



# Annual Compliance Report

EPBC 2016/7776

26 August 2022 to 25 August 2023

Shoreline Urban Village, Redland Bay, Redland City, Queensland  
Lendlease Communities (Shoreline) Pty Ltd

21 November 2023

Job No: 10724 E

# Document control

Document: Annual Compliance Report, EPBC 2016/7776, 26 August 2022 to 25 August 2023 (Issue B), prepared by Saunders Havill Group for Lendlease Communities (Shoreline) Pty Ltd.

## Document Issue

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Prepared by

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# 1. Introduction

Saunders Havill Group (SHG) have prepared this Annual Compliance Report (ACR) for the Shoreline urban village project at Redland Bay, Queensland on behalf of Lendlease Communities (Shoreline) Pty Ltd ('Lendlease').

This report provides an assessment of the project's compliance with the approval granted under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (ref EPBC 2016/7776) and is specifically required by condition 12 of the approval granted on 26 April 2018 (refer **Appendix A**). The approval was granted by the Australian Government Department of the Environment and Energy, and is currently administered by the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW or the Department).

On 12 March 2020, initial notification was provided to the Department that the action had commenced on 12 March 2020. However, due to the subsequent impact of the COVID-19 pandemic in March 2020, the works did not eventuate. Following correspondence with the Department, it was agreed that the initial notification of commencement was considered to be withdrawn.

Following the resumption of works in late August 2020, the Department was notified that the development had commenced on the 26 August 2020. Therefore, the current reporting period for this ACR is for the twelve months commencing on 26 August 2022, and ending on the 25 August 2023.

Shoreline is located approximately 34 kilometres (km) southeast of Brisbane, in the Redland City local government area (refer **Figure 1**). Within the project area, the development is undertaken in accordance with the approved Eastern Curlew Impact Management Plan (ECIMP) and Water Quality Management Plan (WQMP), and the EPBC Act approval conditions.

## 1.1. Approval summary

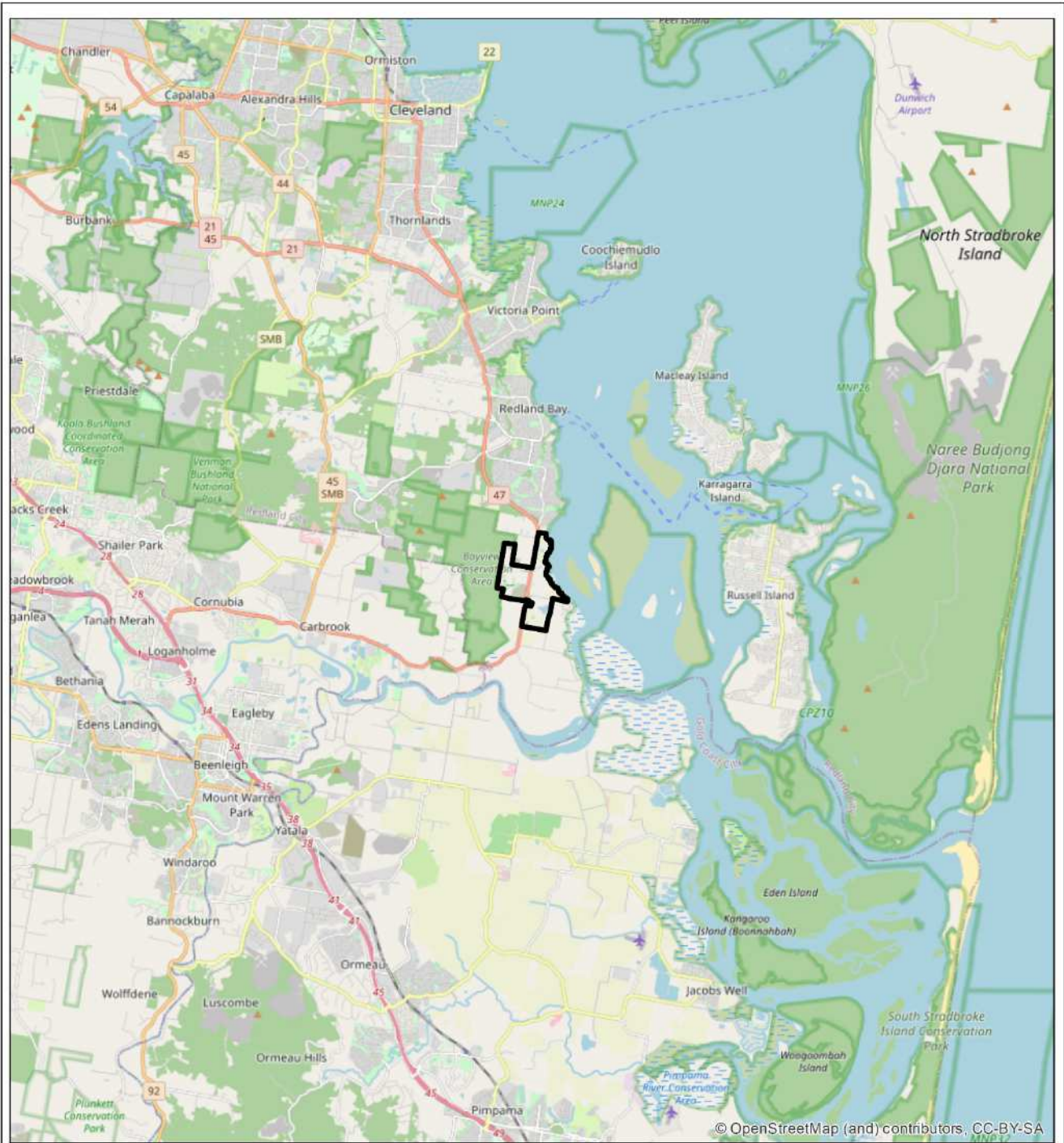
There are three approval documents issued under the EPBC Act relevant to the project:

1. *Approval* dated 26 April, 2018.
2. *Eastern Curlew Impact Management Plan* (Version 5, dated 28 January 2020) – approved by the Department on 3 February 2020, and
3. *Water Quality Management Plan* (Version 5, dated November 2019) – approved by the Department on the 14 November 2019

**Table 1** summarises the approval details under the EPBC Act relevant to Shoreline urban village.

**Table 1: EPBC Act approval summary**

Department reference	EPBC 2016/7776
Approval holder, ACN	Lendlease Communities (Shoreline) Pty Ltd, 623 367 377
Approval date	26 April 2018
Period for which the approval has effect	31 March 2038
Approved action	To develop the Shoreline urban village development in Redland Bay, Queensland (See EPBC Act Referral 2016/7776)
Controlling provision	Approved – Wetlands of international importance (sections 16 & 17B) Approved – Listed threatened species and communities (sections 18 & 18A) Approved – Listed migratory species (sections 20 & 20A)
Address	Serpentine Creek Road, Redland Bay Queensland 4165



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**Legend**  
 Shoreline Development Site

**Figure 1**  
 Site Context

**File ref.** 10724 E ACR2 Figure 1 Site Context A  
**Date** 7/10/2022  
**Project** Shoreline, Redland Bay

0 1 2 4 6 km  
 Scale (M): 1:175,000 (GDA 1994 MGA Z56)



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## 1.2. Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the EPBC Act make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.



Signed

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Full name                      Murray Saunders

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Position                        Director

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Organisation                 Saunders Havill Group (ABN 24 144 972 949)

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Date                                21 November 2023

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## 2. Description of activities – impact area

The Shoreline urban village action (the Project) is a master planned residential development in Redland Bay, a suburb of Redland City in South East Queensland. The development encompasses the establishment of residential land parcels and open space areas, and construction is ongoing.

Construction commenced on 26 August 2020 in the form of bulk earthworks within Precinct 1 for the first Reconfiguration of a Lot (RAL) approval (council ref. RAL19/0061), and an area associated with the upgrade of the intersection of Serpentine Road and Scenic Road. Over the most recent reporting period from 26 August 2022 to 25 August 2023 included continued bulk earthworks and construction continued within Stages 5-10 & 12 and within Precinct 1 following the approval RAL20/0034. Majority of the works related to the current reporting period are located in the portion of the development that occurs to the west of Serpentine Creek Road, with a small portion occurring on the eastern side of Serpentine Creek Road along Scenic Road.

Bulk clearing and subsequent clearing works have been completed with utmost diligence afforded by Lendlease Communities (Shoreline) Pty Ltd to minimise harm to fauna potentially residing amongst the works area. A Fauna Spotter Catcher supervised all vegetation clearing works. Furthermore, minimising disturbances to neighbours was also an ongoing priority.

The work areas relevant to the current reporting period are shown in **Figure 2**. In addition to the 130 residential allotments, park (*i.e.*, open space), and new road completed in Stages 1-4, the work in Stages 5-12 over the current reporting period will facilitate the creation of 248 residential allotments, park (*i.e.*, open space), new roads, and a balance lot. The open space lots created by Stages 5-12 include a significant portion of the Open Space Precinct corridor that bisects the western portion of the development area.

During the current reporting period, the following activities were underway or established in the project area:

- Bulk earthworks to create residential land parcels in Stages 13-16;
- Construction works commenced in Stages 13-16;
- Internal road network and associated infrastructure;
- Installation of essential services (e.g. water, sewer, electrical); and
- Bioretention basin infrastructure (Stage 14) and landscaping (Stages 5 and 6).

The construction works were concentrated amongst sparsely vegetated areas. Consequently, very limited vegetation clearing was required to facilitate earthworks undertaken during the current reporting period. All vegetation clearing was supervised by qualified Fauna Spotter Catchers. A summary of fauna management reports following clearing activities is provided in **Section 2.1**.



Sediment and erosion control measures were installed within and bounding the works extent at the direction of a Certified Professional in Erosion and Sediment Control (CPESC). These works were largely focused along the interface between the works extent and adjacent undisturbed areas, and in association with utility infrastructure (e.g. drainage culverts, stormwater basins). All works occurred in western catchments that do not discharge directly to Moreton Bay, and as such did not trigger the construction phase implementation of the approved WQMP.

**Photos 1 to 7** illustrate the ongoing and completed construction work as at August 2023.



**Photo 1: Stage 5 Basin Walls Completion**



**Photo 2: Linear Corridor Overview**



**Photo 3: Stage 9, 10 & 12 Overview**



**Photo 4: Pump Station Topsoil & Mulch**



**Photo 5: Linear Corridor Overview**



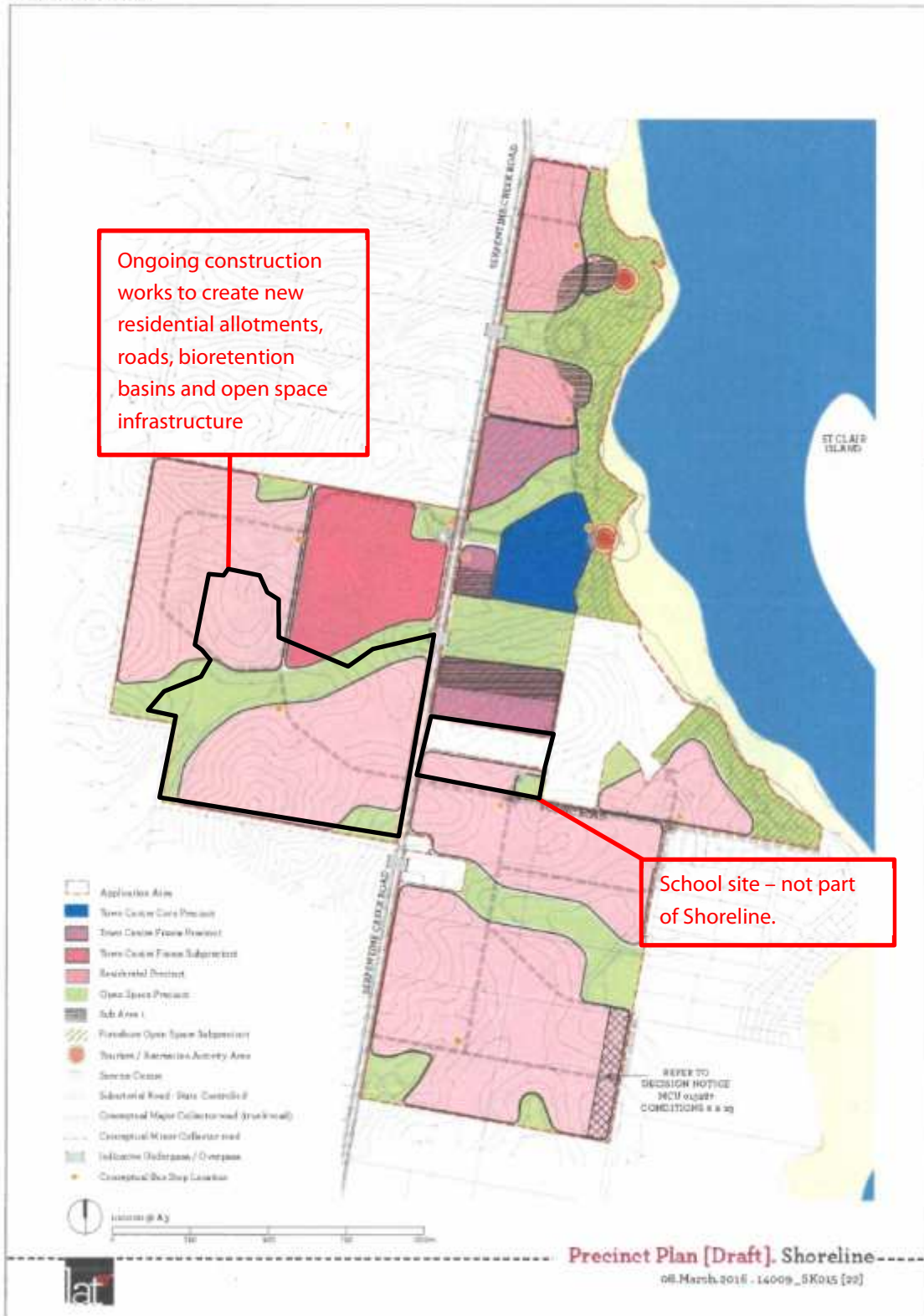
**Photo 6: Shoreline Development Overview**



**Photo 7: Shoreline Development Overview**

**ATTACHMENTS**

**1. Attachment A1:**



**Figure 2: Location of works for current reporting period**

## 2.1. Fauna management summary

Vegetation clearing was undertaken during the current reporting period. Qualified Fauna Spotter Catchers, Queensland Fauna Consultancy Pty Ltd (QFC), supervised all vegetation clearing works that occurred during the current reporting period (refer **Appendix B Services Reports**). All Fauna Spotter Catcher activities were conducted under the provisions of Rehabilitation Permit (WA0026789) issued to QFC by the Queensland Government Department of Environment and Science, approving the observation and relocation of protected animals. Microhabitats identified and inspected during clearing activities included:

- Arboreal nests and hollows
- Woody debris, timber stockpiles, dense grass

Over the course of all vegetation clearing activities that were undertaken during the current reporting period, the following fauna species were observed and managed by the supervising Fauna Spotter Catcher:

- Six (6) *Petrochelidon nigricans* eggs

The six (6) *Petrochelidon nigricans* eggs were taken to certified wildlife carer.

All supervised clearance activities were conducted with the full co-operation of on-site personnel and machinery operators.

## 2.2. Eastern Curlew management summary

Condition 4 of the approval required the approval holder to prepare an ECIMP (Eastern Curlew Impact Management Plan) and submit for the Minister's approval before commencement of the action. The ECIMP was submitted to the Minister for assessment and was subsequently approved on the 3 February 2020. Following this, condition 5 required the approval holder to implement the approved ECIMP.

The approved ECIMP outlines key management measures and monitoring requirements that the approval holder must implement throughout the life of the Shoreline urban village development. The objective of these management measures is to maintain the densities of Eastern Curlews and other migratory shorebird numbers, foraging habitat quality, or foreshore foraging habitat extent in foreshore habitat adjacent to the Shoreline urban village development.

The ECIMP documents the approval holder's commitment to implement a monitoring program that is designed to:

- Assess pre commencement Eastern Curlew densities, foraging habitat quality and foraging habitat extent;
- Detect impacts on Eastern Curlew densities, foraging habitat quality and foraging habitat extent; and
- Delineate impacts due to the action from impacts due to natural or other anthropogenic causes.

As part of the preparation of the ECIMP, baseline surveys for Eastern Curlew and other target migratory shorebirds (Whimbrel and Bar-tailed Godwit) were undertaken at specific development monitoring sites and two control site monitoring locations. The two control site locations contain a similar total area of foraging habitat to the development site locations. **Figure 3** shows the development site and control site monitoring locations. Control Site 1 consists of the 'Oyster Point North and South' and 'Point O'Halloran' areas, and Control Site 2 consists of the 'Point O'Halloran to Victoria Point' and 'Victoria Point North East', 'Victoria Point South' and 'Redland Bay North' areas shown in **Figure 3**. The development site monitoring locations consist of the areas identified as 'Shorelines – North mainland', 'Shorelines – Island' and 'Shorelines – South Mainland' in **Figure 3**.

The same development site and control site locations will be used for the ongoing monitoring required to implement the ECIMP over the life of the development including pre-commencement monitoring surveys. The monitoring program focuses on recording data on three key aspects, these being:

- Eastern Curlew and other target migratory shorebirds (Whimbrel and Bar-tailed Godwit) numbers and average densities;
- Foraging habitat quality; and
- Foraging habitat extent.

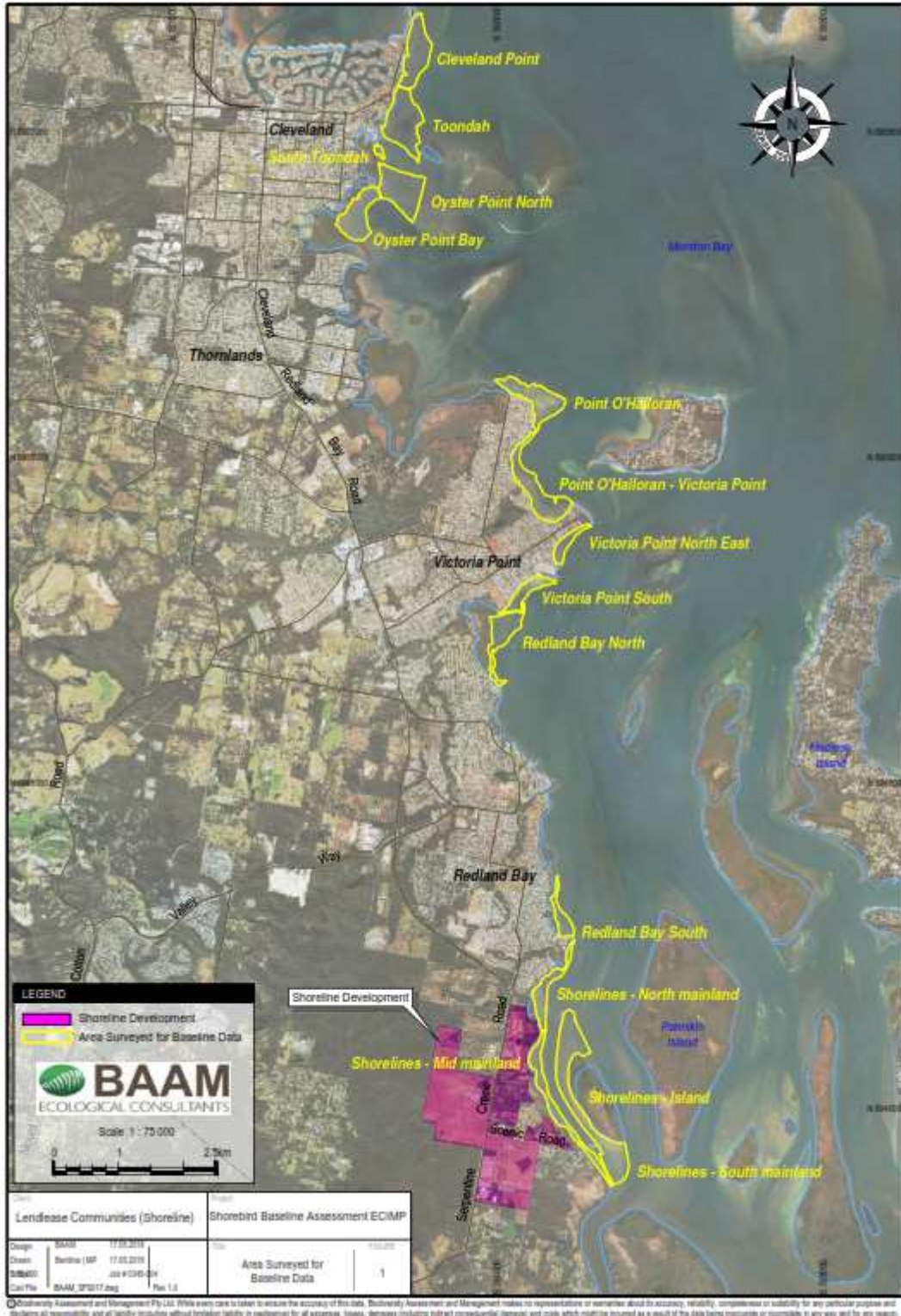
The ECIMP specifies the trigger points, timing and frequency of when monitoring events for these aspects are to be undertaken. All monitoring required by the ECIMP will commence between 1 September and 30 March in the year immediately prior to construction commencing within 250 m of Moreton Bay.

