degraded areas still recovering. Fencing now restricts further vehicle access to this entire area.



Figure 5 Damaged vegetation and fencing to restrict further vehicle access - image

### 2.3.3. Specific breakdown of offsets proposed

In July 2021, DPI Fisheries confirmed the following would be acceptable for offsetting this project:

- Removal of southern haulage road: Improved hydrological connectivity to 3.57 ha saltmarsh (upstream of road) and restoration of 0.24 ha saltmarsh/mangrove wetland under road footprint.
- Restoration of vehicle impacted marine vegetation south of the airport: Restoration of 0.392 ha saltmarsh/mangroves.

DPI Fisheries confirmed there is a shortfall of 0.738 ha in meeting the full 4.94ha 2:1 offset requirements (assuming the existing haul road is removed). They stated:

*The accepted proposed onground offsets satisfy the 2:1 offset requirement for loss of mangrove and saltmarsh from both stages, and 0.062ha of the 0.8ha offset required for seagrass. Seagrass harm will only occur during stage 2 works.*

The shortfall of 0.738 ha in required seagrass FM Act offsets will be addressed by paying out the obligation in accordance with the FM Act, prior to Stage 2 works.

Given that the Stage 2 works may not be undertaken for several years, it is possible that BVSC may investigate an additional restoration action to be agreed by DPI Fisheries prior to these works, however no current commitment is provided at this time.<sup>4</sup>

Refer to Table 2 for a breakdown of the FM Act entity offset strategy.

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<sup>4</sup> It is noted if the haul road removal is scheduled to be undertaken in advance of the remainder of the Stage 2 works as an offset action. However if this activity doesn't occur, the full stage 1 and stage 2 offsets under the FM Act would be applicable.



Table 2 FM Act entity offset strategy breakdown

Entity	Impact area (ha)			Offset requirement (ha)			Endorsed on ground offsets (ha)			Net
	Project EIS (Stage 1)	Additional to complete Stage 2	Ultimate EIS (Stage 1+2)	Project EIS (Stage 1)	Additional to complete Stage 2	Ultimate EIS (Stage 1+2)	Area affected by <i>additional inundation / reclaimed by removal of the barrier</i>	Area repaired since vehicle damage	Total	
<b>Saltmarsh</b>	0.02	0.03	0.05	0.04	0.06	0.10	3.57	0.392	<b>= 3.962</b>	
<b>Mangroves</b>	0.95	1.07	2.02	1.9	2.14	4.04	0.24	-	<b>= 0.24</b>	
<b>Seagrass</b>	-	0.40	0.40	-	0.80	0.80	-	-	-	
<b>Total</b>						<b>= 4.94 ha</b>			<b>= 4.202 ha</b>	<b>0.738 ha deficit <sup>5</sup></b>

<sup>5</sup> This total is dependent on the haul road removal offset occurring as part of Stage 1 permit. Should this not occur then the net deficit will be all of area of marine vegetation harmed under stage 2 works (i.e. 2.94ha).

#### **2.3.4. Timing proposed**

Council is now seeking approval for the southern haul road removal as part of the pending Stage 2 approval and, if approved, removal of the haul road will be undertaken within 3 years from the commencement of Stage 1 works, in advance of other Stage 2 components. In terms of FM Act requirements the following timing is proposed:

**Before Stage 1 works:**

1. Offset strategy finalised addressing final DPI Fisheries comments (this document).
2. Fisheries permit for Stage 1 works.
3. A bank guarantee will need to be placed prior to the commencement of Stage 1 construction.
4. Carry out stage 1 works August- September 2021.

**Within 3 years of commencement of Stage 1 works:**

5. Approval for haul road received<sup>6</sup> (it is possible another planning pathway may be undertaken for the haul road removal however, at this time the Deferred Matters assessment report is in progress as of August 2021 and includes assessment of the haul road removal. It is anticipated that these works will be determined by the Southern Regional Planning Panel with the other Stage 2 work components).
6. One approval for haul road removal is obtained, seek FM Act Stage 1 permit amendment or a new FM Act permit to apply to this activity.
7. Prepare detailed monitoring program for areas east of the haul road.
8. Haul road removal.
9. Bank guarantee returned in full (should haul road not be removed within 3 years, the bank guarantee will be retained by DPI Fisheries).
10. Three year monitoring program implemented for areas east of the haul road. This monitoring period will commence once the road has been removed.

**Before Stage 2 works:**

11. Fisheries permit for Stage 2 works.
12. Pay out residual offset requirement directly (or agree to an additional restoration action with DPI Fisheries in lieu of part or all of this payment)<sup>7</sup>.
13. Stewardship site to meet Stage 2 BC Act offsets established. As part of this, manage areas of vehicle damage as part of this in perpetuity agreement.

#### **2.3.5. Contingencies**

At DPI Fisheries request, specific risks and contingencies were investigated. A strategy is provided for each risk relating to implementing the strategy.

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<sup>6</sup> Refer Contingencies discussion in Section 2.3.5, in the event the haul road is not approved.

<sup>7</sup> This value will depend on whether the haul road has been removed.

Table 3 Risks and contingencies regarding FM Act offset obligations

Risk	Contingency
<b>If the haul road removal is not approved:</b>	
1. The key mechanism for securing all Stage 1 offsets and all but 0.738 ha of Stage 2 offsets is lost. Only the restoration actions to repair the vehicle damage to saltmarsh remains as an on ground offset action.	<ul style="list-style-type: none"> <li>The value of the bank guarantee will amount to the monetary value of the 2:1 offsets for the area harmed under Stage 1 - less the area of on ground offsets achieved from repair of vehicle damage to saltmarsh.</li> <li>This bank guarantee will be retained by DPIF should the road removal works not occur within 3 years of the commencement of stage 1 works.</li> </ul>
2. Hydrological function is not improved by removing an existing barrier.	<ul style="list-style-type: none"> <li>The improvement in hydrological function is not required to address the impacts of the Merimbula Airport Runway Extension works. The EIS confirmed the impact of the extensions to be negligible. A culvert expansion was committed to in order to address the minor reduction in flow. This action would be undertaken as part of Stage 2 works if the haul road is not removed.</li> <li>The Stewardship site will still improve management of areas adjacent to the barrier and will consider restoration of the wetland upstream of the haul road including some infilling the drainage lines should this not occur naturally pending removal of the barrier. (Hydrological advice (L.Bain 15/9/2021) suggests the best strategy would be to monitor the new equilibrium after removal of the barrier. Infilling is likely to occur naturally and either way would not have significant hydrological advantages. The water quality risks presented by placing additional material in this inundated area are a higher consideration. Monitoring these areas after the barrier is removed is a commitment for 3 years. Monitoring via the Stewardship site agreement will continue in perpetuity. Both programs will provide further information to guide actions in this area).</li> </ul>
<b>If other Stage 2 works areas (excluding haul road removal) or seagrass extent changes prior to implementation of Stage 2 works:</b>	
3. If the impact areas are reduced, then the residual offset amount of 0.738 ha would not be accurate.	<ul style="list-style-type: none"> <li>Recalculate the residual offset amount in consultation with DPI Fisheries and reflect this in the Stage 2 Fisheries Permit.</li> </ul>
4. If the seagrass extent changes naturally prior to works, then the	<ul style="list-style-type: none"> <li>Recalculate the residual offset amount in consultation with DPI Fisheries and reflect this in updated Fisheries Permit<sup>8</sup>.</li> </ul>

<sup>8</sup> It is noted if the haul road removal offset doesn't occur, further offsets would be required or payment as compensation under the FM Act. Consultation with DPI Fisheries on the offsetting requirement will be required prior to applying for the Stage 2 permit.

Risk	Contingency
residual amount of 0.738 ha would not be accurate.	
<b>If Stage 2 works are not approved or progressed:</b>	
<p>5. The Biodiversity Stewardship Site Assessment Report (BSSAR) would not be lodged and the active remediation works associated with vehicle damage, south of the airport would not be carried out (management action 3a and 3b).</p>	<ul style="list-style-type: none"> <li>• Actions 1 and 2 would still be undertaken, protecting the vegetation from further damage and allowing for natural regeneration in this area.</li> </ul>

### 3. CONCLUSION

The aims of this Offset Strategy are to set out a clear method that can be endorsed by both the Department of Primary Industries (DPI) and Biodiversity Conservation Division (BCD) regarding meeting the offset obligations for the Merimbula Airport Runway Extension project; Stage 1 and 2.

This Offset Strategy Final V2, was updated after approval of Stage 1 of the Merimbula Airport Runway Extension. Stage 2 approval is pending.

It reflects input from relevant agency stakeholders and further investigation by engineering, hydrological and ecological specialists. Supporting technical information and preliminary investigations are appended.

In summary, the offset obligations for the project will be met by a combination of direct payments and on ground works (refer to Table 4). Contingencies have been developed to address uncertainties.

Table 4 Summary of strategies by stage.

BC Act	FM Act
<b>Stage 1</b>	
Making payments into the Biodiversity Conservation Fund using the offset payments calculator.	Payment of a bond to DPI Fisheries, to provide certainty, in advance of removing the southern haul.
	Continue to protect vehicle impacted marine vegetation south of the airport.
<b>Within 2 years of Stage 1 commencing</b>	
NA	Removal of southern haulage road.
	Monitor marine vegetation in this area for 3 years.
<b>Stage 2</b>	
Establishment of a new Stewardship Site under the BOS, adjacent to the Merimbula Airport.	Active management to enhance vehicle impacted marine vegetation south of the airport.

## **4. REFERENCES**

Creese, R.G., Glasby, T.M., West, G. and Galen, C. 2009. *Mapping the habitats of NSW estuaries*. Industry & Investment NSW Fisheries Final Report Series 113. Port Stephens, NSW, Australia.

NGH 2019 Merimbula Airport Runway Extension EIS and supporting Biodiversity Development Assessment Report (BDAR) and Aquatic Impact Assessment.

NGH 2020 Submissions report and supporting updated Biodiversity Development Assessment Report.

NGH 2021 Merimbula Airport Deferred Matters Report and supporting updated Biodiversity Development Assessment Report (BDAR v4, August 2021).

NGH 2021 Merimbula Airport Biodiversity Stewardship Site Assessment Report (BSSAR) in progress.



# APPENDIX A AGENCY CONSULTATION

## A.1 Department of Primary Industries

**DPI comments, provided 7 September 2020 on the Draft V1 Offset Strategy and NGH responses.**

*The full letter is provided overleaf.*

DPI comment (paraphrased)	NGH response
\$113.50/m2 is the compensatory payment for areas that cannot be offset by onground works.	Noted. Council's preference is to satisfy the offset requirement through onground offsets.
P 13 Bullet point 1: The statement made under this bullet point is not accurate. DPI Fisheries Offset Strategy is focussed towards rehabilitation of impacts to marine vegetation in the first instance, either within the catchment area of the development or more broadly (say within a Local Government Area).	Noted and updated verbatim from DPI's correspondence.
Important to note the marine vegetation in the proposed offset area is currently protected as it is in public ownership (i.e. the land is Council owned) and is within a Coastal Management SEPP Wetland area.	Noted and updated. NGH have also added that this area is subject to activities and threats that could be addressed through an offset plan.
While the Strategy identifies some of the management issues in the broad offset investigation area for this proposal, as outlined by DPI Fisheries at the meeting on 20 July 2020, the most significant impact to marine vegetation within this area is the southern access road causeway. This road smothers an area of wetland (approx. 0.25ha) that would otherwise be vegetated with mangroves or saltmarsh. It restricts tidal movement to the wetland north of the road and could be subsequently impacting on the marine vegetation distribution and health in this area and its resilience to sea level rise. Restriction of tidal movement is a key threat to intertidal species such as mangroves and saltmarsh.	Noted. The haul road already exists, and is not an impact of the project. This haul road removal may also generate water quality risks in its removal and operational effect. This would be investigated as part of the offset plan and would involve further agency input. The plan commits to investigate its removal with specialists to ensure that the risks and impacts of removal are warranted.
To ensure management of the broad offset investigation area in a way that satisfies DPI Fisheries offset policy, the proponent will need to centre an offset proposal that will address the key threats and direct risks to marine vegetation at that site.  The Strategy does not seem to achieve any rehabilitation of marine vegetation as required for the Fisheries offsets. ...The marine vegetation in this intertidal area is well protected under both the FM Act and Coastal Wetland SEPP, it is generally in good condition and is not in need of any rehabilitation. DPI Fisheries is concerned that at this stage The Strategy does not provide certainty to DPI Fisheries that on-ground habitat offsets under the FM Act will be achieved within the investigated site.	NGH disagree that the FM Act and Coastal Wetland SEPP provide protection to the proposed offset areas. They impose a requirement to assessment and offset impacts. As part of an in perpetuity offset, subject to management, monitoring and water quality improvement works, marine vegetation within and adjacent to the offset areas would be improved and offered a higher degree of protection than is currently provided.
DPI Fisheries recommends the proponent consider further investigations into the potential for these works to occur and whether other legislative or operational	NGH are considering the cultural heritage impacts of removing the road currently as part of broader airport precinct planning. While heritage

DPI comment (paraphrased)	NGH response
<p>considerations would prevent or limit the scope of these works. In particular:</p> <ul style="list-style-type: none"> <li>• Cultural heritage considerations such as whether the road contains Aboriginal artefacts and, if so, with any removal of the road how could this matter be managed for a culturally respectful outcome?</li> <li>• The potential for mangrove encroachment into the wetland upstream of the road and whether this is likely to have implications, from an airport operation perspective?</li> </ul>	<p>sites are related to the haul road, insitu retention is not being recommended.</p> <p>Hydrological advice to date suggests that mangroves will replace saltmarsh in an increased tidal flow situation. The extent and timeline however is not known precisely but expected to be minimal. OLS management would need to take precedence in terms of management priorities. The area in question sits primarily within the transition surface of the OLS and as such is subject to a much higher (height) constraint than the runway ends. Consequently, there is low likelihood of the intersection of mangrove growth with the protected surface. NGH are aware that OLS management occurs in other offset sites adjacent to south coast airports (Moruya).</p>
<p>Removal of the southern access road causeway would trigger designated development under the Coastal Management SEPP, and this should be noted in The Strategy.</p>	<p>Under Clause 10 of this SEPP <i>'Development, other than for the purpose of Environmental Protection works is declared to be Designated Development'</i>, NGH would seek clarification to determine that works, should they take place, be considered <i>'Environmental protection works'</i>. Where this was the case works would not be classified as Designated Development.</p>
<p>Considering removal of the causeway would be considered a suitable DPI Fisheries offset required for the runway extension, it would be more efficient for this offsetting activity to be included as part of a single development application for the runway extension proposal.</p>	<p>NGH reiterates that the haul road and its current impacts and any impacts due to its removal are not part of the current proposal. The additional investigation and assessment requirements of removing the haul road cannot be included in the proposal without unacceptable delays to important airport upgrade works. Several other projects are proposed for the broader airport precinct and consideration of extending investigations to the haul road is already occurring (currently for heritage) to assist future decision making.</p>
<p>If embedding the offset approval works into the subject development application is not possible, relevant details about the subject offset will need to be investigated prior to the issuance of a permit under the FM Act for the runway extension works, or preferably prior to determining the development application. DPI Fisheries really needs some certainty at these stages, as to whether a suitable on-ground Fisheries offsets can be achieved.</p>	<p>NGH propose to provide this detail within an Offset Plan, submitted as part of seeking a permit under the FM Act for the runway extension works. This is now stipulated in Section 7.1. Works cannot commence in advance of this permit.</p> <p>The option of the compensatory payment provides ultimate certainty of compliance with offset requirements.</p>

**DPI comments, provided 25 November 2020 on the Draft V2 Offset Strategy and NGH responses.**

*The full letter is provided overleaf.*

DPI comment (paraphrased)	NGH response
p.2 The proponent's proposal to solely offset the loss of mangrove and saltmarsh in accordance with the offset provisions under the BC Act does not comply with DPI Policy, will not guarantee the delivery of appropriate offsets under the FM Act and is therefore not supported by DPI Fisheries.	Seagrass would also be offset, as set out in the updated Offset Strategy.
p.2 DPI Fisheries offset policy focusses on the policy of 'no net loss'. This requires the delivery of on-ground offsets to rehabilitate impacts and restore ecological function to marine vegetation in the first instance. If this cannot be achieved within or around the subject site, suitable on-ground offsets should then be sought either within the catchment area of the development or more broadly within the Local Government Area. DPI Policy also explains that habitat rehabilitation efforts should be directed at achieving the maximum benefits for fish habitat and fisheries.	The Strategy has further investigated rehabilitation actions and includes a commitment to: remove the southern haul road, replant areas with saltmarsh, further investigate oyster leases within the seagrass areas.
p.2 DPI Fisheries has assessed the current Offset Strategy for the proposal (Appendix P) and determined that it does not provide any certainty that required on-ground offsets in accordance with the DPI Policy and the FM Act will be achieved. The only certain components of the current Offset Strategy appear to be limited to monitoring locations within the site and administratively protecting the proposed offset area, which is already located within, and protected by, a Coastal Management SEPP - Coastal Wetland (CM SEPP) area. This proposal does not meet DPI Fisheries offset requirements because in DPI Fisheries view the subject site has quite a strong level of protection, and much of the marine vegetation at the site is in good condition and not in need of any rehabilitation measures (apart from two areas within the subject site referred to below). The provisions of the CM SEPP require development proposals within Coastal Wetland areas to be assessed as designated development and limit a consent authority to only grant consent for development when: 'the consent authority is satisfied that sufficient measures have been, or will be, taken to protect, and where possible enhance, the biophysical, hydrological and ecological integrity of the coastal wetland'. DPI Fisheries considers this to provide an existing level of suitable protection to this area.	<p>Section 4.3 now includes further consideration of existing protection. It is understood the site must provide 'additionality'; that is, additional environmental benefits from management, on top of that already provided by existing zoning or management plans. The vegetation in the area is currently protected as it is in public ownership (i.e. the land is Council owned) and is within a Coastal Management SEPP Wetland area. However, the land is zoned SP2 - Infrastructure. The objectives for development in this zone are:</p> <ul style="list-style-type: none"> <li>• To provide for infrastructure and related uses.</li> <li>• To prevent development that is not compatible with or that may detract from the provision of infrastructure.</li> </ul> <p>It is subject to activities and threats as noted in Section 4.3.1 below and Appendix D.1.3. These include adjacent land uses and future development proposals. The use of the investigation area for offsets provides opportunities to monitor and manage existing threats as well as substitute an alternative use in the form of environmental offsets.</p>
p.2 While several different management measures are outlined in Appendix P, the only measures with the	

DPI comment (paraphrased)	NGH response
potential to satisfy DPI Fisheries offset requirements, if implemented are:	
<ul style="list-style-type: none"> <li>Removal of the southern access road and remediation of potential impacts from the drainage channels east of the runway, to remove direct and indirect impacts to marine vegetation and achieve full natural tidal flushing to the wetland upstream of the access road. This will significantly improve the condition and resilience of marine vegetation upstream of the road.</li> </ul>	This is now included as an active management measure.
<ul style="list-style-type: none"> <li>The proposed assisted remediation of an area of previously disturbed saltmarsh that is currently recovering to the south and east of the southern access road.</li> </ul>	This is now included as an active management measure.
Only areas of marine vegetation (seagrass, saltmarsh, mangroves) that are improved (either physically, or by restoration of ecological function) through on-ground works can be considered to count towards the DPI Fisheries offset requirement. The proposed Offset Strategy is incorrect in assuming that all marine vegetation within the investigation area following completion of the runway extension will contribute to the offset required under DPI Policy.	A breakdown is provided specifically for FM Act entities.
s.220 of the FM Act provides DPI Fisheries with an option to impose a financial environmental bond to increase the certainty that an offset in accord with DPI Policy will be successfully delivered ensuring no net loss of key fish habitat.... The aim of this environmental bond would be to provide some guarantee to DPI Fisheries that the offsets required under DPI Policy for the loss of marine vegetation (i.e. seagrass, mangroves and saltmarsh) will be achieved and delivered as part of the Part 7 permit required for these works.	Noted.

**DPI comments, provided 19 July and 3 August 2021 on the Final Offset Strategy V1 and NGH responses.**

*The letter and email correspondence is provided overleaf.*

DPI comment (paraphrased)	NGH response
Satisfaction of FM Act offset requirements TOTAL AREA FM ACT ON-GROUND OFFSET: 4.202ha. FM Act offsets are applied at a ratio of 2:1, therefore 4.94ha of onground marine vegetation offsets are required.	Noted.
The tidal flow to the area downstream of the haul road is not currently restricted and this area is not showing any obvious stress from changes in tidal flow. Therefore, DPI Fisheries will not be accepting the area downstream of the haul road as an FM Act offset.	Noted and updated accordingly.
Both stages of the project will reclaim the following areas of marine vegetation: 2.02ha mangroves (1ha of which will be harmed during stage 1); 0.05ha saltmarsh; and 0.40ha seagrass (Total: 2.47ha). There is a shortfall of 0.738ha in meeting the full 4.94ha 2:1 offset requirements.	Noted.
The accepted proposed onground offsets satisfy the 2:1 offset requirement for loss of mangrove and saltmarsh from both stages, and 0.062ha of the 0.8ha offset required for seagrass. Seagrass harm will only occur during stage 2 works.	Noted.
DPI Fisheries understands that approval for the haul road removal works is being sought through the stage 2 Deferred Approval matter. As the offset requirement associated with the road removal will be linked to the DPI Fisheries stage 1 permit, we request the proposed staging of the road removal works are linked to Stage 1 of the project, or not be specifically linked to Stage 2. DPI Fisheries understands that deferred consent additional information requests are to be submitted within 6 months of the date of issue of the current development consent (i.e. during Nov 2021) and approval for these works has not yet been granted. The stage 1 fisheries permit will provide a generous time period within which these works are to be conducted, i.e. within 2 years following completion of Stage 1 works. The risk of the road removal works not being approved will be addressed via a bond/guarantee arrangement in the Stage 1 Fisheries permit. The value of this may be up to the equivalent of the 2:1 compensatory value for the area of 1.0ha of mangrove	As the haul road removal is not yet approved and Stage 1 works are commencing in advance.  However, the fisheries permit will include removal of the haul road with a statement that, pending approval, it will be completed, i.e. within 2 years following completion of Stage 1 works.  A bond/guarantee arrangement will be provided in the Stage 1 Fisheries permit to provide certainty.

DPI comment (paraphrased)	NGH response
<p>to be harmed under stage 1. This bond/guarantee matter will be returned/resolved once the road has been removed.</p> <p>The road removal works will satisfy the stage 1 FM Act offset requirements, and part of the stage 2 offsets. Conducting the road removal works before the stage 2 project has commenced has the added benefit of significantly reducing the area of any additional bonds/guarantees that could be applied to the residual offsets as part of the stage 2 permit.</p>	
<p>Comments on draft offset strategy</p> <p>Note that the offset strategy will need to incorporate:</p> <ul style="list-style-type: none"> <li>- a plan to offset the residual offsets following the road removal as part of the stage 2 permit application, and</li> <li>- a contingency plan to offset all of harm from stage 2 works should the haul road removal not be approved.</li> </ul> <p>Noting that the bond/guarantee for the stage 1 works will be held/obtained by DPI Fisheries, as monetary compensation for the loss of habitat from stage 1 works, in this instance.</p>	<p>The Strategy has been updated. The shortfall of 0.738 ha in required seagrass FM Act offsets will be addressed by paying out the obligation in accordance with the FM Act, prior to Stage 2 works.</p> <p>Given that the Stage 2 works may not be undertaken for several years, it is possible that BVSC may investigate an additional restoration action to be agreed by DPI Fisheries prior to these works, however no current commitment is provided at this time.</p>
<p>DPI Fisheries can accept a bond via bank guarantee for the Merimbula Airport Stage 1 FM Act Permit. The bank guarantee will need to be held by an institution outside of DPI Fisheries.</p>	<p>Noted.</p>
<p>1) The works in both project stages trigger the requirement for a permit to harm marine vegetation under the FM Act to be obtained by the proponent prior to the construction of each project stage. DPI Fisheries offsetting requirements will be linked to conditions in each of these permits.</p>	<p>Noted.</p>
<p>2) Offsets for impacts to marine vegetation are required under the FM Act and associated NSW DPI Policy and Guidelines for Fish Habitat Conservation (2013). Any offsets that may be required under the Biodiversity Conservation (BC) Act do not override or satisfy the requirements under the FM Act. This statement is supported by S.1.4 of the BC Act.</p>	<p>Noted. Satisfaction of the BC Act offsets form a separate set of actions.</p>
<p>3) The draft offset strategy has somewhat merged the offset requirements under the BC Act and FM Act. The strategy needs to clearly separate the offset requirements of each Act. Separate chapters outlining</p>	<p>Section 2 updated to provide a more separated treatment of BC and FM Act obligations.</p>



DPI comment (paraphrased)	NGH response
the offset proposals required to satisfy each Act would be ideal.	
4) The onground FM Act offset strategies (and associated area of benefit) for impacts to marine vegetation deemed acceptable to DPI Fisheries have been identified in the email that these comments are attached to. The offset strategy is to be updated accordingly. These offsets specifically apply to areas of marine vegetation that are restored or will experience improved ecological function from onground works, which only applies to part of the stewardship site proposed under the BC Act.	Noted and updated.
5) Restoration of the wetland upstream of the haul road (to be removed), could be improved by conducting some infilling the drainage lines in this area to natural levels to reduce pooling of water in the wetland, and associated die-back impacts (currently evident in aerial imagery). We recommend this be looked into and if found to be of benefit to the wetland and that these works could be conducted with minimal impact on the wetland, that these works be added scope of the road removal works.	Noted. This action is now being considered, as part of the Stewardship site management plan preparation. It is noted that the Stewardship site will improve management of areas adjacent to the barrier and will consider restoration of the wetland upstream of the haul road including some infilling the drainage lines should this not occur naturally pending removal of the barrier. However, further hydrological advice (L.Bain 15/9/2021) suggests the best strategy would be to monitor the new equilibrium after removal of the barrier. Infilling is likely to occur naturally and either way would not have significant hydrological advantages. The water quality risks presented by placing additional material in this inundated area are a higher consideration. Monitoring these areas after the barrier is removed is a commitment for 3 years. Monitoring via the Stewardship site agreement will continue in perpetuity. Both programs will provide further information to guide actions in this area.
6) In assessing the permit application regarding these works, DPI Fisheries will require a clear commitment to achieving on-ground offsets to rehabilitate impacts and restore ecological function to marine vegetation. This can be achieved by addressing the following in the Offset Strategy:  a) Outline the required approvals process for the road removal works, and when these approvals will be sought.  b) Provide an assessment of potential risks of not being able to carry out the road removal works.  c) Provide a works plan for the road removal project outlining: expected time of approval of works and commencement of works; road removal method	a) Noted and included in Section 2.3 of this strategy. b) Noted and included in Section 2.3.5 of this strategy. c) Works method overview attached Appendix E.1.4 and commitment to providing the full works method in the Fisheries permit.

