



Double Jump Road Residential Estate Development

Preliminary Documentation Report

EPBC Referral 2024-09825

Volume 3.11

Appendices 16-19

29 July 2026

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*Appendix 16.1:
Woolshed Koala*

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Koala
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator							
Impact calculator	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Ecological communities						
	Area of community	No		Area			
				Quality			
				Total quantum of impact	0.00		
	Threatened species habitat						
	Area of habitat	Yes	Koala	Area	32.57	Hectares	PD Report
				Quality	4	Scale 0-10	
				Total quantum of impact	13.03	Adjusted hectares	
	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Number of features e.g. Nest hollows, habitat trees	No					
	Condition of habitat Change in habitat condition, but no change in extent	No					
	Threatened species						
Birth rate e.g. Change in nest success	No						
Mortality rate e.g Change in number of road kills per year	No						
Number of individuals e.g. Individual plants/animals	No						

Offset calculator																					
Offset calculator	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
	Ecological Communities																				
	Area of community	No				Risk-related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
										0.0											
						Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)									
	Threatened species habitat																				
	Area of habitat	Yes	13.03	Adjusted hectares	88.63	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	88.63	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%								
						Time until ecological benefit	20	Start quality (scale of 0-10)	6	Future quality without offset (scale of 0-10)	6	Future quality with offset (scale of 0-10)	8	2.00	80%	1.60	1.26				
	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
Threatened species																					
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

*Appendix 16.2:
Woolshed Grey-headed
Flying-fox*

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

2 October 2012

Matter of National Environmental Significance	
Name	GHFF
EPBC Act status	Vulnerable
Annual probability of extinction Based on IUCN category definitions	0.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator							
Impact calculator	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Ecological communities						
	Area of community	No		Area			
				Quality			
				Total quantum of impact	0.00		
	Threatened species habitat						
	Area of habitat	Yes	Koala	Area	32.57	Hectares	PD Report
				Quality	5	Scale 0-10	
				Total quantum of impact	16.29	Adjusted hectares	
	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Number of features e.g. Nest hollows, habitat trees	No					
	Condition of habitat Change in habitat condition, but no change in extent	No					
	Threatened species						
	Birth rate e.g. Change in nest success	No					
	Mortality rate e.g Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No						

Offset calculator																							
Offset calculator	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
	Ecological Communities																						
	Area of community	No				Risk-related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset											
										Future area without offset (adjusted hectares)		0.0									Future area with offset (adjusted hectares)	0.0	
						Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)											
	Threatened species habitat																						
	Area of habitat	Yes	16.29	Adjusted hectares	88.63	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	88.63	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%		90%	0.00	0.00	0.00	13.63	83.67%	No	\$2,000,000.00	rehabilitation plans
										Future area without offset (adjusted hectares)		88.6											
						Time until ecological benefit	20	Start quality (scale of 0-10)	5	Future quality without offset (scale of 0-10)	5	Future quality with offset (scale of 0-10)	7	2.00	80%	1.60	1.54						
	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source			
Number of features e.g. Nest hollows, habitat trees	No																						
Condition of habitat Change in habitat condition, but no change in extent	No																						
Threatened species																							
Birth rate e.g. Change in nest success	No																						
Mortality rate e.g Change in number of road kills per year	No																						
Number of individuals e.g. Individual plants/animals	No																						

*Appendix 16.3:
Thagoona Koala*

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012
This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Koala
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator							
Impact calculator	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Ecological communities						
	Area of community	No		Area			
				Quality			
				Total quantum of impact	0.00		
	Threatened species habitat						
	Area of habitat	Yes	Koala	Area	32.57	Hectares	PD Report
				Quality	4	Scale 0-10	
				Total quantum of impact	13.03	Adjusted hectares	
	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Number of features e.g. Nest hollows, habitat trees	No					
	Condition of habitat Change in habitat condition, but no change in extent	No					
	Threatened species						
	Birth rate e.g. Change in nest success	No					
	Mortality rate e.g. Change in number of road kills per year	No					
	Number of individuals e.g. Individual plants/animals	No					

Offset calculator																						
Offset calculator	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
	Ecological Communities																					
	Area of community	No				Risk-related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset										
										Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0									
										Time until ecological benefit		Start quality (scale of 0-10)										Future quality without offset (scale of 0-10)
	Threatened species habitat																					
	Area of habitat	Yes	13.03	Adjusted hectares	17.68	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	17.68	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%	0.00	90%	0.00	0.00	2.23	17.10%	No	\$2,000,000.00	rehabilitation plans
										Future area without offset (adjusted hectares)	17.7	Future area with offset (adjusted hectares)	17.7									
										Time until ecological benefit	20	Start quality (scale of 0-10)	6									
	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
Number of features e.g. Nest hollows, habitat trees	No																					
Condition of habitat Change in habitat condition, but no change in extent	No																					
Threatened species																						
Birth rate e.g. Change in nest success	No																					
Mortality rate e.g. Change in number of road kills per year	No																					
Number of individuals e.g. Individual plants/animals	No																					

*Appendix 16.4:
Thagoona Grey-headed
Flying-fox*

Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*
2 October 2012

This guide relies on Macros being enabled in your browser.

2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	GHFF
EPBC Act status	Vulnerable
Annual probability of extinction Based on IUCN category definitions	0.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

User input required

Drop-down 1

Calculated output

Not applicable to attribute

Impact calculator							
Impact calculator	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Ecological communities						
	Area of community	No		Area			
				Quality			
				Total quantum of impact	0.00		
	Threatened species habitat						
	Area of habitat	Yes	Koala	Area	32.57	Hectares	PD Report
				Quality	5	Scale 0-10	
				Total quantum of impact	16.29	Adjusted hectares	
	Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
	Number of features e.g. Nest hollows, habitat trees	No					
	Condition of habitat Change in habitat condition, but no change in extent	No					
	Threatened species						
	Birth rate e.g. Change in nest success	No					
	Mortality rate e.g Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No						

Offset calculator																						
Offset calculator	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
	Ecological Communities																					
	Area of community	No				Risk-related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset	0.0	Risk of loss (%) with offset	0.0									
										Future area without offset (adjusted hectares)		Future area with offset (adjusted hectares)										
						Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)										
	Threatened species habitat																					
	Area of habitat	Yes	16.29	Adjusted hectares	17.68	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	17.68	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%	0.00	90%	0.00	0.00	2.72	16.69%	No	\$2,000,000.00	rehabilitation plans
										Future area without offset (adjusted hectares)		17.7										
						Time until ecological benefit	20	Start quality (scale of 0-10)	4	Future quality without offset (scale of 0-10)	4	Future quality with offset (scale of 0-10)	6	2.00	80%	1.60	1.54					
	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start value		Future value without offset		Future value with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source	
Number of features e.g. Nest hollows, habitat trees	No																					
Condition of habitat Change in habitat condition, but no change in extent	No																					
Threatened species																						
Birth rate e.g. Change in nest success	No																					
Mortality rate e.g Change in number of road kills per year	No																					
Number of individuals e.g. Individual plants/animals	No																					

Appendix 17: QYAC Cultural Heritage Assessment

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Double Jump Road, Victoria Point, Qld

Part 6 Cultural Heritage Study

Written for Quandamooka Yoolooburrabee Aboriginal Corporation

Everick Heritage Pty Ltd





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Report Reference:

Everick Heritage 2025. *Aboriginal Cultural Heritage Act 2003 Part 6 Study Report: Double Jump Road, Victoria Point, Qld.* Everick Heritage Pty Ltd. Unpublished report prepared for Quandamooka Yoolooburrabee Aboriginal Corporation for consideration of inclusion onto the DWATSIPM Cultural Heritage Register.

EVERICK HERITAGE



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Executive Summary

Everick Heritage Pty Ltd (the 'Consultant') was commissioned by Quandamooka Yoolooburrabee Aboriginal Corporation (QYAC) to undertake a Cultural Heritage Part 6 Study within Lots 1RP86773, 2 RP165178, 2 RP86773, 5 SP293881, and 23 SP325035 located on 42-44, 48, 50, and 52 Double Jump Road, Victoria Point, Qld 4165 (the 'Study Area') (Figure 1). This document will be presented to the Chief Executive of the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism ('DWATSIPM') for consideration of whether the requirements for a Part 6 Study have been met, as prescribed in the *Aboriginal Cultural Heritage Act 2003* (Qld) ('ACHA').

The Quandamooka People are intrinsically linked to the lands and waters of Moreton Bay. This document sets forth an understanding of the Aboriginal cultural heritage within the Study Area. The report also suggests management strategies to mitigate harm to the Quandamooka Peoples' Aboriginal cultural heritage.

Divisions 2 to 6 of Part 6 in the ACHA prescribe the steps necessary for the requirements of a Part 6 Study. This report is set up to sequentially address each criterion necessary for consideration by the Chief Executive of DWATSIPM. The Part 6 Study Area is within the area administered, for Aboriginal cultural heritage purposes, by QYAC, who are the registered Cultural Heritage Body for the Quandamooka People #1; Quandamooka People #2; the Quandamooka Coast Claim (#5); the Mulgumpin (#4); and the Southern Moreton Bay Islands.

Summary of Results

- The Part 6 Study commenced in July 2024.
- There are no previously recorded Aboriginal cultural heritage sites within 1,000 m of the Study Area. However, as mandatory site registration ceased in 2003, this is not an accurate reflection of the cultural heritage potential of the Study Area and surrounding landscape.
- The field survey was undertaken on the 29 and 30 July 2024.
 - No new Aboriginal cultural heritage sites were recorded within the Study Area.
 - GSV throughout the entire Study Area was extremely low (0 – 5%), with the only exception to this being in areas of previous ground disturbance or creek-bank erosion in the east (Figure 18; Figure 19).



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- Significant ground disturbance was identified in some areas of the Study Area. This was largely in the south, adjacent to Double Jump Road, where current and previous dwellings exist.
- Several mature trees and minimal to no ground disturbance was identified in the northern and eastern portions of the Study Area (Figure 17; Figure 26).
- The eastern portion of the Study Area (Lot 23SP325035) was identified as being a high potential area to contain both surface and subsurface tangible cultural heritage (Figure 33).
- A two-day test excavation program was undertaken on 22 and 23 September 2025.
 - A total of eight test pits and 11 scrape tests were completed across the two days (Figure 30).
 - No tangible cultural heritage was identified.
 - The excavations were greatly limited due to increased moisture content in the soils and dense vegetation that hindered vehicle and machinery access.
- It was noted through consultation that some areas of the Study Area are being retained as preservation areas (Figure 31).
- The Quandamooka People have assessed the Study Area to hold cultural significance. This is derived from the environmental landforms within the Study Area, archival research, field assessment and consultation.
- The Study Area has been split into risk categories (High, Moderate and Low Risk Areas) and management recommendations have been formulated based on these classifications (Figure 33).

Recommendations

The results of this Cultural Heritage Study have identified a high potential for archaeological material to exist within the Study Area. GSV within the Study Area was extremely low and greatly hindered the ability to record any surface archaeological material that is likely present. The following recommendations are cautionary in nature and are the result of consultation with the QYAC Cultural Heritage Officers on site for the Study, as well as the QYAC Cultural Heritage Department.

Recommendation 1: Site Monitoring by QYAC Cultural Heritage Officers in High and Moderate Risk Areas

The results of the field survey and desktop assessment identified a high potential for surface and subsurface cultural heritage to exist within the Study Area (Figure 33). The test excavation program did not identify any tangible cultural heritage, however this is likely a result of the limited scope and sample



size of the excavation program, and limited accessibility across the Study Area as well as high moisture soils that restricted the excavation's capabilities.

It is recommended that any work activities that are to occur in High or Moderate Risk areas should be undertaken with a mitigation plan, formulated with QYAC, for site monitoring to occur with a QYAC Cultural Heritage Officer present. The description of said activities should be outlined to QYAC, so that an effective monitoring plan be discussed.

Recommendation 2: Cultural Heritage Finds Procedure

Fiteni Homes should ensure that finds procedures for Aboriginal cultural heritage materials are formulated in consultation with QYAC; the finds procedure ensures that Aboriginal cultural heritage material is handled in an appropriate way. The Aboriginal cultural heritage material should not be disturbed and QYAC should be notified immediately. The GPS location of the material is to be recorded at the time of discovery and if required, an appropriately qualified archaeologist and QYAC representative are to be engaged to further investigate and document the material in accordance with the relevant legislation.

Recommendation 3: Cultural Heritage Inductions for Contractors

A Cultural Heritage Induction deals with the physical heritage that may be encountered within the Study Area. The implementation of this Induction procedure aims to avoid further harm to Aboriginal cultural heritage. All relevant staff and contractors who will be undertaking significant ground disturbance must attend a Cultural Heritage Induction prior to the commencement of clearing or burning activities. The Induction will be a one-time session during the pre-start phase. This induction instructs staff and contractors:

- on the basic legislative requirements regarding the *Aboriginal Cultural Heritage Act 2003 (Qld)*;
- on the basic principles of identifying Aboriginal cultural heritage;
- on procedures detailed in this protocol, including artefact reporting and documentation;
- on areas which are considered potentially likely to contain cultural heritage; and
- on the culture and traditions of Aboriginal People and early European settlers of the local area.

The implementation of this Induction procedure aims to avoid further harm to Aboriginal cultural heritage. The induction must be accompanied by a booklet provided to all inductees and keep on hand during the periods of earthworks and construction. The content of the Induction and booklet will be developed by a representative from the Quandamooka People and an Everick archaeologist.



Recommendation 4: Aboriginal Human Remains

Should any development, ongoing land use or erosion at the Study Area uncover human remains at any stage within the Study Area, all activities that led to the discovery of remains must halt in the immediate area to prevent any impacts to the remains. The location where they were found should be cordoned off and the remains themselves should be left untouched. The nearest police station, QYAC, the Quandamooka Traditional Owners and the DWATSIPM Brisbane office are to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police release the scene, the Aboriginal community and the DWATSIPM should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.



Definitions

Aboriginal cultural heritage or **cultural heritage** means the same as described in the *Aboriginal Cultural Heritage Act 2003* ('ACHA'). Namely, that it is a Significant Aboriginal Area, or a Significant Aboriginal Object, or evidence, of archaeological or historic significance, of Aboriginal occupation of an area of Queensland.

ACHA means the *Aboriginal Cultural Heritage Act 2003* (Qld).

ASL means above sea level.

BP means before present.

Consultant means qualified archaeological staff of Everick Heritage Pty Ltd.

Cultural Heritage Assessors means the same as described in the *Aboriginal Cultural Heritage Act 2003* (ACHA).

DWATSIPM means the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism.

Endorsed Party(ies) means the same as described in the *Aboriginal Cultural Heritage Act 2003* (ACHA).

ENSO means El Niño–Southern Oscillation

GSV means ground surface visibility.

Holocene means the geological epoch proceeding the Pleistocene, beginning around 10,000 years ago.

LGM means last glacial maximum.

Minister means the Minister for the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism.

Minjerribah is the Aboriginal word for North Stradbroke Island.

Mulgumpin is the Aboriginal word for Moreton Island.

Part 6 Study means Part 6 Cultural Heritage study as prescribed in the *Aboriginal Cultural Heritage Act 2003* (Qld).



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Pleistocene means the geological epoch preceding the Holocene, ending around 12,000 years ago.

QYAC means Quandamooka Yoolooburrabee Aboriginal Corporation, who are the registered Cultural Heritage Body for the Quandamooka People #1 and Quandamooka People #2 Native Title holders and the Quandamooka Coast Claim (#5), Mulgumpin Claim (#4) and the Southern Moreton Bay Islands.

RCC means Redland City Council.

Significant Aboriginal Area is an area of particular significance to Aboriginal People because of either or both of the following:

- (a) Aboriginal tradition;
- (b) the history, including contemporary history, of any Aboriginal Party for the area.

Significant Aboriginal Object is an object of particular significance to Aboriginal People because of either or both of the following:

- (a) Aboriginal tradition;
- (b) the history, including contemporary history, of an Aboriginal Party for an area.

SMBI means Southern Moreton Bay Islands.

Sponsor means the same as described in the *Aboriginal Cultural Heritage Act 2003* (ACHA).

Study Area consists of Lots 1 RP86773, 2 RP165178, 2 RP86773, 5 SP293881, and 23 SP325035 located on Double Jump Road, Victoria Point (Figure 1).



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1. Introduction

Everick Heritage Pty Ltd (the 'Consultant') was commissioned by Quandamooka Yoolooburrabee Aboriginal Corporation (QYAC) to undertake a Cultural Heritage Part 6 Study within Lots 1RP86773, 2 RP165178, 2 RP86773, Lot 5 SP293881, and Lot 23 SP325035 located on 42-44, 48, 50, and 52 Double Jump Road, Victoria Point, Qld 4165 (the 'Study Area') (Figure 1). This document will be presented to the Chief Executive of the Department of Women, Aboriginal and Torres Strait Islander Partnerships and Multiculturalism ('DWATSIPM') for consideration of whether the requirements for a Part 6 Study have been met, as prescribed in the *Aboriginal Cultural Heritage Act 2003* (Qld) ('ACHA').

Divisions 2 to 6 of Part 6 in the ACHA prescribe the steps necessary for the requirements of a Part 6 Study. This report is set up to sequentially address each criterion necessary for consideration by the Chief Executive of DWATSIPM. The Part 6 Study Area is within the area administered for Aboriginal cultural heritage purposes by QYAC, who are the registered Cultural Heritage Body for the Quandamooka People #1 and Quandamooka People #2 Native Title holders and the Quandamooka Coast Claim (#5), Mulgumpin (#4) and the Southern Moreton Bay Islands.

This document sets forth an understanding of the Aboriginal cultural heritage the Study Area and suggests management strategies to mitigate harm to the Quandamooka Peoples Aboriginal cultural heritage while also advancing a joint management approach to the lands and heritage.



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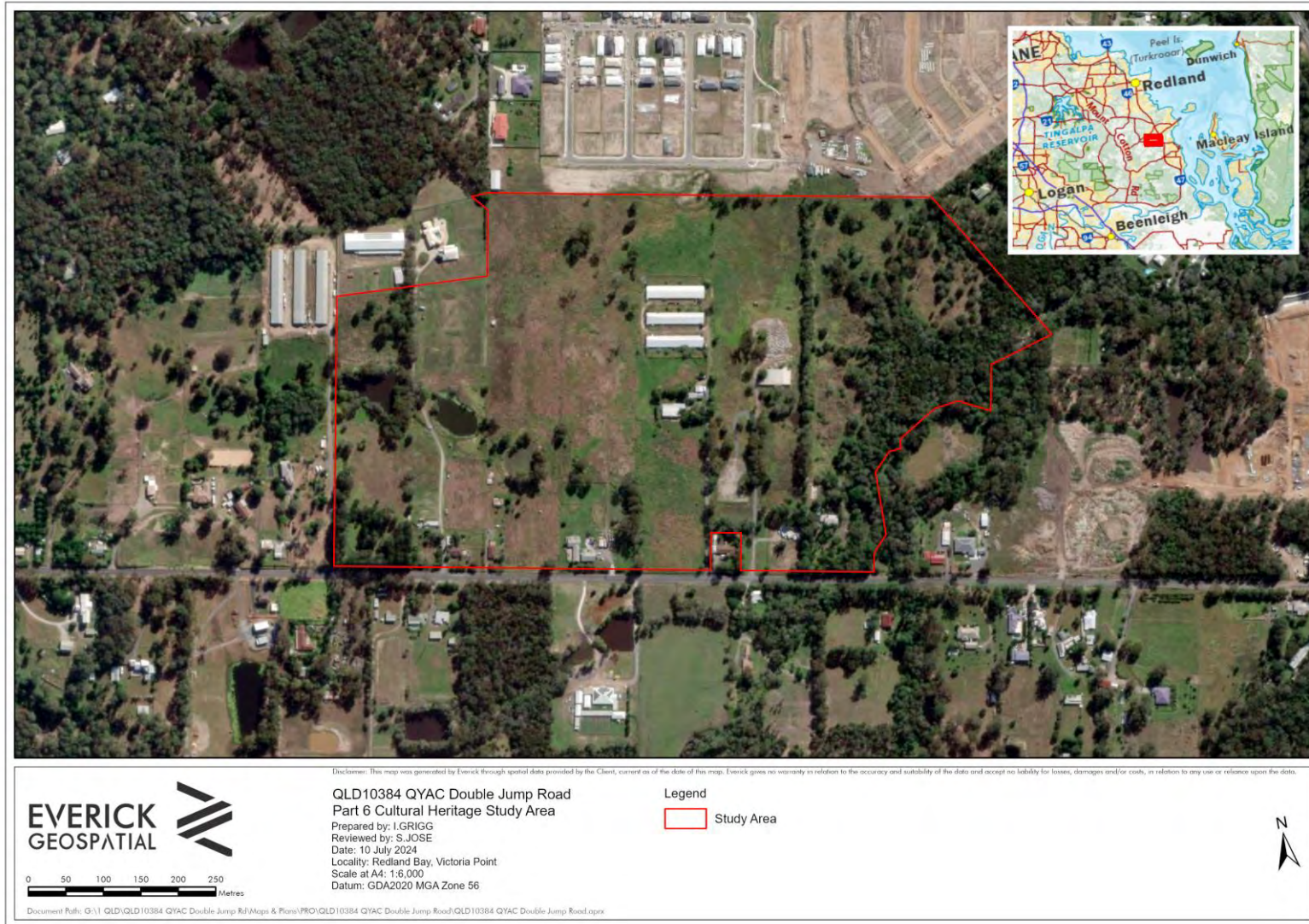


Figure 1: Double Jump Road Study Area



1.1. Methods used to Prepare this Document

The following methods were used to prepare this document:

- provide identification details of all parties involved in the Part 6 Study (Sponsor; Aboriginal Cultural Heritage Body; Endorsed Party; Cultural Heritage Assessors; Owners and Occupiers of the land included in the Study Area; land users of land included in the Study Area; local government whose local government area includes a part of the Study Area and the Chief Executive of DWATSIPM);
- clearly articulate the roles of all parties involved in the Part 6 Study;
- provide a description of the Study Area that distinguishes the area from other Cultural Heritage studies;
- provide a plan of the Study Area with a detailed description of its boundaries;
- describe the Aboriginal cultural heritage identified in the Study Area and show its location; and
- provide management recommendations for the Aboriginal cultural heritage within the Study Area.

1.2. Contact Details of Parties involved in the Part 6 Study

1.2.1. The Sponsor

The Sponsor for this Part 6 Study is Sutgold Pty Ltd as the developer. The registered contact details for Sutgold Pty Ltd are as follows:

Title	Sutgold Pty Ltd
Address	88A Old Cleveland Road, Capalaba Qld 4157
Phone	(07) 3245 4055

1.2.2. The Endorsed Party and Cultural Heritage Body

The Endorsed Party and Cultural Heritage Body is:

Title	The Quandamooka Coast Claim c/o Quandamooka Yoolooburrabee Aboriginal Corporation (QYAC)
-------	--



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Address 100 East Coast Road, Dunwich, Qld 4183

Phone 07 3415 2816

Email Cultural.heritage@qyac.net.au

1.2.3. The Cultural Heritage Assessors

The Cultural Heritage Assessor for this Part 6 Study is Everick Heritage. The registered contact details for Everick Heritage are as follows:

Title Everick Heritage Pty Ltd

Address Level 17, 110 Mary Street, Brisbane, Qld 4000

Phone 1300 124 356

Email admin@everick.com.au

1.2.4. The Owners of the Land Included in the Study Area

The Owners of the Study Area is Edgarange Pty Ltd.

Title Edgarange Pty Ltd

Address Lot 2, 18 Manuela Street, Victoria Point Qld 4165

Phone (07) 3207 6841

1.2.5. Occupiers and Land Users of the Land Included in the Study Area

The occupiers and land user of the Study Area is Sutgold Pty Ltd.