All works during the current reporting period of 26 August 2022 to 25 August 2023 occurred more than 250 m from Moreton Bay. The action proposes to commence construction during the 2023-2024 reporting period within 250 m of Moreton Bay, triggering the pre-commencement monitoring obligations as stipulated in the ECIMP.

### 2.2.1 Pre-commencement monitoring surveys

BAAM Ecological Consultants were engaged by Lendlease to complete the pre-commencement monitoring obligations under the ECIMP. Pre-commencement monitoring surveys were undertaken between 1 September 2022 and 30 March 2023 with one additional winter survey completed. The pre-commencement monitoring technical memo prepared by BAAM (dated 29 June 2023) containing the details and findings of the surveys is provided at **Appendix C**.

**Section 4** of this report provides further details on the implementation status of the ECIMP.



**Figure 3: ECIMP Monitoring locations**



### 2.3. Water quality management summary

Conditions 7-9 require the approval holder to prepare a Water Quality Management Plan (WQMP) and submit this for the Minister's approval before commencement of the action. The WQMP was submitted to the Minister for assessment and was then subsequently approved on 14 November 2019. Condition 9 requires the approval holder to implement the approved WQMP.

The Annual Compliance Letter 2022-2023 prepared by DesignFlow, presented in **Appendix D**, details the completion of the baseline water quality monitoring program as stated in the approved WQMP over the 2021-2022 reporting period.

As stated in the DesignFlow Annual Compliance Report 2022-2023:

- The baseline water quality monitoring phase was completed during the monitoring period (March 2019 – December 2019). This included 24 sampling rounds within Catchments 1-5.
- During the 2021-2022 period the pre-construction/control monitoring phase was finalised by completing the 24 baseline sampling rounds.
- Construction phase water quality monitoring did not commence in the current reporting period due to nil construction works occurred within catchments that drain directly to Moreton Bay (*i.e.*, Catchments 1-5 of the WQMP). Therefore, no construction phase monitoring was undertaken.

**Section 5** of this report summarises the current progress of the development in implementing the WQMP.

### 3. EPBC Act approval conditions compliance table

The approval conditions for the Shoreline urban village, Redland Bay are replicated in **Table 2** with a designation of compliance or non-compliance if the condition was applicable during the current reporting period, and evidence and comments as necessary. A copy of the approval is provided in **Appendix A**. The designations are made in accordance with the guidance provided in the Departments *Annual Compliance Report Guidelines* (2014), as follows:

#### *Compliant*

'Compliance' is achieved when all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.

#### *Non-compliant*

A designation of 'non-compliance' should be given where the requirements of a condition or elements of a condition, including the implementation of management plans and other measures, have not been met.

#### *Not applicable*

A designation of 'not applicable' should be given where the requirements of a condition or elements of a condition fall outside of the scope of the current reporting period. For example a condition which applies to an activity that has not yet commenced.

**Table 2: Approval conditions compliance table**

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
<b>PROJECT SITE</b>			
1	The approval holder must ensure that development associated with the action occurs within the site identified in Attachment A1 as the Application Area.	Compliant	Construction to facilitate the creation of residential and open space lots continued within areas shown as Residential Precinct and Open Space Precinct on Attachment A1 of the EPBC Act Approval 2016/7776.
2	The approval holder must ensure that no buildings are constructed within the Foreshore Subprecinct as identified at Attachment A2 except barbeque shelters, picnic shelters, and toilet amenities.	Compliant	No buildings were constructed within the Foreshore Subprecinct as identified in Attachment A2 of the approval during the current reporting period.
<b>SHOREBIRD MANAGEMENT</b>			
3	For the period for which this approval has effect, the approval holder must ensure there is no decline in eastern curlew ( <i>Numenius madagascariensis</i> ) density, foraging habitat quality, or foraging habitat extent in the site identified as 'shorebird foraging habitats' at Attachment A3, compared to pre-commencement, as a result of the approved action.	Compliant	<p>The approval has effect until Wednesday, 31 March 2038.</p> <p>The approved ECIMP identifies that when works are scheduled to occur within 250 m of Moreton Bay, management actions (e.g. surveys, monitoring and reporting) must commence in the preceding summer due to the risk of potential impacts on Eastern Curlew as a result of the approved action.</p> <p>Pre-commencement monitoring surveys occurred during the summer of 2022-2023 in anticipation of works being scheduled within the Moreton Bay trigger area within the subsequent year.</p> <p>It is noted that during the current reporting period for this ACR:</p> <ul style="list-style-type: none"> <li>works associated with the approved action were located more than 250 m from Moreton Bay; and</li> </ul>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			<ul style="list-style-type: none"> <li>no Eastern Curlew foraging habitat was disturbed or impacted by works undertaken as part of the approved action.</li> </ul> <p>Consequently, the adjacent shorebird foraging habitat attributes and density of Eastern Curlew is reasonably inferred to be disconnected from any impacts associated with construction work that has occurred during the current reporting period.</p> <p>Works are proposed in the 2023 – 2024 reporting period to be located within 250 m of Moreton Bay which are supported by pre-commencement monitoring survey results located at Appendix D.</p>
4	<p>The approval holder must prepare and submit an Eastern Curlew Management Plan (ECIMP) to the Minister before commencement. In addition to the detail provided in Eastern Curlew Impact Management Plan - Shoreline Redlands - 20 July 2017, the ECIMP must include:</p> <ul style="list-style-type: none"> <li>a) a scientifically valid monitoring program, sufficient to: <ul style="list-style-type: none"> <li>i. determine pre-commencement eastern curlew density, foraging habitat quality and foraging habitat extent;</li> <li>ii. detect impacts on the matters identified in condition 4(a)(i); and</li> <li>iii. delineate impacts due to the action from impacts due to natural or other anthropogenic causes;</li> </ul> </li> <li>b) delineate impacts due to the action from impacts due to natural or other anthropogenic causes;</li> </ul>	<p>Not applicable (refer comments)</p>	<p>An ECIMP was prepared and submitted to the Minister for assessment prior to the commencement of the action and was therefore outside of the scope of the current reporting.</p> <p>The ECIMP was approved by the Minister on the 3 February 2020.</p> <p>The ECIMP was developed to comply with condition 4.</p> <ul style="list-style-type: none"> <li>a) A monitoring program which is both trigger-based and recurring has been outlined in the approved ECIMP. The ECIMP monitoring program has been designed to: <ul style="list-style-type: none"> <li>i. determine pre commencement eastern curlew density, foraging habitat quality and foraging habitat extent;</li> <li>ii. detect impacts on the matters identified in Condition 4 (a)(i); and</li> </ul> </li> </ul>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
	<ul style="list-style-type: none"> <li>c) a timeframe for when contingency measures will be implemented;</li> <li>d) details of reporting to be provided to the Department in the event that the outcome described in condition 3 is not met; and</li> <li>e) provisions to make monitoring results publicly available on the approval holder's website for the life of the project.</li> </ul>		<ul style="list-style-type: none"> <li>iii. delineate impacts due to the action from impacts due to natural or other anthropogenic causes.</li> <li>b) The ECIMP monitoring program has been designed to delineate impacts due to the action from impacts due to natural or other anthropogenic causes.</li> <li>c) The ECIMP specifies contingency measures and specific timeframes for when contingency measures are required to be implemented.</li> <li>d) The ECIMP specifies that the Department must be advised of any observed decline in Eastern Curlew numbers within 14 days of the decline being observed.</li> <li>e) The ECIMP specifies that the results of each monitoring period will be publicly available on the developers' website for the life of the project.</li> </ul>
			<p><b>Section 4</b> of this ACR report analyses the implementation of the commitments contained within the approved ECIMP for the current reporting period.</p>
<b>5</b>	<p>The ECIMP, including any revised plans, must be peer reviewed by a suitably qualified person. The peer review must be submitted to the Minister together with the ECIMP and a statement from the suitably qualified person stating that they carried out the peer review and evaluated the adequacy of the monitoring, mitigation and management measures proposed. The approved ECIMP must be implemented by the approval holder.</p>	Compliant	<p>This condition relates to obtaining the ECIMP approval and subsequent implementation of the approved ECIMP, with only the latter being relevant to the current reporting period.</p> <p>The ECIMP was approved by the Department on 3 February 2020.</p> <p>The approval holder implemented the ECIMP during the current reporting period, however this did not involve any management actions due to:</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			<p>1. the works associated with the approved action were located more than 250 m from Moreton Bay; and</p> <p>2. no Eastern Curlew foraging habitat disturbed or impacted by works undertaken as part of the approved action.</p> <p><b>Section 4</b> of this ACR analyses the implementation of the commitments contained within the approved ECIMP for the current reporting period.</p>
6	<p>The approval holder must not:</p> <ul style="list-style-type: none"> <li>a) undertake construction within 250 m of the Moreton Bay Ramsar wetland between 1 September and 30 March; or</li> <li>b) facilitate public access to the Moreton Bay Ramsar wetland,</li> </ul> <p>until the ECIMP has been approved by the Minister in writing and pre-commencement eastern curlew density, foraging habitat quality and foraging habitat extent has been determined.</p>	Compliant	<p>The ECIMP was approved by the Department on 3 February 2020.</p> <p>The work relating to the pre-commencement eastern curlew density, foraging habitat quality and foraging habitat extent was completed during the current reporting period, discussed further in <b>Section 4</b>.</p> <p>Nonetheless, during the current reporting period there was no construction within 250 m of Moreton Bay and public access to the Moreton Bay Ramsar wetland was not facilitated by the approval holder.</p>
<b>WATER QUALITY MANAGEMENT</b>			
7	<p>The approval holder must prepare and submit a Water Quality Management Plan (WQMP) to the Minister before commencement. In addition to the detail provided in Shorelines Redland Water Quality Management Plan - June 2017, the WQMP must accord with national water quality guidelines and include:</p>	Not applicable (refer comments)	<p>A WQMP was prepared and submitted to the Minister for assessment prior to the commencement of the action in accordance with conditions 7 and 9, and was therefore outside of the scope of the current reporting period.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
	<ul style="list-style-type: none"> <li>a) a monitoring program sufficient to determine pre-commencement water quality within all catchments within the site and at a reference/control monitoring site;</li> <li>b) a rationale for the sampling effort undertaken to determine pre-commencement water quality and justify the selection of the reference/control monitoring site with respect to the potential impacts of the action and the objectives of the WQMP;</li> <li>c) details of the ongoing monitoring locations and the parameters to be monitored</li> <li>d) proposed early warning indicators, trigger thresholds and limits for detecting impacts on surface water quality;</li> <li>e) contingency measures to be implemented in the event that trigger thresholds are breached; and</li> <li>f) provisions to make monitoring results publicly available on the approval holder's website for the life of the project.</li> </ul>		<p>The WQMP addressed the listed information requirements and was approved by the Minister on 14 November 2019.</p> <p><b>Appendix D</b> contains the 2022-2023 WQMP Annual Compliance Reporting Letter that demonstrates compliance with the WQMP during the current reporting period. <b>Section 5</b> of this ACR analyses the implementation of the approved WQMP for the current reporting period.</p> <p>The WQMP (v6) is publicly available on the approval holder's website at the following weblink:  <a href="https://communities.lendlease.com/queensland/shoreline/living-in-shoreline/sustainability-and-environment/">&lt;https://communities.lendlease.com/queensland/shoreline/living-in-shoreline/sustainability-and-environment/&gt;</a></p>
8	<p>The WQMP, including any revised plans, must be peer reviewed by a suitably qualified person. The peer review must be submitted to the Minister together with the WQMP and a statement from the suitably qualified person stating that they carried out the peer review and evaluated the adequacy of the monitoring, mitigation and management measures proposed.</p>	<p>Not applicable (refer comments)</p>	<p>This condition is a pre-commencement requirement (<i>i.e.</i>, falls outside of the scope of the current reporting) or is triggered post-commencement if the WQMP is revised.</p> <p>The WQMP was approved by the Minister on 14 November 2019.</p> <p>The WQMP was revised during the current reporting period, however version 6 of the management plan was implemented during September 2023. This was outside of this reporting period, but will be included in next years (2023 – 2024) ACR.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
9	The approval holder must not commence until the WQMP has been approved by the Minister in writing. The approved WQMP must be implemented by the approval holder.	Compliant	<p>This condition relates to obtaining the WQMP approval and subsequent implementation of the approved WQMP, with only the latter being relevant to the current reporting period.</p> <p>The WQMP was approved by the Minister on 14 November 2019 and the action commenced on 26 August 2020.</p> <p><b>Appendix D</b> contains the 2022-2023 WQMP Annual Compliance Letter that details the completion of baseline water quality management during the previous year's reporting period. <b>Section 5</b> of this ACR analyses the implementation of the approved WQMP for the current reporting period.</p>
<b>GENERAL</b>			
10	Within 20 days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement.	Not Applicable	<p>On 12 March 2020, initial written notification was provided to the Department that the action had commenced on 12 March 2020. However, due to the subsequent impact of the COVID-19 pandemic towards the end of March 2020, the works did not eventuate. Following correspondence with the Department, it was agreed that the initial notification of commencement was considered to be withdrawn.</p> <p>The action commenced on 26 August 2020, and the Department was notified by formal written correspondence on 31 August 2020.</p> <p>Therefore, it is confirmed that the approval holder advised the Department in writing of the commencement of the action within 20 days.</p>



Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			Compliance with this condition requirement was reported on in the Year 1 ACR, and therefore falls outside of the scope of the current reporting period.
11	The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.	Compliant	Saunders Havill Group records and holds relevant information for this approval on behalf of the approval holder. Electronic records of all material are held collectively by the Saunders Havill Group and the approval holder, and will be made available upon request in accordance with section 458 of the EPBC Act, or if required to verify compliance with the conditions of approval.
12	Within three months of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. Reports must remain on the website for the period this approval has effect. The approval holder may cease preparing and publishing compliance reports required by this condition with written agreement of the Minister to do so.	Compliant	<p>The anniversary of the commencement of the action is 26 August, and the annual deadline for publishing the report addressing compliance with each of the conditions of the approval (<i>i.e.</i>, this Annual Compliance Report) is 26 November. When this deadline is a non-business day in Brisbane, the next business day is taken to be the deadline. Documentary evidence providing proof of the date of publication will be provided to the Department when the report is published.</p> <p>The Year 1 ACR for the period 2020-2021 was published to the proponent's website 25 November 2021. As soon as practicable on 25 November 2021, the Department was:</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			<p>(a) notified that the Year 1 ACR was published on 25 November 2021; and</p> <p>(b) provided a web-based link to the uploaded document; and</p> <p>(c) provided a web-based link to the web site hosting the uploaded document; and</p> <p>(d) provided two screenshots as evidence of (b) and (c); and</p> <p>(e) advised on any non-compliances documented in the Year 1 ACR.</p> <p>The Year 2 ACR for the period 2021-2022 was published to the proponent’s website 23 November 2022. As soon as practicable on 23 November 2022, the Department was:</p> <p>(a) notified that the Year 2 ACR was published on 23 November 2022; and</p> <p>(b) provided a web-based link to the uploaded document; and</p> <p>(c) provided a web-based link to the web site hosting the uploaded document; and</p> <p>(d) provided two screenshots as evidence of (b) and (c); and</p> <p>(e) advised on any non-compliances documented in the Year 2 ACR.</p> <p>This report details compliance for Year 3 of the project (period from 26 August 2022 to 25 August 2023, inclusive) and will be published on the Lendlease Communities (Shoreline) Pty Ltd development website as per the required timeframe. The Department will be notified when this occurs.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
13	<p>Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.</p>	Not applicable	<p>The Minister has not provided a direction to complete an independent audit of compliance.</p>
14	<p>The approval holder may choose to revise a plan approved by the Minister under Conditions 4 or 7 without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised plan would not be likely to have a new or increased impact. If the approval holder makes this choice they must:</p> <ul style="list-style-type: none"> <li data-bbox="365 863 1099 962">i. notify the Department in writing that the approved plan has been revised and provide the Department with an electronic copy of the revised plan;</li> <li data-bbox="365 978 1099 1037">ii. implement the revised plan from the date that the plan is submitted to the Department; and</li> <li data-bbox="365 1053 1099 1185">iii. for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised plan would not be likely to have a new or increased impact.</li> </ul>	Not applicable	<p>The approval holder has not revised a plan approved by the Minister under conditions 4 or 7 within the current reporting period.</p> <p>The approved ECIMP and WQMP documents approved by the Minister, on 3 February 2020 and 14 November 2019, respectively, remain the current and relevant versions. However as of 6 September 2023, a revised version 6 of the WQMP has been issued. This revision is not likely to have a new or increased impact and therefore was not reissued for approval. This implementation date falls outside of the current reporting period, however, will be discussed in following ACR.</p>
14A	<p>The approval holder may revoke its choice under Condition 14 at any time by notice to the Department. If the approval holder revokes the choice to implement a revised plan without approval under section 143A of the EPBC Act, the approval holder must implement the version of the plan most recently approved by the Minister.</p>	Not applicable	<p>The approval holder has not revised a plan approved by the Minister under conditions 4 or 7 within the current reporting period.</p> <p>The approved ECIMP and WQMP documents approved by the Minister, on 3 February 2020 and 14 November 2019 respectively, remain the</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
<b>14B</b>	Condition 14 does not apply if the revisions to the approved plan include changes to environmental offsets provided under the plan in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the Minister. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised plan would, or would not, be likely to have new or increased impacts.	Not applicable	<p>current and relevant versions. However as of 6 September 2023, a revised version 6 of the WQMP has been issued. This revision is not likely to have a new or increased impact and therefore was not reissued for approval. This implementation date falls outside of the current reporting period, however, will be discussed in the following ACR.</p> <p>The approval holder has not revised a plan approved by the Minister under conditions 4 or 7 within the current reporting period.</p> <p>The approved ECIMP and WQMP documents approved by the Minister, on 3 February 2020 and 14 November 2019, respectively, remain the current and relevant versions. However as of 6 September 2023, a revised version 6 of the WQMP has been issued. This revision is not likely to have a new or increased impact and therefore was not reissued for approval. This implementation date falls outside of the current reporting period, however, will be discussed in following ACR.</p>
<b>14C</b>	<p>If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the revised plan would be likely to have a new or increased impact, then:</p> <ul style="list-style-type: none"> <li data-bbox="365 1118 1104 1177">i. Condition 14 does not apply, or ceases to apply, in relation to the revised plan; and</li> <li data-bbox="365 1193 1104 1252">ii. the approval holder must implement the version of the plan most recently approved by the Minister.</li> <li data-bbox="365 1268 1104 1372">iii. to avoid any doubt, this condition does not affect any operation of Conditions 14, 14A and 14B in the period before the day after the notice is given.</li> </ul>	Not applicable	<p>The approval holder has not revised a plan approved by the Minister under conditions 4 or 7 within the current reporting period.</p> <p>The approved ECIMP and WQMP documents approved by the Minister, on 3 February 2020 and 14 November 2019 respectively, remain the current and relevant versions. However as of 6 September 2023, a revised version 6 of the WQMP has been issued. This revision is not likely to have a new or increased impact and therefore was not reissued for approval. This implementation date falls outside of the current reporting period, however, will be discussed in following ACR.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
14D	At the time of giving a notice under condition 14A, the Minister may also notify that for a specified period of time condition 14 does not apply for one or more specified plans required under the approval.  Conditions 14, 14A, 14B and 14C are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised plan to the Minister for approval.	Not applicable	The approval holder has not revised a plan approved by the Minister under conditions 4 or 7 within the current reporting period.  The approved ECIMP and WQMP documents approved by the Minister, on 3 February 2020 and 14 November 2019, respectively, remain the current and relevant versions. However as of 6 September 2023, a revised version 6 of the WQMP has been issued. This revision is not likely to have a new or increased impact and therefore was not reissued for approval. This implementation date falls outside of the current reporting period, however, will be discussed in following ACR.
15	If, at any time after five years from the date of this approval, the approval holder has not commenced the action, then the approval holder must not commence the action without written agreement from the Minister.	Not applicable	This approval is dated 26 April 2018.  The Department was notified by formal written correspondence on 31 August 2020 that the development had commenced on 26 August 2020.  Therefore, the action commenced within five years of the approval date.
16	Unless otherwise agreed to in writing by the Minister, the approval holder must publish all management plans referred to in these conditions of approval on its website.	Compliant	The ECIMP was approved on 3 February 2020, and the WQMP was approved on 14 November 2019. These management plans are the current versions (approval holder did not revise a plan approved by the Minister within the current reporting period). However as of 6

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
	Each management plan must be published on the website within one month of being approved by the Minister or being submitted under conditions 4, 7 or 14.	Compliant	<p>September 2023, a revised version 6 of the WQMP has been issued. This revision is not likely to have a new or increased impact and therefore was not reissued for approval. This implementation date falls outside of the current reporting period, however, will be discussed in following ACR.</p> <p>The WQMP was revised during the current reporting period, however, it did not come into effect until September 2023, falling on next year's reporting period (2023-2024). This management plan was published to the Lendlease website at the following weblink:</p> <p>&lt;<a href="https://communities.lendlease.com/queensland/shoreline/living-in-shoreline/sustainability-and-environment/">https://communities.lendlease.com/queensland/shoreline/living-in-shoreline/sustainability-and-environment/</a>&gt;</p>

## 4. ECIMP implementation table

The implementation status of the ECIMP is detailed in **Table 3**.