DPI comment (paraphrased)	NGH response
<p>and any associated direct impacts on the wetland; and expected length of works period.</p> <p>Note: the road removal works will be linked to the DPI Fisheries permit issued at Stage 1 and we would expect these works to be completed within two years of completing the Stage 1 runway works</p>	
<p>7) Regarding the area of wetland previously damaged by vehicles, the offset strategy will need to: Identify the area and stage of regenerating marine vegetation at this location; Identify whether further action is required to assist the regeneration of saltmarsh or mangroves in this area (e.g. promote natural regeneration by infilling vehicle tracks and other areas that may be too low for saltmarsh regeneration); Propose these actions as part of the offset strategy; Identify how this site will be managed to ensure direct impacts by vehicles or other means do not occur in the future.</p>	<p>Addressed in Section 2.3.2. The blue rectangle delineates the area now protected. Fencing now protects the area from future threats and allows natural recovery. Areas of saltmarsh in better condition are mapped. The central area is still recovering.</p> <p>Monitoring and management is proposed as part of the BSSAR, additionally.</p>
<p>8) The FM Act offset strategy needs to include a monitoring component which would provide details of: the extent of regeneration of marine vegetation in the footprint of the haul road after removal and southern vehicle damage rehabilitation area; the extent of tidal flushing upstream of the road following removal; and obvious changes in the distribution of marine vegetation community types in this area. The monitoring program should be proposed for say a three year period with status reports undertaken at annual intervals.</p>	<p>Addressed in Section 2.2.2. Monitoring would be undertaken for 3 years from the removal of the barrier.</p>
<p>9) The offset strategy will need to identify how offsets for all stages of the project will be achieved. The proposed acceptable FM Act onground offsets to date, if implemented on the ground, would achieve the 2:1 offsetting requirements for the loss for the loss of mangroves and saltmarsh for the whole project and has a shortfall of 0.738ha for the loss of seagrass.</p>	<p>Addressed in Section 2.3.3.</p>
<p>At this stage, the offset strategy could address this matter by:</p> <ul style="list-style-type: none"> <li>- committing to finding additional site(s) that satisfy on-ground offsetting requirements under the FM Act, prior to applying for the Stage 2 harm marine vegetation permit; and</li> <li>- committing to offsetting via compensatory payment any part of this residual 2:1 offset area that</li> </ul>	<p>Included in Section 2.3.3.</p>

DPI comment (paraphrased)	NGH response
cannot be achieved via on-ground work, as part of the Stage 2 permit offset.	
Note: Seagrass harm is only proposed during stage 2 works, and should it become evident that the area of impact to seagrass is reduced either by runway detailed design or there being less seagrass in the area at time of applying for the stage 2 permit, then the overall FM Act residual offset requirement can be amended accordingly.	Noted.
10) The offset strategy needs to include a contingency plan should the road removal works (linked to the stage 1 permit) not be approved or constructed for any other reason. This needs to include a plan to offset all of the harm to marine vegetation from stage 2 works via onground marine vegetation offsets, compensatory payment or a combination of both. The strategy at this stage, can include a commitment to finding such sites (if required) prior to submitting the stage 2 permit. Note that should the road not be removed, the bond/guarantee applied to the stage 1 works will be held/obtained by DPI Fisheries as a form of monetary compensation for the habitat loss at stage 1.	Noted.
11) In looking for other suitable FM Act onground offsets the focus needs to be on remediating impacts to areas of marine vegetation. These sites do not necessarily need to be under Council management and can include Crown and private land.	Noted.

**Our Ref: C20/577**

7 September 2020

Brooke Marshall  
Manager – NSW SE & ACT  
NGH Consulting  
c/o: brooke.m@nghconsulting.com.au

Dear Ms Marshall,

**Re: Merimbula Airport Runway Extension Offset Strategy (Version 1)**

Thank you for your email dated 7 August 2020 requesting feedback on version 1 of the Merimbula Airport Runway Extension Offset Strategy ('The Strategy') (NGH ref: 18-143, dated 4/08/2020).

The following comments on this document relate to how this offset strategy addresses DPI Fisheries offset requirements in accordance with NSW DPIs *Policy and Guidelines for Fish Habitat Conservation and Management 2013* (DPI Policy).

Offsets in accordance with DPI Policy seek to ensure there is 'no net loss' of key fish habitat. Offsets in the form of on-ground aquatic habitat rehabilitation are preferred, though where such offsets are not achievable then monetary compensation will be required. A 2:1 ratio applies to the FM Act on-ground offsets required as part of this project. If, after documented and thorough investigations, a suitable area for an on-ground habitat offset is not achievable the full or remaining offset requirement may be discharged via a compensatory payment charged at a rate of 2:1. This amounts to \$113.50/m<sup>2</sup> of area of habitat harmed that has not been appropriately offset through on-ground works. Compensatory payments are deposited into the Fish Conservation Trust Fund and quarantined for on-ground aquatic habitat rehabilitation works or supplementary measures that improve key fish habitat, generally within the affected catchment or local government area.

At the meeting of 20 July 2020, DPI Fisheries highlighted that marine vegetation such as seagrass, mangroves and saltmarsh are ecosystems with the richest ecosystem service values for community wellbeing. These services cover key fish habitat, fisheries production, improving water quality, carbon sequestration and storage. Marine vegetation systems also have biodiversity values for birds, bats and terrestrial animals including those threatened species managed under the *Biodiversity Conservation Act 2016*.

Regarding matters listed under the DPI section on page 13 of The Strategy, DPI Fisheries wishes to clarify the following:

- Bullet point 1: The statement made under this bullet point is not accurate. DPI Fisheries offset strategy is focussed towards rehabilitation of impacts to marine vegetation in the first instance, either within the catchment area of the development or more broadly (say within a Local Government Area).

It is important that The Strategy acknowledges that marine vegetation in the area being considered for an offset is currently protected as it is in public ownership (i.e. the land is Council owned) and is within a Coastal Management SEPP Wetland area.

While The Strategy identifies some of the management issues in the broad offset investigation area for this proposal, as outlined by DPI Fisheries at the meeting on 20 July 2020, the most significant impact to marine vegetation within this area is the southern access road causeway. This road smothers an area of wetland (approx. 0.25ha) that would otherwise be vegetated with mangroves or

saltmarsh. The road also restricts tidal movement to the wetland north of the road, which could be subsequently impacting on the marine vegetation distribution and health in this area and its resilience to sea level rise. Restriction of tidal movement is a key threat to intertidal species such as mangroves and saltmarsh.

To ensure management of the broad offset investigation area in a way that satisfies DPI Fisheries offset policy, the proponent will need to centre an offset proposal that will address the key threats and direct risks to marine vegetation at that site. Removal of the fill material used to make the causeway and returning the area to natural ground surface levels would be a significant and meaningful component of the required offset of impacts to mangroves under DPI Policy. The 0.25ha area under the road would quickly re-establish with mangroves. There are also likely subsequent benefits for the health of the wetland upstream of the causeway, which would add to the area of offsets achieved under DPI Policy. The water quality measures proposed in The Strategy do not seem to achieve any rehabilitation of marine vegetation as required for the Fisheries offsets.

It is the area of habitat that is improved through on-ground habitat offsets that will be considered to count towards the DPI Fisheries offset requirement. The Strategy has mapped all the mangrove, saltmarsh and seagrass species within the Council owned land near the airport as satisfying the offset requirement under the FM Act. The marine vegetation in this intertidal area is well protected under both the FM Act and Coastal Wetland SEPP, it is generally in good condition and is not in need of any rehabilitation, beyond removing the causeway, and therefore much of the marine vegetation within this investigation would not be considered a suitable offset under the FM Act.

DPI Fisheries is concerned that at this stage The Strategy does not provide certainty to DPI Fisheries that on-ground habitat offsets under the FM Act will be achieved within the investigated site. We note removal of the southern access road as an offset will require some investigations into hydrological changes to the wetland upstream, and that this could influence the distribution of wetland species in this area. However, DPI Fisheries recommends the proponent consider further investigations into the potential for these works to occur and whether other legislative or operational considerations would prevent or limit the scope of these works. In particular:

- Cultural heritage considerations such as whether the road contains Aboriginal artefacts and, if so, with any removal of the road how could this matter be managed for a culturally respectful outcome?
- The potential for mangrove encroachment into the wetland upstream of the road and whether this is likely to have implications, from an airport operation perspective?

Furthermore, removal of the southern access road causeway would trigger designated development under the Coastal Management SEPP, and this should be noted in The Strategy. Considering removal of the causeway would be considered a suitable DPI Fisheries offset required for the runway extension, it would be more efficient for this offsetting activity to be included as part of a single development application for the runway extension proposal.

If embedding the offset approval works into the subject development application is not possible, relevant details about the subject offset will need to be investigated prior to the issuance of a permit under the FM Act for the runway extension works, or preferably prior to determining the development application. DPI Fisheries really needs some certainty at these stages, as to whether a suitable on-ground Fisheries offsets can be achieved.

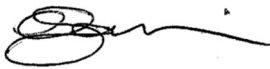
DPI Fisheries requires that The Strategy be amended to propose the delivery of an offset for the harm of marine vegetation that more accurately reflects the offset requirements under DPI Policy raised above. The Strategy should also include an indication of the area of marine vegetation that will be rehabilitated or improved through the Fisheries offset strategy. It is appreciated that this necessitates the proponent undertaking some further investigations.

The proponent should note that DPI Fisheries may require a payment of a monetary bond to guarantee delivery of an offset consistent with DPI Policy. The amount that could be required for the bond is outlined in Section 3.3.4.2 of DPI Policy.

The implementation of offset works, or payment of monetary offsets if required, are an integral part of the Merimbula Airport Expansion Project. DPI Fisheries is willing to work with Council to ensure an appropriate on-ground habitat offset under the FM Act can be achieved across the Merimbula Lake catchment, or more broadly across the LGA if required.

If you wish to discuss this further, please contact me on 4222 8342.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Carla Ganassin".

**Carla Ganassin**

Senior Fisheries Manager, Coastal Systems



**DPI Fisheries (July 2021) comment on:  
Offset Strategy Merimbula Airport Runway Extension (May 2021)**

The comments below are to assist in the preparation of an offset strategy that satisfies the requirements of the *Fisheries Management (FM) Act*:

- 1) The works in both project stages trigger the requirement for a permit to harm marine vegetation under the FM Act to be obtained by the proponent prior to the construction of each project stage. DPI Fisheries offsetting requirements will be linked to conditions in each of these permits.
- 2) Offsets for impacts to marine vegetation are required under the FM Act and associated *NSW DPI Policy and Guidelines for Fish Habitat Conservation (2013)*. Any offsets that may be required under the *Biodiversity Conservation (BC) Act* do not override or satisfy the requirements under the FM Act. This statement is supported by S.1.4 of the BC Act.
- 3) The draft offset strategy has somewhat 'merged' the offset requirements under the BC Act and FM Act. The strategy needs to clearly separate the offset requirements of each Act. Separate chapters outlining the offset proposals required to satisfy each Act would be ideal.
- 4) The onground FM Act offset strategies (and associated area of benefit) for impacts to marine vegetation deemed acceptable to DPI Fisheries have been identified in the email that these comments are attached to. The offset strategy is to be updated accordingly. These offsets specifically apply to areas of marine vegetation that are restored or will experience improved ecological function from onground works, which only applies to part of the stewardship site proposed under the BC Act.
- 5) Restoration of the wetland upstream of the haul road (to be removed), could be improved by conducting some infilling the drainage lines in this area to natural levels to reduce pooling of water in the wetland, and associated die-back impacts (currently evident in aerial imagery). We recommend this be looked into and if found to be of benefit to the wetland and that these works could be conducted with minimal impact on the wetland, that these works be added scope of the road removal works.
- 6) In assessing the permit application regarding these works, DPI Fisheries will require a clear commitment to achieving on-ground offsets to rehabilitate impacts and restore ecological function to marine vegetation. This can be achieved by addressing the following in the Offset Strategy:
  - a) Outline the required approvals process for the road removal works, and when these approvals will be sought.
  - b) Provide an assessment of potential risks of not being able to carry out the road removal works.
  - c) Provide a works plan for the road removal project outlining: expected time of approval of works and commencement of works; road removal method and any associated direct impacts on the wetland; and expected length of works period.

Note: the road removal works will be linked to the DPI Fisheries permit issued at Stage 1 and we would expect these works to be completed within two years of completing the Stage 1 runway works.

- 7) Regarding the area of wetland previously damaged by vehicles, the offset strategy will need to: Identify the area and stage of regenerating marine vegetation at this location; Identify whether further action is required to assist the regeneration of saltmarsh or mangroves in this area (e.g. promote natural regeneration by infilling vehicle tracks and other areas that may be too low for saltmarsh regeneration); Propose these actions as part of the offset strategy; Identify how this site will be managed to ensure direct impacts by vehicles or other means do not occur in the future.
- 8) The FM Act offset strategy needs to include a monitoring component which would provide details of: the extent of regeneration of marine vegetation in the footprint of the haul road after removal and southern vehicle damage rehabilitation area; the extent of tidal flushing upstream of the road following removal; and obvious changes in the distribution of marine vegetation community types in this area. The monitoring program should be proposed for say a three year period with status reports undertaken at annual intervals.
- 9) The offset strategy will need to identify how offsets for all stages of the project will be achieved. The proposed acceptable FM Act onground offsets to date, if implemented on the ground, would achieve the 2:1 offsetting requirements for the loss for the loss of mangroves and saltmarsh for the whole project and has a shortfall of 0.738ha for the loss of seagrass.

At this stage, the offset strategy could address this matter by:

- committing to finding additional site(s) that satisfy on-ground offsetting requirements under the FM Act, prior to applying for the Stage 2 harm marine vegetation permit; and
- committing to offsetting via compensatory payment any part of this residual 2:1 offset area that cannot be achieved via on-ground work, as part of the Stage 2 permit offset.

Note: Seagrass harm is only proposed during stage 2 works, and should it become evident that the area of impact to seagrass is reduced either by runway detailed design or there being less seagrass in the area at time of applying for the stage 2 permit, then the overall FM Act residual offset requirement can be amended accordingly.

- 10) The offset strategy needs to include a contingency plan should the road removal works (linked to the stage 1 permit) not be approved or constructed for any other reason. This needs to include a plan to offset all of the harm to marine vegetation from stage 2 works via onground marine vegetation offsets, compensatory payment or a combination of both. The strategy at this stage, can include a commitment to finding such sites (if required) prior to submitting the stage 2 permit. Note that should the road not be removed, the bond/guarantee applied to the stage 1 works will be held/obtained by DPI Fisheries as a form of monetary compensation for the habitat loss at stage 1.
- 11) In looking for other suitable FM Act onground offsets the focus needs to be on remediating impacts to areas of marine vegetation. These sites do not necessarily need to be under Council management and can include Crown and private land.

## Brooke Marshall

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**From:** Carla Ganassin <carla.ganassin@dpi.nsw.gov.au>  
**Sent:** Tuesday, 3 August 2021 3:05 PM  
**To:** Brooke Marshall  
**Cc:** Patrick Dwyer; Symons, Jennifer; Louiza Romane  
**Subject:** RE: HPE CM: RE: 21-031 - Merimbula Airport Offsets - questions for DPI Fisheries

Hi Brooke,

In response to your query in the email thread below, DPI Fisheries can accept a bond via bank guarantee for the Merimbula Airport Stage 1 FM Act Permit. The bank guarantee will need to be held by an institution outside of DPI Fisheries.

Before the permit application is lodged, can we arrange a meeting to: discuss the processes and administration around this bank guarantee; finalise the value of this environmental bond; and establish how Fisheries will link the bank guarantee in with the Fisheries permit?

Regards,

Carla Ganassin | Senior Fisheries Manager - South | Coastal Systems  
NSW Department of Primary Industries | Fisheries  
Block E, Level 3, 84 Crown Street, Wollongong NSW 2500  
SEND MAIL TO: PO Box 97, Huskisson NSW 2540  
T: (02) 4222 8342 | M: 0447 644 357 | E: [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

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**From:** Carla Ganassin  
**Sent:** Monday, 19 July 2021 1:38 PM  
**To:** Brooke Marshall <brooke.m@nghconsulting.com.au>  
**Cc:** Patrick Dwyer <patrick.dwyer@dpi.nsw.gov.au>; Symons, Jennifer <jsymons@begavalley.nsw.gov.au>; Louiza Romane <louiza.r@nghconsulting.com.au>  
**Subject:** HPE CM: RE: 21-031 - Merimbula Airport Offsets - questions for DPI Fisheries

Hi Brooke,

DPI Fisheries provides the following response to your email below.

### 1) Satisfaction of FM Act offset requirements

#### Acceptable FM Act on-ground offsets

Looking at the *Fisheries Management (FM) Act* offsets proposed for the Merimbula Airport Upgrade, the following works and associated area of rehabilitated or improved ecological function to marine vegetation are deemed to be acceptable FM Act offsets (should the on-ground works be approved and implemented):  
(Note: FM Act offset policy only applies to marine vegetation (i.e. seagrass, mangroves, saltmarsh). Any benefits to terrestrial vegetation (e.g. Bangalay and Swamp Oak Forest) from the proposed offsets works can therefore not be included in calculations to satisfy FM Act offset requirements).

- 1) *Removal of southern haulage road:* Improved hydrological connectivity to 3.57ha saltmarsh (upstream of road) and restoration of 0.24ha saltmarsh/mangrove wetland under road footprint.
- 2) *Restoration of vehicle impacted marine vegetation south of the airport:* Restoration of 0.392ha saltmarsh/mangroves

(Note: This area of rehabilitation can only be applied as an offset to the Merimbula Airport Upgrade project. DPI Fisheries generally does not accept previously rehabilitated areas as FM Act offsets. However, on this occasion, DPI Fisheries has accepted this site as an offset given that its ongoing maintenance can be linked to airport operations, and Council is proposing long term management of this site as part of the overall offset strategy for this site).



#### **TOTAL AREA FM ACT ON-GROUND OFFSET: 4.202ha**

The tidal flow to the area downstream of the haul road is not currently restricted and this area is not showing any obvious stress from changes in tidal flow. Therefore, DPI Fisheries will not be accepting the area downstream of the haul road as an FM Act offset.

#### Required FM Act offsets

Both stages of the project will reclaim the following areas of marine vegetation: 2.02ha mangroves (1ha of which will be harmed during stage 1); 0.05ha saltmarsh; and 0.40ha seagrass (Total: 2.47ha).

FM Act offsets are applied at a ratio of 2:1, therefore **4.94ha of onground marine vegetation offsets are required.** –

#### Residual FM Act offsets

There is a **shortfall of 0.738ha** in meeting the full 4.94ha 2:1 offset requirements.

The accepted proposed onground offsets satisfy the 2:1 offset requirement for loss of mangrove and saltmarsh from both stages, and 0.062ha of the 0.8ha offset required for seagrass. Seagrass harm will only occur during stage 2 works. See point 3 offering a suggestion as to how this residual can be addressed in the offset strategy.

## **2) Staging and timing**

DPI Fisheries understands that approval for the haul road removal works is being sought through the stage 2 Deferred Approval matter. As the offset requirement associated with the road removal will be linked to the DPI Fisheries stage 1 permit, we request the proposed staging of the road removal works are linked to Stage 1 of the project, or not be specifically linked to Stage 2.

DPI Fisheries understands that deferred consent additional information requests are to be submitted within 6 months of the date of issue of the current development consent (i.e. during Nov 2021) and approval for these works has not yet been granted. The stage 1 fisheries permit will provide a generous time period within which these works are to be conducted, i.e. within 2 years following completion of Stage 1 works. The risk of the road removal works not being approved will be addressed via a bond/guarantee arrangement in the Stage 1 Fisheries permit. The value of this may be up to the equivalent of the 2:1 compensatory value for the area of 1.0ha of mangrove to be harmed under stage 1. This bond/guarantee matter will be returned/resolved once the road has been removed. I will get back to you with some certainty as to whether DPI Fisheries can accept a bank guarantee (rather than a bond) in this instance once my Manager returns from leave on July 26.

The road removal works will satisfy the stage 1 FM Act offset requirements, and part of the stage 2 offsets. Conducting the road removal works before the stage 2 project has commenced has the added benefit of

significantly reducing the area of any additional bonds/guarantees that could be applied to the residual offsets as part of the stage 2 permit.

### 3) Comments on draft offset strategy

See the attached word document.

Note that the offset strategy will need to incorporate:

- a plan to offset the residual offsets following the road removal as part of the stage 2 permit application, and
- a contingency plan to offset all of harm from stage 2 works should the haul road removal not be approved.

Noting that the bond/guarantee for the stage 1 works will be held/obtained by DPI Fisheries, as monetary compensation for the loss of habitat from stage 1 works, in this instance. This has been addressed in the attachment.

If you wish to discuss the above, please call.

Regards,

**Carla Ganassin** | Senior Fisheries Manager - South | Coastal Systems  
NSW Department of Primary Industries | Fisheries  
Block E, Level 3, 84 Crown Street, Wollongong NSW 2500  
**SEND MAIL TO:** PO Box 97, Huskisson NSW 2540  
**T:** (02) 4222 8342 | **M:** 0447 644 357 | **E:** [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)

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**From:** Brooke Marshall <[brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)>  
**Sent:** Wednesday, 14 July 2021 5:01 PM  
**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Cc:** Patrick Dwyer <[patrick.dwyer@dpi.nsw.gov.au](mailto:patrick.dwyer@dpi.nsw.gov.au)>; Symons, Jennifer <[jsymons@begavalley.nsw.gov.au](mailto:jsymons@begavalley.nsw.gov.au)>; Louiza Romane <[louiza.r@nghconsulting.com.au](mailto:louiza.r@nghconsulting.com.au)>  
**Subject:** RE: 21-031 - Merimbula Airport Offsets - questions for DPI Fisheries

Hi Carla, further to below, Council are interested to know if they can pay a bond via a bank guarantee in lieu of cash?  
Thanks, Brooke

**BROOKE MARSHALL**  
**MANAGER – NSW SE & ACT**  
**PRINCIPAL – RENEWABLE ENERGY ASSESSMENTS**  
Certified Environmental Practitioner  
Please note I do not work Wednesdays



**T.** 02 6492 8303 **M.** 0437 700 915  
**E.** [brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)  
Suite 11, 89-91 Auckland St  
(PO Box 470) Bega NSW 2550

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[WWW.NGHCONSULTING.COM.AU](http://WWW.NGHCONSULTING.COM.AU)

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**From:** Brooke Marshall  
**Sent:** Thursday, 1 July 2021 10:12 AM  
**To:** Carla Ganassin <[carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au)>  
**Cc:** [patrick.dwyer@dpi.nsw.gov.au](mailto:patrick.dwyer@dpi.nsw.gov.au); Symons, Jennifer <[JSymons@begavalley.nsw.gov.au](mailto:JSymons@begavalley.nsw.gov.au)>; Louiza Romane <[louiza.r@nghconsulting.com.au](mailto:louiza.r@nghconsulting.com.au)>  
**Subject:** FW: 21-031 - Merimbula Airport Offsets - questions for DPI Fisheries

Hi Carla

Thanks for your time discussing progress with the offset strategy for this project. As discussed, while stage 1 extensions have been approved, the approval of stage 2 extensions has been deferred subject to provision of additional information. A lot of this centres around the south haul road – it needs to be assessed and included as part of stage 2 works description. We are currently working on that now.