Title Sutgold Pty Ltd

Address 88A Old Cleveland Road, Capalaba Qld 4157

Phone (07) 3245 4055



1.2.6. The Local Government

The Study Area is located within the Redland City Local Government Area. Contact details for the Redland City Council are as follows:

Title	Redland City Council
Address	PO Box 21, Cleveland, Qld 4163
Phone	07 3829 8999
Email	rcc@redland.qld.gov.au

1.2.7. The Chief Executive of DWATSIPM

The contact details for the Chief Executive of DWATSIPM are as follows:

Title	Chief Executive
Address	PO Box 15397, City East (Brisbane), Qld 4002
Phone	13 74 68
Email	enquiries@DWATSIPM.qld.gov.au

1.3. Roles and Responsibilities of Parties Involved in Undertaking Part 6 Study

1.3.1. The Sponsor

The Sponsor prepares the written notices, compiles responses to the written notices, and endorses Aboriginal Parties for the Aboriginal Cultural Heritage Part 6 Study. The Sponsor carries out the study in consultation with the Endorsed Party(ies) in a way directed at maximising the quality and authority of the study. The Sponsor may engage Cultural Heritage Assessors for the Part 6 Study. Additionally, the Sponsor must comply with any reasonable request made by an Endorsed Party regarding engaging a Cultural Heritage Assessor for the Part 6 Study. The Sponsor may engage a Cultural Heritage Assessor for the Part 6 Study only if the sponsor is satisfied the person is:



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- an Aboriginal person for the Study Area (an Aboriginal person who has particular knowledge about traditions, observances, customs or beliefs within the Study Area and who has responsibility under Aboriginal tradition for some or all of the Study Area or for Significant Aboriginal Objects located or originating in the Study Area and who is a member of a family or clan group recognised as having responsibility under Aboriginal tradition for some or all of the Study Area or for Significant Aboriginal Objects located or originating in the Study Area); or
- an appropriately qualified person in a discipline directly relevant to the study (i.e., anthropology, archaeology, history); or
- a person who has particular knowledge or experience making the person suitable for engagement as a Cultural Heritage Assessor.

The Sponsor must take reasonable steps to consult with the Endorsed Party(ies) about: carrying out the study including the timing of the cultural heritage study generally and of particular stages of the study; access to particular areas with the Endorsed Party(ies) and the owner occupier of the land; the particular methods of the assessment activity; the choice of person engaged as Cultural Heritage Assessors; and the requirements the Sponsor may have of the Endorsed Party(ies) for carrying out the study.

The Sponsor may give the Part 6 Cultural Heritage Study to the Chief Executive of DWATSIPM to record its findings in the register when the sponsor is satisfied that the study has been completed to the extent that is reasonably practicable in the circumstances and the study's findings are in order for recording in the register. The Sponsor must comply with the procedures and other requirements stated in Part 6 of the ACHA 2003 for the carrying out of the study and ensure the findings and other information included in the cultural heritage study, including the study's recommendations, are consistent with authoritative anthropological, biogeographical, historical and archaeological information about the Study Area and provide:

- explanation of how lawful access to the Study Area was achieved for carrying out the study, including the details of any law or of any oral or written authority given by an owner or occupier of the land in the Study Area, authorising access to the land;
- a summarising statement about the existence of Aboriginal cultural heritage in the Study Area;
- documented evidence about whether recommendations included in the study for future management of Aboriginal cultural heritage have been agreed with affected landowners and occupiers;
- a description of assessment activities carried out for the Study Area;

- the signatures of each Endorsed Party for the study or the Party(ies) nominee who is stated in the study to be in support of information and other matters in the study and of the recording of some or all of the study's findings in the register;
- the extent to which any Endorsed Party does not agree with the recording of the study's findings in the register; and
- details of each endorsed party for the study who did not in fact take part in the study.

1.3.2. The Endorsed Party(ies)

The Endorsed Party(ies) assesses the level of significance of areas and/or objects included in the Study Area that are or appear to be Significant Aboriginal Areas and/or Objects. The Endorsed Party(ies) also consults with the Sponsor about the carrying out of the Part 6 Study, and giving help and advice directed at maximising the quality and authority of the study. An Endorsed Party(ies) for the cultural heritage study may ask the Sponsor to engage a Cultural Heritage Assessor for a particular purpose.

The Endorsed Party(ies) must take reasonable steps to consult with the Sponsor about carrying out the study including the timing of the cultural heritage study generally and of particular stages of the study; access to particular areas with the Sponsor; the particular methods of the assessment activity; the choice of person engaged as Cultural Heritage Assessors, and the requirements the Endorsed Party(ies) may have of the Sponsor for carrying out the study.

The Endorsed Party(ies) must sign, or nominate a person who is stated in the study to sign, the study in support of information and other matters in the study and of the recording of some or all of the study's findings in the register. The Endorsed Party(ies) must document the extent to which any Endorsed Party(ies) does not agree with the recording of the study's findings in the register.

1.3.3. The Cultural Heritage Assessors

The Cultural Heritage Assessor for the Part 6 Study has the role of giving help and advice directed at maximising the quality and authority of the study, only to the extent agreed to by the Sponsor. The Cultural Heritage Assessor may be consulted with by the Chief Executive during consideration of the inclusion of the Study Area into the register.



1.3.4. The Owners and Occupiers of the Land Included in the Study Area

The Owners and Occupiers of the land included in the Study Area receive written notice of the Sponsor's intent to undertake a cultural heritage study. The Owners and Occupiers are involved in the negotiation of access to the Study Area with the Sponsor. Owners and Occupiers are also invited to provide feedback on the management recommendations and may be contacted by the Chief Executive to better understand the processes undertaken during the cultural heritage study. The Owners and Occupiers of the land included in the Study Area are notified of the recording or refusal to record the cultural heritage study onto the register.

1.3.5. The Land Users of the Land Included in the Study Area

The Land Users of the land included in the Study Area may be consulted with by the Chief Executive during consideration of the inclusion of the Study Area into the register.

1.3.6. The Local Government

The Local Government whose local government area includes a part of the Study Area receives written notice of the Sponsor's intent to undertake a cultural heritage study. The Local Government whose local government area includes a part of the Study Area may be consulted with by the Chief Executive during consideration of the inclusion of the Study Area into the register. The Local Government whose local government area includes a part of the Study Area is notified of the recording or refusal to record the cultural heritage study in the register.

1.3.7. The Chief Executive of DWATSIPM

The Chief Executive of DWATSIPM may record the findings of the study in the register or refuse to record the findings of the study in the register. The Chief Executive is not authorised to assume the role of an Endorsed Party(ies) for the study for assessing the level of significance of areas and objects included in the Study Area that are or appear to be Significant Aboriginal Areas and/or Objects. In considering whether to record the findings of the cultural heritage study the Chief Executive must have regard to the results and nature of consultation that has occurred for the purposes of the study between the Sponsor and Endorsed Party(ies) and may seek expert advice about the study from any appropriate source and may consult with Endorsed Party(ies), Cultural Heritage Assessors, Owners and Occupiers of the land



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included in the Study Area; Land Users of land included in the Study Area and local governments whose Local Government Areas include a part of the Study Area about the study.

The Chief Executive must be satisfied the Sponsor has complied with the procedures and other requirements stated in Part 6 of the ACHA for the carrying out of the study and ensure the findings and other information included in the cultural heritage study, including the study's recommendations, are consistent with authoritative anthropological, biogeographical, historical and archaeological information about the Study Area and the cultural heritage study includes the information and other material needed for recording the study's findings under Part 5 Division 2 of the ACHA 2003. Section 48 applies if, under Part 6, the Chief Executive records in the register the findings of a cultural heritage study. The Chief Executive must record:

- a description of the cultural heritage study adequate to distinguish it from other cultural heritage studies;
- a description of the Study Area, including, if necessary, for accurately locating the Study Area, a plan of the area and a detailed description of its boundaries;
- a description of all Aboriginal cultural heritage that has been identified in the Study Area and a description of its location;
- in general terms, the reasons anything identified as Aboriginal cultural heritage has so been identified including, if appropriate, whether it relates to men's or women's business;
- if the study makes recommendations for the management of Aboriginal cultural heritage identified in the study – and the recommendations;
- for each area or object assessed as a Significant Aboriginal Area or Significant Aboriginal Object – the name of each party that assessed the area or object as a Significant Aboriginal Area or Significant Aboriginal Object;
- the name and contact details of each Endorsed Party for the study;
- the name of each Endorsed Party for the study who did not take part in the carrying out of the study;
- the name and contact details of each Aboriginal Cultural Heritage Body for the Study Area;
- the name and contact details of each Cultural Heritage Assessor for the study; and
- when the study was completed.

The Chief Executive must be satisfied the cultural heritage study also includes:



- an explanation of how lawful access to the Study Area was achieved for carrying out the study, including the details of any law or of any oral or written authority given by an owner or occupier of the land in the Study Area, authorising access to the land;
- a summarising statement about the existence of Aboriginal cultural heritage in the Study Area;
- documented evidence about whether recommendations included in the study for future management of Aboriginal cultural heritage have been agreed with affected landowners and occupiers;
- a description of assessment activities carried out for the Study Area;
- the signatures of each Endorsed Party for the study or the Party's nominee who is stated in the study to be in support of information and other matters in the study and of the recording of some or all of the study's findings in the register;
- the extent to which any Endorsed Party does not agree with the recording of the study's findings in the register; and
- details of each Endorsed Party for the study who did not in fact take part in the study.

If the Chief Executive is satisfied that the requirements have been met, the Chief Executive must record the findings of the cultural heritage study in the register. When the Chief Executive records or refuses to record the findings of the cultural heritage study in the register the Chief Executive must give written notice of the recording or refusal to record to:

- the Sponsor;
- each person who is an Owner or Occupier of part of the Study Area;
- each Local Government whose local government area includes a part of the Study Area;
- each Endorsed Party for the Study Area; and
- each Aboriginal Cultural Heritage Body for part of the Study Area.

If the Chief Executive refuses to record the findings of the cultural heritage study in the register, the Chief Executive must include in each written notice given a statement of the Chief Executive's reasons for refusing to record the findings.

1.3.8. The Minister

The Minister may by gazette notice notify guidelines to help people in choosing suitable methodologies for carrying out cultural heritage studies. Before notifying the guidelines, the Minister may consult with



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Aboriginal groups; industry groups; local governments; and/or other persons the Minister considers appropriate.

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2. Aboriginal Cultural Heritage Study

2.1. Study Area Description and Written Notice of the Part 6 Aboriginal Cultural Heritage Study

The Study Area consists of Lots 1 RP86773, 2 RP165178, 2 RP86773, Lot 5 SP293881, and Lot 23 SP325035 located on 42-44, 48, 50, and 52 Double Jump Road, Victoria Point, Qld 4165. The lands are owned by 28 South Environmental. A written notice of the Part 6 Study was mailed to the Chief Executive of DWATSIPM, Redland City Council, 28 South Environmental, Fiteni Homes, and QYAC on 10 July 2024. The notices provided a detailed description of the Study Area, with the locality illustrated on a regional plan, with a red border delineating the Study Area (Figure 1).

3. Environmental Context

3.1. Location of Study

The Study Area is located within Victoria Point, a locality of the Redland City Council Local Government Area, approximately 28 km southeast of the Brisbane CBD and 2.7 km northwest of the Redland Bay CBD. The Study Area lies approximately 1 km to the west of Moogerah Creek and 1.7 km to the south of Eprapah Creek, and approximately 2.1 km to the west of Southern Moreton Bay. Portions of the Study Area have been altered by residential and agricultural land-use practises that have resulted in vegetation clearing and localised landscape modification.

3.2. Paleoenvironment

Moreton Bay is regarded as one of the few places in Australia where continuous records of the terrestrial environment extend into the late Pleistocene (Barr *et al.* 2017). The paleoenvironmental records at Welsby Lagoon, on Minjerribah, extend back 130,000 years and illustrates how the region served as a refuge to arboreal flora through the arid and frigid times of the Last Glacial Maximum (LGM) (Cadd *et al.* 2018). The significance of the area throughout the LGM and into the Holocene is due to the legacy of the positive moisture balance held within the many lakes of the sand barrier islands of Moreton Bay. These records offer knowledge on the ecological period encompassing the extinction of megafauna and human colonisation. During the LGM the mean sea level was approximately 125 m lower than present (Lewis *et al.* 2013: 115), the coast was 30 to 40 km to the east, and the islands of Moreton Bay were areas of higher elevation on a broad coastal plain with the Logan and Brisbane Rivers flowing along extended alignments to the coast (Figure 2).

The early (18,000 – 15,000 BP) and late (15,000 – 12,000 BP) deglacial and early Holocene (12,000 – 8,000 BP) periods (Moss *et al.* 2013) were characterised by rising seas that inundated the coastal plain, creating the islands. Sea level reached an estimated +1 to 1.5 m by about 7,000 BP and fell to about the current mean by about 2,000 BP. The post-Pleistocene marine incursion changed not only the regional geography but also any human settlements on or near the coasts which would have been forced to constantly adjust to new conditions for thousands of years (Robins *et al.* 2015). Most of the evidence recorded in archaeological or cultural heritage surveys has been identified on sands that date within the Late Holocene. Indeed, most excavated sites have been dated within the last 2,000 years (Robins *et al.* 2015).



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The Holocene history of Moreton Bay's environment is complex and the subject of ongoing research. In addition to rising sea levels, other factors influencing the ecology of the bay and, in part, the human response to those changes included (according to Neil 1998):

- changing temperatures and rainfall regimes;
- infilling of the bay with fine terrigenous sediments;
- progradation;
- decreasing sea level (in places) resulting in shallower water depth and increased bottom sediment suspension;
- erosion of parts of the mainland coast (Brooke *et al.* 2008);
- decreased and more variable sea surface temperatures; and
- increased intensity of prevailing southeast trade winds resulting in increased turbidity and progradation of dune-island barrier coasts by coarse marine sediments, including the establishment of South Stradbroke Island, which in turn influenced tidal circulation and water quality.

A substantial shift in environment occurred around 4,000 years ago, where *casuarinacea* declined in favour of more drought-tolerant species of *eucalyptus*, *leptospermum* and *callitris* and increasing sclerophyllous herbs (Barr *et al.* 2013: 1626). This change was associated with an increase in El Niño–Southern Oscillation (ENSO) variability and increased frequency of El Niño events observed across eastern Australia (Barr *et al.* 2013: 1626). The pattern observed during this period was sustained with minimal changes until the European period which introduced new species into these ecosystems (Barr *et al.* 2013: 1626). Aboriginal response to these changes will also have been complex and multidimensional, and will have included, to varying degrees, technological, social, and economic aspects, some of which will be evident in a now-fractured archaeological record.

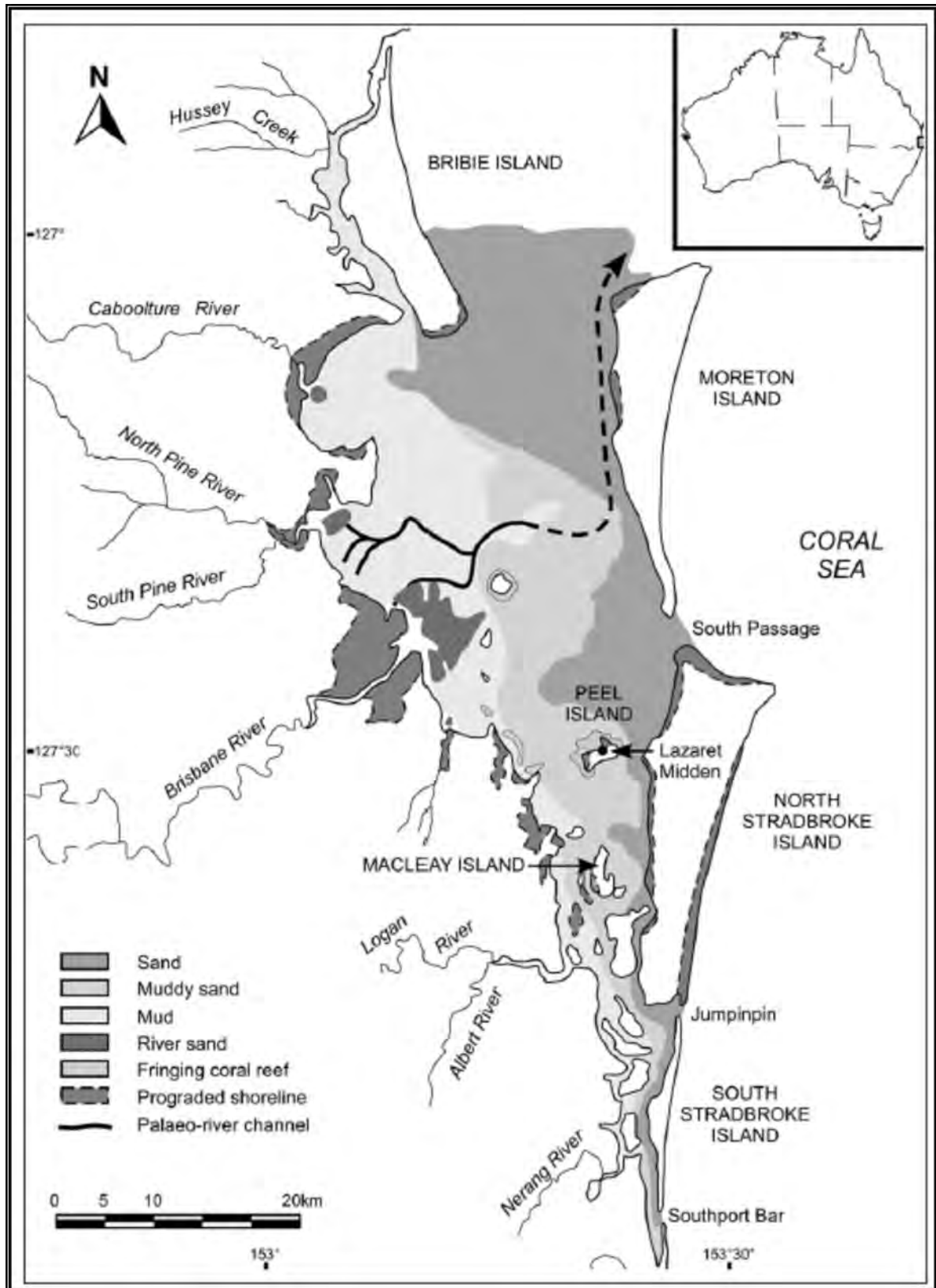


Figure 2: Approximate shoreline ~ 6,000 years ago (Ulm *et al.* 2009: 160).

3.3. Geology

The Study Area is situated within the Woogaroo Subgroup and Brisbane Tuff geological formations. This data is indicative only of the underlying surface geology of the area in the absence of more specific and detailed geological mapping for the Study Area (Figure 3).

Table 1: Geological Units of the Study Area

Geological unit	Lithological summary	Dominant rock	Rock type	Age
RJbw (Woogaroo Subgroup)	Sublabile to quartzose sandstone, siltstone, quartz-rich granule to cobble conglomerate and coal	Sedimentary rock	Stratified unit (including volcanic and metamorphic)	Late Triassic – Early Jurassic
Rif (Brisbane Tuff)	Rhyolitic tuff, ignimbrite, agglomerate, conglomerate, sandstone, shale	Felsites (Lavas, clastics, and high-level intrusives)	Stratified unit (including volcanic and metamorphic)	Late Triassic

3.4. Vegetation

The dominant vegetation of the Study Area pre-clearing is moist to dry woodlands dominated by a variety of species (9g), with the eastern portion of the block containing open forests and woodlands (22a) (Table 2, Figure 4).

Table 2: Broad Vegetation Groups within the Study Area pre-clearing

BVG	Description	Associated landforms	Associated soils
9g	Moist to dry woodlands to open forests dominated by stringybarks or mahoganies such as <i>Eucalyptus tindaliae</i> (Queensland white stringybark), <i>E. latisinensis</i> (white mahogany), <i>E. acmenoides</i> (narrow-leaved white stringybark); or <i>E. racemosa</i> (scribbly gum) or <i>E. seeana</i> or <i>E. tereticornis</i> (blue gum) and <i>Corymbia intermedia</i> (pink bloodwood)	Lowlands to ranges on metamorphic, sedimentary and igneous rocks	Red, Yellow and Brown Dermosols and Kandosols



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22a	Open forests and woodlands dominated by <i>Melaleuca quinquenervia</i> (swamp paperbark) in seasonally inundated lowland coastal areas and swamps	Coastal alluvial plains and sand plains, and dune swales	Redoxic Hydrosols and Aquic Podosols
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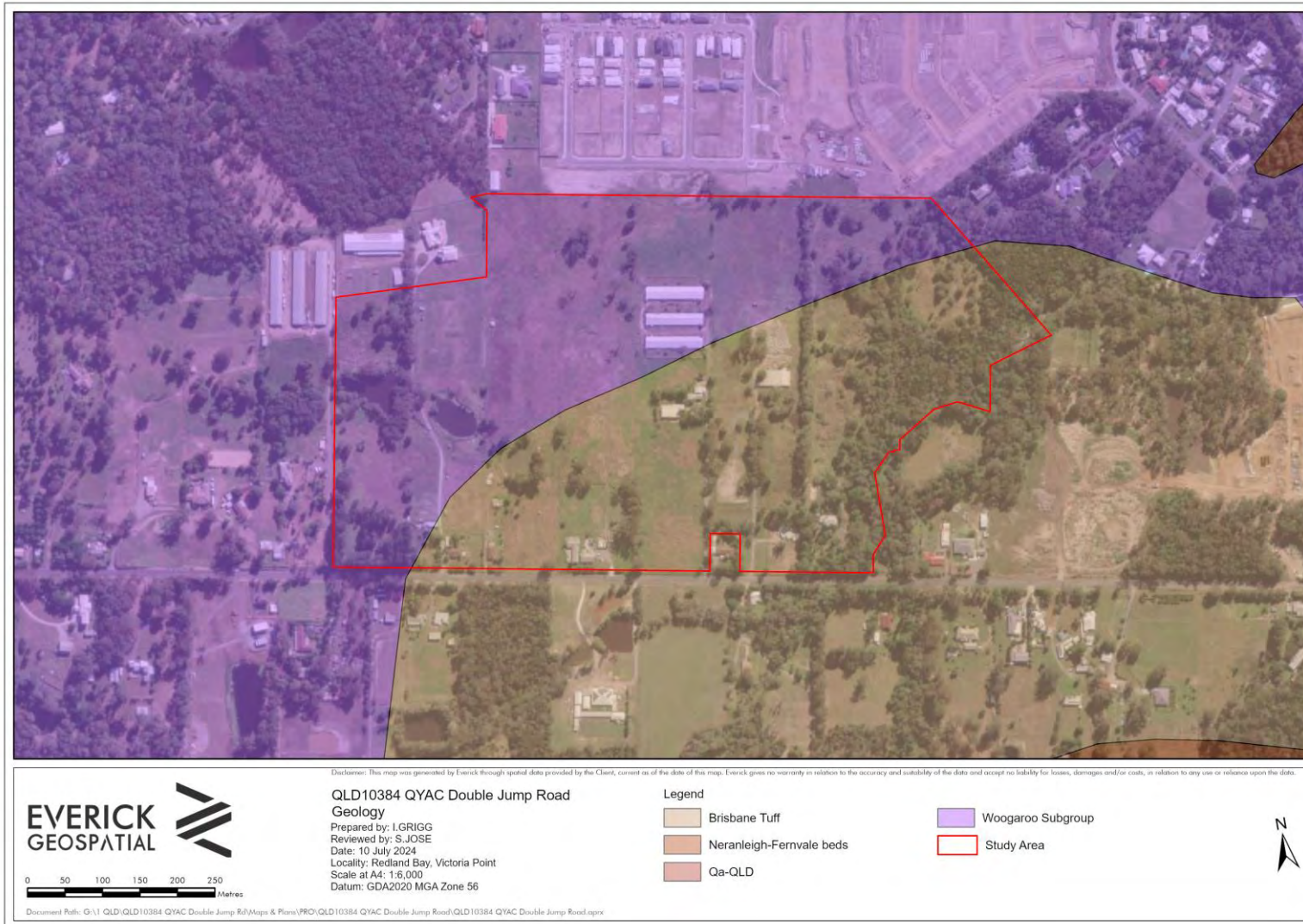