**Table 3: ECIMP implementation table**

No.	Commitment	Evidence/comments/status
<b>IMPACTS</b>		
<b>ECIMP-1</b>	As there will be no development within foraging or potential roosting habitats for Eastern Curlew and other migratory shorebirds within the adjacent Moreton Bay, there will be no direct impacts on these habitats.	No development within foraging or potential roosting habitats for the Eastern Curlew or other migratory shorebirds is approved to occur, therefore no development or disturbance in these areas has occurred during the current reporting period.
<b>MANAGEMENT MEASURES</b>		
<b>ECIMP-2</b>	As part of the induction process for site construction, it will be the responsibility of the Project Manger to advise all contractors that bringing dogs into the development area is prohibited during construction and that no contractor/employee is to traverse the mangrove lined intertidal area.	Dogs are not permitted on the work site.  The construction area is not located at the mangrove lined intertidal area and all works to date are disconnected from mangrove vegetation communities.
<b>ECIMP-3</b>	A community education program will be developed prior to the occupation stage, which includes educational signage erected at strategic locations along the formed walkway running adjacent to the band of mangroves. The community education program will inform residents / visitors of the presence of Eastern Curlew and other migratory shorebirds and the impacts caused by feed the birds. It is proposed the education program will be in leaflet form to be provided to all new and prospective property buyers at the time of purchase / inspection.	This commitment relates to development adjacent to the Foreshore Open Space area which has not yet commenced. Once development occurs adjacent to the Foreshore, landscape works will capture these commitments.

No.	Commitment	Evidence/comments/status
	<p>It will be the Principals responsibility to ensure all local real estate agents and the Shoreline website display this leaflet.</p> <p>Advice from Council and DES will be sought when compiling the community education package to ensure this mitigation strategy achieves the objectives of this plan.</p>	
<b>ECIMP-4</b>	<p>The existing band of mangrove vegetation, which ranges in width from approximately 30 m to 120 m, provides an effective barrier to potential human and/or dog disturbances, and to noise and light disturbances to Eastern Curlew and other migratory shorebirds whilst foraging, due to the dense growth form of mangroves and associated ground cover of pneumatophores growing in soft mud.</p> <p>This band of mangrove vegetation, which will assist in minimising noise and light disturbances for foraging birds, will be retained, protected and managed as part of the proposed development. The retention, protection and ongoing management of the intertidal vegetation will assist in minimising the threat of noise/light pollution disturbing foraging shorebirds.</p>	<p>No development within the band of mangrove vegetation is approved to occur, and no development or disturbance in these areas has occurred during the current reporting period.</p> <p>The approved Shoreline Open Space Landscape Strategy outlines the management strategies to be implemented within Foreshore Open Space area, which will continue to provide a managed buffer to the retained mangrove vegetation.</p>
<b>ECIMP-5</b>	<p>Prior to occupation education signage will be erected at a minimum of three locations (to be determined in consultation with developers and DES/Council on completion of final designs) along the pedestrian walkway that will advise engagement with residents / visitors of the nearby presence of shorebirds and the threat that increased or sudden loud noises can disturb foraging shorebirds.</p>	<p>This commitment relates to development adjacent to the Foreshore Open Space area which has not yet commenced. Once development occurs adjacent to the Foreshore, landscape works will capture these commitments.</p>
<b>ECIMP-6</b>	<p>Any public events within the foreshore open space area will require authorised permits from Redland City Council. Permits will have controls on noise levels for any event.</p>	<p>No public events within the foreshore open space area were proposed or authorised during the current reporting period.</p>



No.	Commitment	Evidence/comments/status
<b>ECIMP-7</b>	<p>Foreshore walkways will be lit by bollard style 'smart' lighting (Photo 4 below). Any other lighting required for safety purposes will be directional away from Moreton Bay.</p>  <p>Photo 4 shows example of bollard lighting (source: ledoutdoor.net.au).</p>	<p>This commitment is not yet applicable, as construction has not commenced in development stages adjacent to Foreshore Open Space areas.</p>

**MONITORING – EASTERN CURLEW**

**ECIMP-8**

In order to be able to detect changes in the number of Eastern Curlew attributable to the Shorelines development, the shorebird foraging habitats adjacent to the development site will be surveyed prior to construction commencing within 250 m of Moreton Bay to provide baseline data for comparison with future monitoring data.

The construction undertaken within the current reporting period is not within 250 m of Moreton Bay. However, during next year's reporting period, construction is proposed within 250 m of Moreton Bay, therefore triggering the requirement of pre-commencement surveys under the ECIMP.

**ECIMP-9**

To detect if changes in Eastern Curlew numbers have been influenced by the construction and occupation of the development, control site monitoring will be undertaken in conjunction with the development site monitoring at each of two control sites with similar total areas of foraging habitat to the impact site area.

The development site and control site monitoring survey requirements specified by the approved ECIMP applicable within this reporting period as the monitoring requirements were triggered as within the next reporting

No.	Commitment	Evidence/comments/status
		<p>period 2023 – 2024 works are planned to commence with 250 m of Moreton Bay.</p>
<b>E-10</b>	<p>Monitoring will be undertaken in accordance with DoEE (2017) guidelines. Using a high powered spotting telescope, each monitoring survey will be conducted within the four-hour period either side of low tide and will cover the shorebird foraging habitats shown in Figure 5.1. Data collected during the surveys will include the numbers of targeted shorebirds (i.e. Eastern Curlew, Whimbrel and Bar-tailed Godwit) using the area at low tide and any real or potential sources of disturbance observed and the response of the birds to these disturbance sources. Wherever practical, dependent on tide times, surveys will be conducted at times of peak use of the Foreshore Area.</p>	<p>Baseline monitoring presented in the approved ECIMP was undertaken in accordance with this methodology and specifies that this methodology will be used for future monitoring surveys.</p> <p>During next year’s reporting period 2023-2024, construction is proposed within 250 m of Moreton Bay, therefore triggering the requirement of pre-commencement surveys under the ECIMP for monitoring within the current reporting period. Pre-commencement surveys were completed by the BAAM consultants between the 1 September 2022 and 30 March 2023. Refer to <b>Appendix C</b> for the Technical Memo prepared by BAAM.</p>

No.	Commitment	Evidence/comments/status
<b>ECIMP-11</b>	Pre Commencement surveys for Eastern Curlew will be undertaken between 1 September until 30 March in the year immediately prior to the construction commencing within 250 m of Moreton Bay.	The construction undertaken within the current reporting period is not within 250 m of Moreton Bay. Pre-commencement surveys were completed in the 2022-2023 reporting period as works are proposed within 250 m of Moreton Bay in the 2023-2024 reporting period, therefore triggering the requirement of pre-commencement surveys under the ECIMP. Pre-commencement surveys were completed by the BAAM consultants between the 1 September 2022 and 30 March 2023 with the Technical Memo prepared by BAAM provided at <b>Appendix C</b> .
<b>ECIMP-12</b>	During the construction period, where activities pose a risk of potentially significant impacts to migratory shorebirds, the monitoring program will involve eight low-tide, targeted shorebird surveys, undertaken on an annual basis and in accordance with DoEE (2017) Guidelines. This will include monthly surveys between 1 September and 30 March.	
<b>ECIMP-13</b>	During the operational phase, a single annual low-tide, targeted shorebird survey will be undertaken within the peak Eastern Curlew season (November to January). This monitoring program will continue for the life of the EPBC approval (i.e. until 2038).	
<b>ECIMP-14</b>	To test for an impact of the Project on Eastern Curlew, a generalised linear mixed model (GLMM) approach shall be used to account for repeated measures of Eastern Curlew numbers through each summer season (year). In the analysis, the response variable is the count of Eastern Curlew at each site during the months November to February (when numbers are expected to be most stable in Moreton Bay), explanatory variables are year (to capture temporal change over time), tide height (a continuous variable) and site (impact, control 1, control 2), with year as a random effect within each site to control for repeated measures.	

**MONITORING – FORAGING HABITAT QUALITY**

No.	Commitment	Evidence/comments/status
<b>ECIMP-15</b>	<p>Foraging habitat quality will be monitored indirectly through the monitoring of:</p> <ol style="list-style-type: none"> <li>1) disturbance; and</li> <li>2) the densities of Eastern Curlew and two other migratory shorebirds that feed on similar foods, namely Whimbrel and Bar-tailed Godwit.</li> </ol> <p>Monitoring will be undertaken at the impact site and the two control sites identified for Eastern Curlew monitoring, in conjunction with the Eastern Curlew monitoring (pre-commencement, construction and operational). Foraging habitat monitoring will include recording any signs of human/dog presence, including signs of bait collection and signs of rubbish within foraging habitats.</p>	<p>The construction undertaken within the current reporting period is not within 250 m of Moreton Bay. Pre-commencement surveys including foraging habitat quality assessments were completed in the 2022-2023 reporting period as works are proposed within 250 m of Moreton Bay in the 2023-2024 reporting period, therefore triggering the requirement of pre-commencement surveys under the ECIMP. Pre-commencement surveys were completed by the BAAM consultants between the 1 September 2022 and 30 March 2023 with the Technical Memo prepared by BAAM provided at <b>Appendix C</b>.</p>
<b>ECIMP-16</b>	<p>In addition, inspections of mangrove habitats, including stormwater outlet sites for signs of weed incursions, plant die-back, erosion and human/dog disturbances (e.g. footprints, refuse) will be undertaken during each monitoring event.</p>	
<b>ECIMP-17</b>	<p>As part of the community education program, community members will also be encouraged to report to the Project Manager any observed disturbances to migratory shorebirds or human/dogs traversing migratory shorebird foraging habitats that adjoin the Shorelines development</p>	

**MONITORING-FORAGING HABITAT EXTENT**

No.	Commitment	Evidence/comments/status
<b>ECIMP-18</b>	<p>Foraging habitat extent for Eastern Curlew shall be monitored using two main methods:</p> <ol style="list-style-type: none"> <li>1) Mapping the extent of intertidal mudflat foraging habitat exposed at spring low tide level of 0.3 m using aerial imagery and recording the seaward edge of exposed mudflat using a mobile GPS system. This mapping shall be confined to the mainland extent of intertidal mudflat opposite the full length of The Project that interacts with the foreshore; i.e. from east of Scenic Road on the south to east of the northern most extent of The Project. This mapping shall be undertaken once prior to construction commencing within 250 m of Moreton Bay (pre-impact baseline) and once each year thereafter for the duration of monitoring.</li> <li>2) As a measure of the extent of effective foraging habitat, the approximate locations of all Eastern Curlew observed foraging within the foraging habitat extent (shown in Figure 5.1 of the ECIMP) shall be recorded during the annual Eastern Curlew monitoring surveys.</li> </ol>	<p>The construction undertaken within the current reporting period is not within 250 m of Moreton Bay. Pre-commencement surveys including foraging habitat extent assessments were completed in the 2022-2023 reporting period as works are proposed within 250 m of Moreton Bay in the 2023-2024 reporting period, therefore triggering the requirement of pre-commencement surveys under the ECIMP. Pre-commencement surveys were completed by the BAAM consultants between the 1 September 2022 and 30 March 2023 with the Technical Memo prepared by BAAM provided at <b>Appendix C</b>.</p>
<b>ECIMP-19</b>	<p>To test for an impact of the Project on foraging habitat extent, the total area of intertidal foraging habitat shall be compared with the baseline area. Any areas of change in extent investigated to determine if the change in extent is attributable to the Project.</p>	

**MANAGEMENT OBJECTIVES**

<b>ECIMP-20</b>	<p>Eastern Curlew are at densities that reflect baseline densities in the adjacent feeding habitats, controlling for natural temporal variation and a background decline in shorebird populations relating to ongoing habitat loss at key stop-over sites in Asia.</p>	<p>During the current reporting period, development activities did not occur in the vicinity (<i>i.e.</i>, within 250 m) of Moreton Bay migratory shorebird habitat. Therefore, the monitoring surveys required under the approved ECIMP were not triggered. Consequently, due to nil development within 250 m of the Eastern Curlew habitat, the density of Eastern Curlew in the adjacent feeding habitats within the current reporting period is reasonably</p>
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No.	Commitment	Evidence/comments/status
		<p>inferred to be disconnected from any impacts associated with construction work that has occurred in the development site during the current reporting period.</p> <p>However, during next year’s reporting period, construction is proposed within 250 m of Moreton Bay, therefore triggering the requirement of pre-commencement surveys under the ECIMP. Pre-commencement surveys were completed by the BAAM consultants between the 1 September 2022 and 30 March 2023 with the Technical Memo prepared by BAAM provided at <b>Appendix C</b>.</p>
<b>ECIMP-21</b>	There is no reduction in migratory shorebird foraging habitat extent.	<p>During the current reporting period, development activities did not occur in the vicinity (<i>i.e.</i>, within 250 m) of Moreton Bay migratory shorebird habitat. Therefore, it is reasonably inferred that there has been no development occur that could be considered to have had an influence on these management objectives during the current reporting period.</p>
<b>ECIMP-22</b>	There is no weed intrusions or mangrove vegetation die-back in areas adjacent to migratory shorebird foraging habitats.	
<b>ECIMP-23</b>	There is no human and/or dog disturbance of foraging Eastern Curlew or other migratory shorebirds.	
<b>ECIMP-24</b>	There are no human/dogs traversing migratory shorebird foraging habitats.	
<b>ECIMP-25</b>	There is no increase in light or noise to foraging migratory shorebirds.	
<b>ECIMP-26</b>	There are no recreational activities causing sudden loud noises within the foreshore open space area	

No.	Commitment	Evidence/comments/status
<b>ECIMP-27</b>	Water quality objectives (DesignFlow 2017) and Acid Sulfate Soil objective (Douglas Partners 2017) have been met during construction and operation.	<p>The achievement of water quality objects in accordance with the approved Water Sensitive Urban Design Preliminary Advice, and approved Stormwater Management Plans will be evaluated in <b>Section 5 – WQMP implementation table</b> of this ACR.</p> <p>Within the current reporting period there have been no construction works commence in the areas identified by Douglas Partners (Douglas Partners 2017) as potentially requiring further acid sulfate soil management or investigation.</p>

#### CORRECTIVE MEASURES

<b>ECIMP-28</b>	If the Project Manager is alerted to any incidence of shorebird disturbance, or disturbance as a result of light or noise, or if targeted shorebird monitoring surveys detect significant changes in Eastern Curlew numbers and/or human or dog disturbance to foraging shorebirds, these incidences will be investigated within 24 hours of being reported and actions to rectify any breaches of mitigation measures or mangrove vegetation buffer habitats will be commenced within three days of the initial report. DES and Council will be contacted to request guidance on additional measures required to rectify/eliminate disturbances.	The Project Manager has not been alerted to any instances of shorebird disturbance within the current reporting period.
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#### CONTINGENCY MEASURES

<b>ECIMP-29</b>	Table 7.1 (of the ECIMP) provides contingency measures that will be enforced if results from Eastern Curlew or foraging habitat monitoring events indicate a significant change in Eastern Curlew numbers or foraging habitat quality that could be attributed to the Shoreline Development.	This commitment is not yet applicable, as the monitoring required to evaluate if contingency measures are necessary has not yet occurred, due to construction not yet commencing within 250 m of Moreton Bay.
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#### MANAGEMENT RESPONSIBILITIES

No.	Commitment	Evidence/comments/status
<b>ECIMP-30</b>	<p><u>Principal</u></p> <p>The roles and responsibilities of the Principal are to:</p> <ul style="list-style-type: none"> <li>• Comply with the Eastern Curlew Impact Management Plan (ECIMP);</li> <li>• Comply with the Nature Conservation Act 1992;</li> <li>• Develop a community education program;</li> <li>• Nominate a Project Manager who will represent the Principal in reviewing the performance of contractors, issue instructions and variations, and be responsible for ECIMP implementation; and</li> <li>• Promptly notify the DoEE of any changes to this ECIMP and its implementation, reporting or monitoring, and any breach of Administrating Authority conditions and proposed corrective action.</li> </ul> <p>It will be the responsibility of the Principal to ensure the contents of the ECIMP are adequately communicated to all contractors, residents and visitors and they are advised of the seriousness of potential impacts if the recommended actions are not observed.</p>	<p>Lendlease Communities (Shoreline) Pty Ltd is the Principal for the Shoreline project. A Project Manager has been appointed. The community education program (as per ECIMP-30) is not yet required, as no development has commenced within 250 m of Moreton Bay. No changes to the ECIMP have been proposed since its approval by the Department on the 2 February 2020. The ECIMP forms part of the approval documentation that is available to site personnel and visitors (including residents).</p>
<b>ECIMP-31</b>	<p><u>Project Manager</u></p> <p>This Eastern Curlew Impact Management Plan (ECIMP) will be overseen by the Project Manager. The Project Manager is responsible for:</p> <ul style="list-style-type: none"> <li>• Implementation of the ECIMP to minimise environmental impacts from the project;</li> <li>• Ensuring the mitigation measures detailed in this ECIMP, including the community education program, are implemented;</li> <li>• Ensuring a review of this ECIMP is undertaken in year 3 in the first instance and then at intervals of not less than five years or sooner if required. Any significant or unexpected alteration in the proposed development may require the ECIMP to be revised and amended accordingly. Any changes or amendments to the ECIMP will be confirmed by the Principal;</li> </ul>	<p>Lendlease Communities (Shoreline) Pty Ltd is the Project Manager, with Saunders Havill Group assistance as necessary.</p>