Please find below the extra information we discussed:

1. Updated areas of beneficial impact of south haul road removal
2. Information about the location, extent and remediation works associated with vehicle damage, south of the airport
3. Clarity about approval status and timing proposed moving forward

I am updating the offset strategy to include this information.

As we work on the update, what we are seeking from DPI Fisheries now is advice around:

- a) Confirmation as to whether the removal of the haul road will offset stage 1 and 2 impacts in full, or what residual offset obligation will remain.
- b) Whether any offset credit can be gained from the remediation works undertaken south of the airport.
- c) Staging of offset implementation / fisheries permit submission – is our timing acceptable?
- d) What additional changes you would like to see in the updated offset strategy. It will be submitted as part of meeting Stage 1 approval conditions and also as part of satisfying the deferred approval information requirements.

A meeting invite can be sent if you would like to discuss in detail further. Please let me know times that suit you /your colleagues

Many thanks, Brooke

### **1. Updated areas of beneficial impact of south haul road removal**

The areas of beneficial impact have now been calculated as 9.08 ha in total and include three areas:

- *Total areas of inundation*, east of the existing barrier (investigated in Appendix C.1).
  - The modelling provided in Appendix C.1 of the offset strategy assumes that Stage 1 has been constructed and the full haul road is removed.
  - Advice from SE Engineering and Environmental is that if the Stage 2 was assumed to be constructed, the areas of inundation would increase marginally (0.03 ha).
  - The total area includes the 'base line' inundation area east of the road as well as the additional inundation area to the east, as discussed.
  - The updated breakdown (assuming Stage 2 is constructed) is comprised of:
    - Saltmarsh: 3.57 ha
    - Other (Bangalay and Swamp Oak Forest): 0.93
    - Total area = 4.5 ha
- *Areas of increased flushing*, west of the existing barrier (investigated in Appendix C.2).
  - The modelling provided in Appendix C.2 of the offset strategy assumes that Stage 1 has been constructed and the full haul road is removed. Advice from SE Engineering and Environmental is that if the Stage 2 was assumed to be constructed, the areas would not change significantly.
  - The areas total 4.34 ha in full (mapped as the area between the existing haul road and where the mangroves end and the deeper water commences).
  - The breakdown is comprised of:
    - Mangrove: 0.102 ha
    - Saltmarsh: 0.133 ha



- Seagrass (*Zostera*/*Halophila*): 0.064 ha
- The *area now occupied by barrier*, which when removed could be recolonised by native vegetation and constitute marine habitat once again (estimated as 0.24 ha).

**2. Information about the location, extent and remediation works associated with vehicle damage, south of the airport**

The blue rectangle below marks the approximate area damaged by vehicles. The restoration action was to fence the area and leave it to recover; yellow line.

The additional area of fencing required is estimated as about \$5740. Inspection of the security fence is now required and done on foot which is also additional cost to Council.





### 3. Clarity about approval status and timing proposed moving forward

The Stage 1 runway extensions have now been approved and are due to commence construction in August-September 2021.

Approval for the Stage 2 works have been 'deferred' until further information and assessment is provided. This includes the assessment of removal of the southern haul road and agreement about FM and BC Act offsets for Stage 2.

The critical path for this submission relates to the update of the BDAR report and Offset Strategy and is anticipated to be completed in 6 weeks. Key changes include:

- Full description of southern haul road removal works method.
- Update BDAR assessment (and offset requirement under BC Act – no substantive change predicted as the works address a KTP and provide a beneficial impact)
- Heritage assessment - AHIP is being sought that covers the haul road removal

#### **Suggested timing regarding securing FM Act offsets:**

The Council now propose to commit to undertaking the southern haul road removal as part of the Stage 2 works. In terms of FM Act requirements we propose:

Before Stage 1 works:

1. Offset strategy finalised
2. Fisheries permit for Stage 1 works
3. Carry out stage 1 works August- September 2021

Before Stage 2 works:

4. Fisheries permit for south haul road removal works and Stage 2
5. Carry out south haul road removal works as part of Stage 2 (which will secure all FM offsets for Stage 1 and 2 works)

Due to the delay between Stage 1 and 2 works, two options are suggested regarding timing:

- A commitment to remove the haul road within 2 years of stage 1 commencing could be made as part of the stage 2 project description or
- A bond to cover Stage 1 offsets would be paid within the intention that this be returned once the haul road is removed

Given the cost of the bond, Council are keen to explore other options if possible with DPI.

**BROOKE MARSHALL**  
**MANAGER – NSW SE & ACT**  
**PRINCIPAL – RENEWABLE ENERGY ASSESSMENTS**  
Certified Environmental Practitioner  
Please note I do not work Wednesdays



T. 02 6492 8303 M. 0437 700 915  
E. [brooke.m@nghconsulting.com.au](mailto:brooke.m@nghconsulting.com.au)  
Suite 11, 89-91 Auckland St  
(PO Box 470) Bega NSW 2550

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[WWW.NGHCONSULTING.COM.AU](http://WWW.NGHCONSULTING.COM.AU)

## A.2 Biodiversity Conservation Division

**From:** Nicola Hargraves <Nicola.Hargraves@environment.nsw.gov.au> **On Behalf Of** ROG South East Region Mailbox

**Sent:** Wednesday, 19 August 2020 1:58 PM

**To:** Brooke Marshall <brooke.m@nghconsulting.com.au>; Gillian Young <gillian.y@nghconsulting.com.au>

**Cc:** Allison Treweek <Allison.Treweek@environment.nsw.gov.au>; Angela Jenkins <Angela.Jenkins@environment.nsw.gov.au>; Lauren Rose <Lauren.Rose@planning.nsw.gov.au>

**Subject:** Merimbula Airport Upgrade - Runway extension - Revised BDAR and Draft Biodiversity Offset Strategy

Hello Brooke and Gillian,

Apologies for the time it has taken for our response. We have reviewed the Offset Strategy, provided that the development is conditioned in accordance with the [ancillary rules](#) for offsetting and [model conditions](#) we are satisfied with the strategy.

Thank you for providing the updated BDAR to address our concerns, we note that the BDAR is still in draft form. Can you please provide the shapefiles to allow us to check the credit values and to support the values presented in Table 7.1 – 7.4 of the BDAR. Once we have received the shapefiles we can complete our assessment and get our comments for the BDAR back to you as quickly as possible.

Kind regards,

Nicola Hargraves  
Senior Conservation Planning Officer

Biodiversity and Conservation | Department of Planning, Industry and Environment  
T 02 6229 7195 | E [Nicola.hargraves@environment.nsw.gov.au](mailto:Nicola.hargraves@environment.nsw.gov.au)  
Level 3, 11 Farrer Street, Queanbeyan 2620  
[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)



## **APPENDIX B BVSC'S CONSIDERATION OF ALTERNATIVE OFFSET SITES**



## Merimbula Airport – Runway Extension Offsets

Alternative Offset Sites for Investigation - February 2021

The preferred offset site adjacent the air port appears likely to have adequate bangalay and saltmarsh but is deficient in mangroves and seagrass. These are the key entities being sought from and alternative site.

NB1: In each section, Council owned land is listed first.

NB2: Crown land may be too difficult if the offset use has to be shown on the title – needs further investigation

Locations follow.

Area (Ha)	Lot	DP	Zone	FM entities required			Owner	Comment
				Salt Marsh	Mangroves	Sea Grass		
Merimbula								
0.47	27	850443	E2 Environmental Conservation	✓	✓		Council	Damaged salt marsh, insufficient quantum mangroves.
2.02	25	786896	E2 Environmental Conservation	✓	✓		Council	Damaged salt marsh, insufficient quantum mangroves.
0.89	453	792875	E2 Environmental Conservation, SP3 Tourist	✓	✓		Council	Insufficient quantum mangroves.

Area (Ha)	Lot	DP	Zone	FM entities required			Owner	Comment
				Salt Marsh	Mangroves	Sea Grass		
2.35	7032	1047318	E2 Environmental Conservation	✓	✓		Crown	<ul style="list-style-type: none"> <li>• Council is the Trustee</li> <li>• Was a road reserve</li> <li>• May be a part of Bodalla Place (needs check)</li> <li>• Middle section includes boat hire place</li> </ul>
2.0 (approx.)	7032 to 7033	1047318	No zoning shown	✓	✓			
2.59	7033	1047319	E2 Environmental Conservation	✓	✓			
<i>Pambula Lake</i>								
0.85	15	1056397	E2 Environmental Conservation		✓		Council	Insufficient quantum mangroves.
2.74	10	619531	E2 Environmental Conservation		✓		Council	<ul style="list-style-type: none"> <li>• Portion only</li> <li>• Split in two by road reserve</li> <li>• Insufficient quantum mangroves.</li> </ul>
0.68 but more like 0.2	2	253398	E2 Environmental Conservation		✓		Council	Insufficient quantum mangroves.

Area (Ha)	Lot	DP	Zone	FM entities required			Owner	Comment
				Salt Marsh	Mangroves	Sea Grass		
0.85	15	1056397	E2 Environmental Conservation		✓		Council	
<i>Lake Curallo</i>								
1.73	30	237803	E2 Environmental Conservation	✓		✓	Council	Insufficient quantum mangroves.
7.18 but more like 1.0	9	848111	E2 Environmental Conservation, RE1 Public Recreation	✓		✓	Council	Insufficient quantum mangroves.
7.71 but more like 0.5	7318	1164814	E2 Environmental Conservation, RE1 Public Recreation	✓			Crown	Council is the trust manager Insufficient quantum mangroves.
0.72	7030	1071942	E2 Environmental Conservation	✓		✓	Crown	Council is the trust manager Insufficient quantum mangroves.
<i>Wapengo Lake</i>								
9.4 but say 1.0	8	260362	E3 Environmental Management, E2 Environmental Conservation	✓	✓		Council	Insufficient quantum mangroves.

Area (Ha)	Lot	DP	Zone	FM entities required			Owner	Comment
				Salt Marsh	Mangroves	Sea Grass		
<i>Panboola</i>								
4 x 4.0 and road reserve	5,6,7 and 8	1166672	E2 Environmental Conservation	✓			Private trust	Will depend on whether Panboola trust has been created in perpetuity or whether it can be transferred to other ownership (ie what were the conditions of the bequest). This is separate to the issue of land being held in trust under the biodiversity offset legislation.  Insufficient quantum mangroves.

Merimbula Lot 27 DP 850443



Merimbula Lot 25 DP 786896





Merimbula Lot 7032 DP 1047318



Merimbula Lot 7032 DP 1047318 to 7033 DP 1047318

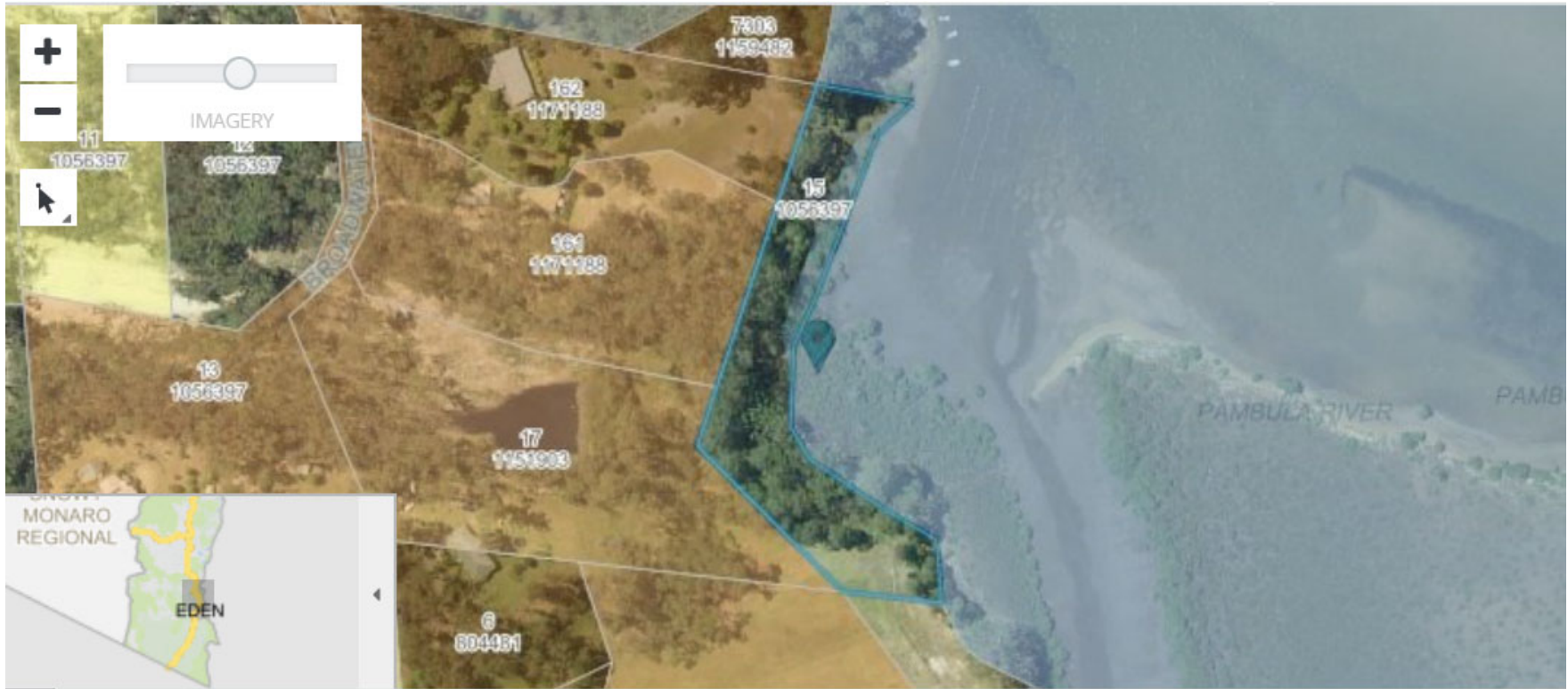


Merimbula Lot 7033 DP 1047319





Pambula Lake Lot 15 DP 1056397









*Pambula Lake Lot 15 DP 1056397*



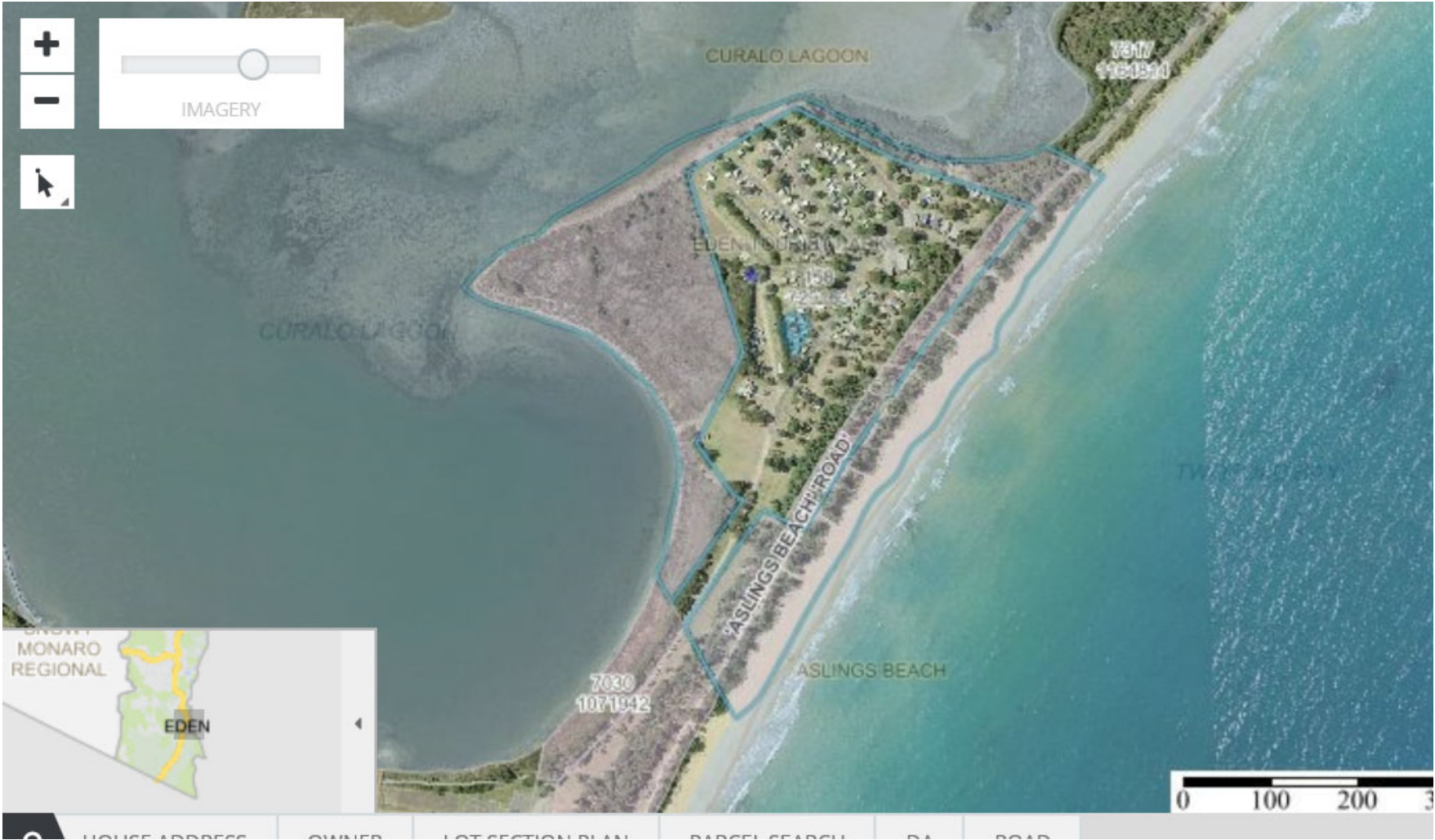
Lake Curallo Lot 30 DP 237803





Lake Currallo Lot 9 DP 848111









Wapengo Lake Lot 8 DP 260362





Panboola Lots 5, 6, 7 and 8 and road reserve in between DP 1166672



## **APPENDIX C HYDROLOGICAL ANALYSIS OF HAUL ROAD REMOVAL**

NGH worked with Southeast Engineering and Environmental to model several scenarios, in the hydrological assessment of the Stage 1 and Stage 2 works. The following NGH summary (C.1) captures the main issues of relevance to the offset strategy, sourcing Southeast Engineering and Environmental advice in combination with NGH vegetation mapping. The updated supporting hydrological modelling is provided as Appendix C.2.

### **C.1 NGH summary**

The removal of the southern haul road as part of the Merimbula Airport Runway Extension project was first raised in agency onsite meetings during the EIS preparation.

This type of active management action not only secures areas to be protected from development but would have far-reaching benefits on the local marine ecosystem. Council agreed to consider this option as part of the offset strategy for the project. In total, the areas of beneficial impact would be expected to include:

- Areas of increased inundation, east of the existing barrier (investigated in Appendix C.2 and estimated as about 4.5 ha).
- Areas of increased flushing, west of the existing barrier (investigated in Appendix C.2 and estimated as about 4.3 ha in total).
- The area now occupied by barrier, which when removed could be recolonised by native vegetation and constitute marine habitat once again (estimated as 0.24 ha).

Regarding inundation impacts, 3 scenarios were modelled:

- a) Baseline condition.
- b) Partial southern access road removal, assuming Stage 2 works are constructed.
- c) Full southern access road removal, assuming Stage 2 works are constructed. This area totals 4.5 ha.

This is mapped in Figure 6.



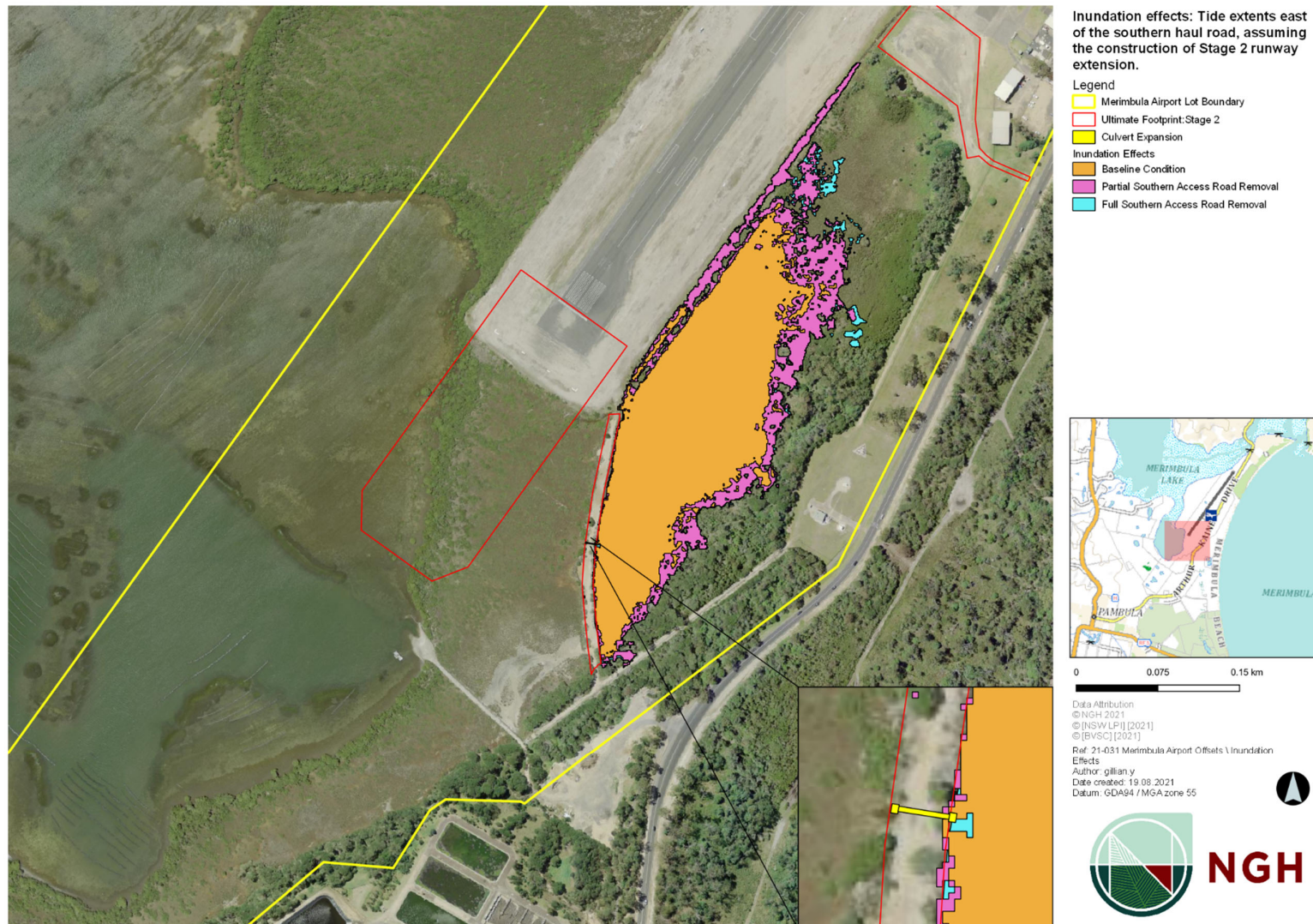


Figure 6 Area of inundation effect: 3 scenarios

The results in Appendix C.2 show there is a substantive areal impact for the full opening of the haul road (compared to the base line option a). The actual volume of exchange is more significant. There is more tidal exchange, when comparing part to full opening, particularly for the smaller tide events. It is noted that full removal represents a larger temporary water quality risk than part removal, but in the long term more water will come into and out of that area and it is considered a justifiable and manageable risk. Full hydrological modelling is provided in Appendix C.2.

In terms of the effect on FM offset entities, using February 2021 ground validated vegetation mapping for PCTs and the modelled areas of beneficial impact, the impact of the full removal of the haul road it set out below, against the project's offset requirement. The total area of beneficial impact is short of that required offset for the full development.