Figure 3: Geology of the Study Area

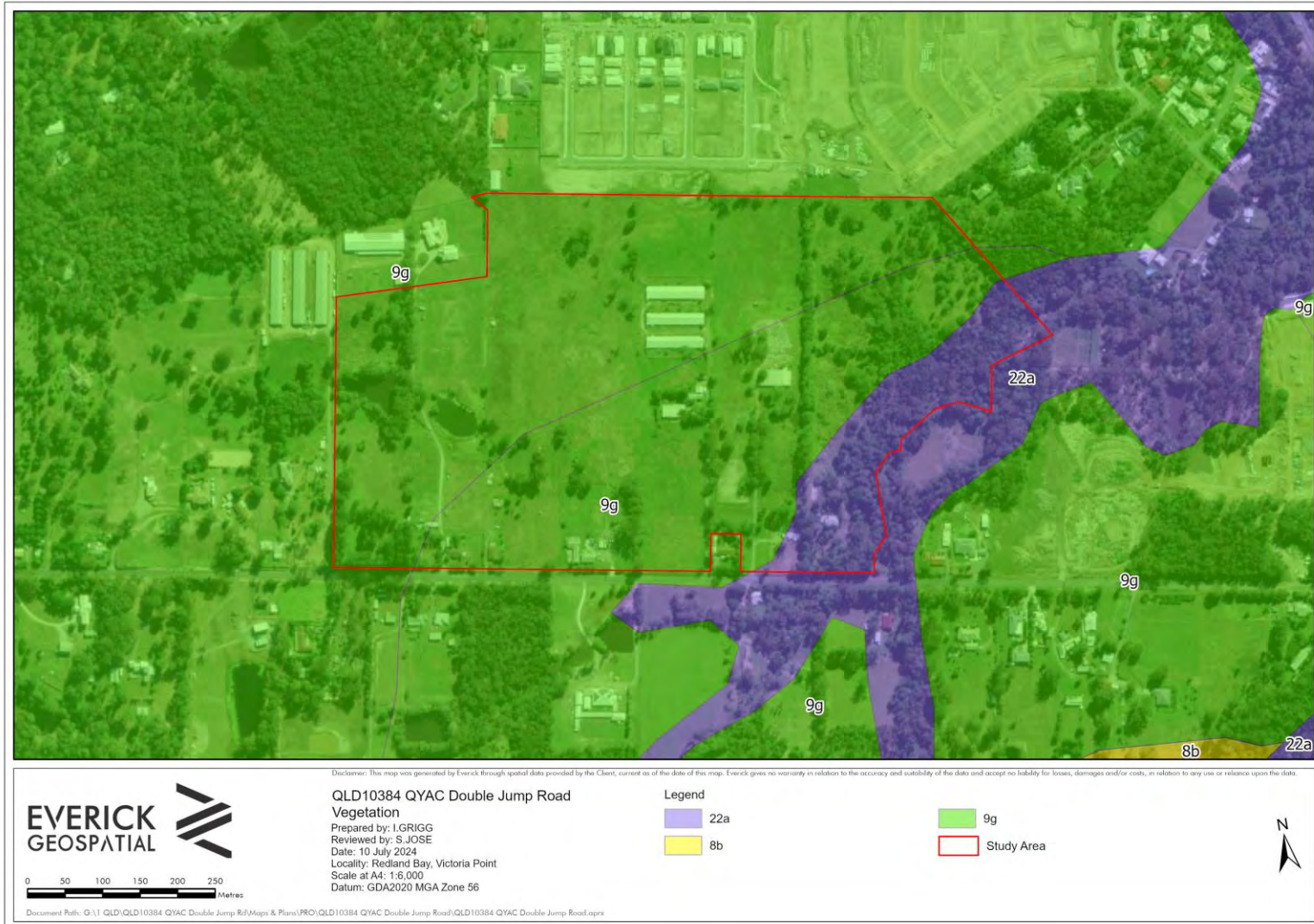


Figure 4: Broad Vegetation Groups of the Study Area Pre-Clearing

3.5. Water Sources and Topography

Water sources are important to consider in the understanding and interpretation of human movement within the environment. The primary local watercourses in the broader landscape are Moogurrapum Creek, Erapah Creek, Sandy Creek, and Weinam Creek. These watercourses would have played important roles as sources of freshwater and associated resources. A major non-perennial and a minor non-perennial tributary of the Moogurrapum Creek flow through the eastern section of the Study Area, while another minor tributary of Moogurrapum Creek flows close to but outside the southeastern boundary of the Study Area. The landscape of the Study Area has also been altered to create water reservoirs. The Study Area is part of the Logan-Albert Drainage Basin. The topography of the Study Area slopes gently to the east, decreasing in elevation from 40 m above sea level in the west to 10 m above sea level in the east. The centre of the Study Area contains a relative flat space at 25 m above sea level which contains agricultural infrastructure.

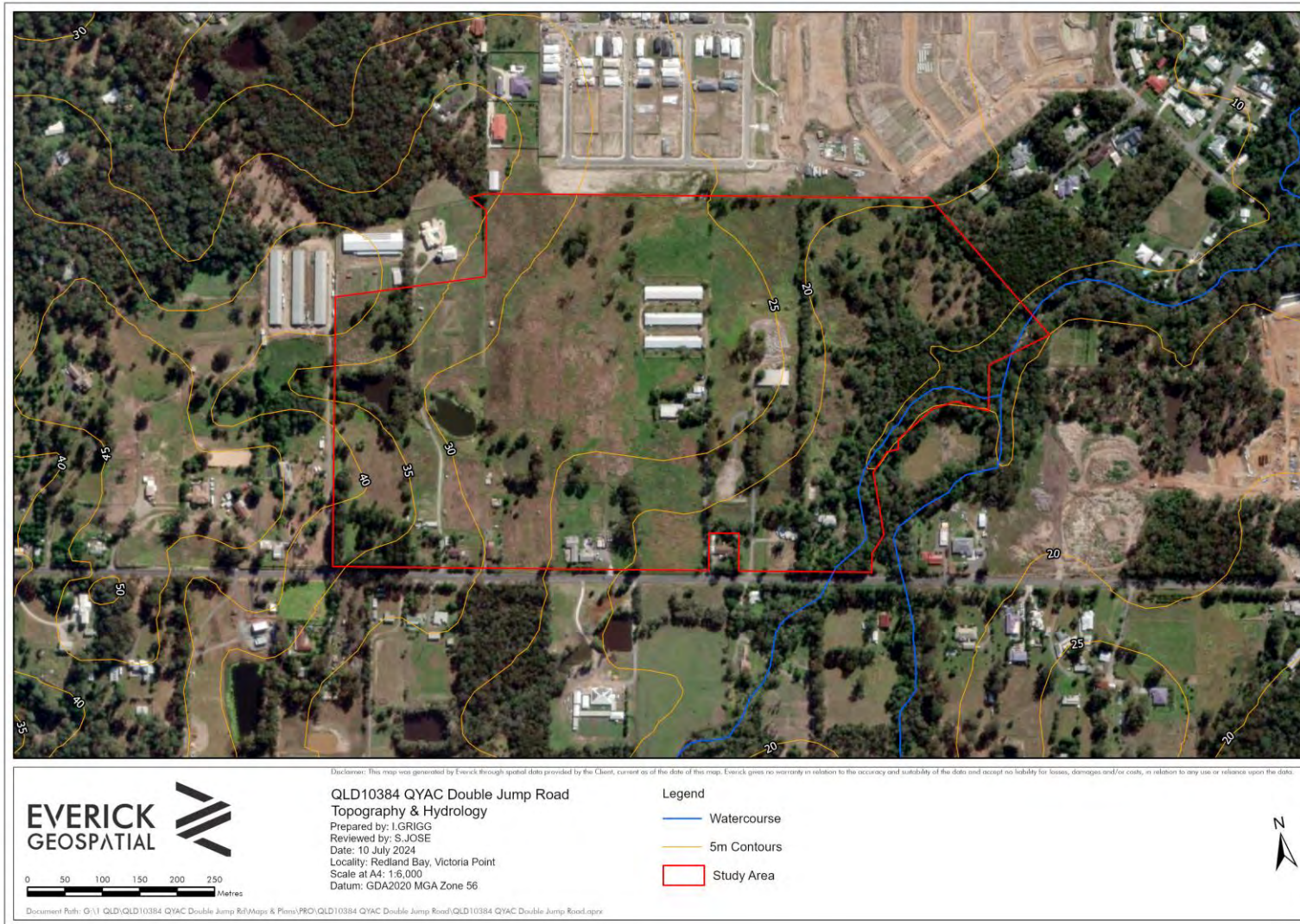


Figure 5: Watercourses and Topography of the Study Area

4. Desktop Review

4.1. Prehistory

It is now generally accepted that Aboriginal People have occupied Australia for at least 40,000 to 50,000 years, with some research pushing occupation back as far as 65,000 years (Clarkson *et al.* 2017). The earliest evidence of Pleistocene occupation of southeast Queensland exists at Wallen Wallen Creek, on Minjerribah. Here an occupation phase from 20,560 ($\pm$ 250 years) through to the early Holocene period was reported by Neal and Stock (1986). Analysis of faunal materials from the site suggests an economy based upon hunting terrestrial fauna that later shifted to marine fish and shellfish exploitation. These shifts in subsistence patterns likely reflect human adaptation to the changing sea levels in Moreton Bay through gradual rises in sea levels during the late Pleistocene (Neal and Stock 1986), where coastlines retreated up to 30 kilometres inland (Hall and Hiscock 1988) (Figure 6). Ethnohistorical accounts of early Europeans recorded the exploitation of the rich marine resources of Moreton Bay as a primary source of protein (Hall and Hiscock 1988).

The number and characteristics of Aboriginal archaeological sites in Moreton Bay are prone to dramatic change due to the environmental and physical attributes of the area. Sites along the eastern beachfronts are prone to erosion and deposition events that can dramatically alter the size, character, and even the location of sites. For example, in a re-survey taken of selected areas on Mulgumpin in which 74 sites had been found in one year, it was found that 15% had disappeared and 42% had significantly changed within a year (Robins 1983: 192). One site that measured 100 m² in area in one year had expanded to 900 m² the following year due to local erosion (Robins 1983: 165).

The estuaries around nearby Eprapah Creek have evidence of landscape modification by the local Aboriginal People (Chanson *et al.* 2014: 176). Forest burning or 'firestick farming' practices are thought to have led to increased erosion rates and associated sediment delivery to waterways (Hall 1990; Neil 1998). It is estimated that the degree of landscape modification through these practices was negligible, probably as little as 10% (Neil 1998). Following European settlement about 200 years ago, the landscape was modified by a combination of timber operations and vegetation removal to develop livestock grazing land (Chanson *et al.* 2014: 176). These activities contributed to an increased sediment load to the estuaries by 5% (Neil 1998), with minor modifications to the hydrology and hydrodynamics (Chanson *et al.* 2014: 176).

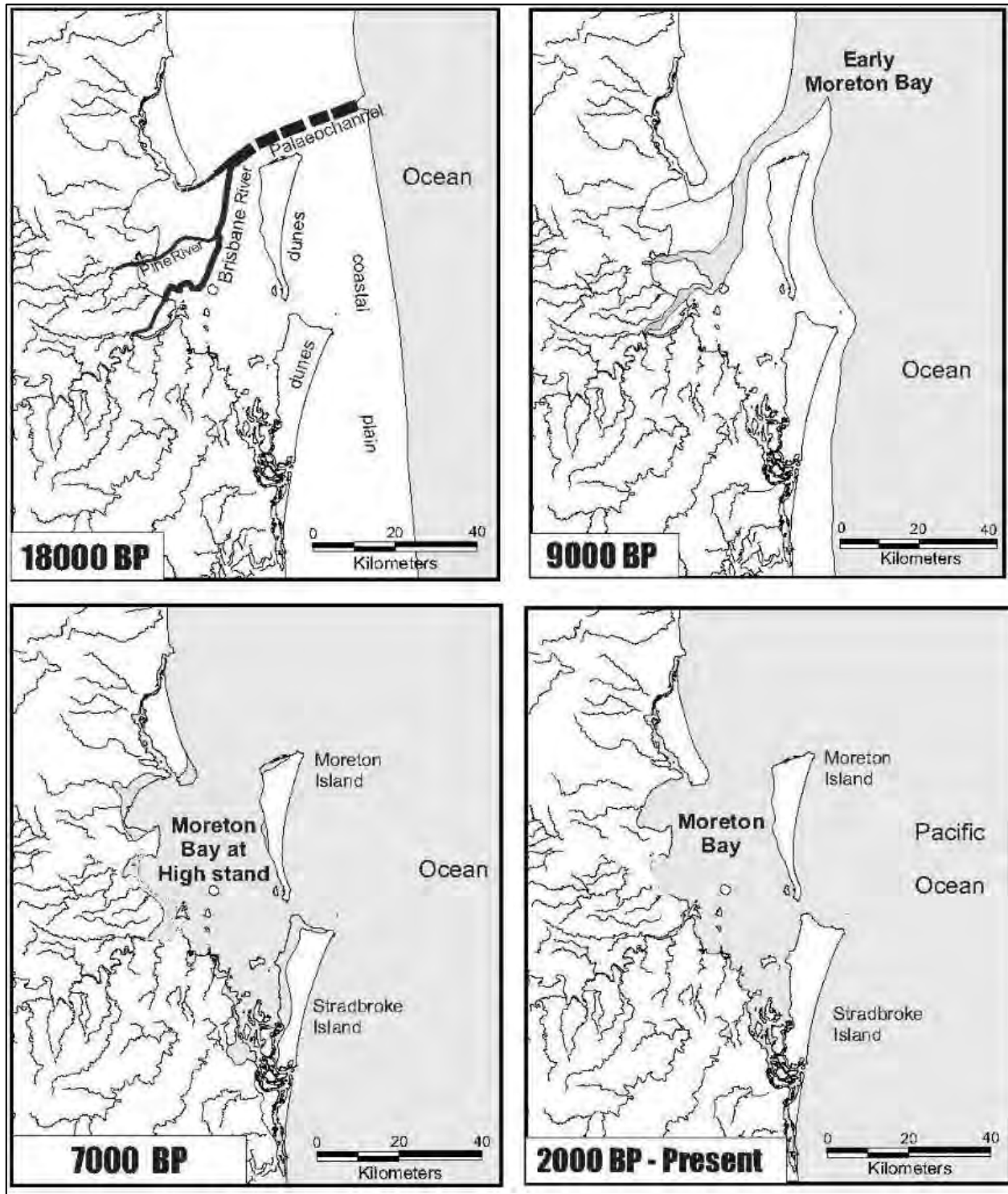


Figure 6: Evolution of Moreton Bay from the late Pleistocene (Robins et al. 2015)

4.2. Settlement

The reported range in ages from the excavated sites in the region is from 20,560 BP to 'modern' (Ulm and Reid 2000). Wallen Wallen Creek is the site with the greatest age range (20,560 – 1,070 BP). This site is the oldest and most comprehensively dated coastal site in southeast Queensland and provides the most extensive evidence of pre-4,000 BP occupation in the region. This pre-dates the Late Holocene sea level high-stand, where minimal data of the archaeological record exists. Gaps in the dating record can be interpreted as a product of one or more factors including the frequency and intensity of Aboriginal occupation, absence of dateable material, and sampling frequency and size. This sequence combined with an almost uninterrupted record of cultural deposition is interpreted as evidence of continuous occupation (Neal and Stock 1986: 618).

The remaining six excavated sites on Minjerribah represented by 18 dates, excluding Wallen Wallen Creek, are all late Holocene in age. Peel Island has one reported excavation, but nine dates have been published. Wallen Wallen was first occupied at about the time of the height of the last glaciation (20,000 BP). At that time, the coastline was approximately 30 – 40 km to the east, and Moreton Bay was a broad plain with the major river systems flowing through it to the sea beyond. After approximately 17,000 BP the sea level began to rise and by about 13,000 BP rising seas had begun to inundate the plain. The sea level continued to rise until about 7,000 BP, at which time it was between 1.0 and 1.5 m above its current level. By this time, Mulgumpin, Minjerribah and the more elevated parts of the plain, had formed into islands. By about 2,000 BP, the sea level had stabilised to its present level and the estuarine character of the bay, including numerous low islands in the southern part, began to form.

Stone artefacts and possible culturally derived charcoal were the only cultural evidence found in the Late Pleistocene depositional units at Wallen Wallen Creek. Artefacts were manufactured on high quality raw materials from a source that was probably later flooded by the marine ingression. Raw materials from new sources began to appear in the record after the ingression. Artefact numbers diminish throughout the terminal Pleistocene and early Holocene periods (c. 14,000 - 5,000 BP). The site occupants at 5,000 - 4,500 BP were exploiting both terrestrial and marine vertebrate fauna (including dugong). By around 2,000 BP terrestrial fauna was "... replaced by an exclusively coastal economy based on the littoral and marine resources of fish and shellfish, with limited dugong hunting" (Neal and Stock 1986: 618).

The date of occupation within the Moreton Bay region has recently been expanded with the dating of new samples from Wallen Wallen Creek and of Middle Canalpin Creek on Minjerribah. Optically stimulated luminescence dating was conducted on quartz grains and radiocarbon dating was conducted on shell and charcoal to determine a date of occupation between 30,000 BP and 45,000 BP (Adams *et al.* 2024). These excavations also identified some of the oldest examples of heat-treatment of artefacts

in Australia, with heat-treated silcrete artefacts dated to 30,000 BP. These dates challenge the notion that the east coast of Australia was not occupied until 25,000 BP, and significantly expand the timeline of occupation within the Moreton region.

4.3. Movement

Sites are generally situated to exploit available plant and marine resources. Marine resource exploitation is the most readily identifiable aspect of the archaeology of Moreton Bay and middens are numerous throughout the area, focused on foreshores. Although open beach sites have the highest representation of middens, in terms of their contribution to diet, or preferred areas for resource exploitation, these sites are probably overrepresented (McNiven 2006). Estuarine areas, such as the smaller Moreton Bay Islands, provided a greater array of marine resources than those of the beach environments. In some cases, fish and shellfish were transported several kilometres from their source. For example, on Mulgumpin sites with open beach shellfish species are found in sites adjacent to estuarine environments, and sites adjacent to open beaches contain estuarine shells. In one case, open beach shellfish species have been carried inland up to five kilometres away (Robins 2006). In some areas away from the coastline in parts of Mulgumpin and Minjerribah there are clear patterns of sites in areas of level, open forest near either fresh water and/or plant resources (Richardson 1984; Robins 1983).

Patterns of occupation are likely to have existed at a more local level. For example, on Mulgumpin, Robins (1983) has identified three patterns of occupation that are linked to the physiography of the island. In the north, sites are located along the eastern and western shoreline as well as parts of the northern shoreline. Small sites (all containing shellfish) are also found around the edges of small swamps and in flat, open woodland corridors near swamps and lakes. Sites were situated to exploit the resources of the swamps and lakes including the Bungwall fern (*Blechnum indicum*) as well as the coastal resources (shellfish and fish), with the exception of the quarry and workshop complex at Cape Moreton, which was located there because of the proximity of the stone resource. Most of the recorded sites in the higher central section of the island are located on the eastern coast. This coast provided easy access to the resources of the beach as well as to a variety of plant resources. In contrast, the western coastline had limited marine and terrestrial food resources. In the southern and less elevated section of the island, the western shoreline provides access to most resources, with easy access to extensive estuarine resources and to swamps.

A different pattern of site distribution is emerging on Minjerribah. While most sites are, as on Mulgumpin, distributed around the coast, there appears to be a secondary distribution of sites across the island, following the southeast-northwest trend of the sand dunes. This pattern of site distribution appears to be



island wide, resulting in a more even spread of sites throughout the island. This is a late Holocene site distribution pattern (Fowler 2017).

4.4. Economy

Signatures of Aboriginal land use exist in physical deposits of materials and objects used by people in the past. Shell midden deposits, fish and oyster traps, hunting and fishing tools and hearths often represent subsistence activities. Stone tools are an abundant feature of Aboriginal material culture and can be found in a variety of settings depending on the task and stage of production. Other items of material culture included burials, art, stone arrangements, stone quarries and scarred or carved trees.

In addition to an abundance of food resources, archaeological research informed by ethnographic records demonstrates a highly complex, socially distinct Aboriginal culture. Land tenure was divided between inland and coastal people, which although largely separate in terms of their socio and economic groups, relied on continued interaction through social ceremonial gatherings such as the Bunya Pine feast which took place every three years, in association with the bumper crop of Bunya Pine (*Araucaria bidwillii*) nuts (Hall and Hiscock 1988).

4.5. Post-Contact

The first recorded contact between Aboriginal People of Minjerribah and English colonists occurred during Matthew Flinders 1803 expedition, when Flinders landed on Cylinder Beach to replenish freshwater supplies (Durbidge and Covacevich 1981). A hiatus in contact of approximately 20 years occurred before three lost Ticket of Leave timber getters landed on Mulgumpin and were transported by Aboriginal Peoples from Mulgumpin to Minjerribah (Durbidge and Covacevich 1981). When the 'Sovereign' was wrecked in 1847, historical records note that the Aboriginal People of Minjerribah assisted in rescuing survivors stranded in the South Passage Bar (Durbidge and Covacevich 1981). Oxley recorded the Minjerribah Aboriginal Peoples to "possess a most friendly disposition..." (Durbidge and Covacevich 1981: 53), though with the increasing European presence, the Aboriginal culture of Minjerribah began to change. The Aboriginal People of Minjerribah maintained ties to country through gaining work in the missions and through fishery enterprises established on the island.

5. Heritage Databases

5.1. Historical Context

There is an extensive, but quantitatively and qualitatively variable archaeological record for the Moreton Bay region. The variability is due to several factors, principally relating to development and an increasing interest in Aboriginal heritage, particularly the archaeological record, over time. There was minimal interest in Aboriginal cultural heritage or archaeology within the region prior to the 1960s (as it was for most of Australia). Occasional reports would appear in the scientific literature or the literature of quasi-scientific organisations (Robins 2008: 6).

Archaeological objects and Aboriginal remains were collected from time to time and lodged with museums, principally the Queensland Museum. Trained archaeologists did not undertake any of this work. Descriptions of the material, and particularly the area from which it was collected, are generally imprecise. Donation records of objects in the Queensland Museum Registers, for example, describe objects as coming from 'Moreton Island', or 'North Stradbroke Island'. During this period, some parts of the Moreton Bay region experienced considerable development, predominantly housing developments and associated infrastructure. On the other hand, the more remote islands, particularly Mulgumpin, but also parts of Minjerribah and some of the Bay Islands, remained relatively undeveloped. The archaeological record of these places, apart from material that suffered from erosion, remained relatively intact.

In 1964, V.V. Ponosov, from the Department of Psychology, University of Queensland, published the results of a survey of the Aboriginal archaeology of Moreton Bay. This study, despite its limitations, has become an important benchmark. Considerable development has taken place on Minjerribah and other islands since the time of the surveys. Large parts of Minjerribah have been sand mined, destroying previously recorded archaeological sites.

In 1967, the Queensland Government passed the *Aboriginal Relics Preservation Act 1967-1976*, and later the *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987*, resulting in improved protection for sites, the establishment of a sites register, and a requirement that any archaeological work (including site recording) be undertaken under a permit. Permit conditions required the preparation and submission of a report, generally by a qualified or qualifying person. As a result, site surveys were undertaken by professionals that resulted in the production of reports with commensurate additions to a central database, now the DWATSIPM Cultural Heritage Database. Archaeology courses were being established at Australian universities at the same time, including the



University of Queensland. H.J. Hall of the University of Queensland, Department of Anthropology, established a research framework in 1977 called the Moreton Region Archaeological Program (MRAP), resulting in archaeological studies, including dating, being completed throughout the region. Most of the sites recorded under permits were entered into the Aboriginal Cultural Heritage Database that is now administered by DWATSIPM.

Although the database has been maintained, the requirement to submit reports or to inform the Department about the location of sites is no longer a requirement under legislation. Consequently, the frequency of reports from the region being entered into the database has diminished. Nevertheless, the DWATSIPM Cultural Heritage Database remains an important reference relating to Aboriginal sites in the region.

5.2. DWATSIPM Cultural Heritage Database Search Results

A DWATSIPM search was conducted on 10 July 2024 and included a 1,000 m buffer incorporating the Study Area and immediate surrounds. No cultural heritage sites are registered with DWATSIPM within the Study Area or 1,000 m buffer at the time of this search.

5.3. Other Heritage Database Search Results

The heritage search encompasses the Study Area and a 1,000 m buffer. The following Heritage Databases were searched on 10 July 2024.

World Heritage List: No results found.

National Heritage List: No results found.

Commonwealth Heritage List: No results found.

Register of the National Estate: Contains one listing for Victoria Point:

- Southern and Eastern Moreton Bay, Moreton Bay via Cleveland, Qld, Australia
 - Place ID: 16203
 - Place File No.: 4/01/094/0004

Queensland Heritage Register: No results found.

Redland City Council: No results found.