No.	Commitment	Evidence/comments/status
<b>ECIMP-32</b>	<p data-bbox="557 536 770 563"><u>Designated Person</u></p> <p data-bbox="557 579 1245 606">The roles and responsibilities of the Designated Person are to:</p> <ul data-bbox="607 272 1440 1230" style="list-style-type: none"> <li data-bbox="607 272 1368 336">• Keeping up-to-date records of all disturbance incidence reports, monitoring events, results and corrective actions;</li> <li data-bbox="607 352 1384 416">• Reviewing and advising the DoEE of any proposed changes to the ECIMP; and</li> <li data-bbox="607 432 1384 496">• Designate suitable experienced persons for the management and auditing of the ECIMP as required.</li> <li data-bbox="607 624 1397 687">• Liaise with the Project Manager to facilitate compliance with legislation, Council policy and conditions during the development;</li> <li data-bbox="607 703 1424 799">• Conduct audit inspections as required /requested during earthworks, and clearing or other inspections as triggered by environmental events or incidents;</li> <li data-bbox="607 815 1406 879">• Advise the Project Manager on the compliance and effectiveness of the ECIMP/Site Instructions and its implementation;</li> <li data-bbox="607 895 1440 1023">• Immediately contact the Project Manager regarding any environmental incidents that have the potential to cause environmental harm to Moreton Bay and request written details within 24 hours of occurrence;</li> <li data-bbox="607 1038 1440 1134">• Issue Site Instructions (for correction of non-compliance) to the Project Manager within three (3) days of inspections and completion of the Inspection Procedures and Checklist(s);</li> <li data-bbox="607 1150 1424 1230">• Maintain accurate reports (incidents, near miss, results of monitoring) to be provided to DoEE within ten days of request.</li> </ul>	<p data-bbox="1451 536 2022 632">Saunders Havill Group and BAAM are both jointly considered Designated Persons for the purposes of implementing the ECIMP.</p>

No.	Commitment	Evidence/comments/status
<b>REPORTING</b>		
<b>ECIMP-33</b>	<p>A monitoring report will be prepared at the end of each annual monitoring period, noting any significant changes in measured variables, trends and conditions to ensure alignment with DoEE reporting requirements. The report will include tabulated data (migratory shorebird census and feeding habitat quality, records of disturbances, vegetation health and stormwater outlet site stability) from all monitoring events to allow assessment of trends. A copy of the yearly report will be provided for Annual Compliance Reporting documentation.</p>	<p>Annual monitoring and reporting commitments are not yet applicable, as the project is still in the pre commencement, construction and operational monitoring phase. Construction within 250 m of Moreton Bay is proposed to commence in 2024.</p>
<b>ECIMP-34</b>	<p>Should monitoring results indicate a decline in Eastern Curlew densities, foraging habitat quality, or foraging habitat extent; the following information will be reported to DoEE within 14 days of noting the decline/s:</p> <ul style="list-style-type: none"> <li>• the nature of the decline (Eastern Curlew densities, foraging habitat quality/extent);</li> <li>• where the decline has been detected;</li> <li>• how the decline was evidenced;</li> <li>• suspected cause of decline and whether the decline is attributable to the development;</li> <li>• corrective actions proposed, and why they are likely to be effective.</li> </ul>	
<b>ECIMP-35</b>	<p>The results of each monitoring period will be publicly available on the developers' website for the life of the project.</p>	
<b>AUDITING</b>		
<b>ECIMP-36</b>	<p>On completion of each state of development within areas adjacent to the foreshore and prior to occupation, a suitably experienced, independent ecologist (auditor) will be engaged to inspect lighting, signage and retained</p>	<p>This commitment is not yet applicable, as no development stages within areas adjacent to the foreshore have commenced during the current reporting period.</p>

No.	Commitment	Evidence/comments/status
	<p>mangrove vegetation to ensure all mitigation measures provided in the ECIMP have been implemented.</p> <p>On a yearly basis the auditor will review the Project Manager’s incidence reports and the yearly targeted shorebird survey reports to ensure the mitigation measures and any necessary corrective actions specified within this ECIMP have been undertaken to ensure the objectives of this ECIMP have been achieved.</p> <p>Any reported breaches of the mitigation measures detailed in this ECIMP will trigger the need for additional auditing to ensure corrective actions have been implemented and the reported breach has been rectified.</p>	

## 5. WQMP implementation table

The implementation status of the WQMP is detailed in **Table 4**. The construction phase requirements specified in the approved WCMP are triggered when works commence in catchments that drain directly to Moreton Bay.

**Table 4: WQMP implementation table**

No.	Commitment	Evidence/comments/status
<b>DESIGN OBJECTIVES – CONSTRUCTION PHASE</b>		
<b>WQMP-1</b>	<p>Design objectives presented below are to be used to demonstrate how the proposed development will comply with the mandatory stormwater management objectives required by the SPP (<i>SPP DSDIP, 2017 Appendix 2: Stormwater Management Objectives</i>). Stormwater management design objectives for the Construction Phase are outlined in Table 4 (WQMP).</p> <p>The developer must demonstrate via modelling and reporting in SQMPs how these objectives will be met prior to the development being approved and constructed.</p>	<p>In general, stage specific Stormwater Management Plans (SMPs) are submitted to Redlands City Council as a part of each Reconfiguring A Lot application. These SMPs specifically reference the required design contained within Table 4, and demonstrate via stormwater quality modelling how the proposed stormwater solutions will enable the development to meet these objectives.</p> <p>No construction has commenced in catchments draining directly to Moreton Bay. Therefore, no SMPs relating to development in catchments draining directly into Moreton Bay have been prepared in accordance with the approved WQMP at this point in time.</p>
<b>DESIGN OBJECTIVES – OPERATIONAL PHASE</b>		
<b>WQMP-2</b>	<p>The stormwater quality management design objectives that apply to the Operational Phases of Shoreline Redlands are listed in Table 5 (WQMP). These load reduction targets are aimed at protecting the environmental values of Moreton Bay from the impacts of urban stormwater runoff. The objectives and load targets will be achieved through a combination of stormwater treatment measures including bioretention and wetland systems, sediment basins and revegetated waterways. These are to be documented in Stormwater Quality Management Plans (SQMPs)</p>	<p>In general, stage specific Stormwater Management Plans (SMPs) are submitted to Redlands City Council as a part of each Reconfiguring A Lot application. These SMPs specifically reference the required design contained within Table 4, and demonstrate via stormwater quality modelling how the proposed stormwater solutions will enable the development to meet these objectives.</p>

No.	Commitment	Evidence/comments/status
	<p>which will be submitted to Redland City Council for approval with each development application.</p>	<p>No construction has commenced in catchments draining directly to Moreton Bay. Therefore, no SMPs relating to development in catchments draining directly into Moreton Bay have been prepared in accordance with the approved WQMP at this point in time.</p>

### CONSTRUCTION SITE DISCHARGES – CONSTRUCTION AND OPERATIONAL PHASE

<p><b>WQMP-3</b></p>	<p>The State Planning Policy (DSDIP, July 2017) requires that runoff from areas greater than 2500m<sup>2</sup> must be provided with sediment controls that are designed to demonstrate compliance with the construction site discharge standards provided in Table 6 (WQMP). These standards are to apply at the point of release of flows from the construction site.</p> <p>In practice this objective requires the developer to implement High Efficiency Sediment basin (HES Basin) systems during construction phases. HES basins include automatic dosing of flocculants to ensure that the majority of construction runoff will be treated to a high standard.</p> <p>The HES basin monitoring and auditing requirements are described in further detail in Appendix A (WQMP).</p>	<p>In general, stage specific Stormwater Management Plans (SMPs) are submitted to Redlands City Council as a part of each Reconfiguring A Lot application. These SMPs specifically reference the required design contained within Table 4, and demonstrate via stormwater quality modelling how the proposed stormwater solutions will enable the development to meet these objectives.</p> <p>No construction has commenced in catchments draining directly to Moreton Bay. Therefore, no SMPs relating to development in catchments draining directly into Moreton Bay have been prepared in accordance with the approved WQMP at this point in time.</p>
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### WATER QUALITY OBJECTIVES – TRIGGER THRESHOLDS

<p><b>WQMP-4</b></p>	<p>The surface water quality trigger thresholds (80<sup>th</sup> percentile concentrations) for each parameter are shown in Table 7 (WQMP). Monitoring of water quality against trigger thresholds during construction and operational phases of the development will be used to initiate investigation and implementation of corrective actions. Where a trigger threshold is exceeded corrective measures will be undertaken to investigate the causes and identify actions to resolve or mitigate the non-compliance.</p>	<p>As stated in the WQMP Annual Compliance Letter, the WQMP has reached the completed 'Pre-construction (baseline) Monitoring' phase as of last year's reporting period. Therefore, no water quality monitoring was undertaken during the current reporting period. The 'Construction Monitoring' phase will begin once works have commenced in catchments draining directly into Moreton Bay.</p>
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No.	Commitment	Evidence/comments/status
<b>WATER QUALITY MONITORING PROGRAM</b>		
<b>WQMP-5</b>	Six water quality monitoring locations are proposed in Table 8, Figure 3 (WQMP). Sites 1 to 5 were used to collect baseline water quality data (discussed in Section 3) and are located within the proposed development areas. Site 6 has been selected as the reference (control) site for comparison with Sites 1-5 as each sub-catchment is developed.	The baseline monitoring undertaken during the previous year's reporting periods are available in the previous ACR documentation. This year's compliance is summarised in the DesignFlow Annual Compliance Letter 2022-2023 provided at <b>Appendix D</b> .
<b>WQMP-6</b>	The frequency and duration of the proposed water quality monitoring is summarised in Table 9 (WQMP). Due to the ephemeral hydrology of the waterways, post-event based sampling is proposed rather than ambient water quality monitoring. The triggers for all sampling will be following runoff producing rainfall and sampling will be completed following the rainfall event (prior to the cessation of flow).	No construction activities occurred within Catchments 1-5. Therefore, no construction phase monitoring was undertaken. Construction phase monitoring and reporting will occur once construction commences within catchments draining directly to Moreton Bay.
<b>WQMP-7</b>	A range of physico-chemical parameters has been selected for water quality monitoring that reflect the potential water quality impacts discussed in Section 6.2, Physico-chemical parameters to be monitored at Sites 1-6 are summarised in Table 10 (WQMP).	No operational phase monitoring was undertaken. Operational phase monitoring and reporting will occur once construction activities are completed within catchments draining directly to Moreton Bay.
All samples are to be collected, stored and transported via clear chain of custody and analysed by a NATA approved laboratory.		
<b>WQMP-8</b>	Concurrent with and in addition to the event based sampling, Construction Phase activities are required to undertake site discharge monitoring in accordance with the Best Practice Erosion and Sediment Control Guidelines (IECA, 2008). Discharge monitoring is to occur at the discharge location from each construction site and be sufficient to demonstrate compliance with the design objectives listed in Table 6 (WQMP).	WQMP-8 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.

No.	Commitment	Evidence/comments/status
<b>WQMP-9</b>	All monitoring data is to be logged and stored and made available for the reporting requirements listed in Section 7.4 (WQMP).	DesignFlow has provided the document entitled 'Annual Compliance Letter 2022-2023' (refer to <b>Appendix D</b> ) to report on compliance with the requirements of the approved WQMP for the current reporting period.
<b>WQMP-10</b>	<p>Surface water quality trigger thresholds are provided in Table 7 (WQMP). The water quality trigger thresholds apply to construction and operational phases of the development.</p> <p>Where a non-compliance is detected (i.e. exceedance of a trigger threshold), corrective measures will be undertaken to investigate the causes of the non-conformance, and identify actions to resolve or mitigate the non-compliance (Refer Section 8).</p>	WQMP-10 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.
<b>WQMP REPORTING</b>		
<b>WQMP-11</b>	<p>An Annual Environmental Report is to be prepared and published on the development website upon commencement of the Construction Phase and for the life of the project. The report will document:</p> <ul style="list-style-type: none"> <li>• Demonstrated compliance with project development conditions</li> <li>• Actions and activities undertaken during the 12 month period</li> <li>• Summarise results of event and construction site water quality monitoring activities</li> </ul>	<p>Saunders Havill Group has prepared this overarching Annual Compliance Report for publishing on the proponent's website to demonstrate:</p> <ul style="list-style-type: none"> <li>• how the project is complying with project development conditions, and</li> <li>• actions and activities undertaken during the 12 month period.</li> </ul> <p>DesignFlow has provided the document entitled 'Annual Compliance Letter 2022-2023' (refer to <b>Appendix D</b>) to report on compliance with the requirements of the approved WQMP for the current reporting period.</p>
<b>WQMP-12</b>	The monitoring of triggers for further investigation, implementation of corrective actions and reporting will be overseen by the superintendent for the site.	WQMP-12 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.

No.	Commitment	Evidence/comments/status
<b>WQMP-13</b>	Any non-compliance events that occur must be reported within two business days (or as specified) to the relevant government authority in accordance with development conditions.	WQMP-13 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.

**INDEPENDENT AUDIT**

<b>WQMP-14</b>	An independent audit of the monitoring program will occur every three (3) years after commencement of the project to evaluate the performance of the monitoring program in relation to the conditions of approval.	WQMP-14 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.
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**CORRECTIVE MEASURES**

<b>WQMP-15</b>	<p>Where monitoring indicates the construction phase standards identified in Table 6 are not being achieved, corrective actions will be undertaken to ensure that standards are achieved in future.</p> <p>Where the construction phase objectives described in Section 6.3.1 are not being met, the following corrective actions are to be implemented:</p> <ul style="list-style-type: none"> <li>• Undertake third party investigation by a Certified Professional in Erosion and Sediment Control (CPESC) to identify inadequacies in the erosion and sediment control strategy and prepare a Rectification Plan in consultation with Redland City Council. This assessment will be completed in accordance with the Department of Environment and Resource Management Procedural Guideline: Standard Work Method for the Assessment of the Lawfulness of Releases to Waters from Construction Sites – South-East Queensland.</li> <li>• Clean, reset, repair and amend erosion and sediment control measures as necessary to address any identified inadequacies and ensure the water quality objectives are not exceeded.</li> <li>• Construction works in the relevant catchment will cease if corrective measures proposed for that catchment are not implemented in accordance with the Rectification Plan.</li> </ul>	WQMP-15 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.
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No.	Commitment	Evidence/comments/status
<b>WQMP-16</b>	<p>Corrective measures associated with the operational phase of the development will be related to the function and operation of the stormwater treatment devices (such as bioretention systems, sediment ponds and constructed wetlands) that will be located within each development area.</p> <p>Where performance criteria outlined in Section 6.3.2 (Table 7) are not being met, the following corrective actions are to be implemented:</p> <ul style="list-style-type: none"> <li>Review water quality data to identify trends in water quality parameters and inspect constructed stormwater treatment systems to identify the source of non-compliance issues.</li> <li>Where sources are identified, investigate and identify rectification measures to improve water quality discharges. Rectification measures are to be documented in a Rectification Plan and be based on the approaches and methods outlined in the Rectifying Vegetated Stormwater Assets (Water by Design, 2012).</li> </ul>	<p>WQMP-16 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.</p>
<b>ADAPTIVE MANAGEMENT</b>		
<b>WQMP-17</b>	<p>Required maintenance will be completed within 24 hours, subject to site accessibility and health and safety requirements.</p>	<p>WQMP-17 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.</p>
<b>WQMP-18</b>	<p>Additional temporary controls, for example temporary works until permanent measures can be installed will be implemented until maintenance can be completed.</p>	<p>WQMP-18 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.</p>
<b>WQMP-19</b>	<p>Potential contamination, such as loss of sediment from construction areas, shall be contained and investigated. Water is not to be released until investigation has shown that water is of a suitable quality to comply with the discharge standards listed in Table 6</p>	<p>WQMP-19 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.</p>

No.	Commitment	Evidence/comments/status
<b>WQMP-20</b>	Incidents shall be documented, investigations conducted and action plans established so as to minimise the likelihood of the event recurring.	WQMP-20 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.

**RESPONSIBLE PERSONNEL**

<b>WQMP-21</b>	<p><u>Shoreline Principal</u></p> <p>The roles and general responsibilities of the Principal are to:</p> <ul style="list-style-type: none"> <li>• Comply with this Water Quality Management Plan (WQMP);</li> <li>• Comply with legislation and Council policy;</li> <li>• Nominate a Project Manager who will represent the Principal in reviewing the</li> <li>• performance of contractors and assess implementation of the construction and operation phase measures;</li> <li>• Provide appropriate and adequate resources to allow effective implementation and review of the WQMP;</li> <li>• Conduct periodic reviews of environmental performance;</li> <li>• Promptly notify regulatory authorities of any changes to this WQMP and its implementation, reporting or monitoring, and any breaches and proposed corrective actions<sup>1</sup>;</li> <li>• Report any environmental incidents that may have a significant impact on the surrounding environment to the relevant authorities (Redland City Council); and</li> <li>• Provide employees and contractors with relevant environmental instruction in relation to the WQMP and awareness and understanding of their obligations and duties.</li> </ul> <p>It will be the responsibility of the Principal to ensure that the contents of the WQMP are adequately communicated to all contractors, and that they are advised of the seriousness of potential impacts if the recommended actions are not taken.</p>	Lendlease Communities (Shoreline) Pty Ltd is the appointed Shoreline Principal for the purposes of the roles and general responsibilities outlined in WQMP-21.
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No.	Commitment	Evidence/comments/status
<b>WQMP-22</b>	<p data-bbox="271 280 454 304"><u>Project Manager</u></p> <p data-bbox="271 323 1122 384">This Water Quality Management Plan (WQMP) will be overseen by the Project Manager.</p> <ul data-bbox="320 403 1200 963" style="list-style-type: none"> <li data-bbox="320 403 1133 504">• The Project Manager is responsible for implementation of the WQMP, including; ensuring mitigation measures detailed in this plan are implemented;</li> <li data-bbox="320 523 1200 759">• ensuring a review of this WQMP is undertaken in year 3 in the first instance and then at intervals of not less than five years or that align with commencement/conclusion of construction or operational phases. Any significant or unexpected alteration in the proposed development may require the WQMP to be revised and amended accordingly. Any changes or amendments proposed to the WQMP will be forwarded to DES for comment/approval prior to their adoption;</li> <li data-bbox="320 778 1200 839">• keeping up-to-date records of all disturbance incidence reports, monitoring events, results and corrective actions;</li> <li data-bbox="320 858 1167 882">• reviewing and advising DES of any proposed changes to the WQMP; and</li> <li data-bbox="320 901 1111 963">• designating suitably experienced persons for the management and auditing of the WQMP as required.</li> </ul>	<p data-bbox="1218 280 2078 376">Lendlease Communities (Shoreline) Pty Ltd is the appointed Shoreline Project Manager for the purposes of the roles and general responsibilities outlined in WQMP-22.</p>
<b>WQMP-23</b>	<p data-bbox="271 1007 483 1031"><u>Designated person</u></p> <p data-bbox="271 1050 954 1074">The roles and responsibilities of the Designated Person are to:</p> <ul data-bbox="320 1093 1178 1353" style="list-style-type: none"> <li data-bbox="320 1093 1155 1153">• Liaise with the Project Manager to facilitate compliance with legislation, Council policy and conditions during the development;</li> <li data-bbox="320 1173 1178 1273">• Conduct audit inspections as required /requested during earthworks, and clearing or other inspections as triggered by environmental events or incidents;</li> <li data-bbox="320 1292 1155 1353">• Advise the Project Manager on the compliance and effectiveness of the WQMP /Site Instructions and its implementation;</li> </ul>	<p data-bbox="1218 1007 2134 1102">WQMP-23 was not applicable to the current reporting period, as construction and operational phases did not commence in the catchments draining directly to Moreton Bay.</p> <p data-bbox="1218 1161 2134 1225">An independent CPESC will be engaged as Designated Persons for the purposes of the roles and responsibilities outlined in WQMP-23.</p>

No.	Commitment	Evidence/comments/status
	<ul style="list-style-type: none"> <li>• Immediately contact the Project Manager regarding any environmental incidents that have the potential to cause environmental harm to Moreton Bay, request written details within 24 hours of occurrence, and issue Site Instructions for rectification/remediation to the Project Manager as soon as possible;</li> <li>• Issue Site Instructions (for correction of non-compliance) to the Project Manager within seven (7) days of inspections and completion of the Inspection Procedures and Checklist(s); and</li> <li>• Maintain accurate reports (incidents, near miss, results of monitoring) to be provided to DES within ten days of request.</li> </ul>	

**APPENDIX A – SPECIFIC CONSTRUCTION PHASE MONITORING AND AUDITING**

<b>WQMP-24</b>	<p>All exposed areas greater than 2500 m<sup>2</sup> must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).</p> <p>This will require an appropriately designed Type A or B High Efficiency Sediment (HES) basin in line with the latest design guidance.</p>	<p>WQMP-24 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.</p> <p>An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b>.</p>
<b>WQMP-25</b>	<p>HES Basins will be designed and operated in accordance Type A or B sediment basins as per the current versions of Appendix B Sediment basin design and operation (June Revision) of IECA (2008).</p>	<p>WQMP-25 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.</p> <p>An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b>.</p>
<b>WQMP-26</b>	<p>Automated flocculant dosing will be undertaken in response to inflow and outflow turbidity monitoring.</p>	<p>WQMP-26 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.</p>

No.	Commitment	Evidence/comments/status
<b>WQMP-27</b>	The design flowrate has been selected as the flowrate which will ensure >80% of the annual average runoff volume is treated by the system (i.e. 80% hydrologic effectiveness or HE).	An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b> .
<b>WQMP-28</b>	Flow monitoring is typically achieved using a depth sensor, with depth readings converted to flow via a rating curve. The depth sensor therefore needs to be positioned in a location where accurate depth readings can be established and where a reliable rating curve (depth-flow relationship) is known. In order to deliver all flows from the disturbed catchment to a single point for flow gauging and dosing, a bund and culvert system will be required.	WQMP-27 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.  An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b> .  WQMP-28 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.  An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b> .
<b>WQMP-29</b>	pH and turbidity monitoring is to occur at the inlet and the outlet of HES Basins to verify the performance of the systems.	WQMP-29 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.  An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b> .
<b>WQMP-30</b>	The developer is required to supply, install and operate the automated monitoring and flocculant dosing system for the duration of the period of the works. The system is required to meet the following requirements: <ul style="list-style-type: none"> <li>• The system must be able to treat at the required Design Maximum Flow rate</li> <li>• Continuous inflow depth/flow, pH and turbidity monitoring is required</li> <li>• Automated flocculant dosing of the inflow is required and must be proportional to the flowrate and level of contamination (turbidity) of the incoming flow</li> </ul>	WQMP-30 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.  An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b> .