Table 5 Area of beneficial effect by vegetation type: scenario c)

FM entities	FM Offset requirement (ha)	Area of beneficial inundation effect	Net (ha)
<b>PCT 920 Mangrove forest</b>	4.04	0.0	-4.02
<b>PCT 1126 Saltmarsh</b>	0.10	3.57	3.47
<b>Other</b>	NA	0.93	NA
<b>Total</b>	<b>4.14</b>	<b>3.56</b>	<b>-0.58</b>

NGH requested SE Engineering and Environmental provide some additional consideration of the spatial extent the hydrological changes lakeside, seeking to clarify what area of beneficial impact may result, not just in increased areas of inundation east of the existing road but also but lakeside, in terms of greater flushing of water movement.

The results are provided in Appendix C.2 were that:

#### **Modelling output A.**

At approximately the edge of the mangroves west of the road, there is still some impact of the removal of the road; after the removal of the road, the area drains more quickly, and water level drops faster on the outgoing tide as the pipes are no longer there to throttle it.

#### **Modelling output B.**

However, once you move into the lake proper, there doesn't appear to be any impact for this modelled period, indicating the effect is most noticeable in the shallow water; the removal of the road has little impact in the deeper water.

NGH then estimated areas of beneficial effect to the west of the haul road (for full road removal) as 4.34 ha in total. The following areas of vegetation are located in this area:

- Mangrove: 0.102 ha
- Saltmarsh: 0.133 ha
- Seagrass (Zostera/Halophila): 0.064 ha

## **C.2 Hydraulic assessment of southern access road removal, SE Engineering and Environmental report, August 31, 2021.**



31 August 2021

Brooke Marshall

brooke.m@nghconsulting.com.au>

**Re: Hydraulic assessment of southern access road removal, Merimbula Airport Runway Upgrade;**

- **Stage 2 terrain modifications in hydraulic model**
- **Assessment of hydraulic impact of southern access road removal**

**1. Background and model adjustments**

In association with the Stage 2 runway extension, a number of modifications to increase tidal flow to the saltmarsh area to the east of the southern access road have been considered. Council wish to assess the hydraulic impact of removing the southern access road, including the potential for scour and erosion, and the broader impacts, such as extent of inundation, and flow transfer which may have impacts on habitat when compared to the existing condition.

This assessment considers three aspects of tidal hydraulics in this area:

1. Changes to the extent of inundation of the saltmarsh area
2. Changes to the flow regime immediately east of the existing access road
3. Changes to the flow regime to the west of the existing access road

## 2. Updated tidal flow assessment

Tidal range and movement in the upper reaches of the lake, particularly the backwater area where the southern runway extension is located is significantly less than the range experienced at the lake mouth and Merimbula Wharf (MHL, 2012) due to constrictions at the mouth and the Arthur Kaine Drive crossing. The tidal range varies between about 0.5 to 0.9m for this part of the lake, tide levels and approximate frequencies are shown in Table 1 are based on levels recorded at the western end of Merimbula Lake (Figure 1).

In order to assess the impact of the southern runway extension on tidal flows and exchange, a period covering 'king tides' for the lake, from 22 November 2018 to 26 November 2018 (refer Figure 2) was modelled in the 2D hydraulic model set up for the other assessments undertaken for the original surface water assessment.

The model was also run for additional scenarios which considered increased culvert capacity beneath the access road to offset the hydraulic impact of the Stage 1 and Stage 2 runway extensions.

For this assessment, scenarios modelled include:

- a) Pre-runway extension (existing conditions)
- b) Stage 2 runway extension with removal of the access road. (Figure 3)

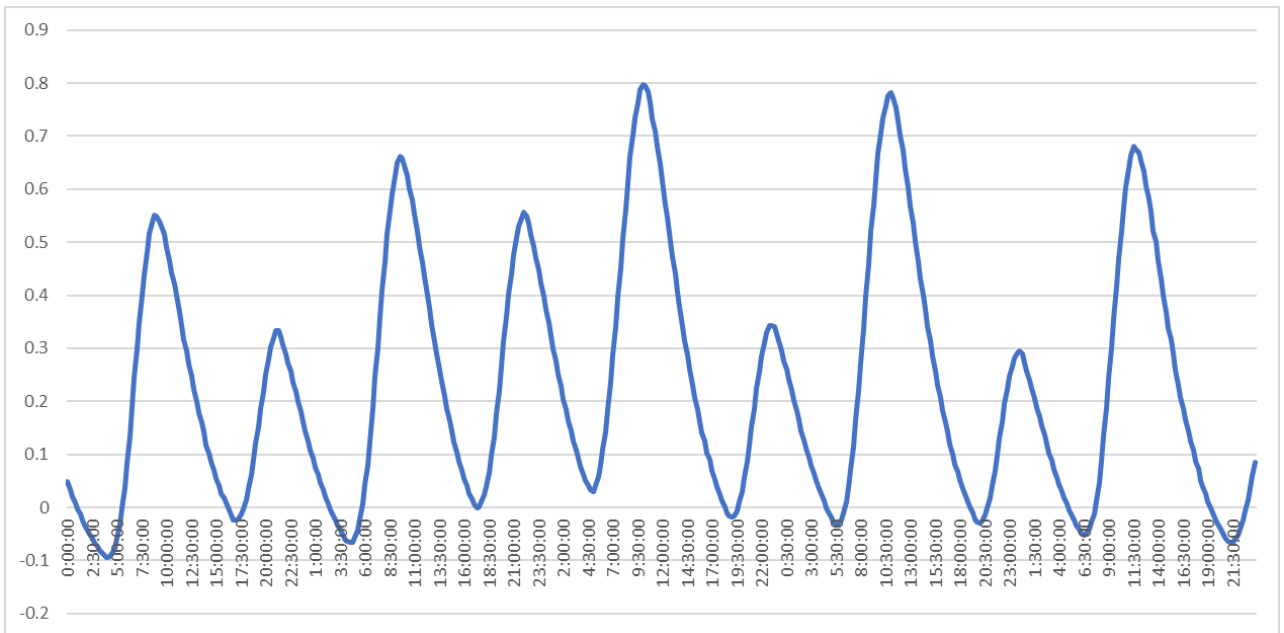
Impacts are assessed at two points, immediately to the east of the existing access road, and along a line running from the end of the Stage 2 extension to the southern bank (Figure 4)

**Table 1 Tidal planes (MHL, 2012)**

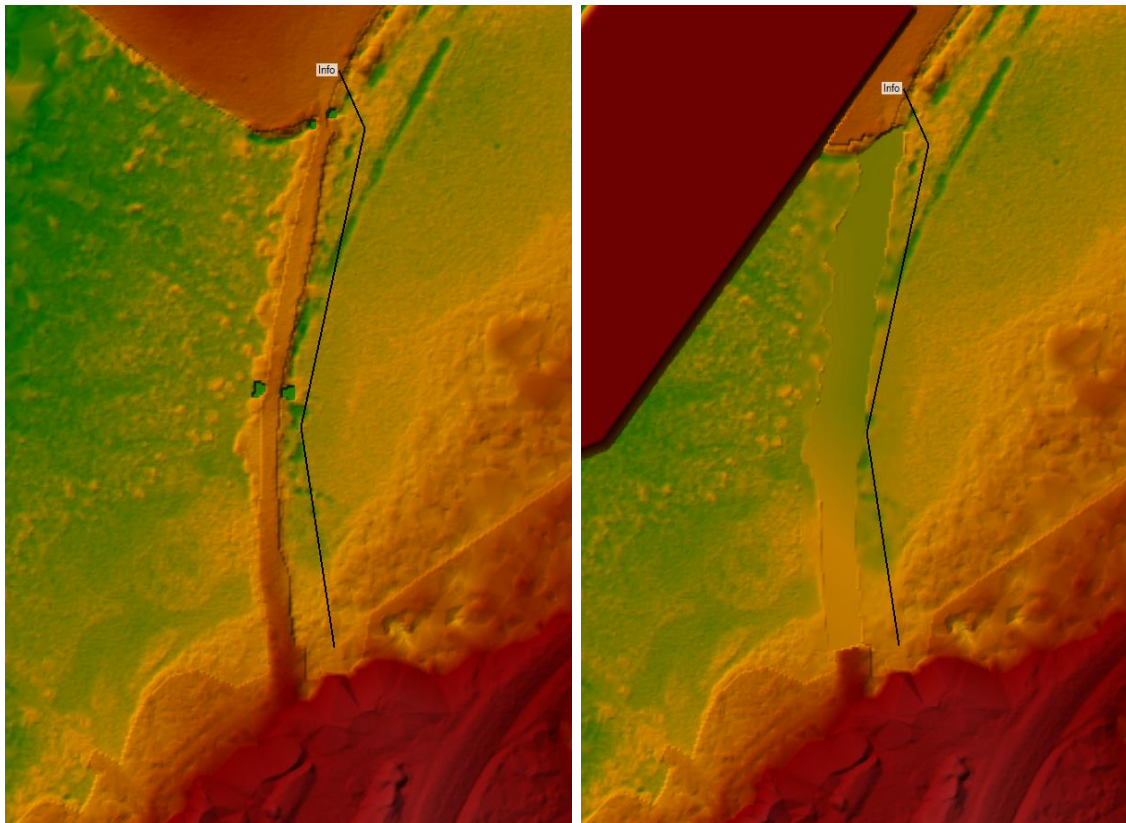
<b>Tide</b>	<b>Level (m AHD)</b>
Annual maximum (approx.)	0.80
High High Water Solstices Springs (Exceeded several times most months)	0.503
Mean High Water (average daily high tide)	0.225
Mean Sea Level (average lake level)	0.069
Mean Low Water(average daily low tide)	-0.088
Indian Springs Low Water (a few times a year)	-0.296



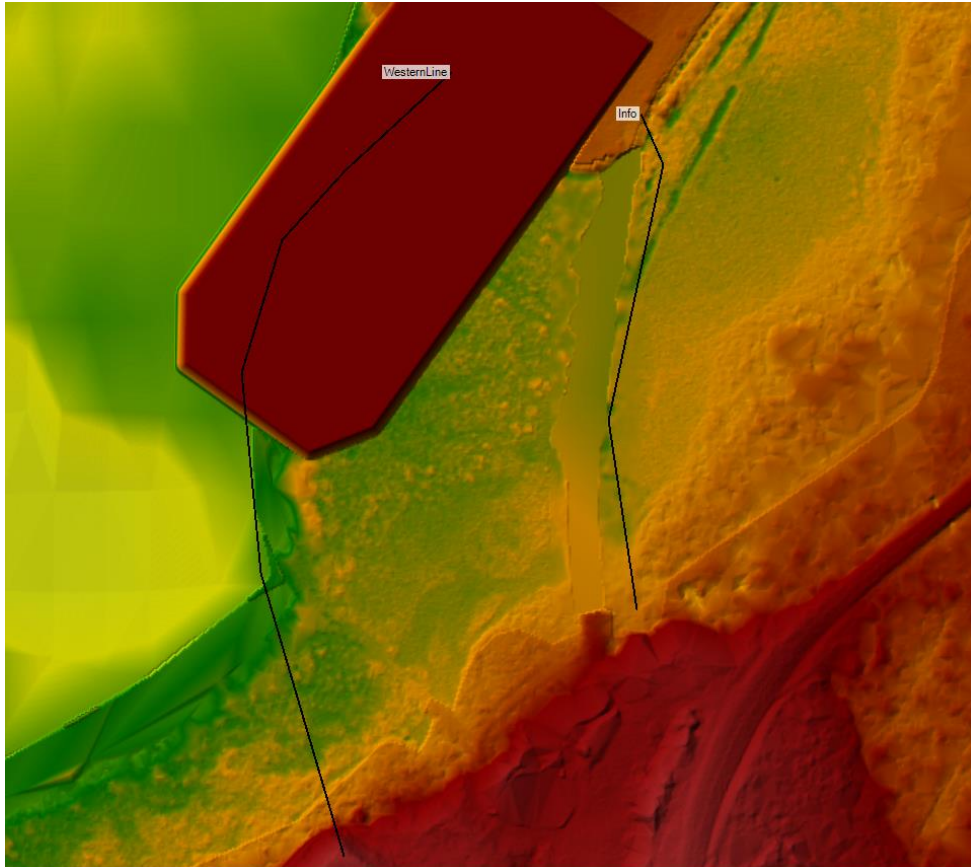
### Figure 1 Tidal gauge locations



**Figure 2 Tide levels (m AHD) over the period modelled.**



**Figure 3 Surface terrain for Existing and Stage 2 full road removed**



**Figure 4 Impact assessment locations**

### **3. Hydraulic model results**

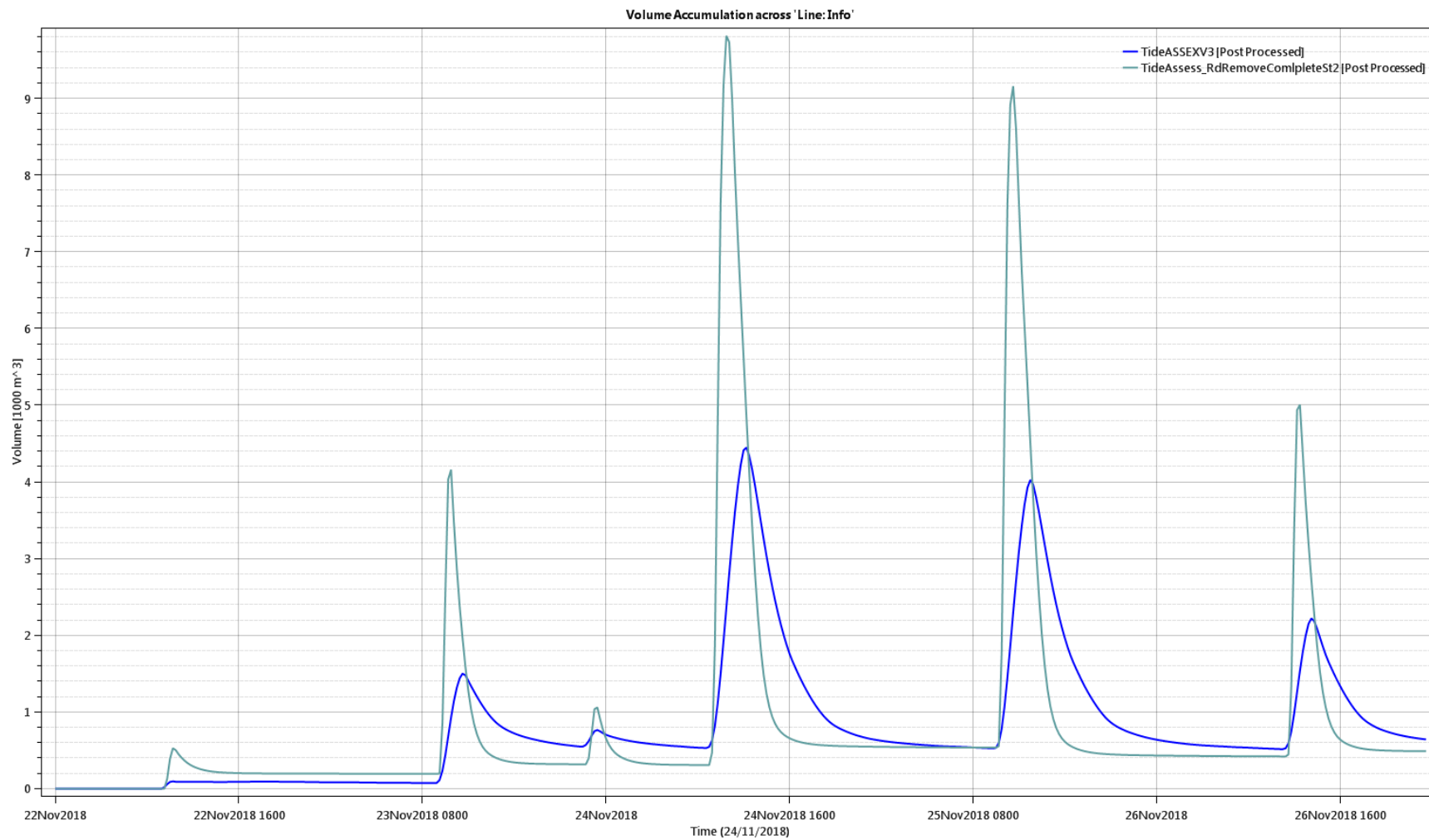
The removal of the access road significantly increases volume exchange and inundation extents from existing conditions in the salt marsh area. Volume exchange more than doubles for a king tide (Figure 5).

Maximum velocities through this opening occur as the tide moves into the area, with peak velocities for a king tide of about 0.3m/s. This is unlikely to scour and entrain significant amounts of sediment into the water column, there may be temporary localised movement of silt as the area adjusts to the new tidal regime.

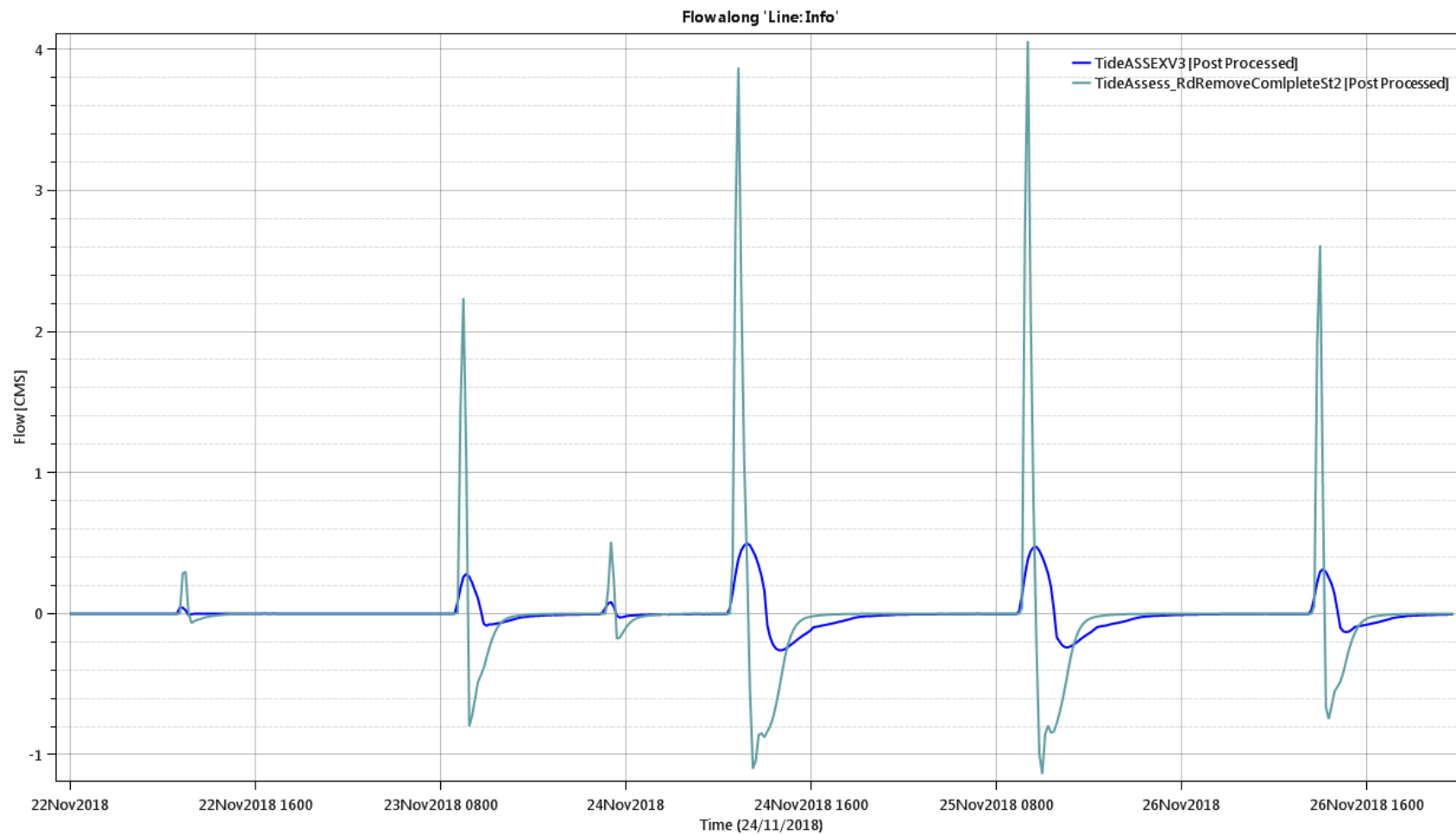
The full removal of the road increases the volume exchange from the current condition particularly for the smaller tide events either side of the spring tide and also allows for faster draining of the saltmarsh area (Figure 5 and Figure 6) (steep positive accumulation, and steep negative accumulation) and water is not 'held back' in the saltmarsh area as is currently the case. There is a large increase in spring tide inundation extent with full removal with an additional 13977sqm (+42%) of inundation when compared existing conditions (Figure 7).

To the west of the access road at the end of the end of the Stage 2 filling area the impacts of the road removal are less pronounced, with a small decrease in flow accumulation at this point for the Stage 2 condition, and significant differences in flow rate only evident for the largest two tides over the period modelled (Figure 8 and Figure 9).





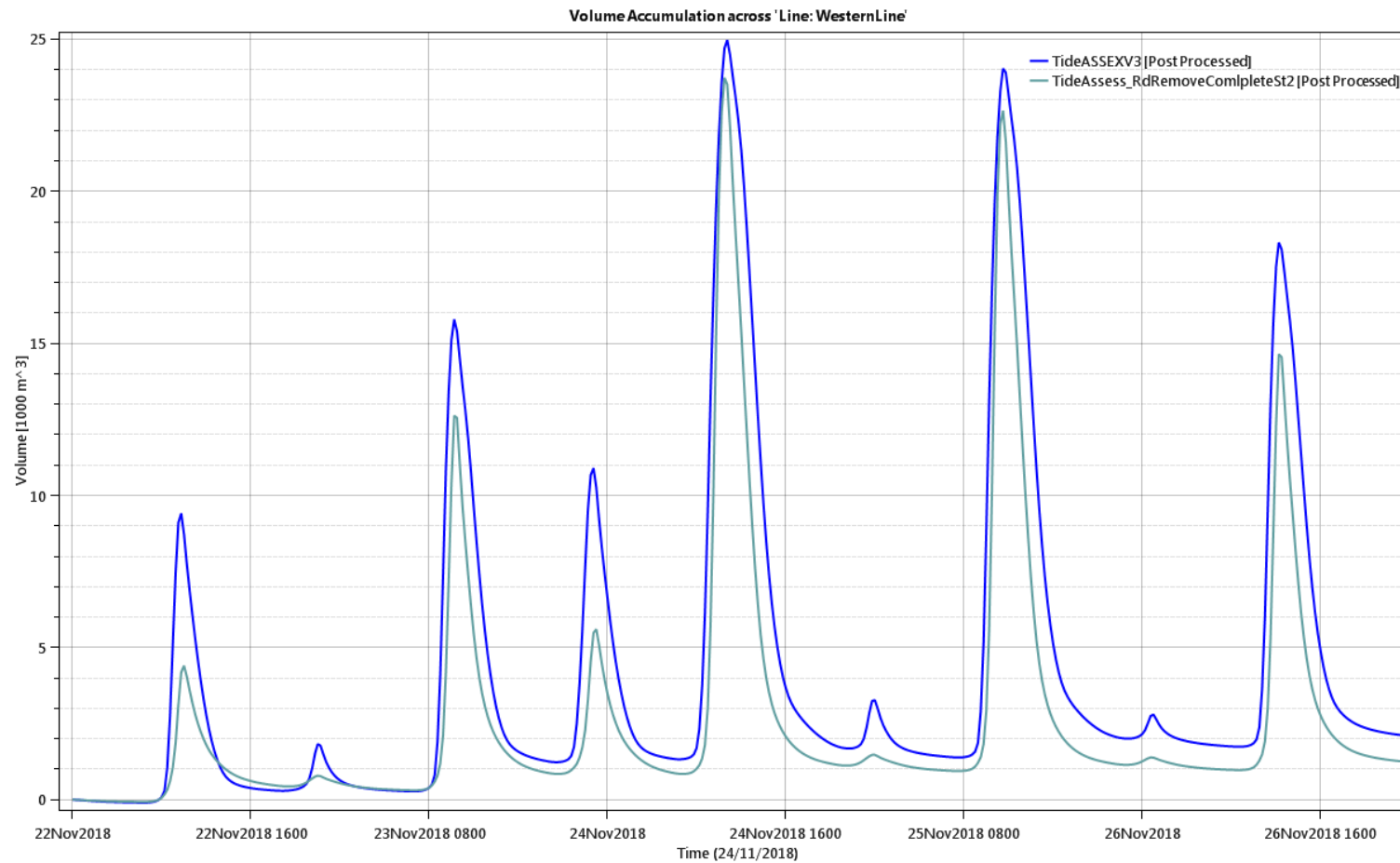
**Figure 5 Flow volume accumulation - Comparison of existing conditions and Stage 2 (TideAssEXV3) and Stage 2 full road removed conditions (TideAssess\_RdRemoveCompleteSt2)**