5.4. Previous Cultural Heritage Assessment Results

Everick Heritage have previously completed several assessments within lands surrounding the Study Area. These assessments can be used to aid in predicting the potential occurrence of cultural heritage sites within the Study Area based on similarities such as proximity to watercourses, landscape, and past site usage.

In 2017 Everick Heritage was commissioned by Quandamooka Yoolooburrabee Aboriginal Corporation to prepare a Part 6 Cultural Heritage Study for lands owned and managed by the Scouts Australia Queensland Branch approximately 2 km north of the Study Area (Hill *et al.* 2017). The survey identified three cultural heritage sites of high and moderate cultural significance, including a site complex comprising a midden and stone artefact, and two scarred trees. A number of places with intangible heritage values were also identified during the survey. Owing to the site's proximity to Eprapah Creek, an area of high cultural significance to the Quandamooka People, as well as to Moreton Bay, and the cultural heritage sites identified during the survey, this site has a high potential to contain cultural heritage material.

In 2018 Everick Heritage was commissioned by Quandamooka Yoolooburrabee Aboriginal Corporation to prepare a Part 6 Cultural Heritage Study for lands owned and managed by the Redland City Council, Victoria Point, approximately 3 km northeast of the Study Area (Love *et al.* 2018). This survey identified a surface shell scatter close to the border of the proposed development which would not be impacted by the planned works and that helps to contextualise the heritage potential of the landscape. Two areas were identified as being of moderate heritage risk, and several places with intangible heritage values were identified. The proximity of the site to Eprapah Creek, and its position within a broader landscape of occupation and resource exploitation indicated the site had a moderate potential to contain cultural heritage material.

In 2018 Everick Heritage was commissioned by Quandamooka Yoolooburrabee Aboriginal Corporation to prepare a Part 6 Cultural Heritage Study for lands owned and managed by the Redland City Council and Queensland Parks and Wildlife Service, Victoria Point, approximately 3.8 km northeast of the Study Area (Mazlin *et al.* 2018). Owing to its location on the foreshore, much of the surveyed area had been altered through landscaping such as the installation of seawalls and fill. Despite the disturbance, the survey identified five cultural heritage sites, including artefact scatters, an isolated artefact, and a potential scarred tree. Three sections of the surveyed area were identified as high risk with a high potential for further cultural heritage material. The remaining surveyed area was assessed as being of moderate potential to contain cultural heritage material.

5.5. Disturbance Analysis/Historical Imagery

Historical aerial photography can be used to determine land use and to map the extent of ground disturbance through time. The history of ground disturbance is documented in aerial photographs which are examined at regular intervals, from earliest to latest. Notably, most land clearing occurred by hand prior to the 1950s owing to a lack of heavy machinery use within farming practices. Hand clearing is typically less destructive to the ground surface than chain pulling or blade ploughing. Under the Duty of Care Guidelines, land clearing practices conducted prior to 1950 cannot conclusively be determined as significant ground disturbance.

Historical aerial photographs were obtained for the years 1955, 1961, 1970, 1978, 1985, 1994, and 2016. The earliest photograph, taken in 1955 (Figure 7), displays an area that is densely vegetated. A portion of Lot 23 SP325035 has been cleared in the south and some structures and vehicle tracks are visible within the cleared section.

The 1961 (Figure 8) imagery shows land clearing has continued on Lot 23 SP325035 in the northeastern portion with vehicle tracks and plantings visible in the cleared plot. Lot 5 SP293881 also contains land clearing in its western portion, with rows of crops planted and several buildings including dwellings present and a water reservoir.

The 1970 (Figure 9) imagery depicts extensive land clearing has occurred across the Study Area, including earthworks and the construction of a water reservoir in Lot 2 RP86773. Imagery from 1978 (Figure 10) shows extensive works have occurred across the Study Area, including further clearing and vegetation regrowth, the creation of a water reservoir on Lot 5 SP293881 and in the northernmost section of Lot 1 RP86773, and construction of several buildings including dwellings and large sheds, particularly on Lot 1 RP86773.

The 1985 (Figure 11) aerial illustrates there has been little material change to the overall Study Area, with some land clearance occurring in the eastern portion and continued use of the western portion for crop farming, and several more buildings constructed. Similarly, the 1994 (Figure 12) imagery depicts land clearing, particularly in Lot 2 RP86773, and vegetation regrowth in the eastern portion of the Study Area, and continued construction of buildings with the expansion of the cleared area in the western portion of Lot 23 SP325035 and another large shed in Lot 1 RP86773.

The 2016 (Figure 133) imagery indicates that the Study Area has largely ceased being used for crop farming, and features many of the buildings constructed from the 1970s imagery. Land clearing has continued to occur across the Study Area, particularly in Lot 23 SP325035, while some vegetation



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regrowth has occurred in the western portion of the Study Area. The water reservoirs remain in Lot 5 SP293881 and Lot 2 RP86773, with vehicle tracks shown running throughout the properties.

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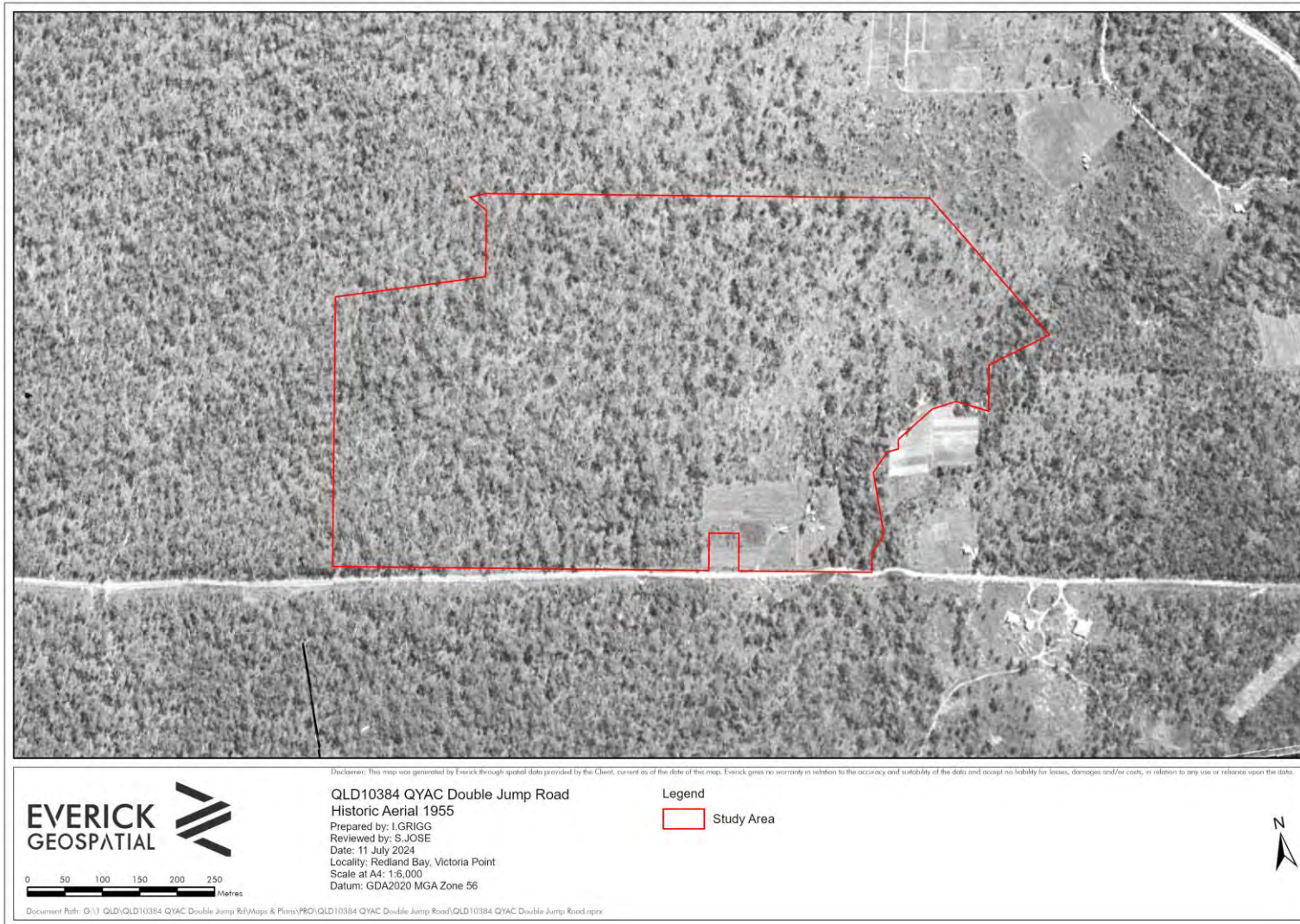


Figure 7: Study Area in 1955



Figure 8: Study Area in 1961

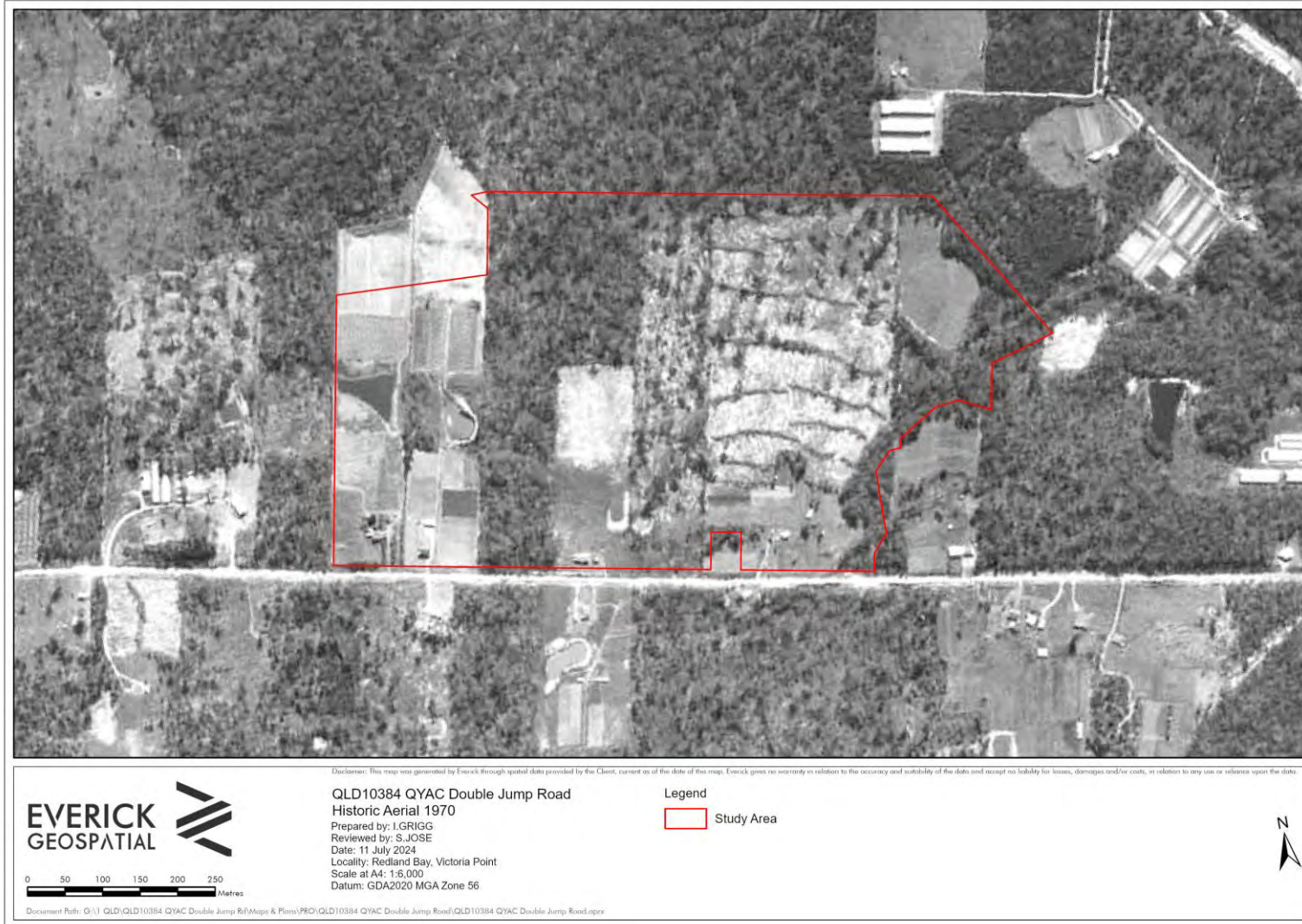


Figure 9: Study Area in 1970

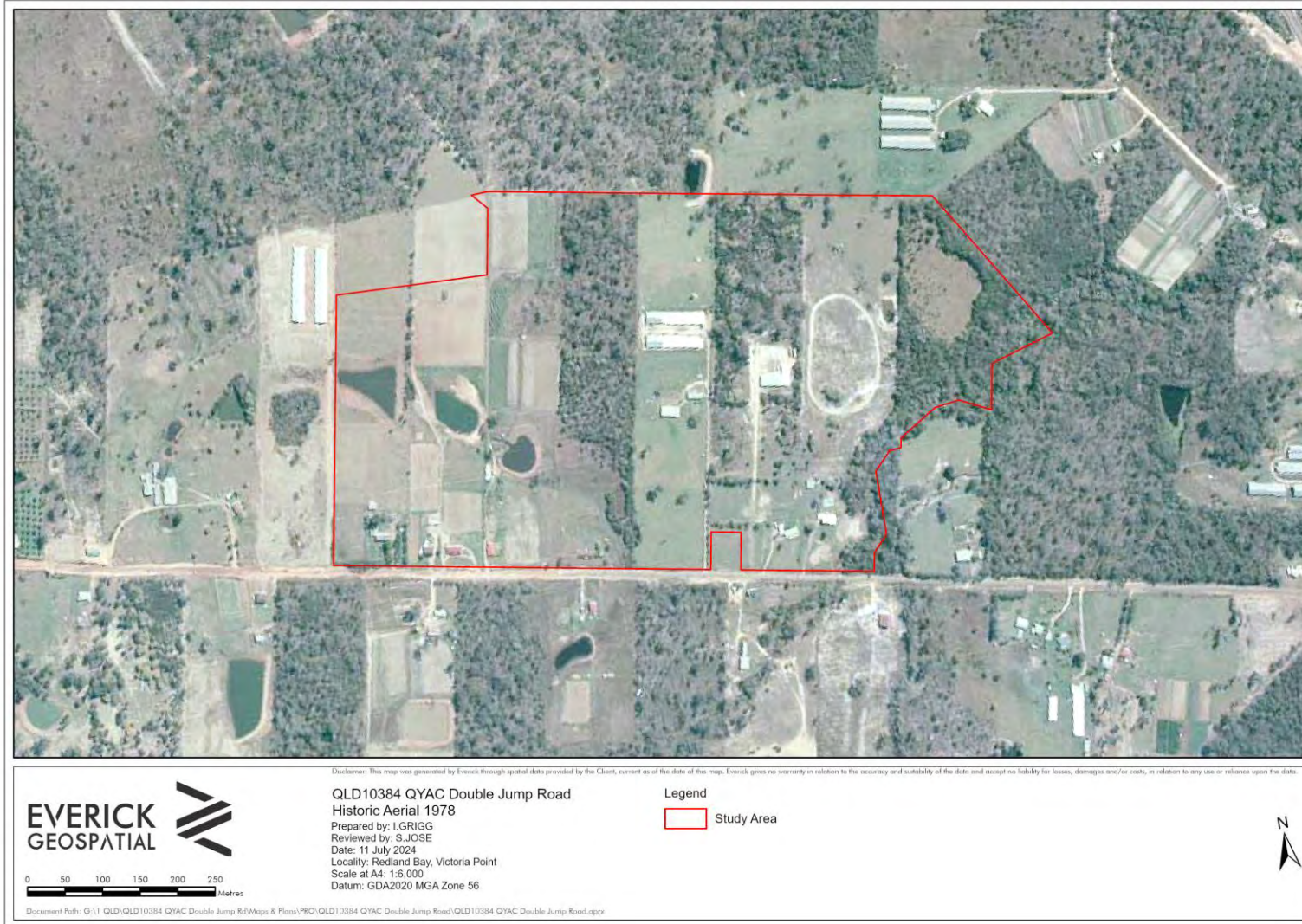


Figure 10: Study Area in 1978

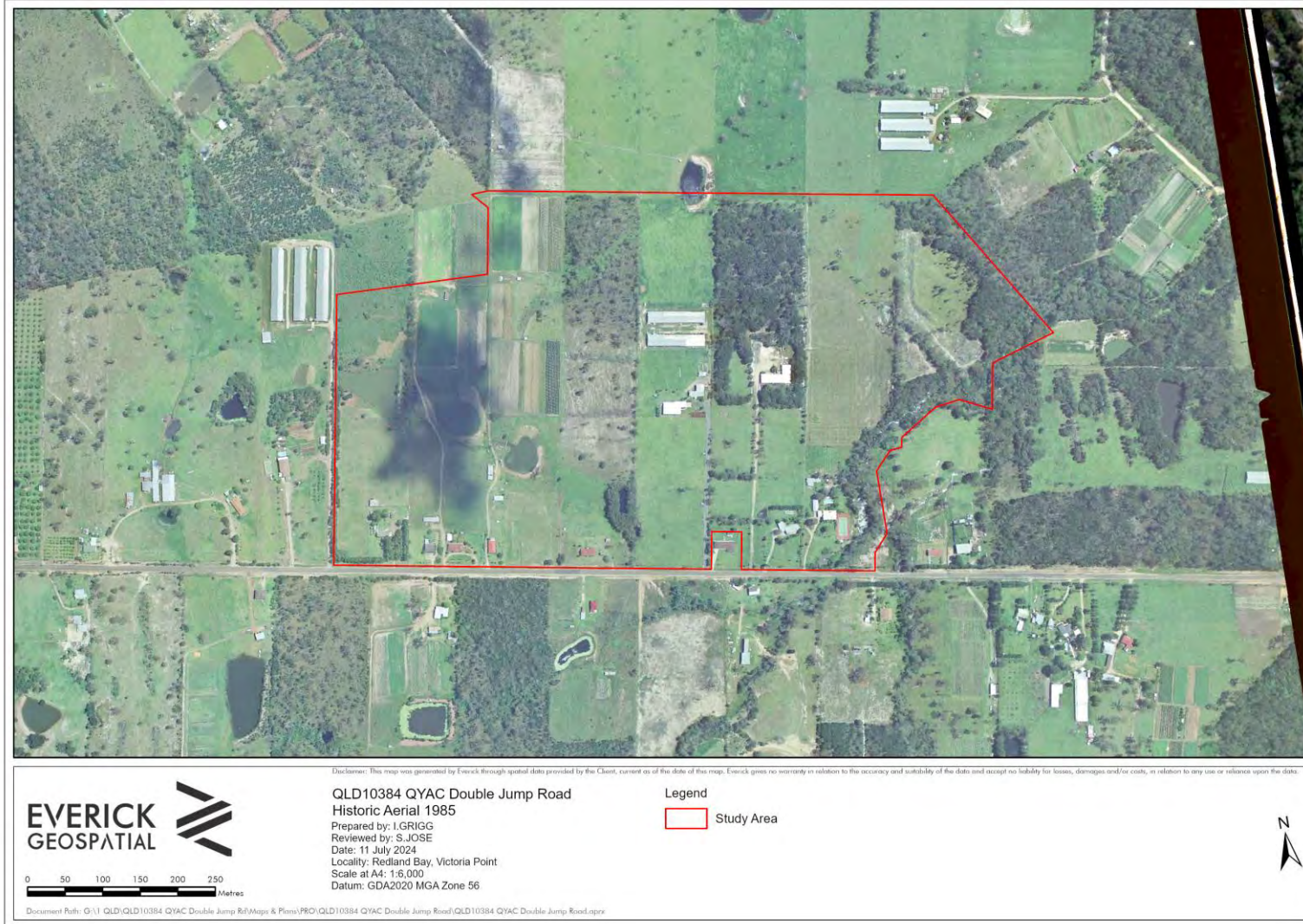


Figure 11: Study Area in 1985

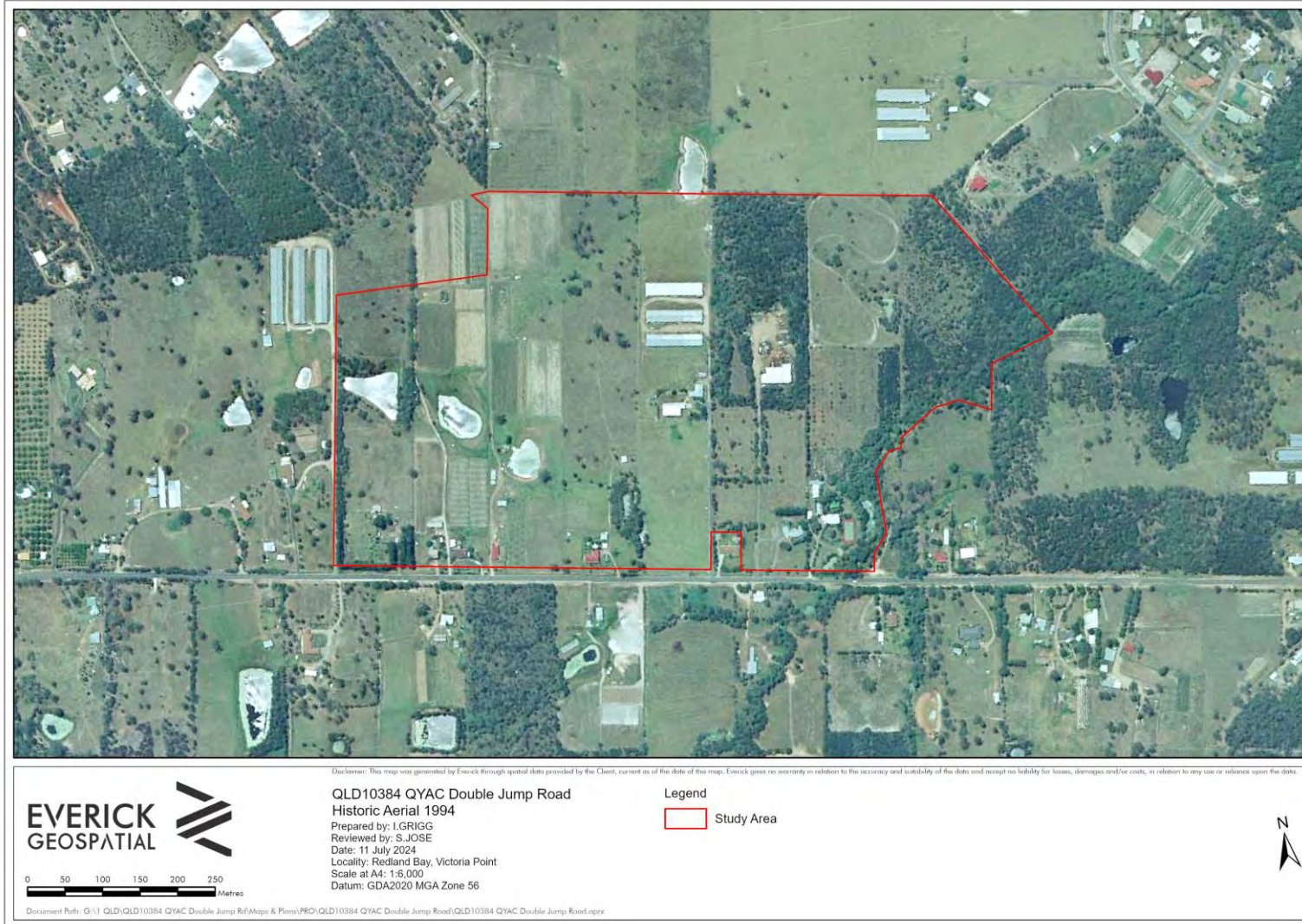


Figure 12: Study Area in 1994

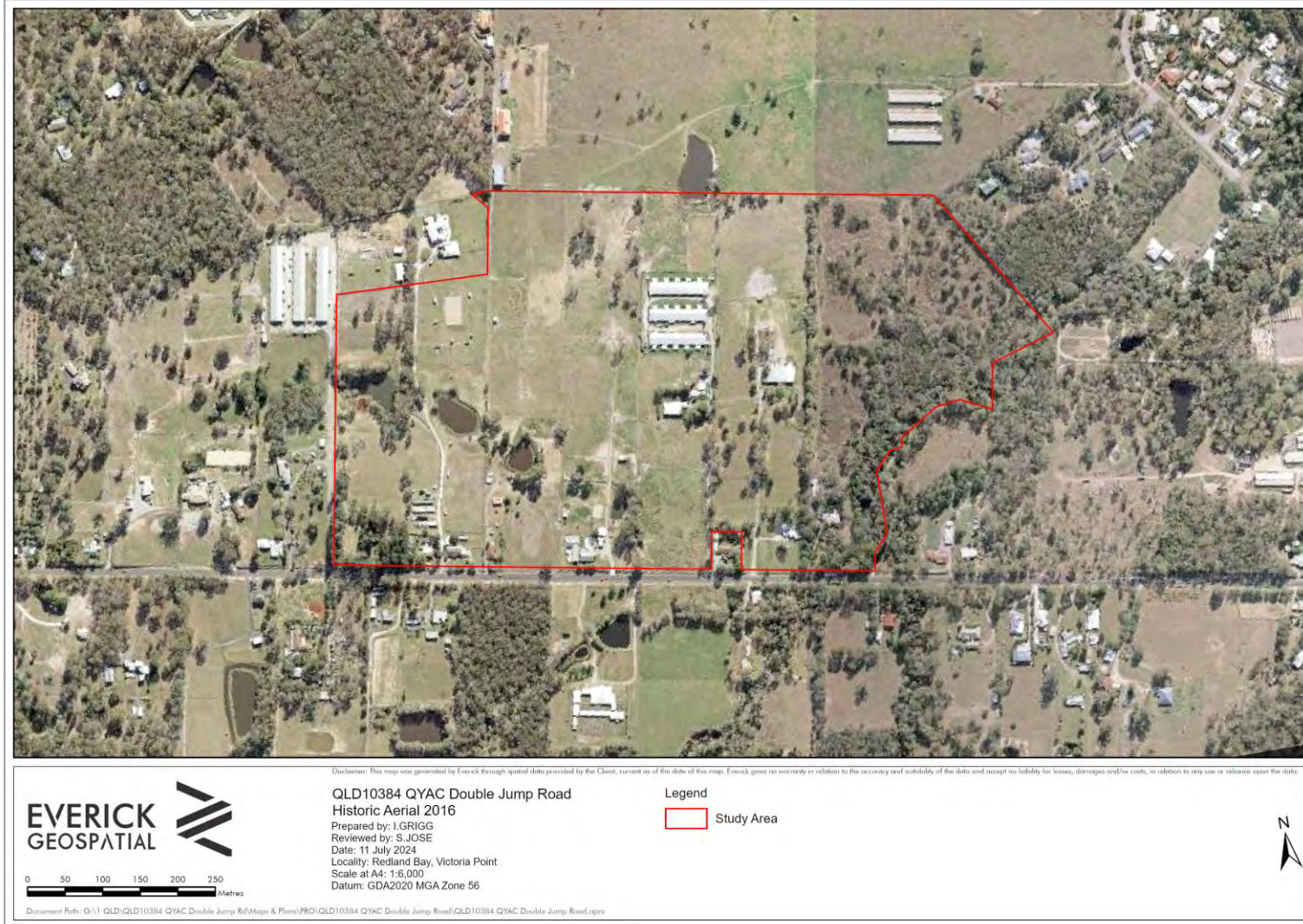


Figure 13: Study Area in 2016

5.6. Predictive Archaeological Site Model

When assessing potential archaeological site types within the Study Area, the environmental context, the level and type of past ground disturbance, and the results of past cultural heritage assessments must be considered.