No.	Commitment	Evidence/comments/status
	<ul style="list-style-type: none"> <li>• A chemical flocculant is to be provided which is fast-acting and which can achieve a concentration of 50mg/L of TSS within a 250 mL jar within a maximum of 3 hours. The flocculant must have low ecotoxicity and the MSDS and any environmental toxicity reports must be provided to the Principal prior to use</li> <li>• An adequate supply of the chemical flocculant is to be maintained on site at all times</li> <li>• Continuous turbidity and pH monitoring must be undertaken of the outflow from the basin</li> <li>• All monitoring sensors and anchoring points must be suitable for the expected</li> <li>• flowrates, debris loadings and water quality for the duration of the period of the works</li> <li>• All monitoring data is to be logged and stored and made available for reporting</li> <li>• Turbidity and pH data to be recorded and sent real time to cloud based system via telemetry. Where data indicates non-compliance with discharge standards (Section 6.3.1) the Principal Contractor and developer are to be notified via text message (SMS).</li> <li>• The system is to be provided with a roofed shelter, mains power plus a back-up power supply. Bunding of all areas where chemicals are stored is to be provided based on 110% of the maximum chemical volume.</li> <li>• The system is to be sited and provided with an adequate access track such that it remains accessible to service vehicles such as flocculant delivery during all weather.</li> </ul>	
<b>WQMP-31</b>	<p>The developer will nominate a Principal Contractor to undertake the works and to act as the clients representative. Site inspections and monitoring are to be undertaken by the principal contractor in accordance with Sections 6.17 and 7.4 of the Best Practice Erosion and Sediment Control Document (IECA, 2008) as detailed</p>	<p>WQMP-31 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.</p>

No.	Commitment	Evidence/comments/status
	<p>below. Best practice site management requires all ESC measures to be inspected at the following frequencies and include the following checks as a minimum:</p> <p>Daily site inspections (during rainfall):</p> <ul style="list-style-type: none"> <li>• All drainage, erosion and sediment control measures</li> <li>• Occurrences of excessive sediment deposition (whether on-site or off-site)</li> <li>• All site discharge points (including dewatering activities as appropriate)</li> <li>• Weekly site inspections (even if work is not occurring on-site)</li> <li>• All drainage, erosion and sediment control measures</li> <li>• Occurrences of excessive sediment deposition (whether on-site or off-site)</li> <li>• Occurrences of construction materials, litter or sediment placed, deposited, washed or blown from the site, including deposition by vehicular movements</li> <li>• Litter and waste receptors</li> <li>• Oil, fuel and chemical storage facilities</li> <li>• Prior to anticipated runoff producing rainfall (within 24 hours of expected rainfall)</li> <li>• All drainage, erosion and sediment control measures</li> <li>• All temporary flow diversion and drainage works</li> </ul> <p>Following runoff producing rainfall (within 18 hours of rainfall event)</p> <ul style="list-style-type: none"> <li>• All drainage, erosion and sediment control measures</li> <li>• Occurrences of excessive sediment deposition (whether on-site or off-site)</li> <li>• Occurrences of construction materials, litter or sediment placed, deposited, washed or blown from the site, including deposition by vehicular movements</li> </ul>	<p>An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b>.</p>
<b>WQMP-32</b>	<p>The ESC measures implemented at the site are to be inspected on a monthly basis by a Certified Professional in Erosion and Sediment Control (CPESC) who is</p>	<p>WQMP-32 was not applicable to the current reporting period, as construction phases did not commence in the catchments draining directly to Moreton Bay.</p>

No.	Commitment	Evidence/comments/status
	<p>independent of the principal contractor and an audit report kept on file. The purpose of the audits to is to ensure the developed and the contractors are meeting their obligations for ESC under the Environmental Protection Act (EP Act). The site will be assessed against these requirements in accordance with Procedural Guideline: Standard work method for the assessment of the lawfulness of releases to waters from construction sites in South East Queensland EM1135 (DEHP, 2011).</p> <p>The compliance audits will involve:</p> <ul style="list-style-type: none"> <li>• Site inspection with the contractors to assess ESC actions on the site against the ESC plans and the requirements of EP Act and Procedural Guideline: Standard work method for the assessment of the lawfulness of releases to waters from construction sites in South East Queensland EM1135 (DEHP, 2011).</li> <li>• Identifying non-compliances on the site, photographing and recording these for reporting.</li> <li>• Where the rectification action is simple, these will be recorded and verbally communicated to the contractor for action.</li> <li>• Review of any water quality and rainfall information for the site.</li> <li>• Compilation of a ESC Audit report which:               <ul style="list-style-type: none"> <li>○ Identifies the ESC obligations;</li> <li>○ ESC issue and non-compliances;</li> <li>○ Actions (simple) to be taken to rectify the issues and non-compliances.</li> </ul> </li> </ul> <p>The triggers for inspections and reporting by the CPESC are as follows:</p> <ul style="list-style-type: none"> <li>• Prior to the commencement of clearing works in each catchment;</li> <li>• Prior to the commencement of bulk earthworks;</li> <li>• Prior to the commencement of civil works; and</li> <li>• At regular monthly intervals during works.</li> </ul>	<p>An independent CPESC will be engaged by the Project Manager to undertake compliance audits as per <b>Appendix A</b>.</p>



## 6. Appendices

### Appendix A

EPBC Act approval granted 26 April 2018

### Appendix B

Fauna Spotter Catcher Report  
September 2022 & June 2023

### Appendix C

Pre-commencement monitoring for the Shoreline Eastern Curlew Impact Management Plan 2022/2023  
BAAM 2023

### Appendix D

DesignFlow Annual Compliance Letter 2022-2023

# Appendix A

EPBC Act approval granted 26 April 2018



**APPROVAL**

**Shoreline urban village development, Redlands Bay, Qld (EPBC 2016/7776)**

This decision is made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

**Details**

<b>Person to whom the approval is granted (approval holder)</b>	Shoreline Redlands Pty Ltd
<b>ACN or ABN of approval holder</b>	ACN 163 078 715
<b>Action</b>	To develop an urban village within a footprint of 279.5 hectares in Redland Bay, Queensland [See EPBC Act referral 2016/7776]

**Approval decision**

My decision on whether or not to approve the taking of the action for the purposes of each controlling provision for the action are as follows:

**Controlling Provisions**

<b>Wetlands of international importance</b>	
Section 16	Approve
Section 17B	Approve
<b>Listed Threatened Species and Communities</b>	
Section 18	Approve
Section 18A	Approve
<b>Listed migratory species</b>	
Section 20	Approve
Section 20A	Approve

**Period for which the approval has effect**

This approval has effect until Wednesday, 31 March 2038

**Decision-maker**

<b>Name and position</b>	Nathan Hanna Acting Assistant Secretary Assessments and Governance Branch
<b>Signature</b>	
<b>Date of decision</b>	26 April 2018

**Conditions of approval**

This approval is subject to the conditions under the EPBC Act as set out in ANNEXURE A.



---

## ANNEXURE A – CONDITIONS OF APPROVAL

### Project site

1. The **approval holder** must ensure that development associated with the action occurs within the **site** identified in **Attachment A1** as the Application Area.
2. The **approval holder** must ensure that no buildings are constructed within the Foreshore Subprecinct as identified at **Attachment A2** except barbeque shelters, picnic shelters, and toilet amenities.

### Shorebird management

3. For the period for which this approval has effect, the **approval holder** must ensure there is no decline in eastern curlew (*Numenius madagascariensis*) density, foraging habitat quality, or foraging habitat extent in the site identified as 'shorebird foraging habitats' at **Attachment A3**, compared to **pre-commencement**, as a result of the approved action.
4. The **approval holder** must prepare and submit an Eastern Curlew Management Plan (ECIMP) to the **Minister** before **commencement**. In addition to the detail provided in *Eastern Curlew Impact Management Plan – Shoreline Redlands – 20 July 2017*, the ECIMP must include:
  - a. a scientifically valid monitoring program, sufficient to:
    - i. determine **pre-commencement** eastern curlew density, foraging habitat quality and foraging habitat extent;
    - ii. detect **impacts** on the matters identified in condition 4(a)(i); and
    - iii. delineate **impacts** due to the action from **impacts** due to natural or other anthropogenic causes;
  - b. contingency measures to be implemented (such as fencing) in the event that monitoring identifies that the outcome described in condition 3 is not met;
  - c. a timeframe for when contingency measures will be implemented;
  - d. details of reporting to be provided to the **Department** in the event that the outcome described in condition 3 is not met; and
  - e. provisions to make monitoring results publicly available on the **approval holder's** website for the life of the project.
5. The ECIMP, including any revised plans, must be peer reviewed by a **suitably qualified person**. The peer review must be submitted to the **Minister** together with the ECIMP and a statement from the **suitably qualified person** stating that they carried out the peer review and evaluated the adequacy of the monitoring, mitigation and management measures proposed. The approved ECIMP must be implemented by the **approval holder**.



6. The **approval holder** must not:
- a. undertake construction within 250m of the Moreton Bay Ramsar wetland between 1 September and 30 March; or
  - b. facilitate public access to the Moreton Bay Ramsar wetland,

until the ECIMP has been approved by the **Minister** in writing and **pre-commencement** eastern curlew density, foraging habitat quality and foraging habitat extent has been determined.

#### **Water quality management**

7. The **approval holder** must prepare and submit a Water Quality Management Plan (WQMP) to the **Minister** before **commencement**. In addition to the detail provided in *Shorelines Redland Water Quality Management Plan – June 2017*, the WQMP must accord with **national water quality guidelines** and include:
- a. a monitoring program sufficient to determine **pre-commencement** water quality within all catchments within the **site** and at a reference/control monitoring site;
  - b. a rationale for the sampling effort undertaken to determine **pre-commencement** water quality and justify the selection of the reference/control monitoring site with respect to the potential **impacts** of the action and the objectives of the WQMP;
  - c. details of ongoing monitoring locations and the parameters to be monitored;
  - d. proposed early warning indicators, trigger thresholds and limits for detecting **impacts** on surface water quality;
  - e. contingency measures to be implemented in the event that trigger thresholds are breached; and
  - f. provisions to make monitoring results publicly available on the **approval holder's** website for the life of the project.
8. The WQMP, including any revised plans, must be peer reviewed by a **suitably qualified person**. The peer review must be submitted to the **Minister** together with the WQMP and a statement from the **suitably qualified person** stating that they carried out the peer review and evaluated the adequacy of the monitoring, mitigation and management measures proposed.
9. The **approval holder** must not **commence** until the WQMP has been approved by the **Minister** in writing. The approved WQMP must be implemented by the **approval holder**.

#### **General**

10. Within 20 days after the **commencement** of the **action**, the **approval holder** must advise the **Department** in writing of the actual date of **commencement**.



11. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.
12. Within three months of every 12 month anniversary of the **commencement** of the action, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published. Reports must remain on the website for the period this approval has effect. The **approval holder** may cease preparing and publishing compliance reports required by this condition with written agreement of the **Minister** to do so.
13. Upon the direction of the **Minister**, the **approval holder** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.
14. The **approval holder** may choose to revise a plan approved by the **Minister** under Conditions 4 or 7 without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the revised plan would not be likely to have a new or increased **impact**. If the **approval holder** makes this choice they must:
  - i. notify the **Department** in writing that the approved plan has been revised and provide the **Department** with an electronic copy of the revised plan;
  - ii. implement the revised plan from the date that the plan is submitted to the **Department**; and
  - iii. for the life of this approval, maintain a record of the reasons the **approval holder** considers that taking the action in accordance with the revised plan would not be likely to have a new or increased **impact**.
- 14A. The **approval holder** may revoke its choice under Condition 14 at any time by notice to the **Department**. If the **approval holder** revokes the choice to implement a revised plan without approval under section 143A of the **EPBC Act**, the **approval holder** must implement the version of the plan most recently approved by the **Minister**.
- 14B. Condition 14 does not apply if the revisions to the approved plan include changes to environmental offsets provided under the plan in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the **Minister**. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised plan would, or would not, be likely to have new or increased **impacts**.



14C. If the **Minister** gives a notice to the **approval holder** that the **Minister** is satisfied that the taking of the action in accordance with the revised plan would be likely to have a new or increased **impact**, then:

- i. Condition 14 does not apply, or ceases to apply, in relation to the revised plan; and
- ii. the **approval holder** must implement the version of the plan most recently approved by the **Minister**.
- iii. to avoid any doubt, this condition does not affect any operation of Conditions 14, 14A and 14B in the period before the day after the notice is given.

At the time of giving a notice under condition 14A, the **Minister** may also notify that for a specified period of time condition 14 does not apply for one or more specified plans required under the approval.

14D. Conditions 14, 14A, 14B and 14C are not intended to limit the operation of section 143A of the **EPBC Act** which allows the **approval holder** to submit a revised plan to the **Minister** for approval.

15. If, at any time after five years from the date of this approval, the **approval holder** has not **commenced** the **action**, then the **approval holder** must not **commence** the action without written agreement from the **Minister**.

16. Unless otherwise agreed to in writing by the **Minister**, the **approval holder** must publish all management plans referred to in these conditions of approval on its website. Each management plan must be published on the website within one month of being approved by the **Minister** or being submitted under conditions 4, 7 or 14.

### Definitions

**Approval holder:** means the person to whom the approval is granted or any person acting on their behalf, or to whom the approval is transferred under section 145B of the **EPBC Act**.

**Commence/commencement** means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; excluding the installation of fences and signage.

**Department** means the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*.

**EPBC/ EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

**Impact/s:** as defined in section 527E of the EPBC Act.



**Minister** means the Minister administering the Environment Protection and Biodiversity Conservation Act 1999 and includes a delegate of the Minister.

**National water quality guidelines** means guidelines under the *National Water Quality Management Strategy* including the *Australian and New Zealand guidelines for fresh and marine water quality – 2000* or future revisions of these guidelines.

**Site** means the area shown as the Application Area shown at Attachment A.

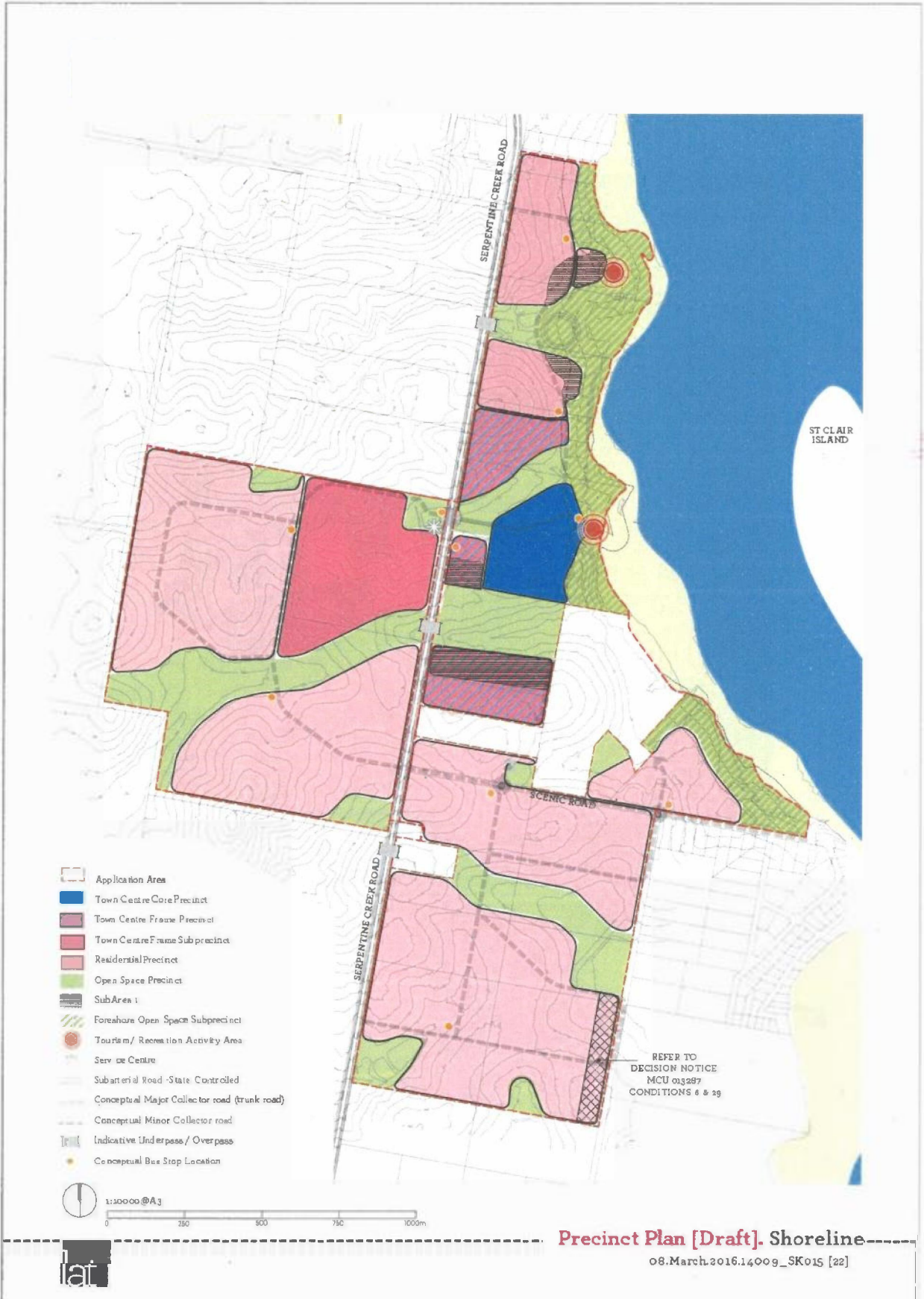
**Suitably qualified person** means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.