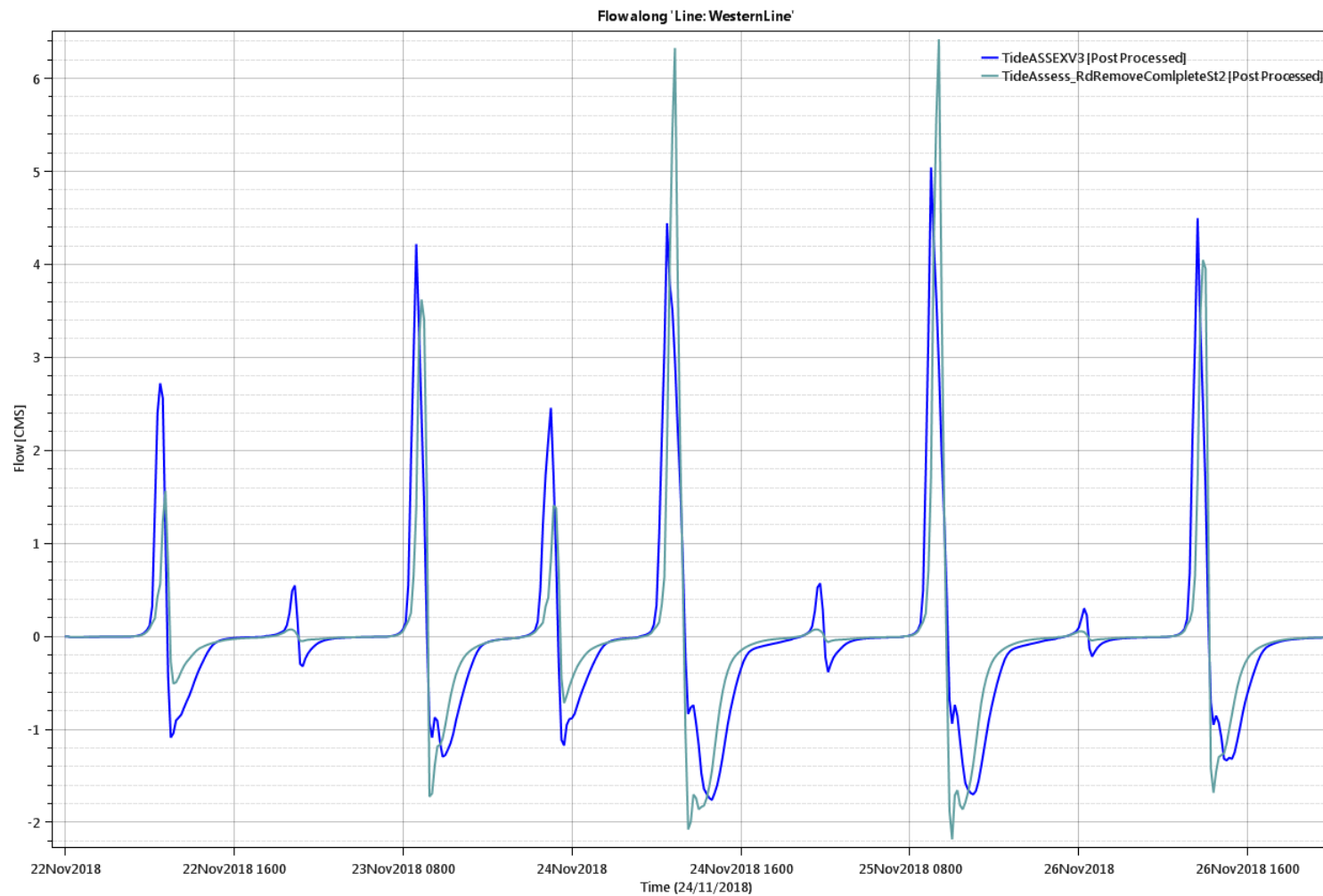
**Figure 6 Flow rate - Comparison of existing conditions and Stage 2 (TideAssEXV3) and Stage 2 full road removed conditions (TideAssess\_RdRemoveCompleteSt2)**



**Figure 7 Tide extents east of access road for existing (orange) and full access road removal with Stage 2 extension (maroon)**



**Figure 8 Flow volume accumulation - Comparison of existing conditions and Stage 2 (TideAssEXV3) and Stage 2 full road removed conditions (TideAssess\_RdRemoveCompleteSt2)**



**Figure 9 Flow rate - Comparison of existing conditions and Stage 2 (TideAssEXV3) and Stage 2 full road removed conditions (TideAssess\_RdRemoveCompleteSt2)**



Please contact the undersigned if you have any questions.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'L Bain', written in a cursive style.

**Lachlan Bain**

*Environmental Engineer BEng (Env).*

**References:**

Cardno (2017), Merimbula Lake and Back Lake Flood Study, Bega Valley Shire Council.

MHL (2012), *OEHS NSW Tidal Planes Analysis, 1990-2010 Harmonic Analysis*, NSW Public Works.

## **APPENDIX D PRELIMINARY OFFSET INVESTIGATIONS**

The following information was presented in the body of Offset Strategy Draft v1: Section 3 Investigations to date. It has since been largely superseded but forms context for the delineation of a physical Stewardship site adjacent to the Merimbula Airport Runway Extension project.

## Methodology

NGH undertook preliminary desktop investigations to investigate the ability of locally owned Council land to meet the project's offset obligations (Stage 1 and Stage 2 combined; Project and Ultimate EIS development footprint). This was done using:

- Aerial imagery
- Existing vegetation mapping, compiled for previous projects
- Consideration of threats and opportunities, in relation to management of the site for biodiversity and habitat improvement.
- Consideration of appropriate management actions to address threats and opportunities of the site.

The focus of the investigation was on the airport precinct land (discussed in detail below), which has advantages as an offset site including that it is Council owned and managed, located adjacent to the impact areas and therefore likely to generate 'like for like' offsets, and subject to known threats that have potential to be addressed in an active management plan. In February 2021, a senior ecologist ground truthed the existing terrestrial<sup>9</sup> vegetation mapping to provide more accurate vegetation mapping of the preferred airport precinct stewardship investigation area, based on a limited number of representative vegetation plots (collected in accordance with the Biodiversity Assessment Method). The key results are presented in sections 4.2 and 4.3, below.

Additionally, Council investigated other local sites that may be suitable. None are as suitable as the preferred airport precinct stewardship investigation area in terms of the habitat required or potential to undertake active management measures. These are summarised in Appendix B but have not been investigated further in this strategy.

## **D.1 Composition of the preferred airport precinct stewardship investigation area**

The following figure shows the preferred airport precinct stewardship investigation area owned and managed by Council, from which an offset site would be defined. Its composition in terms of the offset obligations are shown in the table and figure below, noting the site validation undertaken as part of this exercise (plots collected).

Note:

- Seagrass has been assessed with reference to Creese et al. 2009.
- Areas sourced from Creese et al. (2009) that intersected active oyster leases have been removed.

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<sup>9</sup> This includes Mangrove and Saltmarsh habitat but not Seagrass habitat.

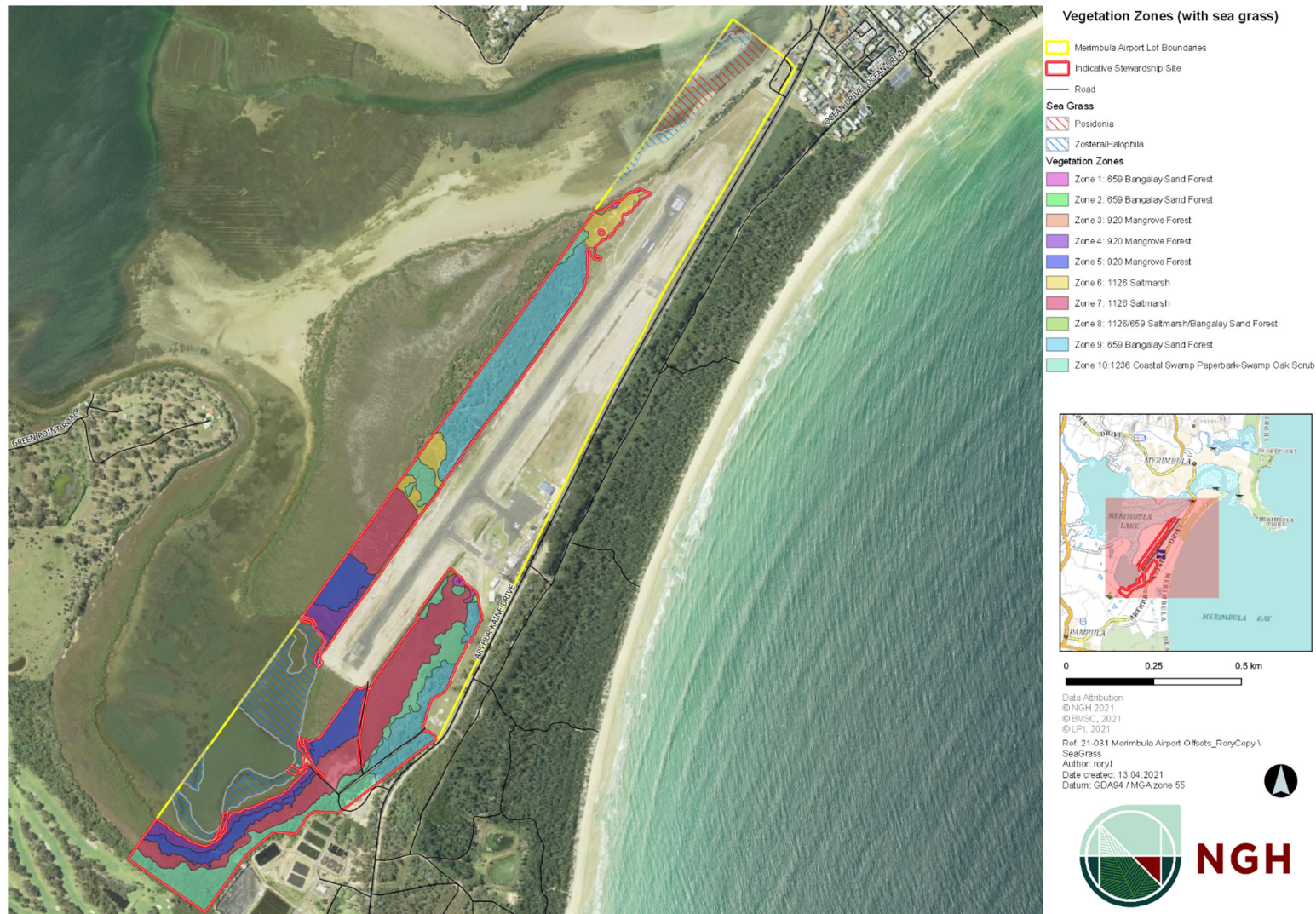


Figure 7 Area investigated for the stewardship site

The following sections consider in more detail the management issues relevant to the investigation area and the likelihood that most of the credit obligation could be met in this area.

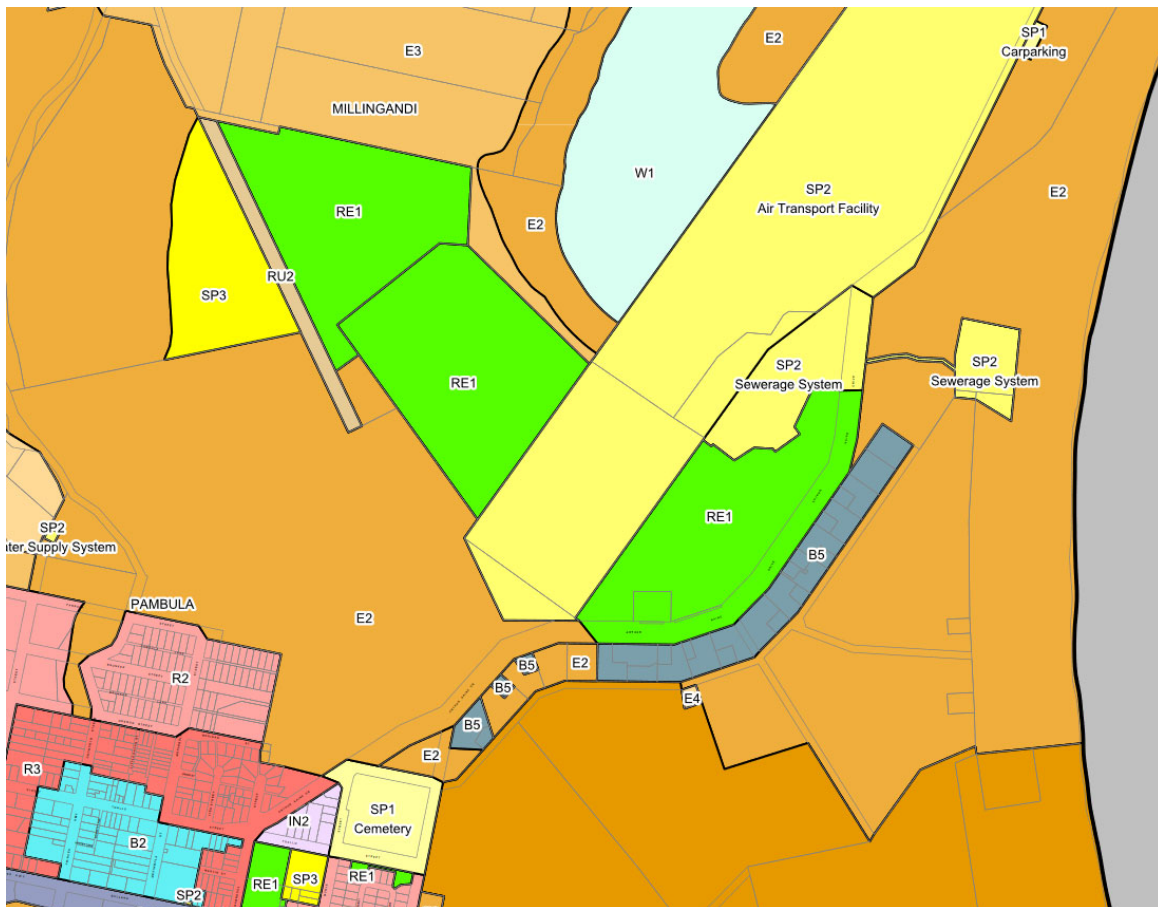


Figure 8 BVSC LEP 2013 local land zoning



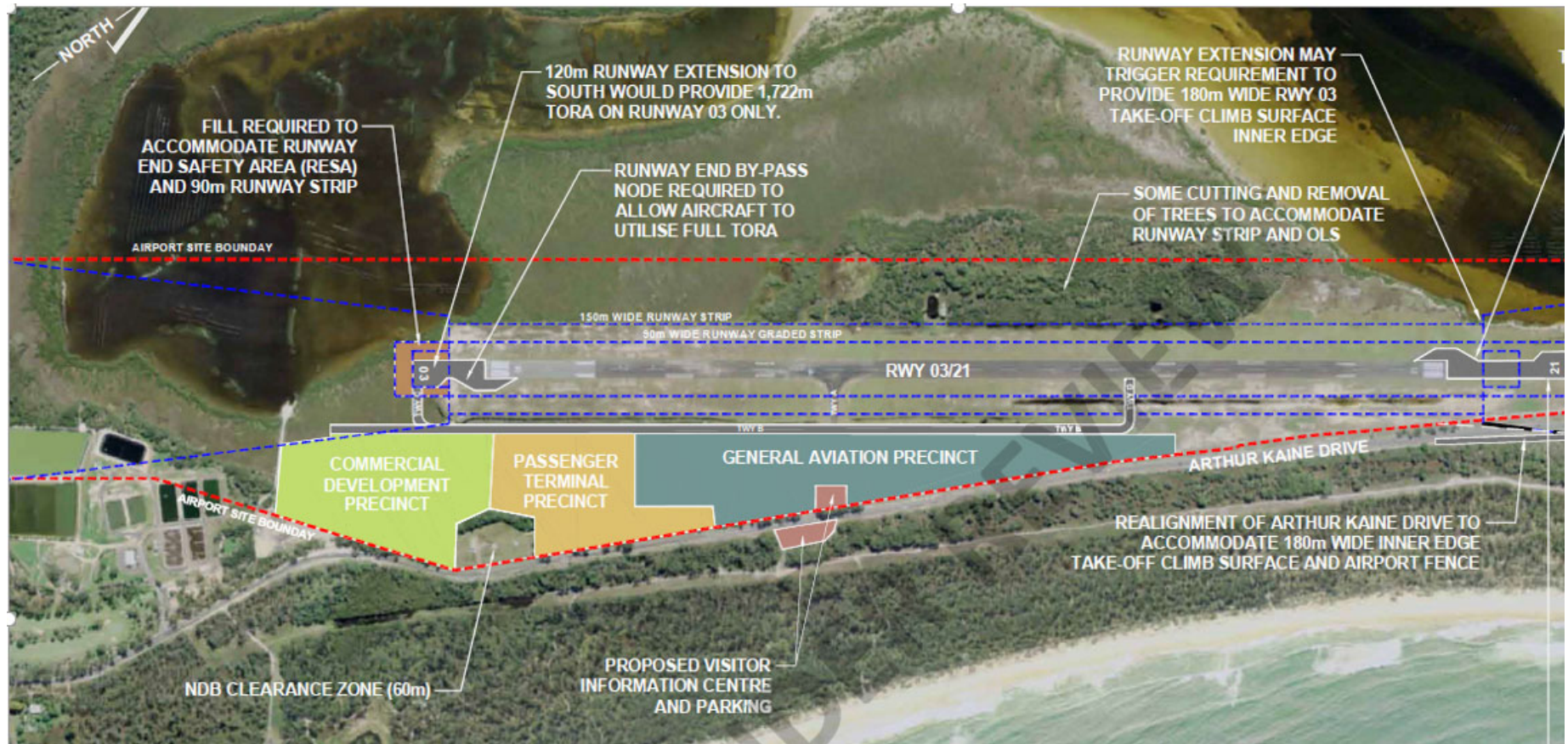


Figure 9 Masterplan 2014 proposed land uses

## D.2 Management issues

The investigation area is adjacent land uses which may impact or be impacted by actions aimed at improving the biodiversity and habitat values of the site:

- The area includes about 10 ha of active oyster lease, which may not be considered suitable for an offset site. Furthermore, it is noted that for this and other adjacent leases, water quality and aquatic habitat are of paramount importance for the health of this important local industry.
- The Merimbula Golf Course fertiliser and herbicide inputs are anticipated to be part of routine management. Runoff may impact the investigation area. Equally it may be an opportunity to address this issue and monitor it into the future.
- The Merimbula Sewage Treatment Plant. The area is limited and under high rainfall conditions, runoff may impact the investigation area. Equally it may be an opportunity to address this issue and monitor it into the future.
- The operational Merimbula Airport adjacent to the offset area requires:
  - Maintenance activities including refuelling and emergency operations including the use of fire retardants, which may impact the investigation area in a pollution event.
  - Restrictions on any improvement or expansion of grassland, wetland or tree canopy vegetation in the vicinity of the airport, as these may increase the wildlife collision risk of airport operations or, in the case of tree canopy, interfere with required Obstacle Limitation Surfaces (OLS). Note: The area in question sits primarily within the transition surface of the OLS and as such is subject to a much higher (height) constraint than the runway ends. Consequently, there is low likelihood of the intersection of mangrove growth with the protected surface but this requires investigation.

## D.3 Agency considerations

Additionally, of specific interest to agencies, as discussed in the meeting of 20 July 2020 and in follow up consultation, the following management issues were raised:

### BCD

- The adjacent golf course may be causing adverse indirect impacts to water quality. This may be a risk to an in perpetuity offset site.
- Similarly, the sewage treatment plant is located nearby. This may be a risk to an in perpetuity offset site.

### DPI

- Marine vegetation such as seagrass, mangroves and saltmarsh are ecosystems with the richest ecosystem service values for community wellbeing. These services cover key fish habitat, fisheries production, improving water quality, carbon sequestration and storage.
- Marine vegetation systems also have biodiversity values for birds, bats and terrestrial animals including those threatened species managed under the *Biodiversity Conservation Act 2016*.
- DPI Fisheries Offset Strategy is focussed towards rehabilitation of impacts to marine vegetation in the first instance, either within the catchment area of the development or more broadly (say within a Local Government Area).

- Management in accordance with an ‘in perpetuity’ offset mechanism such as a Stewardship Agreement would be acceptable, as long as the ratios were met under the FM Act. For this project DPI will accept a 1:2 (impact to offset) ratio acceptable.
- An improvement to existing conditions and not just securing of land is preferable as the outcome of an offset plan.
- While removal of the southern access road may not be considered part of the construction of the airport runway extension. DPI Fisheries strongly recommends that this be considered as part of the offsetting package that will be required as part of this project. This road is currently having approximately 0.25ha of direct impact on wetland habitat, and perhaps implications for wetland inundation upstream. From discussion with Council, the road does not seem to be essential infrastructure. Refer to further comments made in Section 8.
- Drainage channels and rehabilitation actions are also recommended.

In consideration of these issues, the following key opportunities and risks of the airport precinct stewardship investigation area, have been identified and suggested to be linked to management actions for the long-term management of the final offset site.

Table 6 Management issues relevant to investigation area

Issue	Opportunity or risk	Comment	Proposed actions	Progress
A: Remediation of historic impacts	Opportunity and Risk	<p>While removal of the southern access road, which is located within the investigation area, is not proposed as part of the airport runway extension, DPI Fisheries strongly recommends that this be considered as part of the offsetting package for this project. This road is currently having approximately 0.25ha of direct impact on wetland habitat, and perhaps implications for wetland inundation upstream.</p> <p>Removal of the southern access road causeway may trigger designated development under the Coastal Management SEPP.</p> <p>NGH note that the haul road removal would also generate water quality risks in its removal and operational effect. This requires further specialist investigation.</p> <p>Any change to the hydrology must first be assessed to understand water quality risks. These are relevant to construction as well as operation where increased flow may lead to scouring. Oyster lease holders would also need to be consulted.</p> <p>Alternatively, a larger diameter culvert may have beneficial impacts with lesser risk to surrounding oyster leases.</p>	<ol style="list-style-type: none"> <li>Investigation the hydrological impacts of removal of the road / larger culverts as a management action of the stewardship site.</li> <li>Investigation of other water quality impacts of road removal (i.e. construction process but also the ability to restrict flow further in the case of a pollution event at the airport.</li> <li>NGH would seek clarification to determine if haul road removal works would be considered 'Environmental protection works' or would be designated development.</li> <li>Consultation with stakeholders as required.</li> <li>Detailed works method and permits required via DPI, Fisheries.</li> </ol>	<p>As of February 2021:</p> <ol style="list-style-type: none"> <li>A hydrological analysis shows that significant hydrological change results from the removal of the haul road. In total, the areas of beneficial impact would be expected to include areas of increased inundation, east of the existing barrier, areas of increased flushing, west of the existing barrier as well as the area now occupied by barrier, which when removed could be recolonised by native vegetation and constitute marine habitat once again. Refer to Appendix C.</li> <li>Council have investigated removal methods and believe the removal can be managed appropriately in terms of water quality impacts in this sensitive location. Refer to Appendix E.</li> </ol>
	Opportunity	<p>The areas of salt marsh immediately east and south of the haul road retain signs of disturbance from historic land uses. These are likely to have occurred over 20 years ago. Vegetation in this area is sparse. Signs of compaction, exacerbated by</p>	<ol style="list-style-type: none"> <li>Prepare a planting plan to guide replanting of locally indigenous salt marsh species to improve vegetation cover and therefore function (including improved</li> </ol>	<p>As of February 2021:</p> <ol style="list-style-type: none"> <li>3 BAM plots have been undertaken in the investigation area.</li> </ol>

Issue	Opportunity or risk	Comment	Proposed actions	Progress
		inundation are still present. This includes damage to saltmarsh from vehicles driving over saltmarsh. Replanting locally dominant shrub <i>Sarcocornia quinqueflora</i> (dominant in adjoining saltmarsh) is recommended to improve cover of saltmarsh habitat.	filtration, of benefit to adjacent wetlands). 2. Implement planting.	
B: Interactions with airport run way extension project	Opportunity	Areas of saltmarsh to the immediate west of the airport runway have been identified in the BDAR v3 as a useful control site for ongoing monitoring to gauge vegetation changes that are not due to the runway extension project. By including them in the stewardship site, both detailed and regular standardised monitoring can be streamlined. This will assist the runway extension project and now include triggers for action, should adverse impacts be detected in this area. It will also contribute to monitoring the impacts of this development on sensitive marine habitat.	Standardise monitoring of the western saltmarsh control site within the stewardship site. Link to monitoring results to runway extension project operational monitoring.	
C: Interactions with Merimbula Airport, existing operations	Opportunity and risk	Maintenance activities including refuelling and emergency operations including the use of fire retardants may impact the investigation area, counteracting aims to improve the adjacent areas. It is understood that existing PHAS assessments have concluded no adverse impacts however, this may remain an issue of concern for stakeholders including oyster lease holders and recreational users of the area. It may be an opportunity to proactively address this issue and monitor it into the future.	Standardise monitoring of the peripheral areas within the offset site, particularly stormwater outlets. Link to monitoring results to runway extension project operational monitoring.	