5.6.1. Aboriginal Predictive Model

While the Study Area has been subject to previous disturbance, section 5.6 of the DoC Guidelines states that in some cases, despite an area having been previously subject to significant ground disturbance, certain features of the area may have residual cultural heritage features or landscapes.

While no DWATSIPM or other heritage sites have been registered directly within, or within proximity to, the Study Area, the landscape may have residual heritage. The Study Area is located in proximity to Moogurrapum Creek. As discussed in section 3.4, pre-clearing, the area would have been covered in open forests and woodlands including resource trees such as bloodwoods and bark-bearing Eucalyptus varieties. As mentioned in section 4.3, past research indicates that open forests near fresh water and/or plant resources have an established pattern of sites. Furthermore, the three previous cultural heritage assessments outlined in section 5.4 show a pattern of significant cultural heritage sites in surrounding areas where cultural heritage surveys have been conducted, regardless of ground disturbance. Site types included scarred trees, shell middens, intangible sites, artefact scatters and isolated artefacts. These factors suggest that the Study Area has a high potential to have retained cultural heritage sites or values due to the watercourses being conducive to Aboriginal resource and occupation areas.

Taking the above into consideration, site types that may be identified within the Study Area include:

Artefact scatters (denser concentration of artefacts): occur when the density of artefacts reaches a threshold of size or density, or both. These types of sites usually have a variety of artefact types and sizes made often from different raw materials. Artefact scatters are often interpreted as indicative of a purposeful action of Aboriginal Peoples within the landscape or representing a specific action event. There is the potential for artefact scatters to exist in the Study Area provided that past ground disturbances have not removed site integrity.

Isolated artefacts: usually made from stone, which may/may not have been used as tools. Isolated artefacts can be found throughout any landscape at any point. Isolated artefacts may have been left



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where they were discarded by Aboriginal Peoples as they moved through the landscape, rather than having arrived at a location due to a particular event or premediated action. There is the potential for isolated stone artefacts to exist within the Study Area.

Scarred trees or resource areas: there is the potential for scarred trees to be encountered within the Study Area in the areas that have not been subject to significant land clearing. Scar trees are likely to occur in areas which have been subject to less clearing activities and still contain mature growth trees.

Everick Heritage cannot provide an assessment or interpretation of any non-physical cultural values that the Aboriginal Peoples of the region may hold for the Study Area. Such site types may include dreaming places, songlines, medicine and food trees, birthing places, and other places linked to their spiritual beliefs.



6. Site Survey

6.1. Access to the Study Area and Survey Team

Lawful site access to the Study Area was granted, via email, by Andrew Dickinson (28 South Environmental) on behalf of Fiteni Homes on 26 July 2024. The survey was undertaken on 29 and 30 July 2024 by Jillian Jacobs and Jordan Englebrecht (QYAC Cultural Heritage Officers), Zac Falkiner (Everick Senior Archaeologist), Jackson Staples and Neve Beens (Everick Archaeologists).

6.2. Survey Methodology

The Study Area was systematically inspected by the survey team to identify Aboriginal cultural heritage and to determine areas with the potential to contain Aboriginal cultural heritage. The survey employed pedestrian transects targeting elevated ridge lines, watercourses and areas of exposed ground surface. Some areas of the Study Area were found to be too densely vegetated to accurately survey, while areas in the southern portion of the Study Area were still occupied as private residences, and as such were avoided during the survey.

Archaeological features typically recorded during pedestrian survey include shell scatters and middens, isolated lithics, stone artefact scatters, bone (human and animal) and scarred trees. When artefacts are found, their location is recorded with a GPS (using GDA2020 datum) via Apple iPad. The platform used for this mapping of data is called FieldMaps, which records the GPS points, track logs, and enables photographs to be taken with the GPS data. The grid used is GDA 2020, zone 56.

Ground Surface Visibility ('GSV') measures the level of visibility on the surface of the ground at the time of survey in order to accurately estimate the presence of Aboriginal cultural heritage. GSV throughout the Study Area was extremely low, with thick grassland and other vegetation impeding visibility. Areas of favourable GSV were largely in association with disturbances, such as existing access tracks or now-removed infrastructure (Figure 15; Figure 16).

6.3. Survey Results

The Study Area demonstrated a relatively flat landscape which rises towards a subtle elevated crest in the north. Mature vegetation, primarily gums, were more evident in the north along the slightly higher elevations of the Study Area (Figure 17). These mature gums were sporadic, likely left as shade trees for the cattle that still occupy some of the Study Area and conforms with the agricultural practices evident through the historical aerials of the site (see section 5.4.).

Aside from the occasional mature gum, the central portion of the Study Area demonstrated little vegetation aside from thick grassland, scrubs and weeds. This area in particular demonstrated extremely low GSV, approximately 0 – 5% throughout (Figure 18). The underlying soil identified a grey loamy deposit, where visible. Areas of significant ground disturbance were identified further south, including gravelled and levelled areas where previous infrastructure was present, but has since been removed and the debris stockpiled (Figure 19). Man-made dams were also present in the central-west and central-north section of the Study Area, with cattle still actively occupying these areas (Figure 20). The southern portions of the Study Area were not surveyed due to the private residences still present, however the survey team assessed that the significant ground disturbances identified in the central section continue south towards Double Jump Road, and as a result these areas are considered to be Low Risk (see Section 9).

The eastern half of Lot 23SP325035, delineated by the fence line and column of mature gums, pines and paperbark (Figure 21), demonstrated an area of high risk to the survey team. This area is adjacent to the tributary of Moogurrapum Creek. Significant ground disturbance was only identified in the southern end close to Double Jump Road, where a previous house and other buildings have been constructed and since largely removed (Figure 22). The debris from the previous household is still apparent, with the floor and foundations still present on site along with levelled grounds and stockpiled debris in the immediate surroundings (Figure 22). A number of introduced vegetation species were also present in association to the previous household, including an extensive bamboo forest between the house and the tributary creek line, as well as a number of large palm trees (Figure 23; Figure 24).

The north-eastern section of Lot 23SP325035 not only demonstrated minimal to no significant ground disturbance, but also exhibited indicative features of High Risk landscapes (see Section 3; Section 4; Section 5). This includes relatively flat open landscape above an active watercourse, with mature paperbark (*Melaleuca quinquenervia*) still present immediately adjacent to the watercourses (Figure 25). Further north, the Study Area expands to an elevated crest with mature vegetation still present (Figure 26). Similar to other parts of the Study Area, GSV was extremely low (approximately 0 – 5%), with exposures only identified from creek-bank erosions or significant ground disturbance further south.



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No tangible cultural heritage sites were recorded during the field survey. However, this was largely a result of the overall poor GSV of the Study Area as opposed to being a reflection of the cultural heritage risk of the Study Area. The northeastern section of the Study Area (Lot 23SP325035) in particular demonstrates environmental conditions that regional records demonstrate as a proxy for High Risk cultural landscapes, further validated with no significant ground disturbance being recorded in this area during the site survey. The flat terraces and slightly elevated crests above an active watercourse, along with mature paperbark and gums, strongly alludes to a high potential for surface and subsurface tangible cultural heritage to exist within the Study Area.

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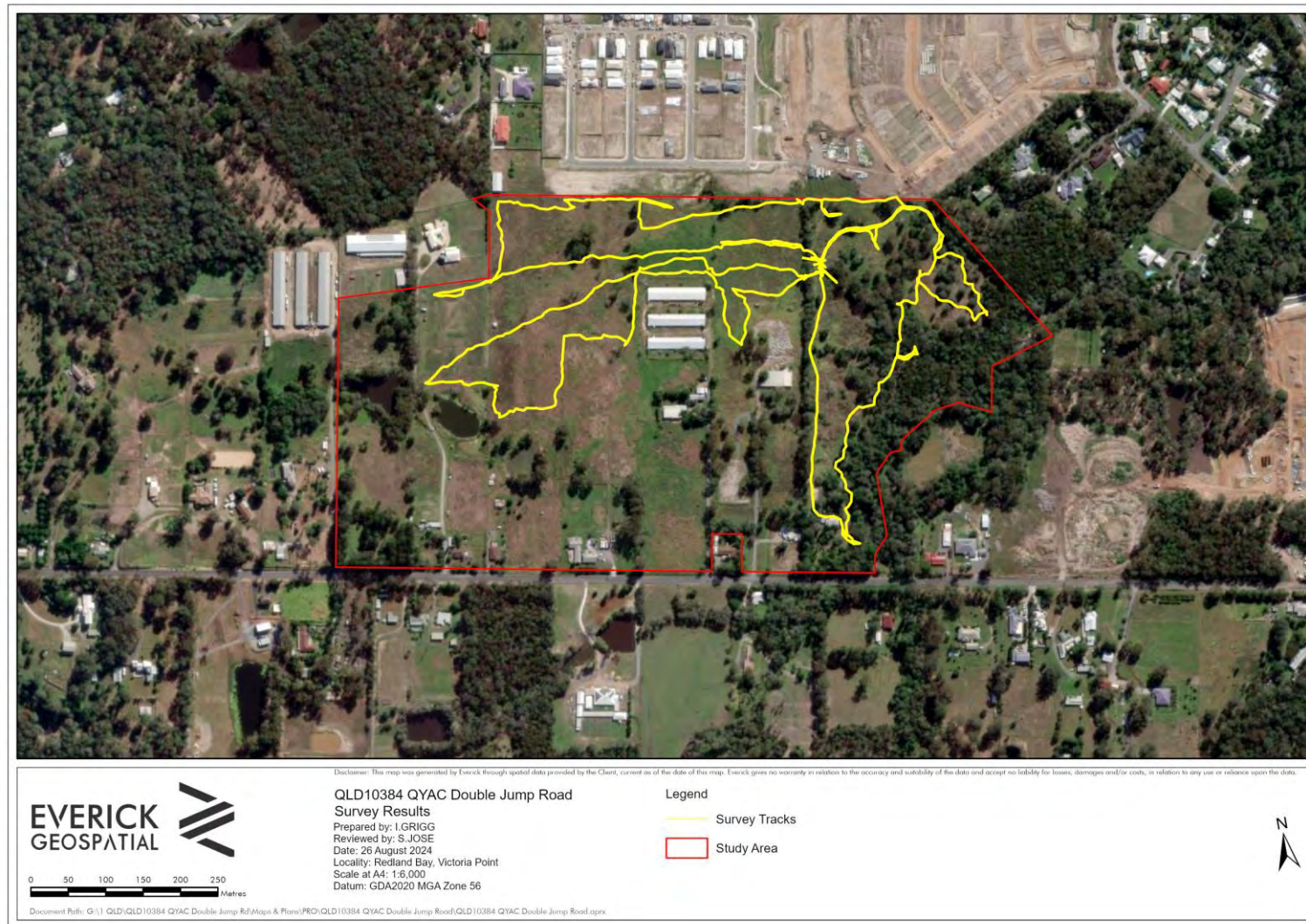


Figure 14: Survey results



Figure 15: GSV and exposures along existing access tracks



Figure 16: Example of GSV outside of existing access tracks



Figure 17: Mature vegetation in the northern areas



Figure 18: Grass, scrubs and weeds throughout the Study Area



Figure 19: Levelled ground and piled earthworks and debris within the Study Area



Figure 20: Example of man-made dams and waterholes within the Study Area



Figure 21: Mature pines and other vegetation within Lot 23SP325035



Figure 22: Remnants of a previous dwelling within Lot 23SP325035



Figure 23: Introduced bamboo within Lot 23SP325035, above the watercourse



Figure 24: Introduced palm trees surrounding the previous dwelling within Lot 23SP325035



Figure 25: Example of mature paperbark above the watercourse



Figure 26: Mature vegetation on the higher elevation in the northern section of lot 23SP325035

7. Test Excavations

7.1. Test Excavation Team

Test excavations were undertaken from 22 – 23 September 2025 by QYAC representatives Mieisha Graham and Baali Bonner, accompanied by Everick archaeologist Rachel Stanley and Eagle Alliance excavator operator Kane Sheriff.

7.2. Test Excavation Methodology

The test excavation program targeted high-risk areas of the Study Area, identified during the field survey and through consultation with QYAC. Exact test pit locations were determined in field by QYAC field officers and aimed to cover as much of the high-risk area as possible. The excavation methodology incorporated:

- Archaeological excavations were conducted using a mechanical excavator and a trailer mounted shaker sieve.
 - The area was prepared by the excavator, removing non ground disturbing vegetation such as shrubs and grasses.
 - Pits were typically 1 m wide x 2 m long, with the width equalling the size of the excavator bucket.
 - Pits were excavated in 100 mm intervals called Excavation Units (XU), and were terminated when the pit reached culturally sterile soil or the underlying clay layer.
 - Excavated soil was passed through the mechanical sieve with a 10 mm aperture mesh.
 - Photographs were taken before excavation, at the start of each XU, and at the conclusion of excavations. A chalkboard was included in the photographs to indicate the Test Pit, XU, date, and to note the start and end of the excavation.
 - The basal surface of each Test Pit was photographed and backfilled at the conclusion of each excavation.
- If artefacts were identified, they were bagged and labelled with Test Pit ID, XU, artefact type and quantity, and date of record. All artefacts identified were recorded using Fulcrum.

The excavation program was recorded on site with a GPS (using GDA2020 Datum) via Apple iPad. The iPad was used to record the location of the Test Pit and to record and photograph the excavation process. Photographs were also taken of general site features and conditions, such as:

- soil characteristics (colour, texture, grain sorting, etc.);
- the dimensions of the Test Pit;
- evidence of inclusions – either natural or introduced; and
- the nature of archaeological finds for each unit.

7.3. Test Excavation Results

The excavation team noted high moisture content in the soil, greatly limiting the effectiveness of sieving during the program. Because of this, sample 'scrape tests' were undertaken across the target excavation areas to determine soil suitability for thorough test excavations (Figure 27). A total of 11 scrapes were undertaken and confirmed that the High-Risk areas outside of Lot 23SP 325035 were too damp to sieve. Pockets of drier sediment were identified throughout Lot 23SP 325035, and a total of eight test pits were excavated across the two days (Figure 30).

No tangible cultural heritage was recorded throughout the excavations, and a shallow topsoil was identified across all test pits before sterile clay was reached (Figure 28). The excavation team were limited by the dense vegetation and inaccessibility it provided, which did not allow for an effective sample strategy across the high-risk landforms of the Study Area (Figure 29).

A summary of all eight test pits is detailed in Table 3 below, with test pit photos provided in Appendix B of this report. Locations of the scrape tests and test pits are illustrated in Figure 30.

Table 3: Summary of Test Pits

Test Pit ID	Latitude	Longitude	Description	Termination Depth (mm)	Artefacts Recovered
TP01	-27.600703	153.281170	Light brown silty clay with raw silcrete inclusions. Test pit terminated once white and orange clay layer reached.	100	0
TP02	-27.600749	153.281188	Loose, dark topsoil with rootlet inclusions present throughout. XU2 exposed	200	0

Test Pit ID	Latitude	Longitude	Description	Termination Depth (mm)	Artefacts Recovered
			a light grey silt with streaks of white clay.		
TP03	-27.601527	153.280970	Dense groundcover grass. Root inclusions present throughout. Soil was silty and well sorted, with higher moisture content. Terminated pit once clay layer hit.	200	0
TP04	-27.601653	153.279922	Dark clayish sand that resulted in early termination of pit due to high moisture content.	50	0
TP05	-27.600643	153.276758	Sandy soil with streaks of clay present. Root and loose rock inclusions throughout.	200	0
TP06	-27.600790	153.281169	Well sorted sandy clay soil with root and loose stone inclusions. Mottled orange clay reached at end of XU1 Pit concluded at request of the QYAC Officers.	100	0
TP07	-27.602635	153.280239	Dense vegetation, with roots extending into topsoil. Loose dark brown Soil was dark brown and silty, with higher moisture content. Finely sorted aside from raw chert and silcrete materials scattered throughout.	100	0
TP08	-27.602540	153.280287	Dark, silty topsoil with rootlet inclusions. Pit terminated early due to evidence of previous disturbance including pipes and tent pegs.	100	0



Figure 27: Example of a Scrape Test



Figure 28: Stratigraphy and Shallow Topsoil



Figure 29: Example of Dense Vegetation Across the Study Area



7.4. Discussion of Excavation Results

The desktop assessment and field survey identified high potential landscape features that are conducive to tangible cultural heritage to exist. Due to the limited GSV at the time of the survey, it was recommended test excavations occur to effectively confirm this observation.

Unfortunately, the excavation program was limited in scope – only effectively excavating where both conditions and accessibility allowed. Much of the high-risk areas that were identified to target were not accessible or not mitigated as planned. The high moisture of the soils is likely a result of a multiple factors: continuous cattle grazing has likely loosened the soil composition, and the thick vegetation of the Study Area has drawn higher moisture into the root systems, resulting in a damp, muddy subsurface.

Despite the lack of tangible cultural heritage finds within the Study Area, it is strongly considered that the area still retains Moderate and High-Risk areas that have a strong potential for residual cultural heritage to exist. The agricultural land-use of the Moderate-High Risk areas does indicate topsoil and surface disturbance and turn-over, however any cultural heritage material that were displaced by these activities would still be retained within the Study Area, albeit in secondary contexts. A monitoring plan between Fiteni Homes and QYAC would provide an effective strategy to identify and mitigate any residual artefacts that work activities may expose.



Figure 30: Test Excavation Results

8. Summary of Assessment Results

- The Part 6 Study commenced in July 2024.
- There are no previously recorded Aboriginal cultural heritage sites within 1000 m of the Study Area. However, as mandatory site registration ceased in 2003, this is not an accurate reflection of the cultural heritage potential of the Study Area and surrounding landscape.
- The field survey was undertaken 29 and 30 July 2024.
 - No new Aboriginal cultural heritage sites were recorded within the Study Area.
 - GSV throughout the entire Study Area was extremely low (0 – 5%), with the only exception to this being in areas of previous ground disturbance or creek-bank erosion in the east (Figure 18; Figure 19).
 - Significant ground disturbance was identified in some areas of the Study Area. This was largely in the south, adjacent to Double Jump Road, where current and previous dwellings exist.
 - Several mature trees and minimal to no ground disturbance was identified in the northern and eastern portions of the Study Area (Figure 17; Figure 26).
 - The eastern portion of the Study Area (Lot 23SP325035) was identified as being a high potential area to contain both surface and subsurface tangible cultural heritage (Figure 33).
- A two-day test excavation program was undertaken on 22 and 23 September 2025.
 - A total of eight test pits and 11 scrape tests were completed across the two days (Figure 30).
 - No tangible cultural heritage was identified.
 - The excavations were greatly limited due to increased moisture content in the soils and dense vegetation that hindered vehicle and machinery access.
- It was noted through consultation that some areas of the Study Area are being retained as preservation areas (Figure 31).
- The Quandamooka People have assessed the Study Area to hold cultural significance. This is derived from the environmental landforms within the Study Area, archival research, field assessment and consultation.
- The Study Area has been split into risk categories (High, Moderate and Low Risk Areas) and management recommendations have been formulated based on these classifications (Figure 33).

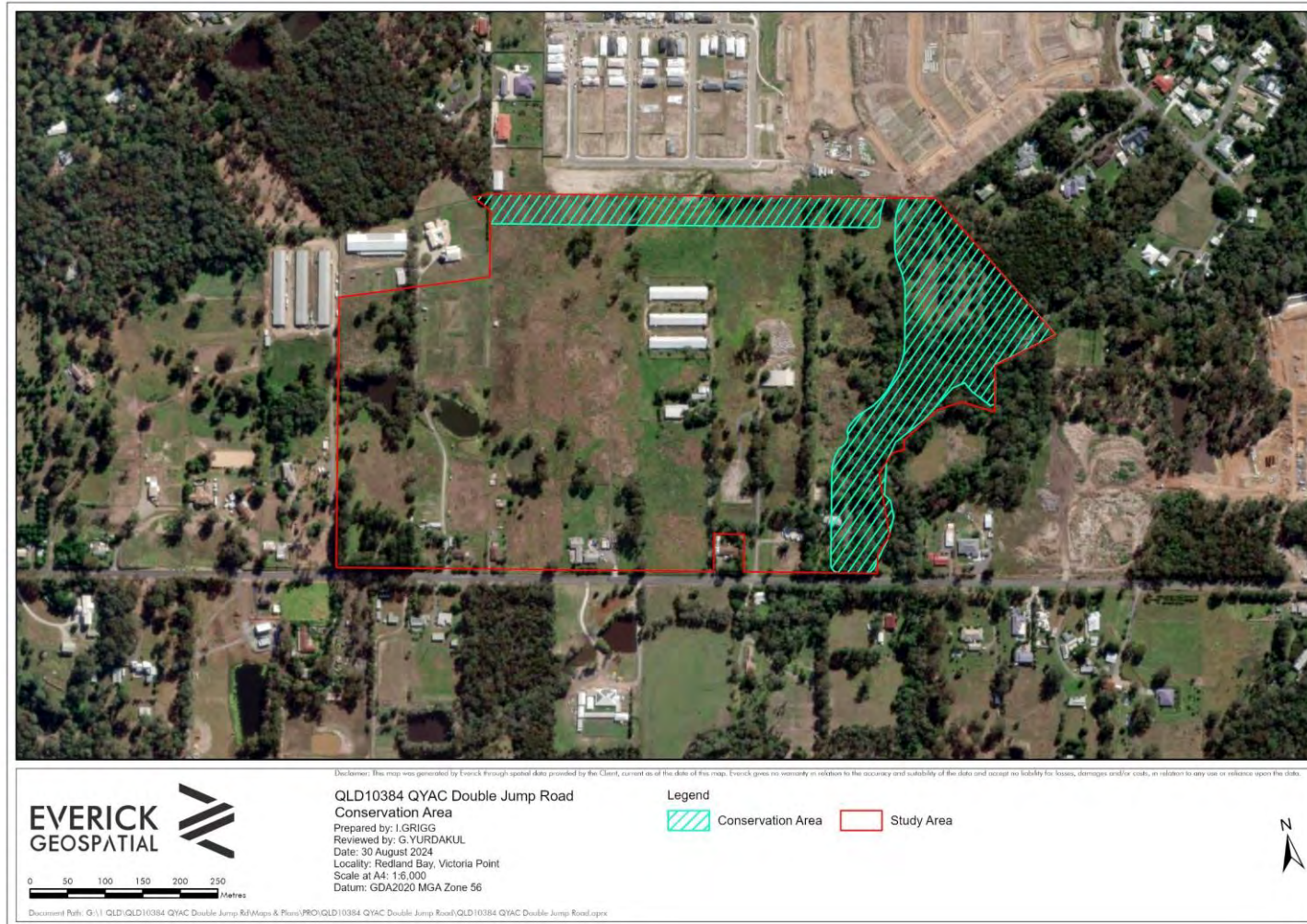


Figure 31: Conservation areas within the Study Area

9. Study Area Cultural Heritage Significance

9.1. Principles of Archaeological Significance Assessment

9.1.1. Archaeological Significance Criteria

The assessment of archaeological (scientific) significance is a key aspect of developing future cultural heritage management strategies. There are many considerations that contribute to the evaluation of a site or landscape's potential archaeological significance. The primary considerations when evaluating a site's research potential are discussed below (Figure 32).