**ATTACHMENTS**

**1. Attachment A1:**





2. Attachment A2:



**SURVEYORS | PLANNERS | DEVELOPMENT ADVISORS**  
 jensenbowers.com.au  
 120 South Street, Perth Western Australia 6000 | Phone: (08) 9442 6177  
 120 South Street, Perth Western Australia 6000 | Phone: (08) 9442 6177

Project: Hobson Bay  
 Date: 27/11/2017  
 File: 17040104-01-1-01-01-01  
 Scale: 1:1000  
 Conceptual Masterplan - EPBC  
 Shoreline - Redland Bay  
 Hobson Bay Southpark (Coastal Development) & Subjacent City Land



# Appendix B

Fauna Spotter Catcher Report  
September 2022 & June 2023



September  
2022

# Fauna Management and Spotter/Catcher Services Report

Shoreline  
325 Serpentine Creek Road, Redland Bay  
Report prepared for Shadforth Civil Pty Ltd

Report prepared by  
QLD Fauna Consultancy Pty Ltd  
Phone: (07) 3376 9780  
Email: [fauna@qfc.com.au](mailto:fauna@qfc.com.au)

Date:	18/09/2022
Title:	Fauna Management and Spotter/Catcher Services Report Shoreline – 325 Serpentine Creek Road, Redland Bay
Author/s:	Bryan Robinson, Jasmine Zeleny
Reviewed by:	Bryan Robinson
Field personnel:	Stefan Szwedzinski
Status:	Final Report
Filed as:	QFC FMR Shadforth Redland Bay Sep 2022.doc

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## 1 Introduction

Qld Fauna Consultancy Pty Ltd has been engaged by Shadforth Civil Pty Ltd to conduct Fauna Spotter/Catcher and Fauna Management activities for works at Shoreline 325 - Serpentine Creek Road, Redland Bay.

All activities were conducted under the provisions of Rehabilitation Permit (WA0026789) issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), approving the observation and relocation of protected animals.

This report covers clearance activities undertaken on 14<sup>th</sup> September 2022.

## 2 Methodology

### 2.1 Clearance Investigations

A standard set of observational and active searching techniques were employed on the day of clearance to ascertain and identify existing fauna values for each location. These include:

- Assessment of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, fallen branches and bark exfoliations,
- Observation and assessment of occupancy of arboreal microhabitats such as tree hollows, fissures and exfoliations,
- Direct observation of active or exposed fauna,
- Identification of scats, tracks and scratchings to determine fauna present on the site.

All microhabitats were identified and subsequently inspected during clearance.

### 2.2 Specific methodology for Koalas *Phascolarctos cinereus*

Due to the specific requirements relating to the Koala the following techniques were employed at the clearance site to ascertain presence/absence status:

- Use of binoculars to inspect the crown, forks and trunk of trees;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

Recent changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees.

Further provisions include the restriction of all clearance that may directly interfere with the tree a Koala is residing in. Koalas are to leave via their own volition and may not be interfered with by any means. Only when Koalas have vacated a tree can clearance operations include the host tree and surrounding vegetation.



## 2.3 Felling Procedures

Trees identified as having potential fauna values (such as hollows, fissures and exfoliating bark) were clearly marked for supervision during felling and inspected once felled. Efforts were made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks). Where no signs were found or occupant species undeterminable, machinery operators were instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

Limbs were inspected and the direction of felling determined with regards to safety of both machinery and operators. Considerations to potentially occupant fauna were assessed and felling procedures formulated. Felling procedures may have included the following techniques:

- Machinery blades were utilised to shake the tree in an attempt to disturb fauna out of hollows or fissures to determine species present.
- If fauna were present, the tree was either left standing overnight to allow the occupant animal(s) time to leave via their own volition, or if species detected were able to be encouraged from the tree by shaking or direct capture by a wildlife spotter(s). The tree was felled with considerations to potentially undetected fauna.
- Where possible potentially occupied trees were felled with the identified microhabitat receiving minimal contact on impact.
- Adjacent felled trees were utilised to absorb the impact of potential fauna bearing trees.

## 2.4 Communications during Clearance

Each spotter/catcher was equipped with a hand held radio to make positive communications with machinery operators. Communications by radio and positive hand signals were utilised to indicate intentions to machinery operators.

### 3 Results

The following daily inventory details fauna based investigation results for the clearing area. Inspection activities, location, habitat values and fauna found are documented where required.

#### Wednesday 14<sup>th</sup> September 2022

- Pre-clearance activities carried out (refer to Methodology) at 325 Serpentine Creek Road, Redland Bay
- Vegetation clearance carried out at 325 Serpentine Creek Road, Redland Bay
- Refer to **Fauna Register** for fauna found
- 0 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 2

Nest (N) Y N Hollows (H) Y N Arboreal termitaria (ATM) Y N

No. & size of hollow/s (mm): 0-49: 2, 50-99: 1, 100-149: 1, 150-199: 1

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

## 4 Fauna Register

Collectors Name	Date	Time	Capture Location	Capture Location		Count Type	Status	Common Name - Scientific Name	Count	Release Details			Actions				Release Location Description	Comments	
				Latitude	Longitude					Date	Latitude	Longitude	R1	R2	D	I			
Stefan Szwedzinski	14/09/2022	11:07	Shoreline – 325 Serpentine Creek Road, Redland Bay	-27.6654	153.2989	Alive	Least Concern	Tree Martin <i>Petrochelidon nigricans</i>	1	14/09/2022	NA	NA		X					6x eggs taken to wildlife carer Chris Talbot – Slacks Creek, 0410 609 534

## 5 Conclusion

All vegetation clearance was supervised as requested by Shadforth Civil Pty Ltd and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

No Koalas were observed during clearance. 6x Tree Martin *Petrochelidon nigricans* eggs were taken to a certified wildlife carer. No other fauna required mitigation during clearing activities.

All supervised clearance activities were conducted with the full co-operation of onsite personnel and machinery operator/s.

## 6 References

Department of Environment and Heritage Protection (2017) *Nature Conservation (Koala) Conservation Plan 2017*. Queensland Government.

### References for nomenclature

Menkhorst, K. & Knight, F. (2011) *A Field Guide to the Mammals of Australia*. 3<sup>rd</sup> edn. Oxford University Press, South Melbourne.

Simpson, K. & Day, N. (2004) *Field Guide to the Birds of Australia*. Penguin Group, Australia

Strahan, R. And Van Dyck, S. (2008) *The Mammals of Australia*, 3<sup>rd</sup> edn Sydney: New Holland Publishers.



June 2023

# Fauna Management and Spotter/Catcher Services Report

Shoreline Avenue, Redland Bay  
Report prepared for Golding Contractors Pty Ltd



Report prepared by  
QLD Fauna Consultancy Pty Ltd  
Phone: (07) 3376 9780  
Email: [fauna@qfc.com.au](mailto:fauna@qfc.com.au)

Date:	30/06/2023
Title:	Fauna Management and Spotter/Catcher Services Report Shoreline Avenue, Redland Bay
Author/s:	Bryan Robinson, Tamara Cantwell
Reviewed by:	Jasmine Zeleny
Field personnel:	Rebecca Ferris
Status:	Final Report
Filed as:	QFC FMR Golding Redland Bay June 2023.doc

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## 1 Introduction

Qld Fauna Consultancy Pty Ltd has been engaged by Golding Contractors Pty Ltd to conduct Fauna Spotter/Catcher and Fauna Management activities for works at Shoreline Avenue, Redland Bay.

All activities were conducted under the provisions of Rehabilitation Permit (WA0026789) issued to Queensland Fauna Consultancy Pty Ltd by the Department of Environment and Science (DES), approving the observation and relocation of protected animals.

This report covers clearance activities undertaken in June 2023.

## 2 Methodology

### 2.1 Clearance Investigations

A standard set of observational and active searching techniques were employed on the day clearance to ascertain and identify existing fauna values for each location. These include:

- Assessment of terrestrial microhabitats such as ground hollows, rock, burrows, leaf litter, fallen branches and bark exfoliations,
- Observation and assessment of occupancy of arboreal microhabitats such as tree hollows, fissures and exfoliations,
- Direct observation of active or exposed fauna,
- Identification of scats, tracks and scratchings to determine fauna present on the site.

All microhabitats were identified and subsequently inspected during clearance.

### 2.2 Specific methodology for Koalas *Phascolarctos cinereus*

Due to the specific requirements relating to the Koala the following techniques were employed at the clearance site to ascertain presence/absence status:

- Use of binoculars to inspect the crown, forks and trunk of trees;
- 'Drip zone' searches at the base of known food trees for the presence of scats to a radius equal to that of the crown of individual trees;
- Inspection of trunks for scratchings indicative of use by Koalas.

Recent changes to Koala management strategies highlighted in the *Nature Conservation (Koala) Conservation Plan 2017* have resulted in particular conditions placed on vegetation clearance involving the removal of Koala food trees.

Further provisions include the restriction of all clearance that may directly interfere with the tree a Koala is residing in. Koalas are to leave via their own volition and may not be interfered with by any means. Only when Koalas have vacated a tree can clearance operations include the host tree and surrounding vegetation.

### **2.3 Felling Procedures**

Trees identified as having potential fauna values (such as hollows, fissures and exfoliating bark) were clearly marked for supervision during felling and inspected once felled. Efforts were made to determine potentially occupant species by way of investigations for indicative signs (scats, scratchings and tracks). Where no signs were found or occupant species undeterminable, machinery operators were instructed to fell trees in a manner directed at minimising the potential risk of injury to fauna.

Limbs were inspected and the direction of felling determined with regards to safety of both machinery and operators. Considerations to potentially occupant fauna were assessed and felling procedures formulated. Felling procedures may have included the following techniques:

- Machinery blades were utilised to shake the tree in an attempt to disturb fauna out of hollows or fissures to determine species present.
- If fauna were present, the tree was either left standing overnight to allow the occupant animal(s) time to leave via their own volition, or if species detected were able to be encouraged from the tree by shaking or direct capture by a wildlife spotter(s). The tree was felled with considerations to potentially undetected fauna.
- Where possible potentially occupied trees were felled with the identified microhabitat receiving minimal contact on impact.
- Adjacent felled trees were utilised to absorb the impact of potential fauna bearing trees.

### **2.4 Communications during Clearance**

Each spotter/catcher was equipped with a hand-held radio to make positive communications with machinery operators. Communications by radio and positive hand signals were utilised to indicate intentions to machinery operators.

### 3 Results

The following daily inventory details fauna-based investigation results for the clearing area. Inspection activities, location, habitat values and fauna found are documented where required.

#### Friday 30<sup>th</sup> June 2023

- Pre-clearance activities carried out (refer to Methodology) at End of Shoreline Avenue, Redland Bay
- Vegetation clearance carried out at End of Shoreline Avenue, Redland Bay
- 0 trees flagged
- One personnel in attendance

**Arboreal Microhabitats:** No. flagged tree/s felled: 0

Nest Y N Hollows Y N Arboreal termitaria Y N

No. & size of hollow/s (mm): 0

**Terrestrial Microhabitats:**

Hollow logs Y N Woody debris Y N Rock piles Y N Burrows Y N

Other: Timber stockpiles, Dense grass

**Aquatic habitat/s:** Dam Y N Creek Y N Wetland Y N

**No Fauna Found**

## 4 Conclusion

All vegetation clearance was supervised as requested by Golding Contractors Pty Ltd and in accordance with stipulations as expressed in the *Nature Conservation (Koala) Conservation Plan 2017*.

No koalas were observed during clearance and no other fauna required mitigation during clearing activities.

All supervised clearance activities were conducted with the full co-operation of onsite personnel and machinery operator/s.

## 5 References

Department of Environment and Heritage Protection (2017) *Nature Conservation (Koala) Conservation Plan 2017*. Queensland Government.

### References for nomenclature

Menkhorst, K. & Knight, F. (2011) *A Field Guide to the Mammals of Australia*. 3<sup>rd</sup> edn. Oxford University Press, South Melbourne.

Strahan, R. And Van Dyck, S. (2008) *The Mammals of Australia*, 3<sup>rd</sup> edn Sydney: New Holland Publishers.

# Appendix C

Pre-commencement monitoring for the  
Shoreline Eastern Curlew Impact  
Management Plan 2022/2023 BAAM 2023

29 June 2023

Philip Mann  
Senior Development Manager, Communities  
Lendlease  
Kings Gate, 2 King St, Bowen Hills QLD 4006  
[REDACTED]

Dear Phil



**RE: Pre-commencement Monitoring for the Shoreline Eastern Curlew Impact Management Plan and Bayhill Estate Eastern Curlew Impact Management Plan 2022/23**

Biodiversity Assessment and Management Pty Ltd (BAAM) was commissioned by LendLease to conduct pre-commencement monitoring obligations set out in the Shoreline and Bayhill Estate Eastern Curlew Impact Management Plans (ECIMPs). Please find attached our technical memorandum that details the survey approach and survey results. Most of these results were included in the revised Bayhill Estate ECIMP.

Yours sincerely



Dr Penn Lloyd  
**Principal Ecologist and Director**  
**Biodiversity Assessment and Management Pty Ltd**

File No	Author	Reviewer
0466-003b Version 0		

## 1.0 BACKGROUND AND STUDY OBJECTIVES

The Shoreline Eastern Curlew Impact Management Plan (ECIMP) outlines the monitoring commitments of the Shoreline Urban Development Project to meet the Commonwealth approval conditions for the project (EPBC 2016/7776) under the EPBC Act. The Bayhill Estate Eastern Curlew Impact Management Plan outlines the monitoring commitments of the Bayhill Estate development project (EPBC 2020/8863) under the EPBC Act. These commitments include monitoring of Eastern Curlew, foraging habitat quality and extent and disturbance during the pre-commencement, construction and operational phases of the two projects, with substantial overlap in the monitoring requirements for the two projects.

The Shoreline ECIMP specified that pre-commencement monitoring is to be undertaken between 1 September and 30 March in the year immediately prior to construction commencing within 250 metres of Moreton Bay. The Bayhill Estate ECIMP adjusted this schedule to include seven surveys between 1 September and 30 March and one winter survey. The winter period is thought to be a critical period for young Eastern Curlew that over-winter in Australia before they undertake their first return migration to their breeding grounds in north-eastern Asia when they are up to 3-4 years old. Thus, a winter survey was included to monitor use of the area by juvenile Eastern Curlew in the winter months, and to better capture seasonal variation in Eastern Curlew use of foraging habitats. The monitoring requirements for the pre-commencement phase are summarised in **Tables 1.1** and **1.2** below.

**Table 1.1. Pre-commencement Monitoring Commitments of the Shoreline ECIMP.**

ID	Commitment	Description	Purpose	Methods	Frequency
EC1	Eastern Curlew - Baseline survey of foraging habitat at Impact Site <sup>1</sup>	Survey of foraging habitat adjacent to development (Plan 5.1ECIMP) for targeted shorebirds	To provide baseline for future monitoring	DoEE / High powered telescope within 4 hour period either side of low tide.	Once – 8 pre-commencement monthly surveys between 1 Sept – 30 March in the year prior to construction
EC2	Eastern Curlew – Baseline survey of foraging habitat at control site (C1 <sup>2</sup> & C2 <sup>3</sup> )	Survey of foraging habitat at C1 & C2 for targeted shorebirds	To provide baseline for future monitoring	DoEE / High powered telescope within 4 hour period either side of low tide	Once – 8 pre-commencement monthly surveys between 1 Sept – 30 March in the year prior to construction
FQ1	Foraging Habitat Quality - Impact Site	Disturbance of targeted shorebirds adjacent to development	To provide baseline for future monitoring	Disturbance and shorebird density, recording signs of human/dog presence, mangrove inspection	Once – 8 pre-commencement monthly surveys between 1 Sept – 30 March in the year prior to construction
FE1	Foraging Habitat Extent	Mapping extent of intertidal mudflats	To provide baseline for future monitoring	Map extent of intertidal mudflats, record locations of EC	Once

<sup>1</sup> Shoreline mainland & St Clair Island (108.9 ha, EC density 4.4 birds / 100 ha)

<sup>2</sup> Oyster Point and Point O'Halloran (97ha, EC density 9.1 birds / 100ha)

<sup>3</sup> Point O'Halloran- Victoria Point and Victoria Point – Redland Bay N (83ha, EC density 22.7 birds / 100 ha)



**Table 1.2. Pre-commencement Monitoring Commitments of the Bayhill Estate ECIMP.**

ID	Commitment	Description	Purpose	Methods	Frequency
EC1	Eastern Curlew - Baseline survey of foraging habitat at Impact Site <sup>4</sup>	Survey of foraging habitat adjacent to development for targeted shorebirds	To provide baseline for future monitoring	DoEE / High powered telescope within 4 hour period either side of low tide.	Once – 7 pre-commencement monthly surveys between 1 Sept – 15 March and one survey between 1 May and 31 July in the year prior to construction
EC2	Eastern Curlew – Baseline survey of foraging habitat at control site (C1 <sup>5</sup> & C2 <sup>6</sup> )	Survey of foraging habitat at C1 & C2 for targeted shorebirds	To provide baseline for future monitoring	DoEE / High powered telescope within 4 hour period either side of low tide	Once – 7 pre-commencement monthly surveys between 1 Sept – 15 March and one survey between 1 May and 31 July in the year prior to construction
FQ1	Foraging Habitat Quality - Impact Site	Disturbance of targeted shorebirds adjacent to development	To provide baseline for future monitoring	Disturbance and shorebird density, recording signs of human/dog presence, mangrove inspection	Once – 7 pre-commencement monthly surveys between 1 Sept – 15 March and one survey between 1 May and 31 July in the year prior to construction
FE1	Foraging Habitat Extent	Mapping landward edge of intertidal mudflats opposite the Project area	To provide baseline for future monitoring	Map extent of intertidal mudflats, record locations of EC	Once

## 2.0 SURVEY APPROACH

### 2.1 SHOREBIRD SURVEYS

To be consistent with the requirements of the industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Commonwealth of Australia 2009, Commonwealth of Australia 2015), a survey for migratory shorebirds should:

- be conducted as close to the time of high tide or low tide as practicable and at a maximum of no more than two hours either side of high tide or low tide;
- not be undertaken during periods of high rainfall or strong winds or when activities are taking place which cause shorebird disturbance;
- determine the total number of individuals of each species present, to enable assessment of site and habitat importance, and monitor change over time; and

<sup>4</sup> Shoreline mainland & St Clair Island (108.9 ha, EC density 4.4 birds / 100 ha)

<sup>5</sup> Oyster Point and Point O'Halloran (97ha, EC density 9.1 birds / 100ha)

<sup>6</sup> Point O'Halloran- Victoria Point and Victoria Point – Redland Bay N (83ha, EC density 22.7 birds / 100 ha)

- collect spatial data of the area used by shorebirds for roosting and feeding to enable mapping of roosting and foraging habitat.

Eight low tide surveys were conducted within a 4-hour window at a maximum of no more than two hours either side of low tide, and was undertaken when weather conditions were suitable, i.e. it was not raining and the wind was not too strong. Weather conditions, in terms of cloud cover, wind speed and direction, and any rainfall during the survey period were recorded. Seven monthly surveys were conducted between 1 September 2022 and 15 March 2023 when most Eastern Curlew are present in Moreton Bay during their non-breeding season and one survey was conducted between 1 May and 31 July 2023 during the period when typically only juvenile Eastern Curlew are present during the northern hemisphere breeding season. These surveys covered spring, intermediate and neap tide phases of the tide cycle and the monthly spacing captured seasonal variation in Eastern Curlew abundance.

The low tide surveys covered tidal flat habitat areas at the 'impact' site and two control sites. The impact site is defined as the 123 ha of intertidal mudflat surveyed along the Shoreline mainland and St Clair Island (shown in **Figure 2.1**) where potential indirect impacts were monitored. Control site 1 included the Oyster Point Bay to Point O'Halloran intertidal flat monitoring areas (112 ha) and Control site 2 included the Victoria Point to Redland Bay intertidal flat monitoring areas (108 ha; see **Figure 2.2** for locations). The tidal flats were surveyed from suitable vantage points that provided an unobstructed view of the entire area, using a high-powered Swarovski spotting telescope mounted on a sturdy tripod to identify and count the total number of individuals of each species present within the survey area without causing disturbance to them. The approximate locations of all Eastern Curlew observed foraging within the 'impact' site foraging habitat extent were recorded. All sources of potential and actual disturbance to migratory shorebirds were recorded throughout the surveys.