Issue	Opportunity or risk	Comment	Proposed actions	Progress
D: Interactions with Merimbula Airport, existing operations	Opportunity and risk	Improvement or expansion of grassland, wetland or tree canopy vegetation may increase the wildlife collision risk of airport operations or, in the case of tree canopy, interfere with required Obstacle Limitation Surfaces (OLS). Note; the area in question sits primarily within the transition surface of the OLS and as such is subject to a much higher (height) constraint than the runway ends. Consequently, there is low likelihood of the intersection of mangrove growth with the protected surface.	Investigate any proposed expansion of grassland, wetland or tree canopy vegetation to be promoted under the plan, for its impacts on collision risk and OLS interference.  Link to monitoring results to existing wildlife management plan for the airport.	
E: Interactions with adjacent land uses: Golf Course	Opportunity and risk	At the Merimbula Golf Course, fertiliser and herbicide inputs are anticipated to be part of routine management. Runoff may impact the investigation area. Equally it may be an opportunity to address this issue and monitor it into the future.	Investigate management inputs. Standardise monitoring of the peripheral areas within the offset site. Liaise with golf course operator to improve water quality objectives, where required. For example, additional buffer distance or planting may assist filtering and improve water quality.	
F: Interactions with adjacent land uses: Sewage Treatment Plant	Opportunity and risk	At the Merimbula Sewage Treatment Plant, under certain conditions, runoff may impact the investigation area. Equally it may be an opportunity to address this issue and monitor it into the future.	Investigate historic performance with the operator Standardise monitoring of the peripheral areas within the offset site. Liaise with the operator to improve water quality objectives, where required.	
G: Interactions with adjacent land uses: Oyster lease operations	Opportunity and risk	The area includes about 10 ha of active oyster lease. This is Council owned land leased out for oyster aquaculture. It is noted that water quality and aquatic habitat are of paramount importance for the health of this important local industry.	1. Ground validate the area of seagrass in the oyster lease areas. 2. Consider whether to exclude oyster leases from the stewardship site.	As of February 2021:  1. The area calculations in this strategy currently exclude oyster leases but this data is desktop and has not been

Issue	Opportunity or risk	Comment	Proposed actions	Progress
			<ol style="list-style-type: none"> <li>3. Make water quality the key aim of the biodiversity improvement objectives.</li> <li>4. Liaise with adjacent oyster lease operators regarding the plan and its objectives.</li> </ol>	ground validated. It is sourced from Creese et al. (2009).
H: Interactions with adjacent land uses: Recreational uses of Merimbula Lake	Opportunity and risk	The area is important to tourist economy as well as local lifestyle values. Exclusion of the public will not be favoured but may result in improved water quality objectives.	<ol style="list-style-type: none"> <li>1. Regular rubbish removal after storms surges.</li> <li>2. Interpretation signage to educate the public on the importance of in perpetuity conservation and water quality objectives for marine environs.</li> </ol>	<p>As of May 2021:</p> <ol style="list-style-type: none"> <li>1. Discussed with Council the extent of rubbish washed up in high tides including shoes, cans, bottles, bits of boat and other refuse. Significant opportunity identified improve this situation in the offset area.</li> </ol>

## APPENDIX E BVSC Consideration of the southern haul road removal

### E1.1 The Project's impact on the southern haul road

By extending the southern runway into areas of Merimbula Lake, the Merimbula Airport Runway Extension Project EIS (NGH 2019) identified that tidal flow in this area would be reduced. The amount of reduction was modelled as 7% and deemed insignificant but concerns were raised by some stakeholders. For oyster lease stakeholders, water quality is paramount to the health of their product and industry, and any reduction in flow may be of concern. The project's impact was therefore proposed to be mitigated by the increase in the size of the culverts beneath the southern haul road to compensate.

A small expansion to an existing culvert at the southern end of the proposal is now included in the scope, to be constructed as part of Stage 1 (Project EIS footprint) works. This achieves a minor (1%) increase in tidal flow at stage 1 (Project EIS footprint) and 2% change with the Ultimate EIS footprint but is a positive increase in flow rather than the reduction that would occur without the culvert. This increase is more acceptable to stakeholders as agreed verbally during consultation and in correspondence following the additional consultation. Refer to the figure below for the location of the culvert.



Figure 10 Culvert location

### E1.2 Agency interest in full haul road removal

Agency meetings were held onsite and later by teleconference to consider the water quality, fisheries and biodiversity impacts of the project. In these meetings, DPI Fisheries expressed a

strong suggesting that removal of the southern haul road and reinstatement of the natural hydrological function in areas to the east of it would be considered an appropriate offset for the impacts of the project. This type of action not only secures areas to be protected from development but would have far-reaching benefits on the local marine ecosystem. Council agreed to consider this option as part of the offset strategy for the project. In total, the areas of beneficial impact would be expected to include:

- Areas of increased inundation, east of the existing barrier.
- Areas of increased flushing, west of the existing barrier.
- The area now occupied by barrier, which when removed could be recolonised by native vegetation and constitute marine habitat once again.

### **E1.3 Opportunity cost of using areas near the haul road in the offset site**

Removal of the haul road and encouraging the reinstatement of native vegetation to the immediate east of this area comes at an opportunity cost to Council.

In 2014, a master plan for Merimbula airport was formally adopted, after an extensive planning and consultative process. It identified compliance with the South Coast Regional Strategy, the *Bega Valley Local Environmental Plan 2013* (including consistency with the site's SP2 Special Purposes zone), the Bega Valley Development Control Plan and the Merimbula Airport and Precinct Strategy (as drafted and exhibited). Excerpts of the site plan are attached.

As the excerpts identify, areas of north of the original haul road formed integral components of the master plan elements, including relocation of the terminal and aprons. The substitution of an alternative use in the form of environmental offsets requires significant adjustment of the master plan, sacrifice of otherwise valid land usage and will place additional demands on other parts of the site.

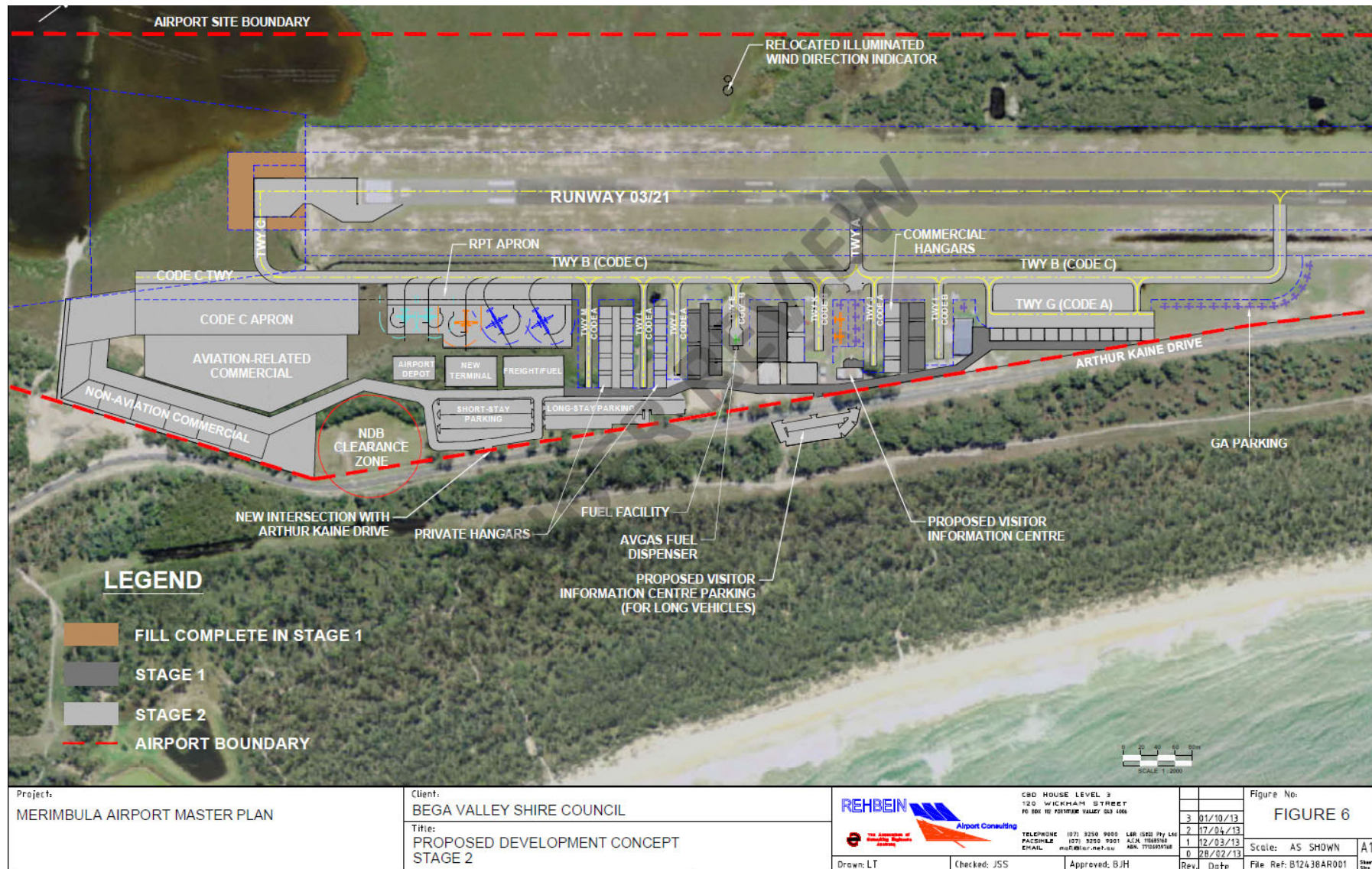


**Offset Strategy**  
Merimbula Airport Runway Extension



Project:  MERIMBULA AIRPORT MASTER PLAN	Client:  BEGA VALLEY SHIRE COUNCIL	<div><div><div>REHBEIN</div><div><div><div>The Association of Aerodrome Regulators Australia</div><div><div>Airport Consulting</div></div></div></div><div><div>CBD HOUSE LEVEL 3 120 WICKHAM STREET PO BOX 101 PORTIRNIE VALLEY QLD 4066</div><div><div>TELEPHONE (07) 3250 9000 LAR 1542 Pty Ltd FACSIMILE (07) 3250 9001 A/LA 100818 EMAIL mer@rehbein.net.au ADV. 110000118</div></div></div></div></div>			Figure No:  FIGURE 3		
	Title:  OVERALL LANDUSE CONCEPT			<div><div>2</div><div>01/10/13</div></div>			
				<div><div>1</div><div>12/03/13</div></div> <div><div>0</div><div>28/02/13</div></div>	Scale: AS SHOWN		
		Drawn: LT	Checked: JSS	Approved: BJH	Rev. Date	File Ref: B12438AR001	Sheet





#### **E1.4 Commitment to remove the haul road and development of a works method**

After engineering, hydrological and ecological investigations were undertaken, the Council were convinced that the removal of the haul road:

- Could be undertaken in a managed way to protect water quality for local stakeholders and the sensitive marine environment.
- Could impact lead to a significant and justifiable beneficial impact on natural ecosystems in the immediate area.
- Could be financially affordable.

A preliminary works method was developed as follows:

- Excavation would take place from on top of the haul road, not in adjacent wetland areas.
- The full removal could be done in 4-8 days based on number of excavators used.
- At low tides, there are three - four hours when the area is not inundated and when excavation works could commence.
- During this time there is a large opening say 50m to 80m.

The works area required would be approximately:

- 230m long x 10m wide (average) by 0.6m deep average.

Equipment required for the works would entail:

- 30 tonne excavator (possibly two starting at the centre and one working back towards Arthur Kaine Drive and one towards the runway).
- 12 tonne trucks x 6-7 total for one excavator and double that for two excavators for 8 days (four for two excavators).
- Silt protection could be progressive and move as the excavator/s moves.

A detailed works method would be developed and submitted with a Fisheries Permit to undertake the works.

## **Appendix F AHIP**

**AHIP number: 4796**

**AHIP ISSUED TO:**

Bega Valley Shire Council  
ABN 26 987 935 332  
Zingel Place  
Bega NSW 2550

**HERITAGE NSW OFFICE ISSUING THIS AHIP**

Heritage NSW

Community Engagement, Department of Premier and Cabinet

Locked Bag 5020

Parramatta NSW 2124

Telephone number: (02) 9873 8500

Email: [heritagemailbox@environment.nsw.gov.au](mailto:heritagemailbox@environment.nsw.gov.au)

**ADDITIONAL DETAILS FOR PUBLIC REGISTER**

<b>a) Name of development or project</b>	Merimbula Airport Future Works and Runway Extension
<b>b) Location</b>	Merimbula Airport precinct and adjacent lands - Lot 100 DP1201186, Lot 2 DP 549112, Lot 1 DP 1004805 and a section of Arthur Kane Drive Merimbula
<b>c) Local Government Area(s)</b>	Bega Valley Shire
<b>d) Description of harm authorised</b>	<ul style="list-style-type: none"><li>• Certain Aboriginal objects must not be harmed</li><li>• Other – Surface Collection</li></ul>
<b>e) AHIP commencement date and duration</b>	<i>Commencement:</i> 16 August 2021 <i>Duration:</i> 20 years

## AHIP TO HARM ABORIGINAL OBJECTS

### A. BACKGROUND

- i. On 21 July 2021 an application was made to the Secretary of the Department of Premier and Cabinet for an Aboriginal Heritage Impact Permit (AHIP) pursuant to s.90 of the *National Parks and Wildlife Act 1974* (the Act).
- ii. On 25 May 2021 an application was made to the Secretary of the Department of Premier and Cabinet for an AHIP for the Merimbula Airport Runway Extension. This AHIP application was integrated into this AHIP application.
- iii. An AHIP permitting test excavations within the project area was issued on 13 March 2021.
- iv. Aboriginal community consultation has been conducted in accordance with clause 60 of the *National Parks and Wildlife Regulation 2019*.
- v. The application requests surface salvage collection and harm to Aboriginal objects during the airport runway extension and to enable future works within the project area.
- vi. Heritage NSW considered the application, supporting information provided, and matters under section 90K of the Act and decided to issue an AHIP subject to conditions.

### B. AHIP ISSUED SUBJECT TO CONDITIONS

An AHIP is issued to harm Aboriginal objects identified in Schedules B and C, in accordance with the conditions of this AHIP.

This AHIP is issued pursuant to section 90 of the Act.

### C. COMMENCEMENT AND DURATION OF AHIP

This AHIP commences on the date it is signed unless otherwise provided by this AHIP.

Unless otherwise revoked in writing, this AHIP remains in force for **20 years** from the date of commencement.

### D. PROPOSED WORKS

The proposed works would include, but not be limited to:

- Runway strengthening, stabilisation, extension, and other associated works for the runway;
- Intersection works and road upgrades on Arthur Kaine Drive;
- Potential removal of the haul road used for the original runway construction;
- General grounds maintenance, other ongoing activities, and drainage and stormwater management works;
- Use of stockpile areas and subsequent transition into aircraft and car park areas;
- Services works including connecting network power from the existing transmission line easement. Requiring clearing of a 20 m corridor free of vegetation and Installation of additional power poles;
- The development of the General Aviation Precinct (GAP) including hangars, buildings, and other facilities;
- Operation of general aviation and regular public transport travel for a regional airport; and
- Rehabilitation of disturbed areas to a stable condition.



**Note:** A Dictionary at the end of the AHIP defines terms used in this document. Further information about this AHIP is also set out after the Dictionary.



.....  
**Jackie Taylor**

**Senior Team Leader, Aboriginal Cultural Heritage Regulation - South**

**Heritage NSW**

(by Delegation)

Date: 16 August 2021

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## LAND TO WHICH THIS AHIP APPLIES

That Land as shown marked by black shading and labelled “Development Area/AHIP Area” in the map in Figure 1 at **Attachment 1: Land to which this AHIP applies**.

## CONDITIONS

The conditions of this AHIP specify the actions that are permitted and/or required in relation to areas and Aboriginal objects, which are detailed in the Schedules that follow.

### ADMINISTRATIVE CONDITIONS

#### Responsibility for compliance with conditions of AHIP

1. The AHIP holder must ensure that all persons involved in actions or works covered by this AHIP (whether employees, contractors, sub-contractors, agents or invitees) are made aware of and comply with the conditions of this AHIP.

#### Project manager to oversee the actions relating to this AHIP

2. A suitably qualified and experienced individual must be appointed as a project manager who is responsible for overseeing, for and on behalf of the AHIP holder, all the actions relating to this AHIP.
3. The individual appointed as project manager must be the project manager nominated in the application form.
4. If an alternative to the nominated project manager is appointed, Heritage NSW must be notified of their contact details within **14 days** of this appointment.

#### Actions must be in accordance with AHIP application

5. All actions on the land must be carried out in accordance with the application except as otherwise expressly provided by a condition of this AHIP.

### OPERATIONAL CONDITIONS

#### Certain Aboriginal objects must not be harmed

6. All human remains in, on or under the land must not be harmed.
7. The subsurface deposit of AHIMS site #62-6-0795 (Merimbula Airport Midden with artefacts 3) must not be harmed. If harm is to occur through any future works, then an AHIP variation would be required for a salvage excavation of the site. The AHIP variation application must include a salvage methodology created in consultation with the Registered Aboriginal Parties. Following the completion of the salvage excavation, a Salvage Excavation Report must be completed and submitted to Heritage NSW.
8. An Aboriginal Cultural Heritage Management Plan (ACHMP) must be incorporated into a Construction Environmental Management Plan (or other suitable management plan). The ACHMP must be implemented within **12 months** of the AHIP commencement and include:

## Aboriginal Heritage Impact Permit

- a. include a description of the measures that would be implemented for:
  - i. protecting the Aboriginal objects identified within the project footprint or items located outside the approved development footprint, including fencing off the Aboriginal heritage items prior to commencing construction;
  - ii. salvaging and relocating the Aboriginal heritage items located within the approved development footprint;
  - iii. include updated baseline mapping of the heritage items within and adjoining to the development disturbance area;
  - iv. include clear mapping of AHIMS site #62-6-0795 with site boundaries demarcated;
  - v. include updated mapping of all areas that have been and will be subject to monitoring, test excavations, and salvage excavations;
  - vi. include conservation options for the mitigation and avoidance to impacts of AHIMS registered sites situated within and outside the project footprint;
  - vii. prepare a methodology outlining when Registered Aboriginal Parties must be notified of changes to the Aboriginal Cultural Heritage Management Plan;
  - viii. include a procedure for assessing significance of Aboriginal objects identified during the monitoring, test excavations, and salvage excavation and ensure that the management and mitigation measures are considered for all sites, and with special consideration for those of high significance;
  - ix. a strategy for the long term management of any Aboriginal heritage items or material collected during the test excavation or salvage works;
  - x. an Unexpected Heritage Finds and Human Remains Procedure:
    1. to manage unexpected heritage finds (heritage items and values) in accordance with any guidelines and standards prepared by Heritage NSW;
    2. prepared by a suitably qualified and experienced heritage specialist in relation to Aboriginal cultural heritage, in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) and submitted to the Planning Secretary for information no later than one (1) month before the commencement of construction; and
    3. implemented for the duration of construction.
  - xi. ensuring workers on site receive suitable heritage inductions prior to carrying out any development on site, and that records are kept of these inductions; and
  - xii. ongoing consultation with Registered Aboriginal Parties during the implementation of the plan.

### Other – Surface Collection

9. The Registered Aboriginal Parties must be provided with an opportunity to collect Aboriginal objects within the area described in Schedule B4.
10. The opportunity for community collection must be provided:
  - a. in accordance with Appendix H of the Merimbula Airport Extensions and Future Works Aboriginal Cultural Heritage Assessment Report (NGH 2021) that was provided with the application, and

## Aboriginal Heritage Impact Permit

- b. before any harm of Aboriginal objects described in Schedule C can commence in the area.
- 11. Aboriginal objects that are recovered during the surface collection may be analysed on-site and/or may be taken off-site for further analysis as decided by the Registered Aboriginal Parties.
- 12. If an opportunity for surface collection has been provided and this collection does not occur, the AHIP holder may proceed with any actions to harm Aboriginal objects described in Schedule C, in accordance with the conditions of this AHIP.

### Harm of certain Aboriginal objects through the proposed works

- 13. The Aboriginal objects described in Schedule C may be harmed. Nothing in this condition authorises harm to Aboriginal objects described in Schedule A (whether human remains, Aboriginal objects or 'no-harm areas').
- 14. Aboriginal objects described in Schedule C must not be harmed unless:
  - a. all opportunities for surface collection of Aboriginal objects described in Schedule B4 have been provided in the area.

### Temporary storage of certain Aboriginal objects

- 15. Any Aboriginal objects that are removed from the land by actions authorised by this AHIP, must be moved as soon as practicable to the temporary storage location in the table below, pending any agreement reached about the long term management of the Aboriginal objects.
- 16. The temporary storage location is as follows:

<b>Location name:</b>	NGH Canberra Office
<b>Address:</b>	Unit 8, 27 Yallourn St, Fyshwick ACT 2609
<b>Storage particulars:</b>	In a locked cupboard

- 17. Any Aboriginal objects stored at the temporary storage location must not be further harmed, except in accordance with the conditions of this AHIP.

### Long term management of certain Aboriginal objects

- 18. If Aboriginal objects collected under this AHIP are to be managed in the long term by one or all of the Registered Aboriginal Parties, a Care Agreement will be required.
- 19. If Aboriginal objects collected under this AHIP are to be reburied:
  - a. Reburial activities must be undertaken by the AHIP holder and the landowner in consultation with representatives of the Registered Aboriginal Parties;
  - b. Pursuant to Section 89A of the Act, an Aboriginal Site Recording Form must be completed and submitted to the AHIMS Registrar for the location of the reburial within **7 days** of the reburial occurring; and
  - c. The AHIP holder and the landowner must ensure that procedures are in place to ensure that Aboriginal objects at each reburial location are not disturbed, damaged, destroyed, or defaced.
- 20. Requirement 26 "Stone artefact deposition and storage" in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (24 September 2010, available online at: <https://www.heritage.nsw.gov.au/assets/Code-of-Practice-for-Archaeological->



## Aboriginal Heritage Impact Permit

Investigation-in-NSW.pdf) must be complied with unless the outcomes of consultation with the Registered Aboriginal Parties have resulted in a modified methodology. Any modified methodology must be recorded in the Aboriginal Site Impact Recording (ASIR) Forms when submitted.

### Access routes

21. Where practicable, existing access routes to parts of the land where actions relating to this AHIP are to be carried out must be used.

## NOTIFICATION AND REPORTING CONDITIONS

### Notification of commencement and completion of actions

22. Written notice must be provided to Heritage NSW at least **7 days** prior to the commencement of actions authorised by this AHIP.
23. Written notice must be provided to Heritage NSW within **7 days** of the completion of actions authorised by this AHIP.

### Copy of this AHIP and notices to be provided to Registered Aboriginal Parties

24. A copy of this AHIP must be provided to each Registered Aboriginal Party, within **14 days** of receipt of the AHIP from Heritage NSW.
25. Where this AHIP is varied or transferred, a copy of the AHIP variation or transfer notice must be provided to each Registered Aboriginal Party, within **14 days** of receipt of the notice.

### Human remains

26. If any human remains (other than any human remains described in Schedule B4) are discovered and/or harmed in, on or under the land, the AHIP holder must:
  - a. not further harm these remains
  - b. immediately cease all work at the particular location
  - c. secure the area so as to avoid further harm to the remains
  - d. notify the local police and DPIE's Environment Line on 131 555 as soon as practicable and provide any available details of the remains and their location, and
  - e. not recommence any work at the particular location unless authorised in writing by Heritage NSW.

### Incidents which may breach the Act or AHIP

27. The AHIP holder must notify the Heritage NSW office in writing as soon as practicable after becoming aware of:
  - a. any contravention of s.86 of the Act not authorised by an AHIP, and/or
  - b. any contravention of the conditions of this AHIP.