Rarity: This is related to how prevalent a particular site type is in a given region. Sites that are particularly scarce have the potential to contribute more to our knowledge of past behaviours relative to sites that are commonplace. For example, on the east coast of Minjerribah, coastal (beach) middens would have been common prior to European settlement. However, the impacts of sand mining and development have resulted in coastal middens becoming relatively rare, thus increasing their archaeological significance.

Antiquity: The value in a site's antiquity is closely linked to its rarity. As a general rule, the numbers of particularly old sites will reduce as time progresses. When sites of great antiquity are identified, they are of high archaeological significance.

Representativeness: A site's representativeness indicates whether a site is considered to represent a particular pattern of past human behaviour. It is important to identify sites that have high representative value and conserve them for future generations (Pearson and Sullivan 1995: 148). Representativeness is assessed based on current research questions and technologies and may change through time. It should be noted that a site's representativeness is also related to its cultural value, as distinct from its purely scientific value.

Complexity: A site may demonstrate a range of human behaviours and/or past climate and environmental changes (Pearson and Sullivan 1995: 148).

Integrity: The stratigraphic integrity of a site relates to the subsequent disturbance of a site once it has entered the archaeological record. Disturbance may have been the result of impacts by humans (such as land clearing) or natural causes (such as erosion or bioturbation from ants and insects or burrowing

animals). It is generally the case that the greater a site's integrity, the greater its archaeological significance.

Connectedness: A site should not be viewed in isolation, as the human behaviours that were responsible for the creation of the site were invariably connected to other sites reflecting different behaviours nearby.

9.1.2. Archaeological Significance Assessment Limitations

With all scientific research, including the assessment of 'scientific significance', it is important to acknowledge the limitations of any conclusions that may be drawn in relation to the assessment of the Study Area.

The assessment of archaeological significance is a highly subjective activity and depends much on the values of the researcher(s) involved. In this assessment, we have categorised the Study Areas into areas of archaeological significance defined as 'High', 'Moderate – High', 'Moderate', 'Low – Moderate', 'Low' and 'No/Nil'. The values we have used are not precise. The values exemplify arbitrary distinctions that are necessary for ease of demonstrating the scientific value of the Study Area as a whole. These categories represent a relative continuum of significance, which is demonstrated by the diagram in Figure 32. The intention of Figure 32 is to show examples of the values used in this assessment. Of course, it is quite possible that even a single artefact may be of high archaeological significance, where it can be demonstrated that the artefact exhibits one or more of the criteria above.

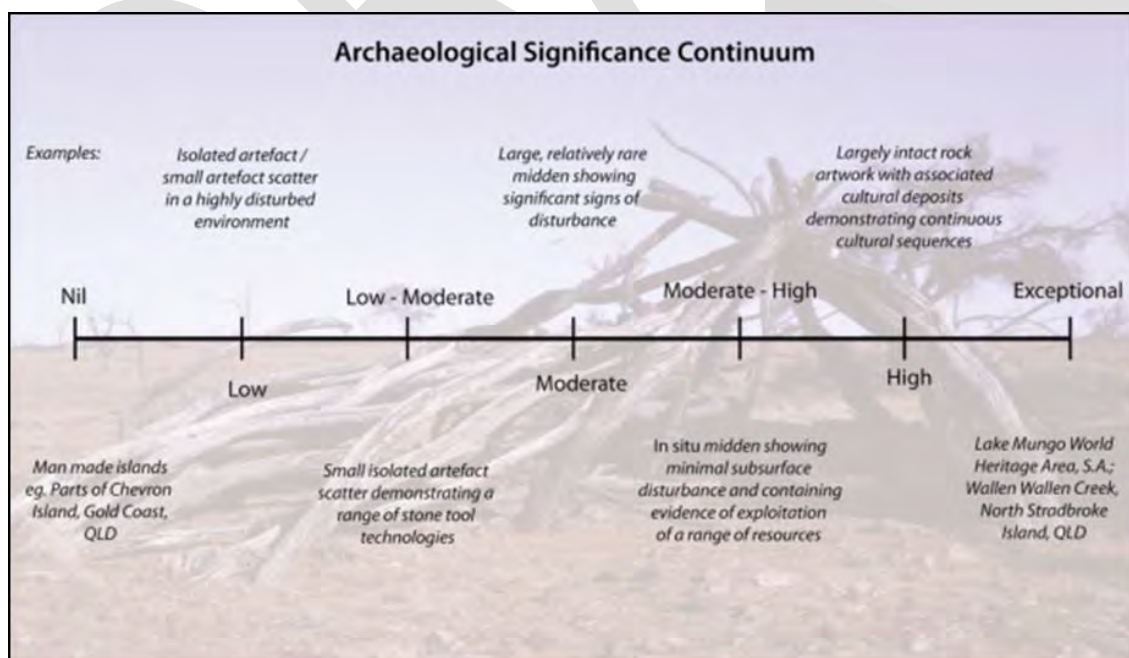


Figure 32: Archaeological Significance Continuum applied in this assessment.



9.2. Aboriginal Cultural Significance

The Aboriginal custodians are the primary determinants of the significance of their cultural heritage. A picture has developed of the significance of the Study Area and surrounds to the Quandamooka People through the course of this assessment. The statement on cultural significance has been developed through consultation with QYAC and Quandamooka Traditional Owners through telephone communications, meetings and surveys. Their involvement provides the sociocultural context of the area, encompassing past and present activities and sets the archaeological research into a broader cultural landscape (Ross *et al.* 2003: 80). This statement should be considered preliminary, as further consultation with appropriate knowledge holders is ongoing.

The Aboriginal community of Quandamooka Country have a continued connection with the Study Area and immediate surrounds. The rich resources of the immediate area have supported intensive occupation for millennia. Archaeological sites comprise an important part of the cultural significance of the surrounding region. These physical manifestations of intensive occupation are within proximity to the Study Area, and they should be considered part of the broader cultural landscape of Redland Bay and therefore significant to the Quandamooka People.

9.3. Aboriginal Cultural Heritage Statement of Archaeological Significance

QYAC involvement provides the sociocultural context of the area, encompassing past and present activities and sets the archaeological research into the broader cultural landscape of Moreton Bay (Ross *et al.* 2003: 80). Redland Bay is an area of high cultural significance to the Quandamooka People, having strong spiritual, social, historical and scientific connections. Moreton Bay and its associated watercourses have been an important focus of occupation for the Quandamooka People in both the pre-contact and historic period.

The abundance of fresh water and local resources in Redland Bay make the Study Area an important area for traditional and contemporary resource use. There is a strong intangible connection to the cultural significance of the broader landscape. Middens in the region have the potential to be several thousand years old based on the sea level analysis provided in Section 4.1 of the report. As a result, the landscape within which the Study Area is located holds important social and scientific significance to Quandamooka People. The Study Area also holds significance in terms of rarity and representativeness. Development along the coastal suburbs of Moreton Bay has been, and continues to be, extensive and destructive to



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archaeological deposits. Therefore, any area such as the Study Area that remains relatively undisturbed should be considered unusual and of increased significance in terms of the potential for intact archaeological contexts.

The middens, artefact scatters, scar trees and known ceremonial sites within the landscape surrounding the Study Area, as well as the intangible cultural heritage identified during this study, form part of a pattern of cultural sites reflecting resource usage along the inner Moreton Bay coastline. This cultural record is an important part of a wider distribution of archaeological sites and has the capacity to add considerably to an understanding of economy and resource usage during the late Holocene period in Southeast Queensland.

The Quandamooka People view these archaeological sites as part of an interconnected cultural landscape that stretched well beyond the boundaries of the Study Area. The sensitive coastal and wetland environments surrounding the Moreton Bay area are also of high significance to the Quandamooka People. It is also important to note that despite the disturbed nature of portions of the Study Area, intangible values remain intact as the area relates to its broader landscape.



10. Land Use Management Recommendations

The recommendations below provide the framework for consultation and heritage management for future development and or land use within the Study Area. Properly used, the categories below should allow for the early identification of potential cultural heritage constraints. The nature of these categories is that they may be subject to further refinement. QYAC will continue to be the primary means of determining ongoing risks to heritage. As a general course of action, monitoring of ground disturbing works is generally recommended in areas of High Risk and Moderate Risk.

The land use management recommendations below inform any possible future developments within the Study Area that are outside the scope of this Study, as outlined in this report. Recommendations specific to the proposed activities by Fiteni Homes (on behalf of Sutgold Pty Ltd) are outlined in Section 10 below. These informed recommendations are derived from the results of the desktop and field assessment, as well as through ongoing consultation between the Sponsor (Fiteni Homes) and the Cultural Heritage Body (QYAC) (see Section 10).

Category 1: Known Heritage Area

No areas of known heritage were identified during the field survey. However, as mentioned previously in this report, this is likely a result of the low GSV as opposed to being an accurate reflection of the cultural significance of the Study Area. If areas of known heritage are identified during the course of the study, attempts should be made towards future disturbance activities within these areas being avoided, unless with the express agreement of QYAC. In the event that impacts are required for the continued operation and maintenance of infrastructure, works plans should be referred to QYAC for consideration. Responsibilities of QYAC will include:

- consideration of the proposal to fully understand likely direct and ancillary impacts;
- completion of subsurface investigations (if necessary);
- salvage of surface artefacts (if necessary);
- consultation with relevant members of QYAC with respect to the proposed works and investigations;
- provision of a report or letter of advice outlining necessary management considerations, which may or may not be in support of the proposal; and
- minor works shall only proceed on the terms agreed by QYAC.



Category 2: High Risk Area

High Risk areas within the Study Area include the eastern portion of the Study Area (Lot 23SP325035), along the high bank above the eastern watercourse (Figure 33). The eastern portion is minimally disturbed and includes a subtle ridge crest in the north, along with elevated terraces above a permanent watercourse. It is noted that much of this area is not to be impacted by work activities, and has instead been cordoned off as a Conservation Area as part of the project (Figure 31).

- QYAC considers there to be a high likelihood that places of archaeological or other cultural heritage significance might occur. These areas may include additional surface and subsurface artefact deposits, camp sites, shell middens, or other cultural material.

In the event that impacts are required, works plans should be referred to QYAC for consideration. Responsibilities of QYAC may include:

- consideration of the proposal to fully understand the likely direct and ancillary impacts;
- completion of subsurface investigations (if necessary);
- salvage of surface artefacts (if necessary);
- consultation with relevant members of QYAC with respect to the proposed works and investigations;
- provision of a report or letter of advice outlining necessary management considerations, which may or may not be in support of the proposal; and
- minor works shall only proceed on the terms agreed by QYAC.

Category 3: Moderate Risk Area

The majority of the Study Area, outside of the existing houses and dwellings, are considered Moderate Risk following the test excavation program. These areas have been subject to some previous ground disturbance, however, contain or are proximal to pronounced landscape features associated with archaeological deposits. Because of the proximity of the Study Area to a watercourse, these areas are likely to contain residual surface and especially subsurface archaeological deposits.

In these areas:

- QYAC considers there to be a moderate likelihood that archaeological or other places of Significant Aboriginal cultural heritage might occur. These areas may include subsurface artefact deposits, camp sites, stone artefacts, burials, or other cultural material.



Site monitoring or site inspections by a QYAC Cultural Heritage Officer is the most likely strategy to mitigate potential impacts to archaeological materials and other cultural heritage values. Should archaeological or other Aboriginal cultural heritage be identified during construction works, QYAC may require cessation of works. Additional consultation and archaeological or anthropological investigations may be required. Monitoring arrangements should be negotiated with QYAC prior to works commencing in these areas.

Category 4: Low Risk Area

Low Risk Areas are areas not already defined as Known Heritage, High Risk, or Moderate Risk. The southern portions of the Study Area are considered Low Risk, where existing dwellings remain, as well as other significant ground disturbance such as the man-made dams and removed infrastructure (Figure 33). This is due to the significant disturbance carried out involving cut and fill excavation, building and importation of introduced soils. In these areas QYAC considers:

- that there is a low likelihood that archaeological or other places of Aboriginal cultural heritage significance may occur. These include potentially unknown surface artefacts, artefact scatters, shell middens or other materials; and
- that surface monitoring is necessary at the discretion of QYAC Cultural Heritage Unit.

Future development within these areas may be suitable. In these areas, all land use plans which may lead to physical works should be referred to QYAC via the Cultural Heritage Officer. Responsibilities of the QYAC Cultural Heritage Officer will include:

- consideration of the proposal to fully understand direct and ancillary impacts;
- completion of any subsurface investigations QYAC deems necessary (if any);
- consultation with relevant members of QYAC with respect to the proposed works and investigations if necessary; and
- provision of a report or letter of advice outlining necessary heritage management requirements.

Depending on the proposal and the specific location of proposed works, QYAC may advise that monitoring works are not needed, but will require a 'Finds Procedure' which would allow works to take place with a Cultural Heritage Officer on call should suspected Aboriginal material be located.

The Study Area comprises areas of High Risk, Moderate Risk and Low Risk. If activities are to occur in High-Risk areas, and QYAC has been notified as outlined above, site monitoring by a QYAC Cultural Heritage Officer is the recommended strategy to mitigate potential impacts to archaeological materials



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and other Aboriginal cultural heritage values within the High Risk and Moderate. Should archaeological or other Aboriginal cultural heritage be identified during construction works, QYAC may require cessation of works provided the finds are of particular significance. Additional consultation and archaeological or anthropological investigations may be required.

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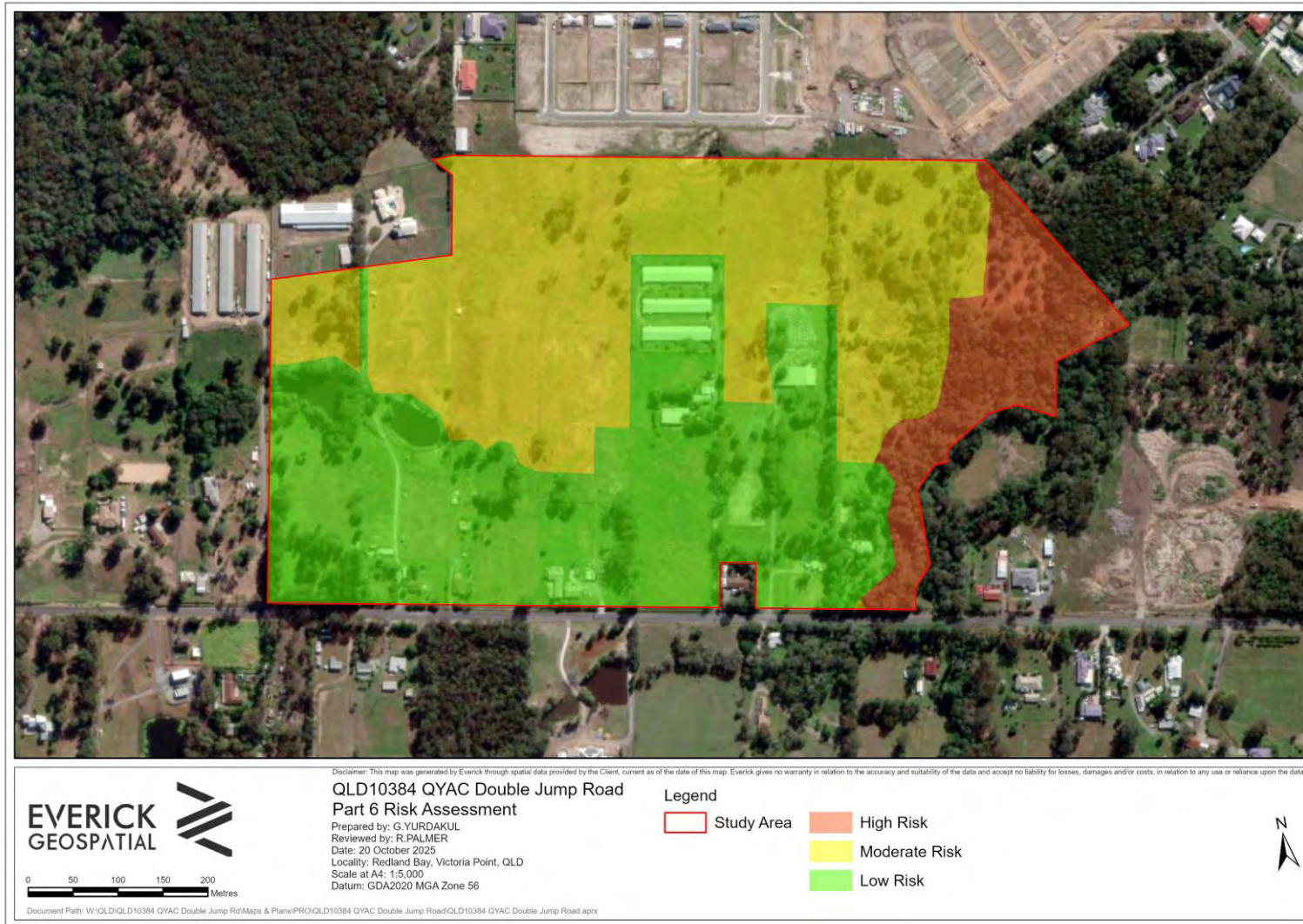


Figure 33: Study Area Risk Assessment



11. Recommendations

The results of this Part 6 Cultural Heritage Study have identified a high potential for archaeological material to exist within the Study Area. GSV within the Study Area was extremely low and greatly hindered the ability to record any surface archaeological material that is likely present. The following recommendations are cautionary in nature and are the result of consultation with the QYAC Cultural Heritage Officers on site for the Study, as well as the QYAC Cultural Heritage Department.

Recommendation 1: Site Monitoring by QYAC Cultural Heritage Officers in High and Moderate Risk Areas

The results of the field survey and desktop assessment identified a high potential for surface and subsurface cultural heritage to exist within the Study Area (Figure 33). The test excavation program did not identify any tangible cultural heritage, however this is likely a result of the limited scope and sample size of the excavation program, restricted by limited accessibility across the Study Area as well as high moisture soils that reduced the excavation's capabilities.

It is recommended that any work activities that are to occur in High or Moderate Risk areas should be undertaken with a mitigation plan, formulated with QYAC, for site monitoring to occur with a QYAC Cultural Heritage Officer present. The description of said activities should be outlined to QYAC, so that an effective monitoring plan be discussed.

Recommendation 2: Cultural Heritage Finds Procedure

Fiteni Homes should ensure that finds procedures for Aboriginal cultural heritage materials are formulated in consultation with QYAC; the finds procedure ensures that Aboriginal cultural heritage material is handled in an appropriate way. The Aboriginal cultural heritage material should not be disturbed and QYAC should be notified immediately. The GPS location of the material is to be recorded at the time of discovery and if required, an appropriately qualified archaeologist and QYAC representative are to be engaged to further investigate and document the material in accordance with the relevant legislation.

Recommendation 3: Cultural Heritage Inductions for Contractors

Cultural Heritage Induction deals with the physical heritage that may be encountered within the Study Area. The implementation of this Induction procedure aims to avoid further harm to Aboriginal cultural heritage. All relevant staff and contractors who will be undertaking significant ground disturbance must



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attend a Cultural Heritage Induction prior to the commencement of clearing or burning activities. The Induction will be a one-time session during the pre-start phase. This induction instructs staff and contractors:

- on the basic legislative requirements regarding the *Aboriginal Cultural Heritage Act 2003 (Qld)*;
- on the basic principles of identifying Aboriginal cultural heritage;
- on procedures detailed in this protocol, including artefact reporting and documentation;
- on areas which are considered potentially likely to contain cultural heritage; and
- on the culture and traditions of Aboriginal People and early European settlers of the local area.

The implementation of this Induction procedure aims to avoid further harm to Aboriginal cultural heritage. The induction must be accompanied by a booklet provided to all inductees and kept on hand during the periods of earthworks and construction. The content of the Induction and booklet will be developed by a representative from the Quandamooka People and an Everick archaeologist.

Recommendation 4: Aboriginal Human Remains

Should any development, ongoing land use or erosion at the Study Area uncover human remains at any stage within the Study Area, all activities that led to the discovery of remains must halt in the immediate area to prevent any impacts to the remains. The location where they were found should be cordoned off and the remains themselves should be left untouched. The nearest police station, QYAC and the Quandamooka Traditional Owners and the DWATSIPM Brisbane office are to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police release the scene, the Aboriginal community and the DWATSIPM should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.



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Appendix A: DWATSIPM Search (#163761)

Cultural Heritage Database and Register Search Report

Search report reference number: 163761

The Aboriginal and Torres Strait Islander Cultural Heritage Database (cultural heritage database) and Aboriginal and Torres Strait Islander Cultural Heritage Register (cultural heritage register) have been searched in accordance with the location description provided, and the results are set out in this report.

The cultural heritage database is intended to be a research and planning tool to help Aboriginal and Torres Strait Islander parties, researchers, and other persons in their consideration of the cultural heritage values of particular areas.

The cultural heritage register is intended to be a depository for information for consideration for land use and land use planning, and a research and planning tool to help people in their consideration of the Aboriginal cultural heritage values of particular objects and areas.

Aboriginal or Torres Strait Islander cultural heritage which may exist within the search area is protected under the [Aboriginal Cultural Heritage Act 2003](#) and the [Torres Strait Islander Cultural Heritage Act 2003](#) (the Cultural Heritage Acts), even if the Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships (the Department) has no records relating to it.

The placing of information on the database is not intended to be conclusive about whether the information is up-to-date, comprehensive or otherwise accurate.

Under the Cultural Heritage Acts, a person carrying out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal or Torres Strait Islander cultural heritage. This applies whether or not such places are recorded in an official register and whether or not they are located on private land.