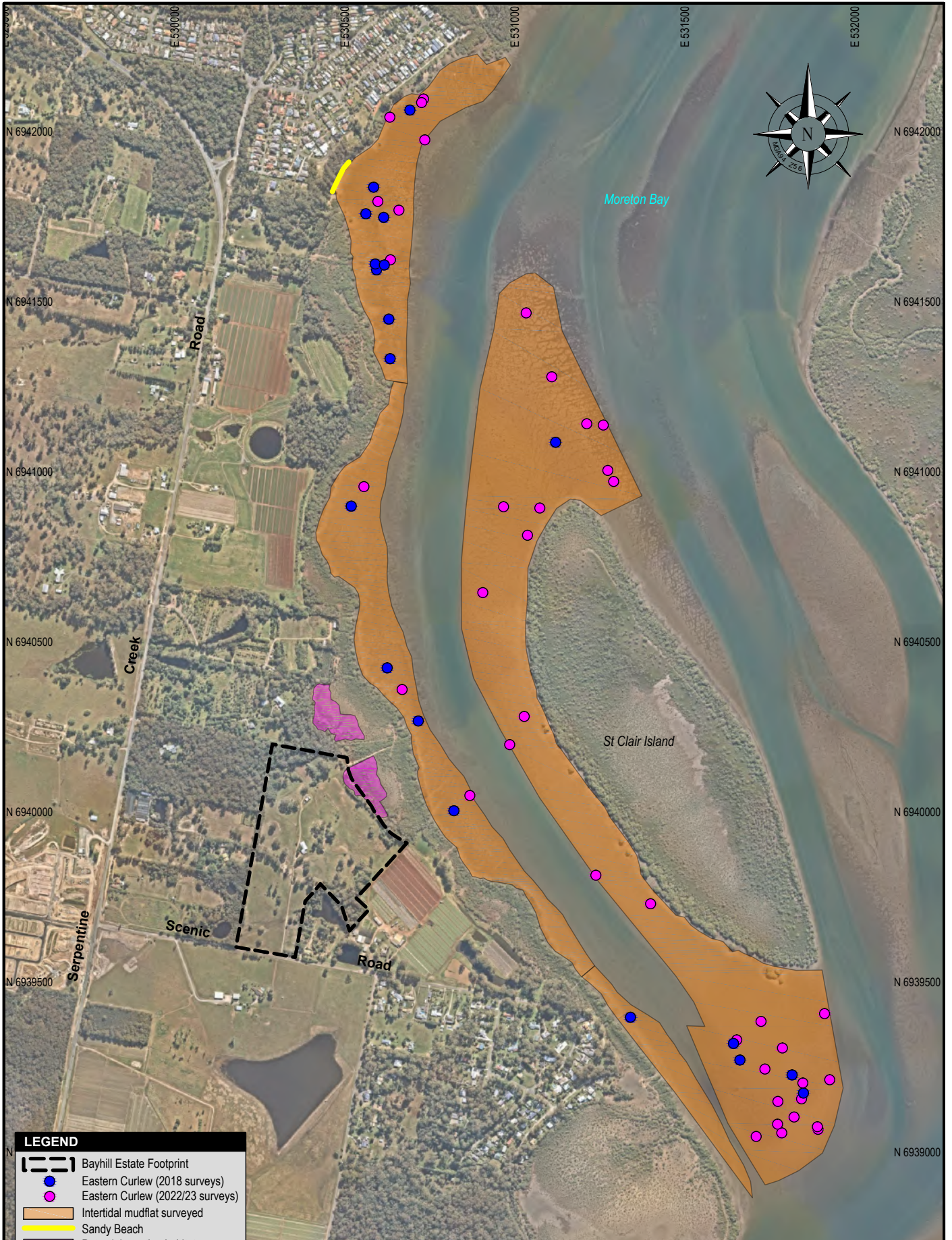
## 2.2 MANGROVE INSPECTION

Mangrove habitats directly adjoining the development footprint were inspected on foot on 8 March 2023. This included inspection for signs of weed incursions, plant die-back, erosion and human/dog disturbances, including at any relevant stormwater outlet sites.

## 2.3 FORAGING HABITAT EXTENT

Foraging habitat extent for Eastern Curlew was monitored using two approaches. First, to meet the requirements for the Bayhill Estate ECIMP the landward edge of exposed mudflat was mapped using a mobile GPS system with sub-meter precision on 8 March 2023, confined to the mainland landward edge of intertidal mudflat (mapping the boundary with the mangrove canopy) within 500 m of the full length of the Bayhill Estate development that interacts closely with the foreshore.

Second, to meet the requirements for the Shoreline ECIMP the extent of intertidal mudflat foraging habitat along the mainland shoreline from Sandy Cove in the north to Scenic Road in the south was surveyed from the air using a Mavic 3 Enterprise Drone connected to a D RTK high precision GNSS mobile station for submeter accuracy.



**LEGEND**

- Bayhill Estate Footprint
- Eastern Curlew (2018 surveys)
- Eastern Curlew (2022/23 surveys)
- Intertidal mudflat surveyed
- Sandy Beach
- Potential roosting habitat

Scale 1 : 15,000

0 200 500m

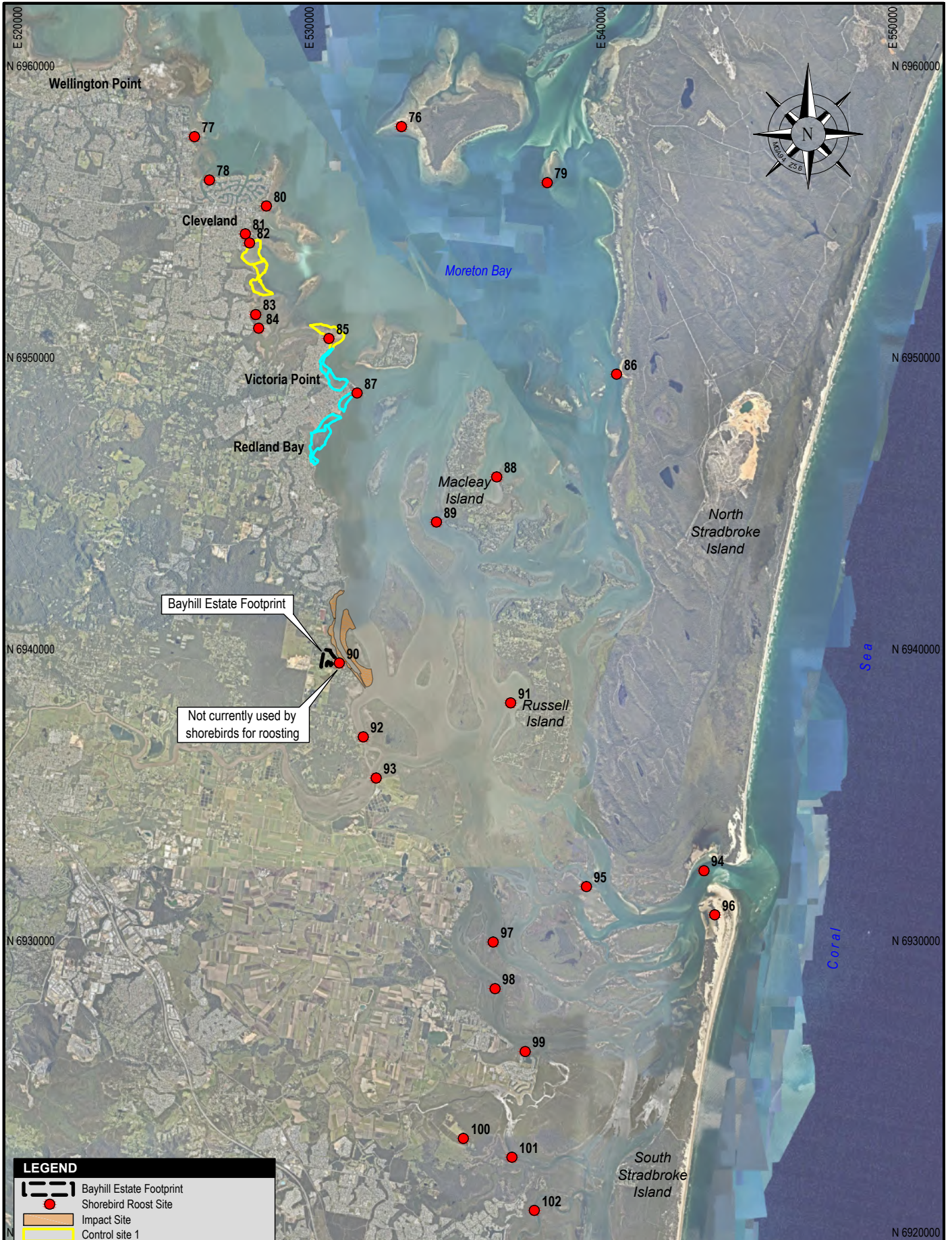
Aerial Photo: Nearmap - July 2021

**BAAM**  
ECOLOGICAL CONSULTANTS

Client	Lendlease Communities (Shoreline) Pty Ltd	
Design	BAAM	16.03.2023
Drawn	MP	16.03.2023
Scale	1:15,000	# 0102-056
Cad File	389 Bayhill Estate05.dwg	Rev F

Project	<b>Eastern Curlew Impact Management Plan Bayhill Estate</b>	
Title	<b>Shorebird Foraging Habitat and Potential Roosting Habitat</b>	FIGURE
		<b>2.1</b>

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**LEGEND**

- Bayhill Estate Footprint
- Shorebird Roost Site
- Impact Site
- Control site 1
- Control site 2

Scale 1 : 175 000

0 2km 5km

Aerial Photo: Nearmap - February 2022

		Client	Lendlease Communities (Shoreline) Pty Ltd		Project	Eastern Curlew Impact Management Plan Bayhill Estate	
		Design	BAAM	16.03.2023	Title	Locations of Shorebird Roost Sites within 20km of Bayhill Estate and Tidal Flat Monitoring Sites	FIGURE
Drawn	MP	16.03.2023	Scale	1:175,000	#	0102-056	
Cad File	389 Bayhill Estate05.dwg	Rev F					

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### 3.0 RESULTS AND DISCUSSION

#### 3.1 SURVEY CONDITIONS

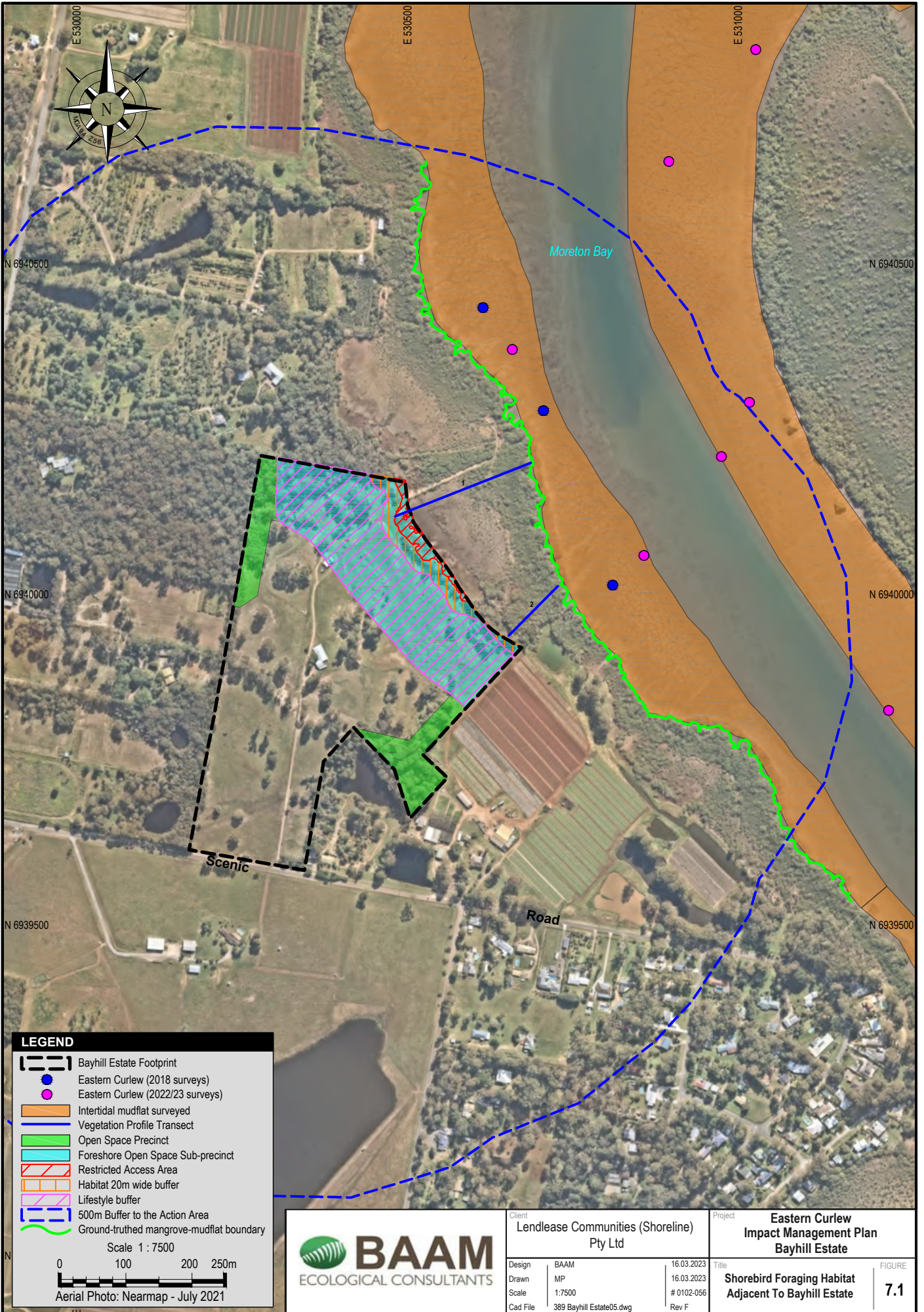
The weather conditions, tide conditions and survey timing during each of the surveys are summarised in **Table 3.1**. Surveys were conducted under suitable conditions.

**Table 3.1. Summary of low tide (LT) height, time and weather conditions during the shorebird surveys.**

Date	LT (m)	LT time	Wind (km/h)	Cloud	Rain	LT Survey time
26/09/2022	0.40	16:12	22	80%	0	14:36-17:00
27/09/2022	0.33	04:41	18	100%	0	05:33-06:10
17/10/2022	0.79	07:45	13	90%	0	06:20-09:23
19/10/2022	0.89	10:29	22	100%	0	09:40-10:20
24/11/2022	0.49	16:30	10-15	100%	0	14:50-17:30
25/11/2022	0.49	17:21	24	0%	0	16:24-17:20
27/12/2022	0.38	06:15	31-35	75%	0	06:10-07:05
28/12/2022	0.49	07:10	23	50%	0	05:53-08:26
16/01/2023	0.97	10:26	26	100%	0	09:57-10:40
17/01/2023	0.94	11:50	26	80%	0	10:27-13:01
06/02/2023	0.65	17:00	30	40%	0	15:28-18:10
07/02/2023	0.63	17:29	30	85%	0	16:30-17:20
07/03/2023	0.59	16:26	24-30	100%	0	14:52-17:49
08/03/2023	0.55	16:55	28	100%	0	15:44-16:50
27/06/2023	0.68	10:23	21	0%	0	09:00-11:58

#### 3.2 SHOREBIRD SURVEYS

The average densities of Eastern Curlew from the seven summer-season pre-commencement surveys in each of the impact and two control sites are summarised in **Table 3.2**, with detailed survey data presented in **Appendix A**. The average summer season foraging density of Eastern Curlew throughout the intertidal mudflat adjacent to the development (characterised as the impact site for the purposes of monitoring) was 4.4 birds per 100 ha, similar to the density of 3.7 birds per 100 ha of intertidal mudflat recorded during the initial surveys in the period 2015-2018. Up to one Eastern Curlew was observed using foraging habitat within 500 m of the action area on several surveys, leading to an average summer season foraging density of 1.3 birds per 100 ha, lower than the density recorded across the impact area as a whole. No Eastern Curlew were recorded using the intertidal mudflat area east of the Bayhill Estate development site (the impact site) during the single winter survey in June 2023. The approximate locations of all Eastern Curlew observed foraging within the 'impact' site, including within 500 m of the Bayhill Estate boundary during 2022/23 is shown in **Figure 7.1**.



**LEGEND**

- Bayhill Estate Footprint
- Eastern Curlew (2018 surveys)
- Eastern Curlew (2022/23 surveys)
- Intertidal mudflat surveyed
- Vegetation Profile Transect
- Open Space Precinct
- Foreshore Open Space Sub-precinct
- Restricted Access Area
- Habitat 20m wide buffer
- Lifestyle buffer
- 500m Buffer to the Action Area
- Ground-truthed mangrove-mudflat boundary

Scale 1 : 7500

0 100 200 250m

Aerial Photo: Nearmap - July 2021

**BAAM**  
ECOLOGICAL CONSULTANTS

Client	Lendlease Communities (Shoreline) Pty Ltd	
Design	BAAM	16.03.2023
Drawn	MP	16.03.2023
Scale	1:7500	# 0102-056
Cad File	389 Bayhill Estate05.dwg	Rev F

Project	<b>Eastern Curlew Impact Management Plan Bayhill Estate</b>	
Title	<b>Shorebird Foraging Habitat Adjacent To Bayhill Estate</b>	FIGURE 7.1

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**Table 3.2. Summary of pre-commencement (baseline) survey results as the average density (individuals per 100 ha  $\pm$  1 standard deviation) of the three target migratory shorebird species and frequency of potential sources of disturbance (number per 100 ha).**

Species	Common name	EPBC*	NCA*	Survey sector			
				Control site 1 <sup>^</sup>	Control site 2 <sup>^</sup>	Impact site*	Within 500 m
	Intertidal flat area (ha)			111.9	107.7	123.2	32.1
<i>Limosa lapponica baueri</i>	Bar-tailed Godwit (Western Alaskan)	M, V	V	58.0 $\pm$ 27.6	84.5 $\pm$ 73.1	0.8 $\pm$ 1.6	
<i>Numenius phaeopus</i>	Whimbrel	M	S	18.4 $\pm$ 4.3	16.0 $\pm$ 4.5	20.6 $\pm$ 6.0	
<i>Numenius madagascariensis</i>	Eastern Curlew	M, CE	E	9.8 $\pm$ 2.2	19.5 $\pm$ 2.5	4.4 $\pm$ 3.7	1.3 $\pm$ 1.7
	People (on foot/ swimming)			3.7	8.1	1.6	0.0
	Dogs (leashed)			0.3	0.8	0.2	0.0
	Dogs (off leash)			0.4	1.3	0.1	0.0
	Boats (travelling)			0.0	0.0	0.0	0.0
	Boats (stationary)			0.0	0.0	0.0	0.0
	Kite-surfers			0.3	0.3	0.0	0.0
	Wind-surfers			0.0	0.0	0.0	0.0
	Paddle-board/kayak			0.0	0.0	0.0	0.0
	Red Fox			0.0	0.0	0.1	0.0

<sup>^</sup>Refer **Figure 2.2** for the location of control sites.

\*Refer **Figure 2.1** for the location of the impact site shown as the intertidal mudflat surveyed.

The average summer season foraging density of Eastern Curlew at the impact site of 4.4 birds per 100 ha is at the lower end of the range of foraging densities for this species of between 3.7 and 71.9 birds per 100 ha recorded across Moreton Bay (Finn 2010), and substantially lower than the averages of 9.8 and 19.5 birds per 100 ha recorded at control sites 1 and 2 (**Table 3.2**), despite the higher frequency of disturbance sources and overall lack of screening vegetation cover at the control sites. The average summer season foraging density of Eastern Curlew within 500 m of the action area was even lower, at 1.3 birds per 100 ha. The only sources of potential disturbance recorded on the intertidal mudflats within the impact site were people and dogs walking on the short and narrow sandy beach at the far northern end of the Shoreline mainland, 1.6 km north of Bayhill Estate, and a single observation of a Red Fox on the edge of the intertidal flats in the central Shoreline mainland section. No sources of potential disturbance were observed on the intertidal flats within a 500 m radius of Bayhill Estate. Despite the soft mudflat substrate, which has high penetrability preferred by Eastern Curlew, and low risk of disturbance, the intertidal mudflat within the impact site has relatively low use by Eastern Curlew compared to most other areas of Moreton Bay, suggesting relatively low overall habitat quality. This may indicate the intertidal mudflat adjacent to the development has relatively low benthic invertebrate food availability and/or the area is not preferred by Eastern Curlew due to it being situated relatively far from preferred roost sites that are located between 8.5 km (Victoria Point) and 20 km (Geoff Skinner Reserve) north of the development.