### Reports about incidents which may breach the Act or AHIP

28. Where Heritage NSW suspects that an incident has occurred, which may have breached the Act or AHIP, Heritage NSW may request a written incident report, which includes the following:

AHIP number: 4796

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Application Ref No. EF21/6584

Printed: 2:51:45 PM 16/08/2021

Heritage NSW | Department of Premier and Cabinet | Locked Bag 5020 Parramatta NSW 2124 | Phone: 02 9873 8500

Email: [heritagemailbox@environment.nsw.gov.au](mailto:heritagemailbox@environment.nsw.gov.au) | [www.heritage.nsw.gov.au](http://www.heritage.nsw.gov.au)

## Aboriginal Heritage Impact Permit

- a. the nature of the incident
- b. the actual or likely impact of the incident on Aboriginal objects and/or Aboriginal places
- c. the nature and location of these Aboriginal objects and/or Aboriginal places, referring to and providing maps and photos where appropriate
- d. any conditions of an AHIP which may have been breached, and
- e. the measures which have been taken or will be taken to prevent a recurrence of the incident.

29. The incident report must be provided to the Heritage NSW office within the timeframe specified in the request.

### Provision of Aboriginal Site Impact Recording Form

30. An Aboriginal Site Impact Recording Form must be completed and submitted to the AHIMS Registrar, for each AHIMS site identified in Schedules B and C, within **4 months** of the completion of the surface collection actions authorised by this AHIP.

Note:

- The Aboriginal Site Impact Recording Form can be found on the website:  
<https://www.heritage.nsw.gov.au/protecting-our-heritage/record-aboriginal-sites/>
- Contact details for the AHIMS Registrar can be found on the website:  
<https://www.heritage.nsw.gov.au/search-for-heritage/aboriginal-heritage-information-management-system/>

### Report about harm to Aboriginal objects (Surface Collection Report)

31. A Surface Collection Report must be prepared about the actions relating to the harm of Aboriginal objects (as permitted by this AHIP). The report must:

- a. include a short summary of the report
- b. describe any ongoing consultation with or involvement of representatives of Registered Aboriginal Parties in relation to this AHIP
- c. describe how any Aboriginal objects or 'no-harm areas' described in Schedule A were managed during the period covered by the AHIP
- d. provide details of the Aboriginal objects which were fully or partially harmed in the course of undertaking the actions
- e. detail any surface collection of Aboriginal objects undertaken by the Registered Aboriginal Parties
- f. comment on the effectiveness of any mitigation measures that were implemented
- g. comment on the effectiveness of any management plan which was in place
- h. if any Aboriginal objects were moved to a temporary storage location, a description of the nature and types of Aboriginal objects which are now at that location
- i. detail the results of any analysis of Aboriginal objects
- j. detail the long term management arrangements for any Aboriginal objects, and
- k. include a statement confirming that all Aboriginal Site Impact Recording Forms have been completed and submitted to the AHIMS Registrar.

32. The Surface Collection Report must be submitted to the Heritage NSW office ([heritagemailbox@environment.nsw.gov.au](mailto:heritagemailbox@environment.nsw.gov.au)) and the AHIMS Registrar

([ahims@environment.nsw.gov.au](mailto:ahims@environment.nsw.gov.au)) within **6 months** of the completion of the surface collection actions authorised by this AHIP.

33. A copy of the Surface Collection Report, including a summary of the report in plain English, must be sent by registered post to each Registered Aboriginal Party within **14 days** of the report being submitted to Heritage NSW.

## GENERAL CONDITIONS

### Indemnity

34. The AHIP holder agrees to indemnify and keep indemnified, the Crown in right of NSW, the Minister administering the Act, the Secretary of Department of Premier and Cabinet, and their employees, agents and contractors, in the absence of any willful misconduct or negligence on their part, from and against all actions, demands, claims, proceedings, losses, damages, costs (including legal costs), charges or expenses suffered or incurred by them resulting from:
- a. any damage or destruction to any real or personal property; and
  - b. injury suffered or sustained (including death) by any persons arising out of or in connection with any actions undertaken pursuant to this AHIP.

### Release

35. The AHIP holder agrees to release to the full extent permitted by law, the Crown in right of NSW, the Minister administering the Act, the Secretary of Department of Premier and Cabinet, and, and their employees, agents and contractors, in the absence of any willful misconduct or negligence on their part, from all suits, actions, demands and claims of every kind resulting from:
- a. any damage or destruction to any real or personal property; and
  - b. injury suffered or sustained (including death) by any persons arising from or in connection with any actions undertaken pursuant to this AHIP.

### Written notice

36. Any requirement to provide written notice to Heritage NSW in this AHIP may be complied with by emailing the notice to the Heritage NSW email address or by sending by registered post to the Heritage NSW address. The Heritage NSW's contact details are specified at the front of this AHIP.

## SCHEDULES

The following schedules identify the areas and Aboriginal objects that are subject to the conditions of this AHIP.

### SCHEDULE A. ABORIGINAL OBJECTS WHICH MUST NOT BE HARMED

#### A1. HUMAN REMAINS

All human remains in, on or under the land must not be harmed, as specified by the conditions of this AHIP.

#### A2. ABORIGINAL OBJECTS THAT ARE IDENTIFIED ON AHIMS

The following Aboriginal objects identified on AHIMS must not be harmed, as specified by the conditions of this AHIP. The management of the following sites must be included within an Aboriginal Cultural Heritage Management Plan.

Portion of Site (whole or part)	AHIMS Site ID	Site Feature	Site Name	Information access restriction? (Y/N)	Easting	Northing	Datum
Partial	62-6-0795	Midden with Artefacts	Merimbula Airport Midden with Artefacts 3	N	759245	5912444	GDA

#### A3. NO-HARM AREAS

Not Applicable.

### SCHEDULE B. ABORIGINAL OBJECTS THAT MAY BE HARMED THROUGH THE CERTAIN ACTIONS

#### B1. MOVEMENT ONLY

Not Applicable.

#### B2. EXCAVATIONS

Not Applicable.

#### B3. COMMUNITY COLLECTION

Not Applicable.

#### B4. OTHER – SURFACE COLLECTION

Surface collection may be carried in the area outlined in Figure 1, Attachment 1, and includes the following known Aboriginal objects, as identified on AHIMS (excluding any Aboriginal objects described in Schedule A):

## Aboriginal Heritage Impact Permit

Portion of Site (whole or part)	AHIMS Site ID	Site Feature	Site Name	Information access restriction? (Y/N)	Easting	Northing	Datum
Whole	62-6-0797	Midden with Artefacts	Merimbula Airport Midden with Artefacts 1	N	759061	5912188	GDA
Whole	62-6-0796	Midden with Artefacts	Merimbula Airport Midden with Artefacts 2	N	759165	5912326	GDA
Partial	62-6-0795	Midden with Artefacts	Merimbula Airport Midden with Artefacts 3	N	759245	5912444	GDA
Whole	62-6-0794	Midden with Artefacts	Merimbula Airport Midden with Artefacts 4	N	750078	5912240	GDA
Whole	62-6-0816	Midden with Artefacts	Merimbula Airport Midden with Artefacts 5	N	758810	5911743	GDA
Whole	62-6-0817	Midden with Artefacts	Merimbula Airport Midden with Artefacts 6	N	758961	5912021	GDA
Whole	62-6-0832	Midden with Artefact	Merimbula Airport Midden with Artefacts 7	N	758620	5911412	GDA
Whole	62-6-0813	Artefact Scatter	Merimbula Airport Runway	N	758057	5910800	GDA
Whole	62-6-0814	Artefact Scatter	Merimbula Airport access track	N	758070	5910676	GDA



## SCHEDULE C. ABORIGINAL OBJECTS WHICH MAY BE HARMED THROUGH THE PROPOSED WORKS

The Aboriginal objects described in this schedule may be harmed, but only in accordance with the conditions of this AHIP (excluding any Aboriginal objects described in Schedule A).

### C1. HARM OF ABORIGINAL OBJECTS IDENTIFIED ON AHIMS

Portion of Site (whole or part)	AHIMS Site ID	Site Feature	Site Name	Information access restriction? (Y/N)	Easting	Northing	Datum
Whole	62-6-0797	Midden with Artefacts	Merimbula Airport Midden with Artefacts 1	N	759061	5912188	GDA
Whole	62-6-0796	Midden with Artefacts	Merimbula Airport Midden with Artefacts 2	N	759165	5912326	GDA
Partial	62-6-0795	Midden with Artefacts	Merimbula Airport Midden with Artefacts 3	N	759245	5912444	GDA
Whole	62-6-0794	Midden with Artefacts	Merimbula Airport Midden with Artefacts 4	N	750078	5912240	GDA
Whole	62-6-0816	Midden with Artefacts	Merimbula Airport Midden with Artefacts 5	N	758810	5911743	GDA
Whole	62-6-0817	Midden with Artefacts	Merimbula Airport Midden with Artefacts 6	N	758961	5912021	GDA
Whole	62-6-0832	Midden with Artefact	Merimbula Airport Midden with Artefacts 7	N	758620	5911412	GDA
Whole	62-6-0813	Artefact Scatter	Merimbula Airport Runway	N	758057	5910800	GDA
Whole	62-6-0814	Artefact Scatter	Merimbula Airport access track	N	758070	5910676	GDA

### C2. AREAS WHERE HARM OF ABORIGINAL OBJECTS IS AUTHORISED

All Aboriginal objects in, on or under the land which is identified by black shading and labelled "Development Area/AHIP Area" in Figure 1 at Attachment 1 and in accordance with the conditions of the AHIP.

## DICTINONARY

In this AHIP, unless the contrary is indicated the terms below have the following meanings:

<b>Aboriginal object</b>	has the same meaning as in the Act.
<b>Act</b>	means the <i>National Parks and Wildlife Act 1974</i> .
<b>AHIMS</b>	means the Aboriginal Heritage Information Management System maintained by Heritage NSW, as defined in s.90Q of the Act.
<b>AHIP</b>	means Aboriginal Heritage Impact Permit
<b>AHIP holder</b>	means the entity or person listed on the cover page under the heading “AHIP issued to”.
<b>Application</b>	means the completed application form and all other documents in written or electronic form which accompanied the application when it was lodged or which were subsequently submitted in support of the application.
<b>Community collection</b>	means the collection of Aboriginal objects by one or all Registered Aboriginal Parties or their representatives.
<b>Community collection area</b>	means an area described as a community collection area in Schedule B3
<b>DPC</b>	means the Department of Premier and Cabinet
<b>DPIE</b>	means the Department of Planning, Industry and Environment
<b>Heritage NSW office</b>	means the office listed on the cover page of this AHIP.
<b>No-harm areas</b>	means those areas described in Schedule A3.
<b>Proposed works</b>	means the works described under the heading “D. Proposed Works” at the front of this AHIP.
<b>Public register</b>	means the public register established under s.188F of the Act, that contains details of AHIPs issued by Heritage NSW, as described under the heading “Information about this AHIP”.
<b>Registered Aboriginal Parties</b>	means the Registered Aboriginal Parties listed in the application.
<b>Salvage excavation</b>	means an archaeological excavation carried out in accordance with the methodology accompanying the application, as modified by the conditions of this AHIP. The purpose of salvage excavation is to recover a sample of Aboriginal objects as an archival record of Aboriginal life from a site that will be destroyed.
<b>Salvage excavation area</b>	means any area described as a salvage excavation area in Schedule B2.
<b>Test excavation</b>	means an archaeological excavation carried out in accordance with methodology accompanying the application, as modified by the conditions of this AHIP. The purpose of test excavation is to collect a

## Aboriginal Heritage Impact Permit

sample of Aboriginal objects, in order to establish the nature and extent of sub-surface Aboriginal objects and to assist in the assessment of management options for the site.

**Test excavation area** means any area described as a test excavation area in Schedule B2

## INFORMATION ABOUT THIS AHIP

### Public Register

Under section 188F of the Act, Heritage NSW is required to keep a public register containing the details of each AHIP issued. The details of this AHIP that will be published on the public register are outlined on the front page of this AHIP.

The public register is available online at <https://www.heritage.nsw.gov.au/protecting-our-heritage/aboriginal-heritage-impact-permit-public-register/>

### Appeals

Under section 90L of the Act, the AHIP holder may appeal to the Land and Environment Court if they are dissatisfied with any condition of this AHIP. The appeal must be lodged within **21 days** of the date this AHIP was issued.

### Penalties for breach of the Act or AHIP condition

Significant penalties can be imposed by the Land and Environment Court for harm to an Aboriginal object or Aboriginal Place other than as authorised by a condition of an AHIP, or for a breach of an AHIP condition. Heritage NSW can also issue penalty notices for a breach of the Act or AHIP condition.

### Responsibility for obtaining all approvals and compliance with applicable laws

The AHIP holder is responsible for obtaining and complying with all approvals necessary to lawfully carry out the work referred to in this AHIP, including but not limited to development consents.

### Other relevant provisions of the *National Parks and Wildlife Act*

Newly identified Aboriginal objects must be notified to the Secretary of DPC under s.89A of the Act using the form available online at [www.heritage.nsw.gov.au](http://www.heritage.nsw.gov.au).

Stop work orders, interim protection orders and remediation directions may be issued in certain circumstances to protect Aboriginal objects or places.

### Obligation to report Aboriginal remains under Commonwealth laws

The AHIP holder may have additional obligations to report any discovery of Aboriginal remains under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

### Exercise of investigation and compliance powers

Officers appointed or authorised under the Act may exercise certain powers and functions, including the power to enter land.

### Duration of AHIP

This AHIP remains in force for the period specified in the AHIP.

### Variation of AHIP

The AHIP holder may apply to the Heritage NSW office for a variation of any conditions of an AHIP, using the AHIP variation application form available online at [www.heritage.nsw.gov.au](http://www.heritage.nsw.gov.au). Requests for significant variations must be accompanied by evidence of further consultation with Registered Aboriginal Parties and may include payment of fees.

The conditions of an AHIP may be varied at any time by the Secretary of DPC in order to correct a typographical error or to resolve an inconsistency between conditions. The AHIP holder may appeal a decision of the Secretary of DPC to vary the conditions of the AHIP.

### Transfer of AHIP

The AHIP holder may apply to transfer this AHIP to another person by using the AHIP transfer application form available online at [www.heritage.nsw.gov.au](http://www.heritage.nsw.gov.au).

### Surrender of AHIP

The AHIP holder may apply to surrender this AHIP by using the AHIP surrender application form available online at [www.heritage.nsw.gov.au](http://www.heritage.nsw.gov.au). The surrender must be approved by the Secretary of DPC and may be subject to conditions.

### Suspension and revocation of AHIP

An AHIP may be suspended or revoked at any time at the discretion of the Secretary of DPC. Prior to suspending or revoking the AHIP, the AHIP holder will be given notice and an opportunity to make submissions. The AHIP holder will be notified in writing of the final decision. The AHIP holder may appeal a decision to revoke the AHIP.

### Entry to land

An AHIP does not automatically entitle its holder to enter land for the purpose of conducting work related to the AHIP. The AHIP holder is responsible for obtaining permission to enter land from the owner and/or occupier of the land.

### Disclosure of information pursuant to lawful requirement

This AHIP does not prevent the disclosure of any information or document in Heritage NSW's possession in accordance with any lawful requirement.

### Making copies of reports

By providing a report, the AHIP holder acknowledges that Heritage NSW can use the information in that report to inform its regulatory functions, note details of that report in AHIMS and include a copy of the report in its library which may be available to members of the public.

Heritage NSW is able to make copies of any reports provided to Heritage NSW under this AHIP.



## ATTACHMENTS

### ATTACHMENT 1: LAND TO WHICH THIS AHIP APPLIES

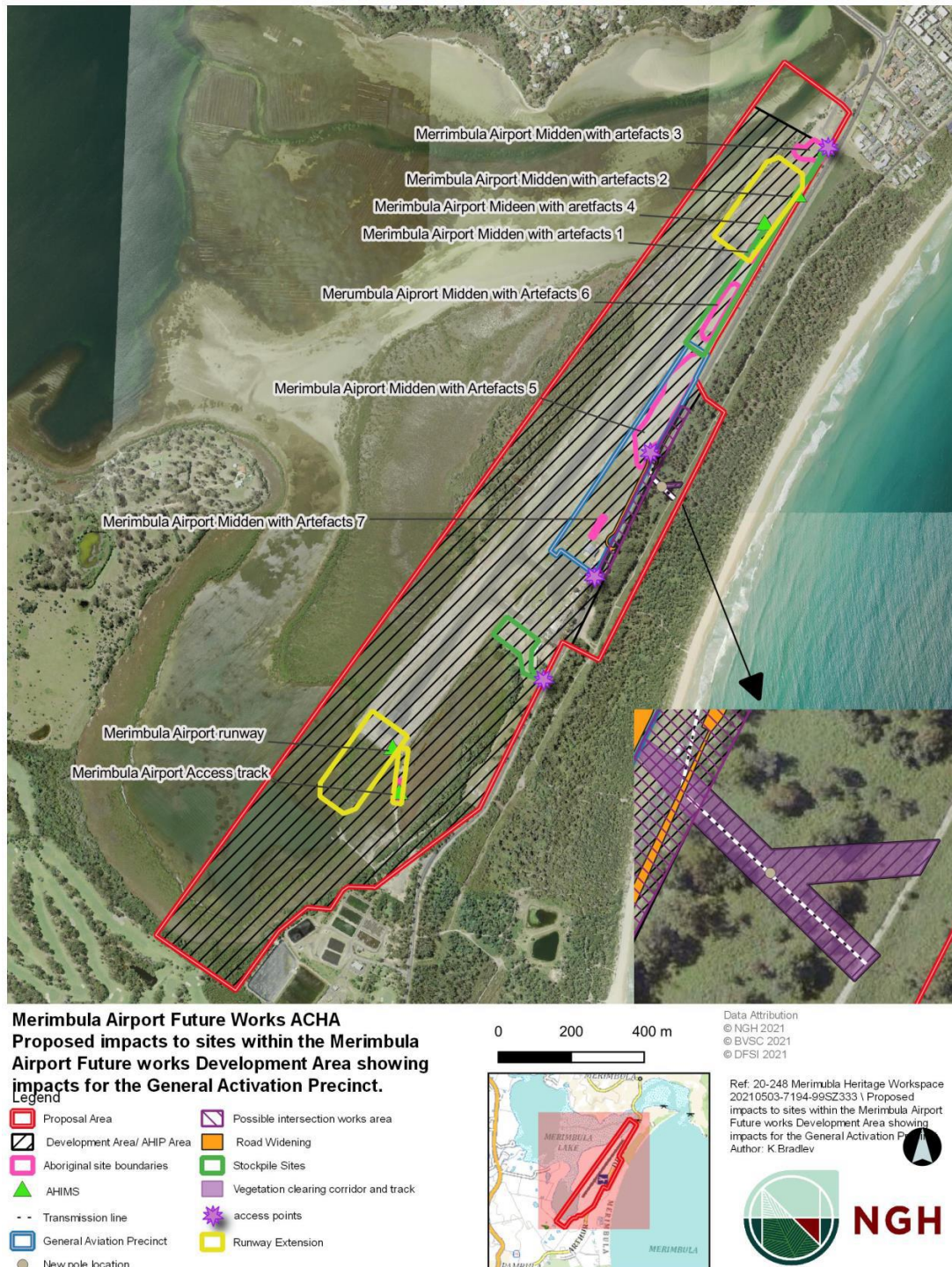


Figure 1: AHIP boundary, site boundaries, and areas of proposed works marked by black shading and labelled "Development Area/AHIP Area" in the Legend.

Table 1: Vertices for the AHIP Boundary.

Vertices #	Easting	Northing
1	759255	5912450
2	759101	5912192
3	758929	5911897
4	758887	5911819
5	758905	5911785
6	758886	5911754
7	758872	5911732
8	758845	5911684
9	758801	5911601
10	758775	5911549
11	758795	5911529
12	758851	5911532
13	758845	5911521
14	758807	5911517
15	758831	5911494
16	758823	5911485
17	758769	5911538
18	758691	5911380
19	758636	5911265
20	758547	5911083
21	758523	5911095
22	758295	5910638
23	758007	5910419
24	757970	5910422
25	757935	5910423
26	757920	5910414
27	757886	5910361
28	757822	5910366
29	757744	5910302
30	757625	5910139
31	757406	5910290
32	758099	5911253
33	758515	5911830
34	758956	5912443
35	759045	5912566
36 (same as 1)	759255	5912450

## **Appendix G Noise impacts**

2 November, 2021  
**Our File Ref:** B16552AL004  
**Contact:** Ben Hargreaves

Project Manager - Merimbula Airport  
Bega Valley Shire Council  
Zingel Place  
BEGA, NSW 2550

Attention: Jenny Symons

**RE: PPSSTH-16 – BEGA VALLEY – 2019.359  
STAGE 2 (ULTIMATE) RUNWAY EXTENSION  
FUTURE AIRCRAFT OPERATIONS AND NOISE IMPACTS**

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The NSW Southern Regional Planning Panel, in its final Determination and Statement of Reasons & Record of Deferral for the above dated Friday 7 May 2021, require the following information to be provided to Council for assessment to enable Stage 2 of the development to be determined:

- Specific clarification of the aircraft which will use the Stage 2 extended runway and the resultant noise impact on nearby residents and mitigation options if required;

REHBEIN Airport Consulting provided an 'Aircraft Noise – Preliminary Assessment' to the Submissions Report phase of the assessment process. Bega Valley Shire Council has requested REHBEIN provide supplementary advice to assist in response to the above requirement.

Whilst nomination of specific aircraft types is not possible, and airports cannot restrict specific types from operating, nor can they dictate to airlines what aircraft they must use, there are established methods used for airport planning purposes. These methods are being applied across the planning of the Merimbula Airport infrastructure; e.g. runway specification (strength and length), passenger terminal, and car parking requirements as illustrated in Figure 2-3 of the Submissions Report (attached).

Consequently, although aircraft types operating to Merimbula in future will be determined by various drivers which are outside the control or influence of Merimbula Airport or Bega Valley Shire Council, the approach to planning at the airport is consistent with established methodology.

Airports in Australia wishing to predict future aircraft noise impacts undertaken noise modelling based on a 'best endeavours' forecast. These forecasts take into account current aircraft operations, forecast growth in aircraft and passenger movements, known airline fleet replacement plans and global trends in the worldwide aircraft fleet mix.

DIRECTORS  
SENIOR ASSOCIATES

Brendan L Rehbein Ashley P Ruffin Steve A Williams Brent F Woolgar  
Melissa L Braun Fred A Gattuso Ben J Hargreaves Martyn D Illingsworth  
David A Lenarduzzi Andrew M Pezzutti

**BRISBANE • CAIRNS • MELBOURNE**

CBD House, Level 3, 120 Wickham Street (PO Box 112) Fortitude Valley, Qld 4006  
**Telephone: (07) 3250 9000** [www.lar.net.au](http://www.lar.net.au) **Facsimile: (07) 3250 9001**

The 'Aircraft Noise – Preliminary Assessment' (attached) provided for the Submissions Report identified the application of the National Airports Safeguarding Framework Guideline A: Measures for Managing Impacts of Airport Noise. Application of the guideline required assessment based on the Australian Noise Exposure Forecast/Australian Noise Exposure Concept (ANEF/ANEC system) and Number-above (N-above) contours that in turn enabled direct comparison with the assessment in the current Merimbula Airport Master Plan.

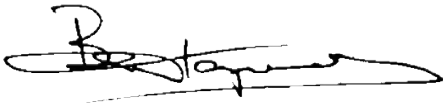
The Submissions Report assessment indicates that likely aircraft fleet types, forecast passenger demand and service frequency (consistent with the ultimate stage runway, terminal and car parking capacity) will not increase aircraft noise impacts on nearby residents compared with the current Merimbula Airport Master Plan measures of ANEC, N70 and N60.

The aircraft types expected to operate upon development of the Stage 2 extension are described in **Table 1** attached.

The aircraft in **Table 1** are expected to use the Stage 1, and subsequently Stage 2, starter extension some, if not all, of the time. For aircraft taking off to the north over the town of Merimbula, use of the starter extension would mean aircraft are higher by the time they reach the far end of the airport.

To mitigate noise impacts, it would be possible to put an instruction in the Aeronautical Information Publication requesting the larger aircraft types use the Runway 03 Starter Extension whenever it is available and safe to do so.