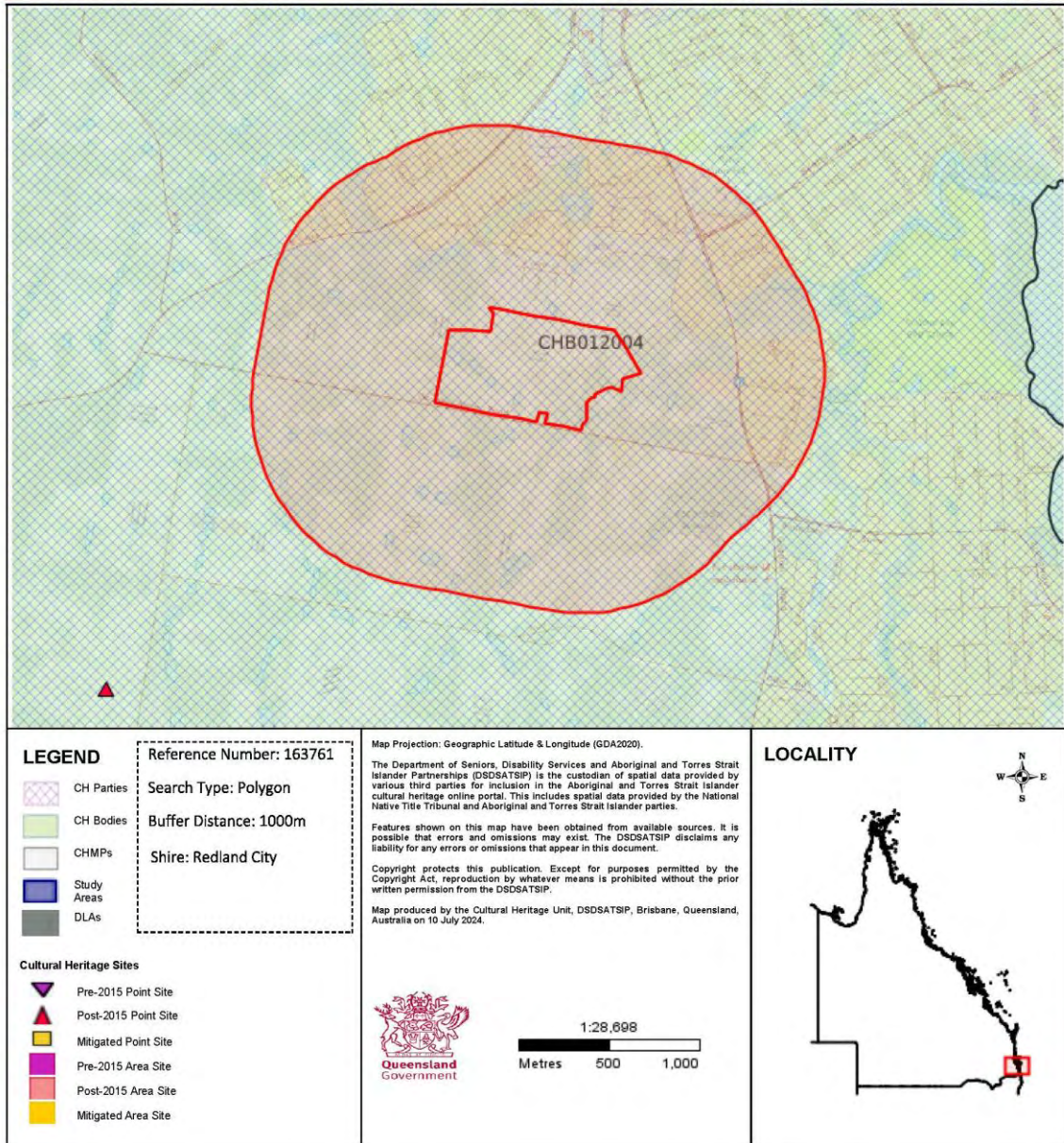
Please refer to the Department website <https://www.qld.gov.au/firstnations/environment-land-use-native-title/cultural-heritage/cultural-heritage-duty-of-care> to obtain a copy of the gazetted Cultural Heritage Duty of Care Guidelines, which set out reasonable and practicable measure for meeting the cultural heritage duty of care.

In order to meet your duty of care, any land-use activity within the vicinity of recorded cultural heritage should not proceed without the agreement of the Aboriginal or Torres Strait Islander Party for the area, or by developing a Cultural Heritage Management Plan under Part 7 of the Cultural Heritage Acts.

The extent to which the person has complied with Cultural Heritage Duty of Care Guidelines and the extent the person consulted Aboriginal or Torres Strait Islander Parties about carrying out the activity – and the results of the consultation – are factors a court may consider when determining if a land user has complied with the cultural heritage duty of care.

Should you have any further queries, please do not hesitate to contact the department via email: cultural.heritage@dssatsip.qld.gov.au or telephone: 1300 378 401.

Cultural Heritage Database and Register Search Report



Cultural Heritage Database and Register Search Report

There are no Aboriginal or Torres Strait Islander cultural heritage site points recorded in your specific search area.

There are no Aboriginal or Torres Strait Islander cultural heritage site polygons recorded in your specific search area.

Cultural Heritage Party/ies for the area:

Reference No.	Federal Court No.	Name	Contact Details
QC2017/004	QUD126/2017	Quandamooka Coast Claim	Quandamooka Coast Claim Contact: Kathryn Ridge Phone: 0438 899 774 Email: kathryn@ridgelegal.com

Cultural Heritage Body/ies for the area:

Departmental Reference No.	Name	Contact Details	Registration Date
CHB012004	Quandamooka Yoolooburrabee Aboriginal Corporation RNTBC	Quandamooka Yoolooburrabee Aboriginal Corporation RNTBC PO Box 235 DUNWICH QLD 4183 Phone: (07) 3415 2816 Email: notifications@qyac.net.au or michael.costelloe@qyac.net	06/07/2017

There are no Cultural Heritage Management Plans recorded in your specific search area.

There are no Designated Landscape Areas (DLA) recorded in your specific search area.

There are no Registered Cultural Heritage Study Areas recorded in your specific search area.

There are no National Heritage Areas (Indigenous values) recorded in your specific search area.

Cultural Heritage Database and Register Search Report

Glossary

Cultural Heritage Body: An entity registered under Part 4 of the Cultural Heritage Acts as an Aboriginal or Torres Strait Islander cultural heritage body for an area. The purpose of a cultural heritage body is to:

- identify the Aboriginal or Torres Strait Islander parties for an area
- serve as the first point of contact for cultural heritage matters.

Cultural Heritage Management Plan (CHMP): An agreement between a land user (sponsor) and Traditional Owners (endorsed party) developed under Part 7 of the Cultural Heritage Acts. The CHMP explains how land use activities can be managed to avoid or minimise harm to Aboriginal or Torres Strait Islander cultural heritage.

Cultural Heritage Party: Refers to a native title party for an area. A native title party is defined as:

- Registered native title holders (where native title has been recognised by the Federal Court of Australia).
- Registered native title claimants (whose native title claims are currently before the Federal Court of Australia).
- Previously registered native title claimants (the 'last claim standing') are native title claims that are no longer active and have been removed from the Register of Native Title Claims administered by the National Native Title Tribunal. Previously registered native title claimants will continue to be the native title party for that area providing:
 - o there is no other registered native title claimant for the area; and
 - o there is not, and never has been, a registered native title holder for the area.

The native title party maintains this status within the external boundaries of the claim even if native title has been extinguished.

Cultural heritage site points (pre 2015): Aboriginal and Torres Strait Islander cultural heritage sites and places recorded in the database as point data **before** 1 July 2015.

Cultural heritage site points (post 2015): Aboriginal and Torres Strait Islander cultural heritage sites and places recorded in the database as point data **after** 1 July 2015.

Cultural heritage site points (post 2015 mitigated): Aboriginal and Torres Strait Islander cultural heritage sites and places recorded in the database as point data after 1 July 2015 where the recorder has advised the department that the site has been mitigated.

Cultural heritage site polygons: Aboriginal and Torres Strait Islander cultural heritage sites and places recorded in the database as a polygon.

Designated Landscape Areas (DLA): Under the repealed *Cultural Record (Landscapes Queensland and Queensland Estate) Act 1987*, an area was declared a 'designated landscape area' (DLA) if it was deemed necessary or desirable for it to be preserved or to regulate access.

Indigenous Protected Areas (IPA): Areas of land and sea managed by Indigenous groups as protected areas for biodiversity conservation through voluntary agreements with the Australian Government. For further information about IPAs visit <https://www.environment.gov.au/land/indigenous-protected-areas>

National Heritage areas: Places listed on the National Heritage List for their outstanding heritage significance to Australia and are protected under the *Environment Protection and Biodiversity Conservation Act 1999*. For further information about the National Heritage List visit <https://www.environment.gov.au/heritage/about/national>

National Heritage Areas (Indigenous values): Places listed on the National Heritage list (Indigenous values) are recognised for their outstanding Indigenous cultural heritage significance to Australia and are protected under the *Environment Protection and Biodiversity Conservation Act 1999*. These areas are now included in the cultural heritage



Cultural Heritage Database and Register Search Report

register.

Registered Cultural Heritage Study Areas: Comprehensive studies of Aboriginal and or Torres Strait Islander cultural heritage in an area conducted under Part 6 of the Cultural Heritage Acts for the purpose of recording the findings of the study on the register.

Traditional Use of Marine Resources Agreement (TUMRA): Areas subject to agreement between Great Barrier Reef Traditional Owners and the Australian and Queensland governments on the management of traditional use activities on their sea country. For further information about TUMRAs visit <https://www.gbrmpa.gov.au/our-partners/traditional-owners/traditional-use-of-marine-resources-agreements>

World Heritage Areas: Places inscribed on the World Heritage List pursuant to the World Heritage Convention adopted by the United Nations Education, Scientific and Cultural Organisation (UNESCO) and are protected under the [Environment Protection and Biodiversity Conservation Act 1999](#). For further information about World Heritage places in Queensland visit <https://parks.des.qld.gov.au/management/managed-areas/world-heritage-areas>

***Disclaimer:** The Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships is the custodian of spatial data and information provided by various third parties for inclusion in the Aboriginal and Torres Strait Islander cultural heritage online portal. This includes spatial data provided by the National Native Title Tribunal and Aboriginal and Torres Strait Islander parties. Department of Seniors, Disability Services and Aboriginal and Torres Strait Islander Partnerships is not responsible for the accuracy of information provided by third parties or any errors in this search report arising from such information.*

Appendix B: Close of Test Pit Photographs



Figure 34: TP01 Close.



Figure 35: TP02 Close.



Figure 36: TP03 Close.



Figure 37: TP04 Close.



Figure 38: TP05 Close.



Figure 39: TP06 Close.



Figure 40: TP07 Close.



Figure 41: TP08 Close.

Appendix 18: Housing Needs Analysis

Double Jump Road Structure Plan: Housing Needs Assessment

Prepared for

Fiteni Homes

Giles Consulting International Pty Ltd

June 2018

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Executive Summary

Fiteni Homes Pty Ltd commissioned this housing needs assessment as an input to the Double Jump Road Structure Plan, Victoria Point, Queensland. The report examines what is needed, why it is needed and when it is needed.

Report Structure

The report is structured as follows:

- Introduction;
- The housing context for the proposed draft Structure Plan area;
- Statement of the relevant State and Redland City Council (RCC) planning policies applicable to housing in emerging areas;
- Housing needs in the area;
- Examination of 'on the ground' local conditions that are relevant to application of the housing policies to the Double Jump Road Structure Plan;
- Housing market demand indicators;
- Proposed housing mix and densities;
- Consideration of the applicability of the State and RCC planning policies to the local conditions including how these are met in the proposed Structure Plan;
- Examination of the appropriate timing for the Double Jump Road development, and
- Alignment of the proposed housing mix and density with state and local government housing policies, themes and strategies.

State planning strategies and guidelines

The Double Jump Road Structure Plan area is a new expansion area and as such the housing for the area should be planned in accordance with the strategies of *Shaping SEQ* Regional Plan 2017 (SEQRP). The main housing strategies and guidelines include:

- Supporting better and more diverse housing, with a particular emphasis on promoting the 'missing middle' forms of housing;
- Plan for a net residential density of 15-25 dwellings/ha in new communities or 30-60 dwellings/ha if these areas are within easy walking distance to an existing or proposed public transport station;
- Changing the focus to affordable living, rather than just the cost of housing, to support more balanced and sustainable communities;
- Plan for well-designed and increased residential densities in and around centres;
- Plan for well-designed and increased residential densities at other locations that have good access to high-frequency public transport and employment;
- Plan for and support innovative solutions in housing to cater for a diverse range of community needs, including an ageing population, multi-generational families,

group housing, people with special needs and those from different cultural backgrounds;

- Provide housing choice by delivering a mix of dwelling types and sizes in expansion locations consistent with the 'Grow' strategies of the SEQRP;
- Maximise the variety of available land in suitable locations to support a range of housing choices under a range of market and economic circumstances, and
- Meet the objectives of the sustain theme of the SEQRP in particular to provide various Affordable Living options, which take into account the cost of housing, transport and associated infrastructure costs.

Further, the SEQRP under the Affordable Living theme identified the following:

- Plan for a greater number and broader range of dwellings closer to jobs and services to support affordable living options;
- Use the planning system to increase housing choice and diversity, and remove unnecessary regulatory costs;
- Provide greater mobility and employment choices that support affordable living;
- Promote an adequate and diverse supply of affordable housing in well-serviced locations;
- Ensure that new development creates communities where residents can remain throughout their life and age in place;
- Investigate opportunities to use state-and council-owned land in underutilised or inner-urban areas to provide affordable or social housing, and
- Explore innovative approaches to minimise resource use in new developments.

RCC planning strategies and guidelines

As the Double Jump Road area is a newly developing expansion area a Structure Plan is required. The RCC information request noted that at a minimum, the structure plan should set out:

- (a) the approximate lot or dwelling yield for each part of the site (density)-having regard to policy objectives and requirements around efficient use of land;

On the ground local conditions

The main geographic areas considered are:

- Redland City within the Greater Brisbane area;
- Victoria Point within the Redland City context;
- The contextual planning area within the boundaries of Double Jump Road, Bunker Road and Cleveland-Redland Bay Road, that encompasses the Double Jump Road Structure Plan area, and
- The Double Jump Road Structure Plan area.

In addition to the policy strategies and guidelines, the housing needs assessment is informed by the relevant circumstances that exist in Victoria Point and the contextual areas for the proposed Double Jump Road Structure Plan area, including:

- The housing context for the area surrounding the Double Jump Road Structure Plan area;
- Key distances from the proposed development to the Victoria Point Centre;
- The role and classification of the Victoria Point Centre within the SEQRP;
- Key distances from the proposed development to access existing public transport;
- Key distances and access to major employment nodes and the structure of that employment;
- The existing housing context in the immediate vicinity of the Double Jump Road Structure Plan area as well as in the broader Victoria Point area;
- The underlying economic and demographic drivers of housing demand in Redland City and Victoria Point;
- The nature and character of the existing housing stock in Victoria Point;
- Employment structure and the jobs balance in the area, in total and for major industry and occupational groups;
- Key demographic trends, including ageing of the population and the recent sustained decline in primary and secondary school enrolments in Victoria Point;
- Population projections for the area, including the age profile;
- The need and opportunity for demographic renewal in Victoria Point, particularly through housing types that will be attractive to families and their dependent children to help ensure that the Redland City Council (RCC) economic development objectives are met;
- The clear and sustained market preference in quantity and price for standard detached housing;
- The strong market demand for larger detached housing where that housing most typically comprises four bedrooms and two bathrooms;
- The need to respond to the objectives of older residents to 'age in place', and either move to smaller one level dwellings or to over 55s retirement villages, and
- The inherent characteristics of the area identified for residential use.

The report considers the housing needs for the total area and notes that an 18ha parcel on the corner of Double Jump Road and Cleveland-Redland Bay Road is proposed as bulky goods retail under the Redland City Plan, but that it is understood that the owner of the land has an intent for the holdings for retirement living use and they will make separate representations to the RCC. This report does not consider the housing issues involved.

Housing needs

The housing needs assessment is based on a balanced assessment of underlying demographic, economic and social drivers and finds that the main needs in the contextual planning area within the boundaries of Double Jump Road, Bunker Road and Cleveland-Redland Bay Road, that encompasses the Double Jump Road Structure Plan area are for:

- Standard detached housing to match the character of the Victoria Point area that would also provide the basis for demographic and economic renewal by attracting young families and their dependent children;
- Standard housing on smaller lots for older residents seeking to 'age in place' but with more manageable backyards and gardens, but not necessarily substantially smaller dwellings;
- Medium density housing that would meet the needs of both older residents wishing to 'downsize' but remain in the area and young couples and singles, and
- Specialised housing for older people as they age, including retirement villages and accommodation providing higher-level aged care services.

Findings of the applicability of the SEQ Plan guidelines to the proposed Double Jump Road Structure Plan area

The SEQRP guidelines are assessed as to their applicability to the Double Jump Road Structure Plan area.

Higher housing densities are appropriate where the conditions support these higher density objectives, including excellent public transport, close proximity to shopping, entertainment and recreation areas and close proximity to major employment nodes offering a range of employment types that match the industry and occupation characteristics of the residents. These conditions apply to a much greater degree in well-established areas of Redland City and around major centres, and much less to the urban development fringe that characterises the Double Jump Road area.

Around the Victoria Point Shopping Centre there is higher density housing in the form of medium density housing to the north, and higher density housing for a retirement village and specialised aged persons housing to the south, leading towards the Double Jump Road Structure Plan area. Beyond this area, the land use progresses to very large lots and small farms. The Double Jump Road Structure Plan area forms the area between higher densities near the Shopping Centre and low densities in the rural hinterland.

The report concludes that the range of densities within the SEQRP guidelines is appropriate but at the lower level, that is an average of about 15 dwellings per ha and comprising standard detached houses and medium density housing. The Double Jump Road Structure Plan area provides an opportunity to complete a comprehensive well-balanced housing portfolio in the contextual area between Double Jump Road, Bunker Road and Cleveland-Redland Bay Road.

The report finds that the lower densities within the SEQRP range are appropriate because:

- The area is on the urban fringe of Redland City and greater Brisbane, and a significant distance from major employment nodes within Redland City and beyond;
- It retains the overwhelming character of the Victoria Point area where standard detached housing accounted for some 80% of all housing in 2016;
- The absence of the key drivers for higher density being present in Victoria Point, in particular the poor public transport system and the relatively low level of jobs density including a mismatch between the jobs available in Victoria Point and the

employment characteristics of the population living in the area;

- The distance from the Double Jump Road area to major shopping, public transport and employment nodes;
- The distance from existing or proposed public transport stations in relation to clear evidence on average walking distances to obtain public transport in South East Queensland and in the greater Brisbane area;
- The extremely high rates of vehicle use in journey to work trips;
- The extremely high rates of car ownership, and
- The opportunity to provide for economic and demographic renewal of attracting young families and their dependent children which will help address the decline in local school enrolments.

In addition, it has also been found that the underlying pre-conditions that would lead to a 'missing middle' housing solution to the Double Jump Road Structure Plan area do not apply to this location at this time.

Recommendation on housing mix

The report concludes that the balanced outcome from the above factors will be achieved by:

- Achieving an overall dwelling density of above 15 lots/ha comprising 12-15 lots/ha for standard detached housing and 30 lots/ha for medium density housing;
- The proposed Double Jump Road Structure Plan area delivers -
 - 82.0% of dwellings to be standard detached residential;
 - 18.0% being medium density;
- An indicative lot size distribution has a minimum of 420m² and a maximum of 600m² with nearly half the lots under 450m², and
- Despite being inconsistent with the proposed Draft RCC City Plan, there would be benefit in meeting the full range of needs by having some standard lots in the range 350-400m².

As a guide, the 82/18 detached to attached dwellings ratio closely approximates the overall Victoria Point Housing stock that existed at 2016.

Taking into account the area for residential development in the proposed Double Jump Road Structure Plan and the existing housing in the area bounded by Bunker Road, Double Jump Road and Cleveland Redland Bay Road, the housing mix for this residential precinct when complete (and excluding the site that may be subject to further application), the dwelling mix would be:

- 62.9% standard detached residential;
- 37.1% medium density, including significant components for retirement village and aged-persons special housing needs.

Examination of the appropriate timing for the Double Jump Road development

The report finds that:

- The proposed timing in the RCC Draft Local Government Infrastructure Plan (LGIP) for the development of the Double Jump Road project is not supported by the significant recent increase in net migration, population growth and housing demand, particularly where combined with the extremely rapid run down in land stocks, particularly for detached housing lots;
- The extrinsic reports used in the Draft LGIP to support the development timing for the Double Jump Road project do not reflect the recent significant increase in demand and run down in supply;
- In short the Draft LGIP is based on out of date information;
- On the basis of current and likely medium term market conditions and with existing zoning, it is reasonable to conclude that only a small annual contribution to meeting demand in Victoria Point is likely to be achieved by infill and this would not be sufficient to delay the development of Double jump Road;
- There are significant risks to the Construction industry, which is one of the largest employers in Redland City, of a continuation of the run down in land stocks as would occur if the development timing for the Double Jump Road project was unnecessarily delayed;
- Greater housing supply and choice would mitigate against artificially induced higher housing prices, and
- Once the planning process is complete, there is no residential demand and supply-based reason to:
 - Exclude the Double Jump Road development from the Priority Infrastructure Area (PIA) and coverage of the Draft LGIP, and
 - Delay the normal residential development processes.

The judgments in the Draft LGIP regarding the timing of the need for Double Jump Road must be revised and the development brought forward. The consequences of running short of land would be dire economic and employment effects for Redland City in general and in particular for the building and construction sector as one of the major economic contributors and employers in the City.

There was a significant run down in Broadhectare residential land stock from 2013 to December 2017, in particular when judged against the consumption levels at those times. However there is concern that even the run down Broadhectare residential stocks, particularly for detached housing, overstates the current land availability situation. To test this matter, a comparison has been made between a sample of larger parcels shown in the Broadhectare Interactive Map available in May 2018 with recent Nearmap sourced aerial photography of development on those sites.

The comparison found:

- There are significant areas identified as future stock with expected lot registration times extending from 0-2 years to 10+ years into the future that are already either fully built out, mostly built out, have civil works completed or where civil works are well underway;

- Most of the parcels identified as being fully built out, mostly built out or where civil works are complete or underway are expected for lot registration from 2-5 years, 5-10 years and more than 10 years into the future, and
- Most of the parcels (11 of 16) are in Victoria Point and Redland Bay, in southern Redland City close to the Double Jump Road proposed development and hence the overstatement of the available residential land supply in this area is even more extreme.

Matching the areas that are identified for expected future lot registration in the Broadhectare December 2017 update map with the 'on the ground' aerial photos shows the an apparent overstatement of the residential land stock supply of 1,246 lots. 938 of these lots are expected to be registered more than 2 years into the future, but are already built out, have civil works complete or well underway and in the normal course of business would have occupied houses within 2 years.

In an already increasingly tight supply market, the 'loss' of over an additional 1,200 lots that authorities thought were available, and hence could provide a supply buffer that would justify the deferred development of the Double Jump Road development on a needs based argument, do not exist. The vast majority of the 'lost' stock is in the southern Redland City likely to be in the Double Jump Road market area.

The analysis demonstrates that the assumed residential land stock that was considered to exist in the future, but has already been consumed, is a further pressing reason not to delay the development of the Double Jump Road project and to include it in the current RCC Local Government infrastructure Plan and Priority Infrastructure Area.

Recommendation on appropriate timing of development

On a housing needs basis considering the demand and supply conditions, there is no reason to unnecessarily delay the development of the Double Jump Road project as it currently proposed by RCC. Accordingly the Draft RCC Local Government Infrastructure Plan and Priority Infrastructure Areas and should be adjusted to reflect this assessment.

Assessment against the SEQRP goals, themes and strategies

The proposed mix of housing types and densities achieves, in a balanced way, the following objectives:

- Meets the SEQRP 2017 guidelines as applied in an urban fringe area;
- Shows a dwelling density gradient away from the Victoria Point Shopping Centre and bus station as implied in the SEQRP;
- Provides a mix of dwelling types and sizes appropriate to social and economic needs;
- Retains the general housing character of Victoria Point;
- Matches housing needs to key social, demographic and economic needs cohorts;
- Provides the opportunity for housing to cater for a diverse range of community needs;
- Provides a range of housing choices;
- Provides for families with existing or future dependent children to be attracted to

the area and thus for future economic and community renewal and the broader RCC economic and employment objectives;

- Provides a range of housing choices that are likely to be attractive to the projected older population in Victoria Point wanting to downsize and age in place;
- Provides for land use efficiency while at the same time respects the inherent very high quality of the site;
- Respects the existing housing character of Victoria Point;
- Provides capacity for demographic renewal that is vital for Victoria Point, and
- Provides the basis of a high quality premium development that will be a credit to Victoria Point and Redland City more generally.