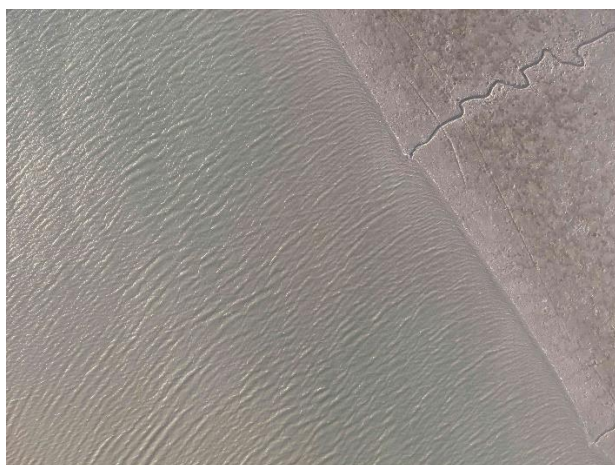
### 3.3 MANGROVE INSPECTION

The mangrove and saltmarsh vegetation adjoining the development was observed to be in good condition, with no evidence of mangrove dieback. There were no signs of ground disturbance, erosion or sedimentation within intertidal habitats and the frequency of plastic and other rubbish items was typical of that observed along the shoreline of Moreton Bay.

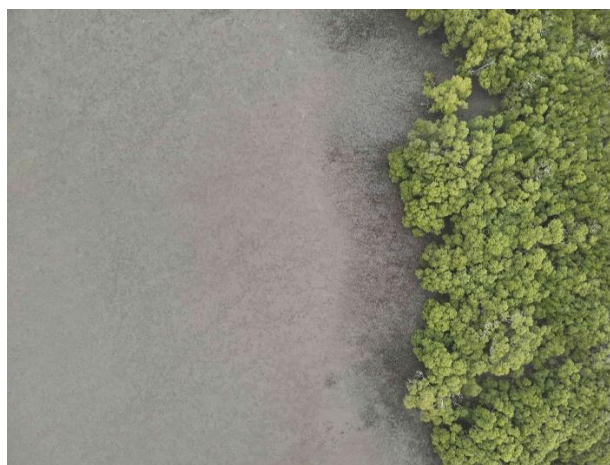
### 3.4 FORAGING HABITAT EXTENT

The boundary between mudflat and mangrove vegetation was mapped along the dripline of the foliage of living mangrove trees and shrubs (excluding seedlings) separated by no more than 5 m, and is shown in **Figure 7.1**.

The drone survey mapping the extent of intertidal mudflat was conducted on Thursday May 20, 2023 to coincide with a low tide of 0.4m which occurred at 4:21pm. Flights commenced at 4:10pm and were completed at 4:55 PM. A total of 2556 images were collected. When required for the Shoreline ECIMP reporting, these images will be processed into a georeferenced ortho-mosaic image to provide visual images for monitoring of the mudflat and mangroves. The ortho-mosaic will also be imported into GIS for calculation and presentation of the cadastral area of the adjoining mudflats. Photos 1 and 2 illustrate the high resolution of the mudflats boundaries that can be achieved via drone survey.



**Photo 1. Mudflat-open water boundary.**



**Photo 2. Mangrove-mudflat boundary.**

We therefore recommend that the monitoring of both the intertidal mudflat foraging habitat extent and the condition and extent of mangroves be carried out via an aerial drone mapping survey going forward.



**Table A1.1. Results of pre-commencement baseline survey of 26-27/09/2022 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Tidal flat area (ha)	37	35.7	39.2	36.4	13.8	57.5	17	23	8.4	75	112	108	123	
Pacific Golden Plover			31			9					31	9	0	
Bar-tailed Godwit (Western Alaskan)	6	11	13							2	30	0	2	
Whimbrel	4	5	5	6	3	9		1	1	16	14	18	18	
Eastern Curlew	3	4	5	7		11				3	12	18	3	0
Common Greenshank									4		0	0	4	
Grey-tailed Tattler			8			38					8	38	0	
Sharp-tailed Sandpiper			5								5	0	0	
Total migratory shorebirds	13	20	67	13	3	67	0	1	5	21	100	83	27	
Australian Pied Oystercatcher	1	1	6		2						8	2	0	
Masked Lapwing			2	9	2	10	4	2		2	2	21	8	
Total resident shorebirds	1	1	8	9	4	10	4	2	0	2	10	23	8	
Australian White Ibis	12	20	25	26	7	1	49	1	3	91	57	34	144	
Royal Spoonbill	2	3					4		10	5	5	0	19	
Striated Heron	2	1		2	1		4				3	3	4	
Eastern Great Egret	1	1									2	0	0	
White-faced Heron	6	7	2	1	1		3	5	2	7	15	2	17	
Little Egret	1	2	1	1	1	1	2		1	4	4	3	7	
Silver Gull				1							0	1	0	
Australian Tern				1						6	0	1	6	
Total other waterbirds	24	34	28	32	10	2	62	6	16	113	86	44	197	
People (on foot/swimming)			13			4	2				13	4	2	
Dogs (leashed)											0	0	0	
Dogs (off leash)			1								1	0	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	

**Table A1.2. Results of pre-commencement baseline survey of 17/10/2022 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Pacific Golden Plover			36			10					36	10	0	
Bar-tailed Godwit (Western Alaskan)	15	22	23	20	35	56					171	111	0	
Whimbrel	4	5	11	4	2	6	2	1		13	34	12	16	
Eastern Curlew	1	4	3	8	1	14				1	31	23	1	0
Common Greenshank							9				0	0	9	
Grey-tailed Tattler	55	17	22			32					94	32	0	
Terek sandpiper	29										29	0	0	
Red-necked Stint			7								7	0	0	
Total migratory shorebirds	104	48	102	32	38	118	11	1	0	14	402	188	26	
Australian Pied Oystercatcher	18	7	7			2					32	2	0	
Pied Stilt											0	0	0	
Masked Lapwing	1				2	15					1	17	0	
Red-capped Plover			6								6	0	0	
Total resident shorebirds	19	7	13	0	2	17	0	0	0	0	39	19	0	
Australian White Ibis	3	17	17	11	10	74	10	25		42	37	95	77	
Royal Spoonbill	3	1								2	4	0	2	
Striated Heron		1		3		2	3			1	1	5	4	
Eastern Great Egret	2		1			1			1		3	1	1	
White-faced Heron	8	4		5		6	4	4		12	12	11	20	
Little Egret	1	2		1	1	6	2			1	3	8	3	
Silver Gull	2	1		5		7				1	3	12	1	
Australian Tern	3		1			2				5	4	2	5	
Total other waterbirds	22	26	19	25	11	98	19	29	1	64	67	134	113	
People (on foot/swimming)			3		3						3	3	0	
Dogs (leashed)			1								1	0	0	
Dogs (off leash)			2		1						2	1	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	

**Table A1.3. Results of pre-commencement baseline survey of 19/10/2022 of the number of birds on foraging habitats at the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Impact site	EC within 500 m
Tidal flat area (ha)	17	23	8.4	75	123	
Whimbrel	2	4	1	15	22	
Eastern Curlew	1				1	0
Common Greenshank	3				3	
Total migratory shorebirds	6	4	1	15	26	
Total resident shorebirds	0	0	0	0	0	
Australian White Ibis	4	14		8	26	
Royal Spoonbill		2			2	
Striated Heron	1				1	
White-faced Heron	12	5		4	21	
Little Egret	2	3			5	
Australian Tern		4		4	8	
Total other waterbirds	19	28	0	16	63	
People (on foot/swimming)					0	
Dogs (leashed)					0	
Dogs (off leash)					0	
Boats (travelling)					0	
Boats (stationary)					0	
Kite-surfers					0	
Wind-surfers					0	
Paddle-board/kayak					0	
Red Fox					0	

**Table A1.4. Results of pre-commencement baseline survey of 24-25/11/2022 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Pacific Golden Plover			42			15					42	15	0	
Bar-tailed Godwit (Western Alaskan)	7	16	66		14	20					123	34	0	
Whimbrel	5	8	10	5	2	8	3	6	1	19	67	15	29	
Eastern Curlew	4	4	5	6	2	9					30	17	0	0
Common Greenshank								5			0	0	5	
Grey-tailed Tattler			24			9					24	9	0	
Red-necked Stint			8								8	0	0	
Sharp-tailed Sandpiper			25								25	0	0	
Total migratory shorebirds	16	28	180	11	18	61	3	11	1	19	319	90	34	
Australian Pied Oystercatcher			4								4	0	0	
Masked Lapwing	11		3	6	6	35	2	2			14	47	4	
Red-capped Plover			6								6	0	0	
Total resident shorebirds	11	0	13	6	6	35	2	2	0	0	24	47	4	
Australian White Ibis	5		12	5	2	25	4	7	1		17	32	12	
Royal Spoonbill				4							0	4	0	
Striated Heron	1	1					2				2	0	2	
Eastern Great Egret	1	1	1	1	1	3	1	1			3	5	2	
White-faced Heron		2	1			3					3	3	0	
Little Egret	5				1		1				5	1	1	
Silver Gull	1		1	2	3	4					2	9	0	
Australian Tern				1		1			11		0	2	11	
Total other waterbirds	13	4	15	13	7	36	8	8	12	0	32	56	28	
People (on foot/swimming)			4		7	13	1				4	20	1	
Dogs (leashed)			1		1	1					1	2	0	
Dogs (off leash)					3						0	3	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	

**Table A1.5. Results of pre-commencement baseline survey of 27-28/12/2022 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Pacific Golden Plover			24			15					24	15	0	
Bar-tailed Godwit (Western Alaskan)	3	20	31	10	24	53				5	141	87	5	
Whimbrel	2	6	9	8	5	5	3	4	1	20	63	18	28	
Eastern Curlew	3	4	6	8	3	12	2			8	36	23	10	1
Common Greenshank										5	0	0	5	
Grey-tailed Tattler	10	68	22			12					100	12	0	
Red-necked Stint			13								13	0	0	
Total migratory shorebirds	18	98	105	26	32	97	5	4	1	38	377	155	48	
Australian Pied Oystercatcher				2							0	2	0	
Masked Lapwing	2		1	5	7	10					3	22	0	
Red-capped Plover			2								2	0	0	
Total resident shorebirds	2	0	3	7	7	10	0	0	0	0	5	24	0	
Australian White Ibis	2	4	5	17	4	27	5	3		5	11	48	13	
Royal Spoonbill	2										2	0	0	
Striated Heron	1		1		1	1	1				2	2	1	
Eastern Great Egret	1	1		1	1	4	2				2	6	2	
White-faced Heron		2	3	2	1	3	1				5	6	1	
Little Egret	1	3			1	2	1		1		4	3	2	
Silver Gull	1	1	3	8	1	9					5	18	0	
Australian Tern						1		1		2	0	1	3	
Caspian Tern				1							0	1	0	
Little Tern	4										4	0	0	
Total other waterbirds	12	11	12	29	9	47	10	4	1	7	35	85	22	
People (on foot/swimming)			6	1	3		6				6	4	6	
Dogs (leashed)							1				0	0	1	
Dogs (off leash)					1		1				0	1	1	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	

**Table A1.6. Results of pre-commencement baseline survey of 16-17/01/2023 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Pacific Golden Plover			26	8		6					26	14	0	
Bar-tailed Godwit (Western Alaskan)	2	12	57	24	99	120					314	243	0	
Whimbrel	6	5	8	6	2	6	1	1	1	17	53	14	20	
Eastern Curlew	4	4	4	9	3	11	1	1		10	35	23	12	0
Common Greenshank							5				0	0	5	
Grey-tailed Tattler			77	2							77	2	0	
Red-necked Stint			13								13	0	0	
Total migratory shorebirds	12	21	185	49	104	143	7	2	1	27	518	296	37	
Australian Pied Oystercatcher		1	3	2							4	2	0	
Masked Lapwing				4		2					0	6	0	
Red-capped Plover			6								6	0	0	
Total resident shorebirds	0	1	9	6	0	2	0	0	0	0	10	8	0	
Australian White Ibis	8	11	2	9	3	24	29	2		16	21	36	47	
Royal Spoonbill							1				0	0	1	
Striated Heron		1		1	1		1				1	2	1	
Eastern Great Egret		2				4	4			1	2	4	5	
White-faced Heron	1	2		1		4	1			1	3	5	2	
Little Egret	1	1		1		2	2				2	3	2	
Silver Gull	39		3	11	3		1				42	14	1	
Australian Tern				1			1			5	0	1	6	
Total other waterbirds	49	17	5	24	7	34	40	2	0	23	71	65	65	
People (on foot/swimming)			1		1	9					1	10	0	
Dogs (leashed)											0	0	0	
Dogs (off leash)											0	0	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	

**Table A1.7. Results of pre-commencement baseline survey of 6-7/02/2023 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Pacific Golden Plover			44	1		1					44	2	0	
Bar-tailed Godwit (Western Alaskan)	10	32	75	62	10	40					229	112	0	
Whimbrel	6	10	13	9	5	13	1	6	2	24	89	27	33	
Eastern Curlew	3	4	5	9	2	12	1	1		5	37	23	7	1
Common Greenshank								1			0	0	1	
Grey-tailed Tattler		2	94								96	0	0	
Great Knot			2								2	0	0	
Sharp-tailed Sandpiper			19								19	0	0	
Total migratory shorebirds	19	48	252	81	17	66	2	8	2	29	516	164	41	
Australian Pied Oystercatcher			5			1					5	1	0	
Masked Lapwing	2	10	3	13	7	62					15	82	0	
Red-capped Plover			7								7	0	0	
Total resident shorebirds	2	10	15	13	7	63	0	0	0	0	27	83	0	
Australian White Ibis	4	6	27	23	6	83	4	20		14	37	112	38	
Striated Heron	2					3					2	3	0	
Eastern Great Egret	1	1					1	11		1	2	0	13	
White-faced Heron		1	3	3		12	13	4	4	3	4	15	24	
Little Egret	2	1	1		1	3	1	5	2	4	4	4	12	
Silver Gull	11		2	2	3	7					13	12	0	
Australian Tern						1				2	0	1	2	
Total other waterbirds	20	9	33	28	10	109	19	40	6	24	62	147	89	
People (on foot/swimming)				2	7		5				0	9	5	
Dogs (leashed)					2		1				0	2	1	
Dogs (off leash)					3						0	3	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers						2					0	2	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox								1			0	0	1	

**Table A1.8. Results of pre-commencement baseline survey of 7-8/03/2023 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact site	EC within 500 m
Pacific Golden Plover			26	8		6					26	14	0	
Bar-tailed Godwit (Western Alaskan)	2	12	57	24	99	120					71	243	0	
Whimbrel	6	5	8	6	2	6	1	1	1	17	19	14	20	
Eastern Curlew	4	4	4	9	3	11	1	1		10	12	23	12	1
Common Greenshank							5				0	0	5	
Grey-tailed Tattler			77	2							77	2	0	
Red-necked Stint			13								13	0	0	
Total migratory shorebirds	12	21	185	49	104	143	7	2	1	27	218	296	37	
Australian Pied Oystercatcher		1	3	2							4	2	0	
Masked Lapwing				4		2					0	6	0	
Red-capped Plover			6								6	0	0	
Total resident shorebirds	0	1	9	6	0	2	0	0	0	0	10	8	0	
Australian White Ibis	8	11	2	9	3	24	29	2		16	21	36	47	
Royal Spoonbill							1				0	0	1	
Striated Heron		1		1	1		1				1	2	1	
Eastern Great Egret		2				4	4			1	2	4	5	
White-faced Heron	1	2		1		4	1			1	3	5	2	
Little Egret	1	1		1		2	2				2	3	2	
Silver Gull	39		3	11	3		1				42	14	1	
Australian Tern				1			1			5	0	1	6	
Total other waterbirds	49	17	5	24	7	34	40	2	0	23	71	65	65	
People (on foot/swimming)			1		1	9					1	10	0	
Dogs (leashed)											0	0	0	
Dogs (off leash)											0	0	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	



**Table A1.9. Results of pre-commencement baseline survey of 26/06/2023 of the number of birds on foraging habitats between Cleveland Point and the proposed Bayhill Estate and Shoreline developments, including number of Eastern Curlew within 500m of Bayhill Estate.**

Site	Oyster Point bay	Thornlands	Point O'Halloran	Victoria Point NE	Victoria Point SE	Victoria Point to Redland Bay	Shoreline North	Shoreline Central	Shoreline South	St Clair Island	Control site 1	Control site 2	Impact area	EC within 500 m
Pacific Golden Plover			15								15	0	0	
Double-banded Plover			4								4	0	0	
Whimbrel		6	1							6	7	0	6	
Eastern Curlew		1									1	0	0	0
Total migratory shorebirds	0	7	20	0	0	0	0	0	0	6	27	0	6	
Australian Pied Oystercatcher	1	1	16	1							19	1	0	
Pied Stilt	36	11		37	20	31	26	27	4	2	47	88	59	
Masked Lapwing	2	5	4	2	10	11	31				65	23	31	
Red-capped Plover		3									3	0	0	
Total resident shorebirds	39	20	20	40	30	42	57	27	4	2	134	112	90	
Chestnut Teal							7	19		4	30	0	30	
Australian White Ibis	6	12	21	16	9	54	10	10	4	12	154	79	36	
Striated Heron	3	1		1		1	1			2	4	2	3	
Eastern Great Egret	1	1	1			1				1	3	1	1	
White-faced Heron	3	19	5	6		26	6	5	4	31	33	32	46	
Little Egret	1	1	1	1	1	1	1		2	5	7	3	8	
Silver Gull			1		1	4				1	1	5	1	
Australian Tern	5	1	1	5		5		1		34	12	10	35	
Caspian Tern		1									1	0	0	
Crested Tern	2		1								3	0	0	
Total other waterbirds	21	36	31	29	11	92	25	35	10	90	88	132	160	
People (on foot/swimming)		2	5	2	10	12	2				7	24	2	
Dogs (leashed)			1		1						1	1	0	
Dogs (off leash)				2							0	2	0	
Boats (travelling)											0	0	0	
Boats (stationary)											0	0	0	
Kite-surfers											0	0	0	
Wind-surfers											0	0	0	
Paddle-board/kayak											0	0	0	
Red Fox											0	0	0	

## 4.0 REFERENCES

**DEWHA (2009).** EPBC Act Policy Statement 3.21 – Significant Impact Guidelines for 36 Migratory Shorebird Species. Commonwealth Department of the Environment, Water, Heritage and Arts, Canberra.

**DoE (2015).** EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species. Commonwealth Department of the Environment.

**Finn, P. G. (2010).** Habitat selection, foraging ecology and conservation of Eastern Curlews on their non-breeding grounds. PhD thesis. Griffith University.

# Appendix D

## DesignFlow Annual Compliance Letter 2022-2023

13<sup>th</sup> November 2023

Phillip Ng  
Assistant Development Manager, Communities  
Kings Gate, 2 King St, Bowen Hills QLD 4006  
GPO Box 2777, Brisbane QLD 4001

Dear Phillip

**RE: ANNUAL COMPLIANCE REPORTING LETTER 2022-2023 - SHORELINE REDLANDS WQMP (EPBC 2016/7776)**

This letter is provided as part of annual reporting requirements to demonstrate implementation of the *Shoreline Redlands - Water Quality Management Plan Vo5* (Prepared by DesignFlow, 2019).

The EPBC Act Approval (EPBC 2016/7776, April 2018) requires that the approval holder, Lendlease Communities (Shoreline) Pty Ltd, demonstrate on an annual basis that the Water Quality Management Plan (WQMP) is being implemented.

During the 2021-2022 period the Pre-construction / Control Monitoring Phase completed the required 24 baseline sampling rounds and has now ceased. The baseline water quality monitoring has been completed as per the requirements of the *Shoreline Redlands - Water Quality Management Plan Vo5* (DesignFlow, 2019).

Construction phase monitoring phase will begin once construction works commence in the catchments draining directly to Moreton Bay (as per the approach management plan). During the 2022-23 reporting period no development commenced in the catchments draining directly to Moreton Bay. As such no construction phase monitoring was undertaken.

Please call me on 07 55281148 if you would like to discuss any aspect of this letter.

Yours sincerely



Shaun Leinster  
(RPEQ 15637)  
DesignFlow