Yours faithfully  
For and on behalf of  
LAMBERT & REHBEIN (SEQ) PTY LTD



**B.J. HARGREAVES** M.Eng, M.Sc, C.Eng MICE, MIEAust, CPEng  
NATIONAL MANAGER - AVIATION  
SENIOR ASSOCIATE

Enc: Table 1: Expected Merimbula Aircraft Fleet  
Submission Report Figure 2-3  
Submissions Report Appendix O Aircraft Noise Assessment (Airborne – Operational)



**Table 1: Expected Merimbula Aircraft Fleet**

Aircraft	Basis for Expected Operations
SAAB 340 BAe Jetstream 41	Current aircraft types operating small regional routes in NSW by Rex (SAAB 340) to Merimbula and FlyPelican (BAe Jetstream) to other NSW airports. These aircraft types are expected to continue operating for up to 10 years but are expected to be become obsolete before or within a few years after the opening of the Stage 2 runway extensions. There are no industry plans to replace these aircraft with more modern alternatives. They are not expected to operate from Merimbula and the aircraft fleet will need to move to larger aircraft in line with global trends.
DHC 8-300 DHC 8-Q400	<p>Current turboprop aircraft types operating on regional routes across Australia by QantasLink. The Q400 is a modern turboprop aircraft, still in production, and expected to remain operational for at least 10-20 years serving 70-seat markets, for which there are no proposed jet replacement types. The manufacturer is reportedly considering a smaller version to replace the out-of-production DHC8-300.</p> <p>These aircraft can operate from the Stage 1 extension, but would be expected to use the Stage 2 extensions when available to provide additional safety of operations and greater flexibility in terms of range and payload.</p>
ATR72 ATR42	<p>Current turboprop aircraft type previously operated by Virgin Australia on regional routes across Australia. The ATR 72-600 and smaller ATR 42 series are modern aircraft, still in production, which incumbent airline Regional Express has indicated as the likely replacement type for its current Saab DF340 aircraft.</p> <p>These aircraft can operate from the Stage 1 extension, but would be expected to use the Stage 2 extensions when available to provide additional safety of operations and greater flexibility in terms of range and payload.</p>
Boeing B717-200 Fokker F100	<p>Current regional jet aircraft types operating on regional routes across Australia by QantasLink and Alliance Airlines. Aircraft of this size do not currently operate to Merimbula, but would be able to operate from the Stage 2 extension runway length.</p> <p>These aircraft are no longer in production and expected to remain operating for another 10 years or so. Qantas expects to replace them with new generation Airbus A220 or Embraer E2 series regional jets, but has not yet made any decisions. New generation aircraft will be of similar size but are expected to have lower noise due to quieter and more efficient engines. The existing types have been assumed in the noise assessment as a worst-case.</p>
Boeing B737 Airbus A320	Current domestic interstate aircraft types operating the majority of domestic air travel. The Stage 2 runway extension length would be marginal for these aircraft, but some limited services might be possible. It is conceivable that some services at busy times might eventuate with these aircraft. Demand is not forecast to make these aircraft necessary other than at peak holiday periods or for special charters. Even if a future Airport Master Plan revealed significant growth in passenger traffic at Merimbula, recent changes to aviation legislation mean that frequent operations by this size of aircraft would be unlikely to be operationally viable. Therefore, regular operations of these types are not expected. However, consistent with a reasonable worst case scenario, a regular twice-weekly return service for the busiest three months of the year has been included in the assessment. Only B737-800 aircraft have been modelled due to known under-reporting of A320 noise levels in the modelling software used. Any future operations at Merimbula by these aircraft types are likely to be by next generation models with quieter and more efficient engines (e.g. 737 MAX or A320 neo).

Merimbula Airport – Projected Maximum Passengers Inbound (or Outbound), Aligned With Typical Infrastructure Staging

Terminal Capacity	Runway Capacity	First Stage Terminal Capacity* as at May 2020	Second Stage Terminal Capacity* ^				Third Stage Terminal Capacity* ^
		1 x Dash8/ ATR72 + 1 x Saab34 (all full)	2 x Dash8/ ATR72 + 2 x Saab 34 (all full)	1 x Dash8/ ATR72 + 2 x Saab 34 (all full)	2 x Dash8/ ATR72 + 1 x Saab 34 (all 85% full)	1 x B717/ F100 + 1 x Q400/ ATR72 (both 90% full)	1 737 + 1 x Q400/ ATR72 (both 90% full)
		2 x Saab34/ Dash8/ ATR72 apron parking bays	2 x x Saab34/ Dash8/ ATR72 apron parking bays	3 x x Saab34/ Dash8/ ATR72 apron parking bays~	3 x x Saab34/ Dash8/ ATR72 and 1 x B717/ F100/ B737 apron parking bays~	3 x Saab34/ Dash8/ ATR72 and 1 x B717/ F100/ B737 apron parking bays~	
Runway as at May 2020	Saab34	68 passengers					
Runway with 'Project' starter extension	As above and - Dash8 Q400 ATR72	104 passengers (per Development Approval 2018.309)	150 passengers	150 passengers	150 passengers	150 passengers	150 passengers
Runway with 'Ultimate' starter extension	As above and - F100 B717 B737						150 passengers

\* Terminal capacity determined by capacity of secure departures lounge and apron parking bays

Terminal capacity requirement is determined by airlines' operational practice

^ Terminal extension could occur across a number of staging options. The three stages shown in this table are viewed as being typical

~ The fourth apron parking bay is required due to the height and wing span of the larger aircraft (B717, F100 and B737) rather than the number of aircraft

Figure 2-3 Projected maximum passengers inbound (or outbound), aligned with typical infrastructure staging

## **APPENDIX O AIRCRAFT NOISE ASSESSMENT (AIRBORNE - OPERATIONAL)**

- Assessment prepared by Rehbein Airport Consulting.
- Refer to Appendix E of the EIS for the ground based aircraft noise (operational) and construction noise assessment prepared by RAPT Consulting.
- National Safeguard Framework fact sheet and guidelines have also been attached as part of this appendix.
- Consultation undertaken with Airservices Australia is also attached here.

25 September, 2020  
**Our File Ref:** B16582AL003  
**Contact:** Ben Hargreaves

Project Manager - Merimbula Airport  
Bega Valley Shire Council  
PO Box 492  
BEGA, NSW 2550

Attention: Jennifer Symons

**RE: MERIMBULA AIRPORT RUNWAY EXTENSION  
AIRCRAFT NOISE – PRELIMINARY ASSESSMENT**

---

## **1. INTRODUCTION**

REHBEIN Airport Consulting was engaged by Bega Valley Shire Council (BVSC) to undertake a comparative assessment of likely aircraft noise impacts arising as a result of the ultimate runway extension.

## **2. METHODOLOGY**

In order to enable a comparison between the expected aircraft noise impacts, it is necessary to quantify the impact of the runway on the expected 'average day' operations. At regional airports in particular, the average day invariably includes far fewer aircraft movements than the theoretical maximum capacity, reflecting that airports such as Merimbula do not operate anywhere near the maximum theoretical capacity of the runway. The average day is used in all the two key measures of aircraft noise conventionally used in Australia. These metrics are:

- The Australian Noise Exposure Forecast/Australian Noise Exposure Concept (ANEF/ANEC) system;
- Number-above (N-above) contours.

The basis of these metrics is described in National Airports Safeguarding Framework Guideline A: *Measures for Managing Impacts of Aircraft Noise*.

The expected impact of the runway configuration with a 120m extension at the southern end and 200m extension at the northern end, for forecast 2033 aircraft movements, is quantified in the ANEC and N-above contours included within the adopted Merimbula Airport Master Plan.

To quantify the impact of the 200m runway starter extensions at each end (ultimate runway configuration) a revised average day scenario was developed. This scenario incorporates larger aircraft sizes for passenger operations which:

- Are consistent with the aircraft types used for the ground transport traffic and parking assessment for the current EIS;

DIRECTORS  
SENIOR ASSOCIATES

Brendan L Rehbein Ashley P Ruffin Steve A Williams Brent F Woolgar  
Melissa L Braun Fred A Gattuso Ben J Hargreaves Martyn D Illingsworth  
David A Lenarduzzi Andrew M Pezzutti

**BRISBANE • CAIRNS • MELBOURNE**

CBD House, Level 3, 120 Wickham Street (PO Box 112) Fortitude Valley, Qld 4006  
**Telephone: (07) 3250 9000** [www.lar.net.au](http://www.lar.net.au) **Facsimile: (07) 3250 9001**

- Are considered representative of current fleet types and sizes typically operating at regional airports around Australia;
- Result in a reduced number of airline operations in order to carry the same annual passenger numbers;
- Provide a service frequency which is appropriate for a regional destination served by multiple airlines incorporating seasonal services for period of strong demand (summer holiday period); and
- Represents a reasonable 'worst case' scenario, consistent with the current adopted Master Plan but with slightly expanded passenger capacity indicative of that expected to be enabled by the additional runway length (i.e. the year 203X vs 2033).

The airline operations assumed in the 2033 (Master Plan) and 203X (ultimate runway configuration) scenarios are compared in **Table 1**.

**Table 1: Assumed Comparative Passenger Aircraft Operations**

L.F. = 75%	2033 ANEC						203X ANEC					
	SF340/ J41	ATR72	Q400	F100	B717	B737	SF340/ J41	ATR72	Q400	F100	B717	B737
Seats	34	68	74	100	120	174	34	68	74	100	120	174
Pax/flight	26	51	56	75	90	131	26	51	56	75	90	131
Mon	14	6	8	-	-	-	-	6	4	4	4	
Tue	14	6	6	-	-	-	-	4	6	2	2	
Wed	14	6	8	-	-	-	-	6	4	4	4	
Thu	14	6	6	-	-	-	-	4	6	2	2	
Fri	14	6	8	-	-	-	-	6	4	4	4	
Ssat	7	3	2	-	-	-	-	2	4	1	1	2
Sun	7	3	2	-	-	-	-	2	4	1	1	2
Pax/week	2142	1836	2220	-	-	-	-	1530	1776	1350	1620	522
Weeks/yr	52	52	52	-	-	-	52	52	52	52	52	12
Annual Pax	111,384	95,472	115,440	-	-	-	-	79,560	92,352	70,200	84,240	6,264
Total annual Pax				322,296			Total annual Pax				332,616	
Total annual flights				8,320			Total annual flights				5,144	
Average weekly flights				160			Average weekly flights				99	

Any further growth in passenger or general aviation operations beyond the 203X scenario would be quantified and consulted upon during a subsequent Merimbula Airport Master Plan update.

Based on advice received from CASA during the approval process for the Stage 1 (120m long) starter extensions, only passenger aircraft have been allocated the full runway



length, on the basis that general aviation aircraft types forecast can operate satisfactorily from the existing runway.

ANEC, N70 and N60 contours were developed for the 203X scenario using the FAA Integrated Noise Model (INM) version 7.0d. This is the same modelling methodology as was adopted by REHBEIN Airport Consulting in 2013 to develop the 2033 ANEC and N-above contours presented in the adopted Master Plan.

### **3. PRELIMINARY ASSESSMENT FINDINGS**

#### **3.1 ANEC Comparison**

**Figure 1** (attached) provides a comparison of the ANEC 20 contour for the 2033 and 203X scenarios. The contour extends very slightly further along the extended runway centreline, however is narrower in width along the runway length. This reflects the change in aircraft types (removal of SF340 and replacement with aircraft which have a different noise profile) as well as the reduction in passenger flight numbers due to the assumed use of larger aircraft types.

The 203X ANEC also reflects the expected way in which aircraft will use the starter extensions by modelling general aviation aircraft commencing their take-off roll from the existing runway ends, rather than using the starter extension length, as these aircraft will not require the additional length. This is consistent with how CASA has indicated the runway information will be published to pilots. This represents a worst case assumption as departing aircraft will be lower at any given point beyond the end of the runway.

#### **3.2 N-Above Comparison**

**Figure 2** (attached) provides a comparison of the N70 contours derived from the 2033 and 203X scenarios for 5, 10, 15, 20 and 25 daily average events. **Figure 3** (attached) provides the same comparison for the N60 contours.

In terms of these key alternative noise metrics, the change to a reduced number of aircraft movements as a result of the use of larger passenger aircraft types, does not increase the extent of areas affected. In some areas, the extents of these contours are actually reduced.

### **4. CONCLUSION**

REHBEIN Airport Consulting has undertaken a comparison of the 2033 ANEC aircraft noise scenario included in the adopted Merimbula Airport Master Plan, with a likely 'worst-case' future scenario considered to represent the expected impact of the ultimate runway configuration incorporating 200m starter extensions at each end (203X ANEC).

We conclude that the aircraft noise assessment within the Master Plan remain relevant for the strategic planning of land uses around Merimbula Airport. While the runway extension (additional 80m starter extension to the south) will facilitate the operations of larger aircraft, an analysis of likely fleet types, forecast passenger demand and service

25 September, 2020  
**Our File Ref:** B16582AL003  
**Contact:** Ben Hargreaves

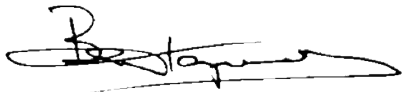
- 4 -

frequency indicates this will have no material impact on the key aircraft noise measures of ANEC, N70 and N60. In particular:

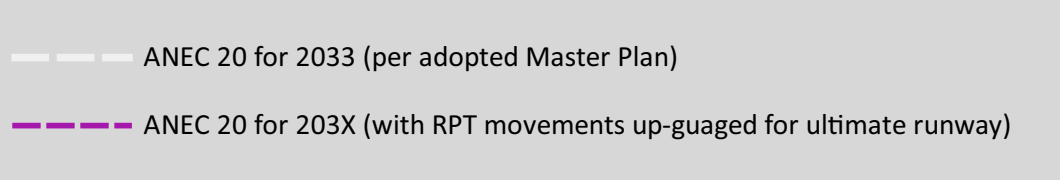
- There is a small change to the extents of the ANEC, which is not material in terms of land use impacts; and
- No increase to the extents of the N60 and N70 contours.

Future growth beyond the ANEC 203X scenario is well beyond that envisaged in the current Merimbula Airport Master Plan, and accordingly would be identified, modelled and assessed as part of a future master plan update.

Yours faithfully  
For and on behalf of  
LAMBERT & REHBEIN (SEQ) PTY LTD

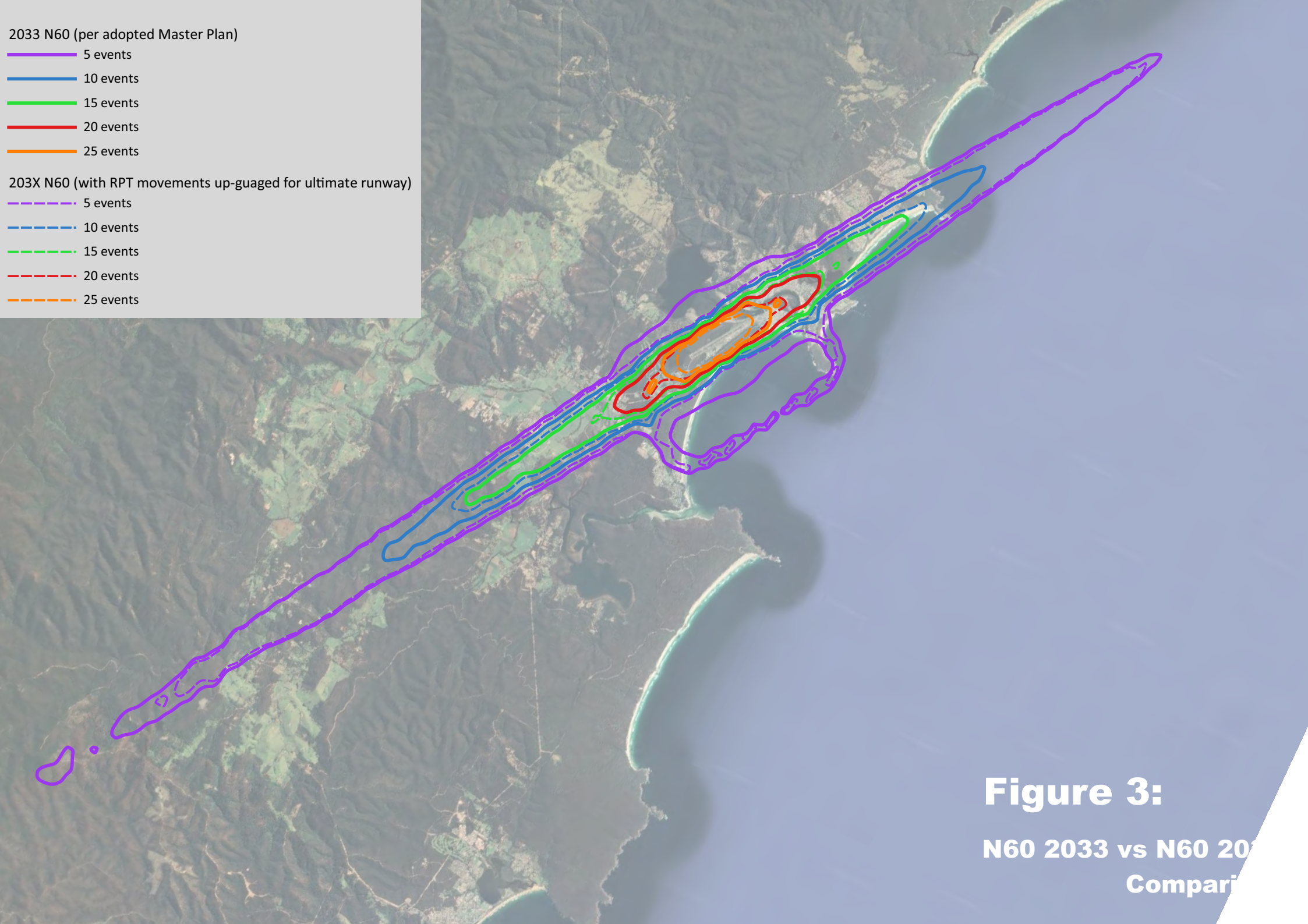


**B.J. HARGREAVES** M.Eng, M.Sc, C.Eng MICE, MIEAust, CPEng  
NATIONAL MANAGER – AVIATION  
SENIOR ASSOCIATE



**Figure 1:**  
**ANEC 2033 vs ANEC 203X**  
**Comparison**





2033 N60 (per adopted Master Plan)

- 5 events
- 10 events
- 15 events
- 20 events
- 25 events

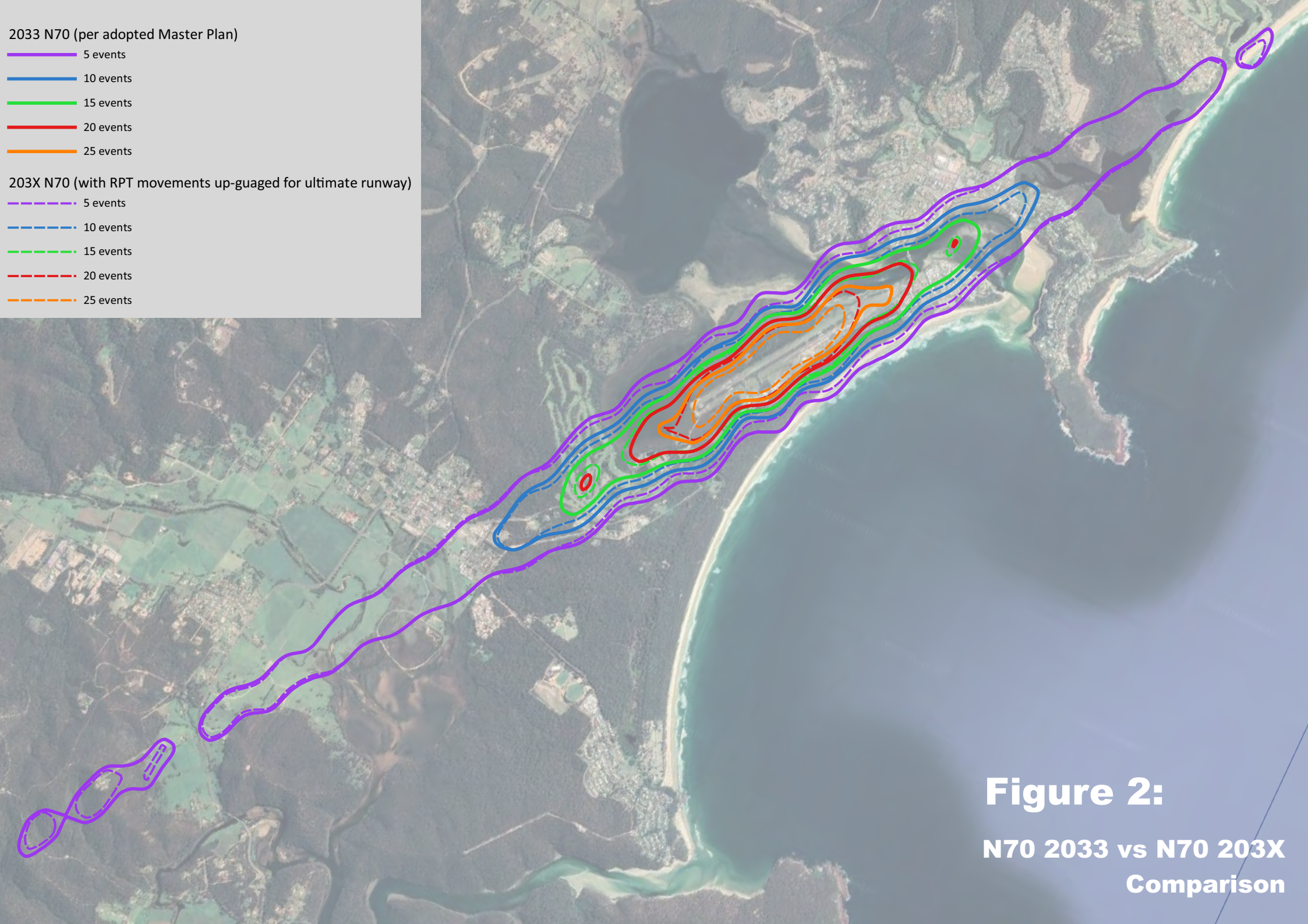
203X N60 (with RPT movements up-gauged for ultimate runway)

- 5 events
- 10 events
- 15 events
- 20 events
- 25 events

**Figure 3:**

**N60 2033 vs N60 203X  
Comparison**





2033 N70 (per adopted Master Plan)

- 5 events
- 10 events
- 15 events
- 20 events
- 25 events

203X N70 (with RPT movements up-gauged for ultimate runway)

- 5 events
- 10 events
- 15 events
- 20 events
- 25 events

**Figure 2:**

**N70 2033 vs N70 203X  
Comparison**



---

**From:** Airport Developments <[Airport.Developments@AirservicesAustralia.com](mailto:Airport.Developments@AirservicesAustralia.com)>  
**Sent:** Tuesday, 7 April 2020 11:03 AM  
**To:** Symons, Jennifer <[JSymons@begavalley.nsw.gov.au](mailto:JSymons@begavalley.nsw.gov.au)>  
**Subject:** RE: Merimbula Airport Runway Starter Extension [SEC=UNCLASSIFIED]

Hi Jennifer,

Thank you for your email.

If the thresholds are not moving there will be no amendment to the Airservices DAP procedures required. As there will be no change to Airservices DAP procedures, our Environmental and Noise team will not conduct an assessment.

Thanks.

Kind Regards,

*John Graham*

**Airport Development Applications Coordinator**  
Airservices Australia

25 Constitution Avenue  
Canberra City 2601  
t **02 6268 5964** ext **25964**  
e [John.Graham@airservicesaustralia.com](mailto:John.Graham@airservicesaustralia.com)



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**From:** Symons, Jennifer <[JSymons@begavalley.nsw.gov.au](mailto:JSymons@begavalley.nsw.gov.au)>  
**Sent:** Monday, 6 April 2020 6:29 PM  
**To:** Airport Developments <[Airport.Developments@AirservicesAustralia.com](mailto:Airport.Developments@AirservicesAustralia.com)>  
**Subject:** Merimbula Airport Runway Starter Extension

Good afternoon

Thanks for the discussion this afternoon with John Graham.

In order to satisfy the requirements of an environmental impact statement and development application, Bega Valley Shire Council seeks to inform Air Services Australia of the scope of the planned changes to the Merimbula Airport runways, and obtain confirmation of any Air Services Australia requirements.

Council confirms that:

- It has developed plans to add a starter extension to runway 03 and runway 21 at Merimbula Airport.
- Both starter extensions will be 200m, constructed in two stages, a first stage of 120m and a later stage of 80m (attached documents identify the 120m starter extensions).
- The threshold positions for both runways will not be altered.
- The landing distance available (LDA) for both runways will not change.
- The take off run available (TORA) for both runways will increase by 120m in the first stage and a further 80m in the second stage, due to the addition of the starter extensions.
- Council has been discussing these plans with the Civil Aviation Safety Authority for some years, in order to achieve Council's goal of compliance with the Manual of Standards Part 139 – noting the revision that will take effect in August 2020.

- An environmental impact statement (EIS) was triggered by the coastal wetlands environment at the southern end of the project. That EIS was developed and submitted with a development application in October 2019.
- The EIS required Council to identify any development requirements within the ambit of Air Services Australia. Council apologises for not attending to this task prior to now.

It is Council's understanding that as the runway thresholds will not be altered there is not a requirement for a variation or rewriting of the flight procedures or the noise assessments. Council would appreciate confirmation or correction by return email.

I can be contacted on 0409 257 826 or return email as needed.

Regards

*Jenny*

**Jenny Symons**  
*Project Manager  
Merimbula Airport  
Bega Valley Shire Council  
0409 257 826  
02 6499 2318*

Check out all the latest news and events at Council on [www.begavalley.nsw.gov.au](http://www.begavalley.nsw.gov.au).