In summary, the housing for the area is planned in accordance with the strategies of the SEQRP based on detailed consideration of future housing requirements as modified to suit local conditions. Once the planning process is complete, there is no residential demand and supply-based reason to exclude the Double Jump Road development from the RCC Priority Infrastructure Area and coverage of the RCC Draft LGIP, and hence delay the normal residential development processes

1 Introduction

Fiteni Homes Pty Ltd commissioned this report to undertake a housing needs assessment as an input to the Structure Plan for Double Jump Road, Victoria Point Queensland.

The focus of the report is to address the matters raised by Redland City Council (RCC) in its Information Request of 26 May 2017. In particular:

“...must be consistent with the future planning intent for the area. As previously acknowledged the area has been identified to deliver localised residential housing targets in the City, which represents a strategic intent that is not consistent with the Redlands Planning Scheme zoning of the land. Notwithstanding, it is reasonable that the term 'future strategic intent' means more than merely the dominant land use (i.e. residential, commercial, industrial, etc.) and implies a level of strategic analysis, planning and consultation...”

In addition, the RCC information request advised the following that have particular application to the housing needs assessment:

- (2) *...The proposal should be supported by technical information that provides rationale for the approach adopted.*
- (3) *The structure plan must be clear about how the proposed development will integrate with the surrounding community...*
- (4) *At a minimum, the structure plan should set out:*
 - (b) *the approximate lot or dwelling yield for each part of the site (density) - having regard to policy objectives and requirements around efficient use of land;*
 - (e) *how the development interfaces to the surrounding neighbourhood, and to other buildings and uses*

Accordingly, the housing needs assessment considers:

- The proposed Draft Structure Plan area, the existing housing in the immediate vicinity and the broader Redland City and Victoria Point market;
- The housing guidelines in the SEQRP and the housing objectives in the Redland City Plan, although RCC advised that these do not apply to this newly emerging area;
- The contextual demographic and housing structure for Redland City and Victoria Point including recently released results from the 2016 ABS Census;
- The underlying economic and demographic drivers of housing demand in Redland City and Victoria Point;
- The demographic and housing characteristics for Victoria Point, and
- The housing needs in Victoria Point and for this area.

On the basis of an examination of these matters, an assessment is made concerning:

- An appropriate housing mix, between standard residential and medium density;
- An indicative lot size profile for the standard residential component of the site, and
- An overall density plan for the site.

2 Proponent

Fiteni Homes owns, controls or is in negotiation to buy the major proportion of the Local Development Area. Ausbild Homes is the other significant landowner in the Development area. The Pradella group owns the 18ha site on the corner of Double Jump Road and Cleveland Redland Bay Road.

Fiteni Homes was established in 1976 and has developed and constructed over 6,000 lots and houses mainly in Redland City and other bayside areas of Brisbane City.

Fiteni Homes has developed over 25 estates and current estates include *Egret Point*, *Parkedge*, *Parklands*, *Seabreeze*, *Thornlands Waters* and *Watermark*. The list of estates is provided at Appendix 2. Fiteni Homes is part owner, with the Fox+Bell group, of the Shoreline project in Redland Bay.

Fiteni Homes builds predominately standard residential dwellings. For its recent projects Fiteni Homes reports that demand for standard detached housing on larger blocks (those 500-600m²) is much greater than for smaller lots of about 400m².

Fiteni Homes developed the *Inspire* estate located in the Prospect Crescent, Bell View Street and Bunker Road area of Victoria Point that abuts the Double Jump Road Structure Plan area.

3 The Draft Structure Plan context

3.1 Location

The site is located in Victoria Point including a significant part of the land between Double Jump Road, Bunker Road and Cleveland-Redland Bay Road. The total size of the local development area Structure Plan is 175.5ha of which 111.3 ha is identified for residential use, including land for local parks and roads. Further land budget details are provided in planning reports prepared for the Draft Structure Plan.

Figure 1 General Site Location



Source: Fiteni Homes/Tract

The Draft Structure Plan Area fits within the context of the urban development area north of Double Jump Road, east of the Cleveland-Redland Bay Road and south of Bunker Road. In addition to the Draft Structure Plan Area, this contextual precinct includes:

- Standard detached residential uses;
- Medium density development mainly in the form of retirement village housing and accommodation for older people with special housing needs;
- A site in the south east abutting Double Jump Road and Cleveland Redland Bay Road, the future of which is subject to separate application to RCC;
- Retail and commercial development at the Victoria Point Centre to north east on the corner of Cleveland Redland Bay Road and Bunker Road, and
- Semi rural uses to the south along Double Jump Road and at the corner of Double Jump Road and Bunker Road.

3.2 Character of the site

The site is characterised by undulating wooded and cleared land with elevated points with Bay views to the east and to rural areas to the west and south. There are water features with creeks and farm dams. The following photos provide an indication of the inherent high quality of the site.

Figure 2 Indicative residential area looking west towards Little Eprapah Creek



Figure 3 Indicative residential area



Figure 4 Indicative residential area



Figure 5 Indicative residential area



Figure 6 Indicative residential area looking east towards Redland Bay



The Double Jump Road development area provides a very high quality premium site, and that intrinsic quality should be reflected in a quality housing development. The setting, vegetation,

undulating character and views mean that the site is likely to be highly attractive to the market.

The quality of the site, with other planning conditions, is likely to encourage slightly larger than average lot sizes. The lot size mix will reflect the site conditions as well as planning guidelines and market assessments. There are several highly attractive areas that would be suitable for medium density housing.

3.3 Residential context

The proposed Double Jump Road Structure Plan area fits within a context, and relevant plans require a contextual assessment to show how the proposed development interfaces with the surrounding neighbourhood. Within the Bunker Road, Double Jump Road and Cleveland-Redland Bay Road precinct, the existing housing proceeds from higher density near the Victoria Point retail centre to standard density further away and then to low density rural uses at the corner of Bunker Road and Double Jump Road. South of Double Jump Road there are also rural residential and rural uses.

This area shows a general density gradient from higher densities closer to the retail, commercial and services centre that contains the bus station to lower densities further away. When fully developed, the existing housing and the Double Jump Road Structure Plan area will form a precinct where the total housing mix should provide the basis for a sustainable community where a balance of different needs is met.

Reflecting the established density gradient, the residential land use mix for the Double Jump Road Structure Plan area would include standard detached housing and medium density, the precise mix being the result of the analysis in this needs assessment.

The residential uses adjacent to the Double Jump Road Structure Plan area provide a clear indication of the character of the area within the Double Jump Road, Bunker Road and Cleveland Redland Bay Road precinct. The significant adjacent residential uses are:

- *Renaissance*, Victoria Point, Retirement Village Bunker Road, adjacent to the Victoria Point Shopping Centre;
- *Adventist Retirement Village* on Village Drive/Jacaranda Drive and internal roads;
- *Marebello* age care service;
- Detached residential in Clay Gully Road with larger lots to the west and on Hanlin Place;
- Detached residential in Barcrest Drive comprising large lots;
- Detached residential in Brendan Way comprising standard size lots;
- Detached residential in Brendan Way/McConechy Drive comprising standard size lots;
- Detached residential in Sandy Drive, Brendan Way, /Prospect Crescent and Bell View Street and onto Bunker Road, comprising standard size lots, and
- A few rural lots at the western corner of Double Jump Road and Bunker Road.

To the south of Double Jump Road there are rural/ rural residential uses on large lots.

Special and aged persons housing needs are well provided for in the area.

The character of these areas is illustrated below showing the density gradient from the areas close to the Victoria Point Retail Centre with higher density retirement villages and aged persons accommodation centres near the Victoria Point Retail Centre, progressing outward to standard detached and rural areas south of Double Jump Road and at the corner with Bunker Road in the west.

Figure 7 Overview showing adjacent standard residential to north and east with higher density closer to retail centre



Figure 8 Detached housing on standard lots in Brendan Way



Figure 9 Detached housing on standard size lots, Prospect Crescent/Bell View Street, Fiteni Homes *Inspire* Estate



Figure 10 Prospect Crescent/Bell View Street, Fiteni Homes Housing, *Inspire* Estate



Figure 11 Prospect Crescent/Bell View Street, Fiteni Homes Housing, *Inspire Estate*



Figure 12 Adventist Aged Persons Accommodation, Village Drive



Figure 13 Renaissance Retirement Village, Bunker Road



The type and quantum of existing housing provided in the sector comprises:

- High density and special housing

- *Renaissance*, Victoria Point, comprising 300 villas on completion and providing indoor heated pool, workshop, bowling green, croquet court and 300 seat capacity auditorium/ballroom;¹
- *Adventist Retirement Village*, with 179 beds providing residential aged care, respite care, palliative care and secure dementia care services servicing Redland City;²
- *Marebello* age care service has 138 single and double private rooms including 24 secure special care units.³
- Detached housing
 - 303 detached residential dwellings, and
 - 22 rural lots to the west of Epraprah Creek at the corner of Double Jump Road and Bunker Road.
- Total housing
 - 317 dwellings/units for aged persons accommodation, 300 dwellings for retirement village and 303 detached housing for a total 974 dwelling units with 68.9% as higher density dwellings and 31.1% as detached standard density

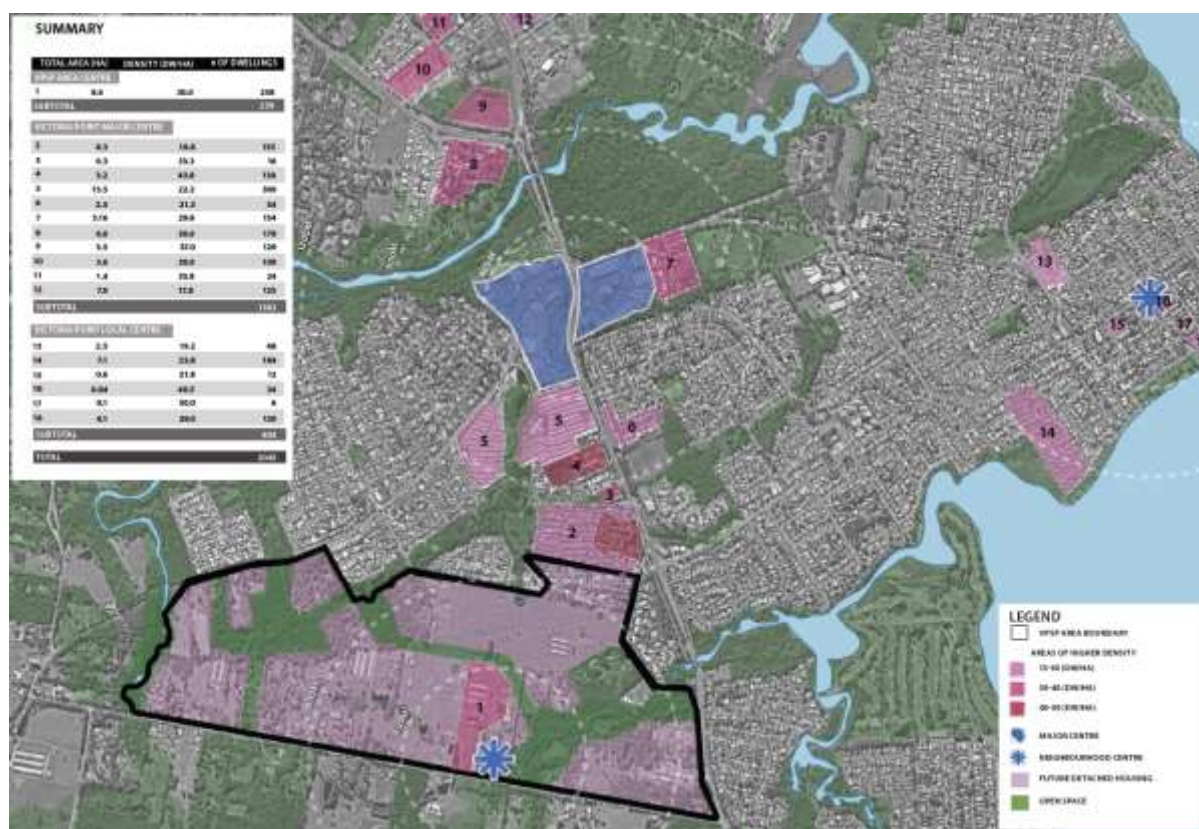
The following figure and chart show the contextual framework of the housing density gradient progressing out from the Victoria Point Centre and including the Double Jump Road Structure Plan area.

Figure 14 Residential densities around Victoria Point Centre

¹ <http://www.renaissancerl.com.au/the-village/>

² www.agedcareguide.com.au/adventist-retirement-village-victoria-point

³ <http://www.vacanti.com.au/locations/marebello/>



Source: Tract Planning

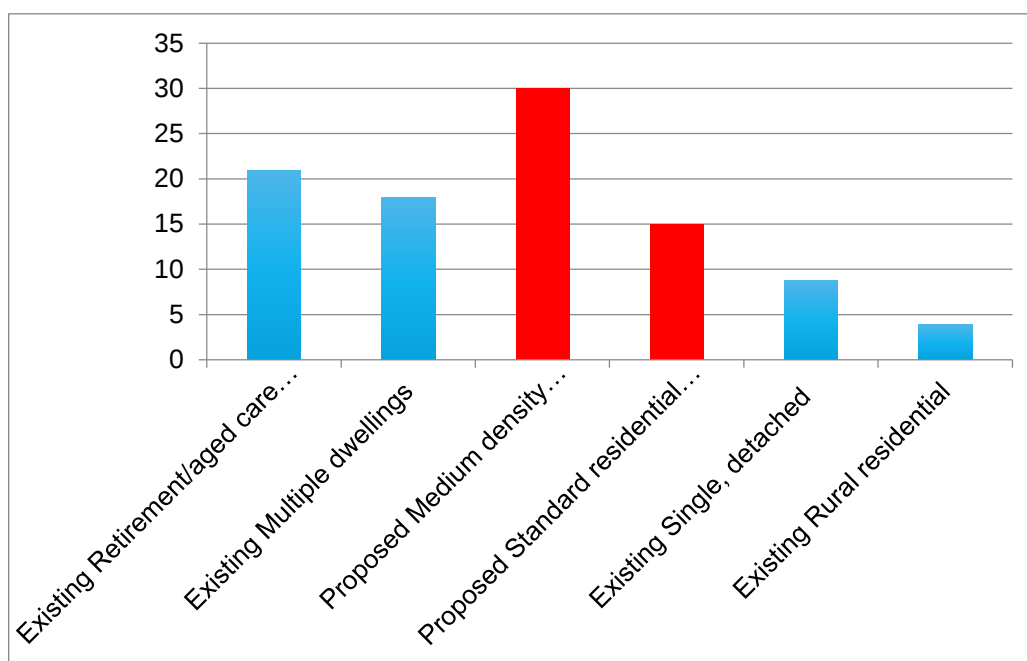
Table 1 Existing housing gradient from Victoria Point Centre

Location	Housing density	Dwellings/units
Renaissance, Victoria Point	Medium density, special housing need	300
Marebello age care service	Medium density, special housing need	138
Adventist Retirement Village	Medium density, special housing need	155
Existing residential	Detached standard density	303
Rural and rural residential corner of Double Jump Road and Bunker Streets	Low density	22

Source: Tract Planning

The following chart shows the proposed Double Jump Road Structure Plan Area housing densities (in red) in the context of the existing housing densities (in blue) in the area bounded by Double Jump Road, Bunker Road and Cleveland-Redland Bay Road. It shows how the proposed standard density fits within the general gradient, and that it is significantly higher than the existing standard housing densities in the precinct. The proposed medium density housing densities stand out as it is higher than the existing higher density age oriented housing in the area and reflects its own locational appropriateness being immediately adjacent to the proposed neighbourhood centre.

Chart 1 Housing density gradient of existing and proposed housing from Victoria Point Centre



Source: Tract Planning

There is an 18ha site on the corner of Double Jump Road and Cleveland Redland Bay Road that is designated for large-scale bulky goods retail use in the RCC Strategic Plan, but it is understood that the owner intends to make application for use as a retirement village.

The existing housing in the sector bounded by Double Jump Road, Bunker Road and Cleveland-Redland Bay Road provides a context for the consideration of the residential uses in the Draft Structure Plan area.

3.4 Spatial relationships

Travel distance and travel time are important considerations in assessing the appropriate housing density for the area. Relevant factors identified in the SEQRP include the distance to major centres and to public transport including to public transport stations, major employment retail and service centre locations. The distances and times for this location can be compared with those obtained in the Department of Transport Travel Survey results in other parts of the greater Brisbane and South East Queensland (SEQ).

From an approximate mid point location along Double Jump Road, key road distances are:⁴

- 4.3km to Victoria Point Shopping Centre/Bus station, and
- 1.6km to the corner of Double Jump Road and Cleveland-Redland Bay Road to access the closest bus service;

Journey times to the Victoria Point Shopping Centre/Bus station are:

⁴ Taken as 56 Double Jump Road. Distances at times are based on Google Maps.

- 7 minutes by car;
- 25 minutes by walk and bus, and
- 51 minutes to walk.

To the major employment, transport and service nodes in Redland City and Logan City, the key parameters are:

- 12.1 km to Cleveland rail station;
- 43 minutes by walk and bus to Cleveland rail station;
- 14.3km to Capalaba Shopping Centre;
- 60 minutes by walk and bus to Capalaba Shopping Centre;
- 17.6km to Logan Hyperdome Shopping Centre, and
- 66 minutes by walk and bus to Logan Hyperdome Shopping Centre.

From an approximate mid point on Bunker Road to the Victoria Point Shopping Centre, the journey is 1.8km, involving a walk of 21 minutes or a combination of walk and public transport of 13 minutes, which involves a walk of 750 metres.⁵

The Double Jump Road Structure Plan area is not well served by public transport. With the development of the area and with increased population, public transport may respond to the increased demand and offer additional services that could reduce the walk components of the trips outlined above.

The walk times and distances to access public transport are well in excess of average walk times and distances recorded in the Department of Transport Travel Surveys in SEQ where the median distance was 440m to a bus stop.⁶ This distance is about a quarter of the 1,600m, that which would be presently required.

A further point that accentuates the distance relationships is that there are relatively few jobs in Victoria Point in relation to the employment characteristics of the resident workforce and a poor fit between the occupations and industry of employment of those working in the area with the occupation and industry profile of the employed residents. The result is that a high proportion of Victoria Point residents, and presumably those living in the Structure Plan area in the future would have to travel out of the suburb for work and the vast majority will rely on car transport.

3.5 Victoria Point in the centres hierarchy

The Victoria Point Centre is the main retail and service node that is likely to serve the population in the Double Jump Road Structure Plan area.

The SEQRP defines the regional activity centres network as regionally significant centres that are highly accessible and contain concentrated business, services and facilities for employment, research and education, as well as higher density residential development.

⁵ Taken as 121 Bunker Road. Data based on Google Maps

⁶ Queensland Department of Transport. South East Queensland Travel Survey. Distances people walk to transport. Mathew Burke and A.L. Brown. Griffith Research Online. 2007.

The SEQ Plan 2017 also provides housing density guidelines in relation to distances from major centres in the hierarchy.

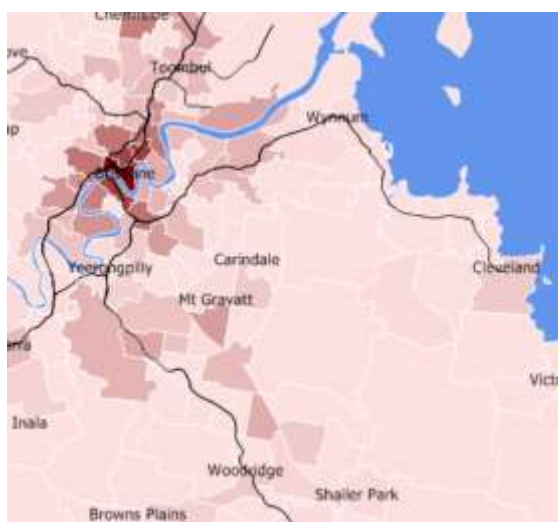
In the SEQRP, the Victoria Point Centre is not classified as a Principal regional activity centre, a Major regional activity centre or a Principal/Major rural activity centre. As such the guideline housing densities provided in the SEQRP do not apply due to the fact that the Victoria Point centre is not classified from the centres hierarchy perspective. However the principle of higher densities closer to the major retail, services, employment and transportation centres has merit.

3.6 Employment nodes

The SEQRP draws attention to the relationship between housing density and employment centres with greater housing density closer to major employment centres.

Victoria Point like most of Redland City has a very low density of employment per square kilometre and this had not changed to any substantial degree between 2006 and 2016.⁷ The map below shows Victoria Point employment density at 2011 and as employment in Victoria Point increased only marginally from 2011 to 2016 the overall 2011 picture remains much the same for 2016.

Figure 15 Employment Density 2011



Source: Charting Transport. The light pink for Victoria Point represents workers who travelled per km² scaling up to the dark red for Brisbane CBD.

Forecasts prepared by Queensland Treasury for the 2017 SEQ Plan provide projections of the relationship between where Redland City residents live and where they work, a measure of employment self containment for the City.⁸ The Treasury data shows that in 2015/16, 49% of Redland City workers worked in Redland City, and that this is forecast to increase only marginally to 51% by 2030/31, indicating that nearly half of Redland City

⁷ ABS Census, Community Profiles, 2006, 2011 and 2016

⁸ Queensland Treasury. Regional Employment Projections Data Tables - 2010-11 to 2040-41

workers will continue to work outside the City, predominantly in Brisbane City, accounting for 42% of all Redland City workers in 2015/16.

The 2016 Census results for Redland City showed that the employment self-containment (percent of resident workers employed in Redland City) had remained essentially unchanged.

This is relevant to consideration of housing density and type, as there are clear correlations between higher housing densities and higher employment densities and public transport adequacy. SGS Economics and Planning's prime finding in a study undertaken for the National Housing Supply Council was that a location's access to employment and service opportunities particularly transportation was the key explanatory factor in the attraction of higher density housing investment.⁹

The employment density in Victoria Point is low and there is a mismatch between the occupational and industry profile of those living in the area with the jobs that are available in the area. The result is the need to travel out of the area and rely on private transport to do so.

The RCC Economic Development Framework notes that Victoria Point's primary role at present is to support the Redland City population through population-growth driven sectors such as Retail Trade and Construction and that there is little to indicate that this will change into the future.¹⁰

At the 2016 Census there were 6,614 people living in Victoria Point SA2 who were employed. At the same time there were also 4,247 jobs available in Victoria Point (and an estimated 5,096 if the acknowledged undercount of about 20% at the local level is included) showing an imbalance between jobs needed and jobs available in Victoria Point SA2. In addition, on an occupational and industry classification basis the mismatch is even more pronounced. There were major shortages in the Manufacturing, Transportation, Construction and Public Administration industries and 'surpluses' in the Retail and Accommodation and Food services industries.

Just having higher housing densities without the co-related and preconditions of higher employment densities and much better public transport would give rise to outcomes that do not meet the SEQRP objective of having balanced and sustainable communities.

3.7 Reliance on private transport

Censuses for 2006, 2011, and 2016 show that residents of Redland City and Victoria Point rely overwhelmingly on private transport for most travel to work journeys, with only a minimal increase in the proportion of trips by public transport in the past decade. Of those who used private transport, trips as the car driver predominated.

Table 2 Journey to work by private vehicle Redland City and Victoria Point SA2
2006, 2011, 2016

⁹ SGS Economics and Planning. Infrastructure investment and housing supply. Undertaken for the National Housing Supply Council. 2013

¹⁰ Redland City Council Economic Development Framework 2014-2041.

	Redland City LGA (%)	Victoria Point SA2 (%)
2006	91.9	92.6
2011	90.4	89.4
2016	91.4	89.8

Source: ABS Census 2006, 2011 and 2016. Private vehicle includes Car as driver and passenger, Motorcycle and Truck. Percent is of those who travelled to work and excludes those who worked at home or did not go to work.

At the 2016 Census, of the 3,344 Victoria Point SA2 residents who went to work, only 135 used public transport as any one of the methods to get to their workplace.

Associated with the location of employment centres and the poor public transport, there are very high car ownership rates in Victoria Point, with 61.8% of dwellings having two or more vehicles.

Table 3 Vehicles per dwelling Victoria Point SA2 2016

	Number	Percent
No motor vehicles	267	5.1%
One motor vehicle	1,809	34.2%
Two motor vehicles	2,021	38.2%
Three or more motor vehicles	1,190	22.5%
<i>Total</i>	<i>5,285</i>	<i>100.0%</i>

Source: ABS Census 2016.

3.8 Market attractors

In general terms, the site is likely to be very attractive to the market as it has good access to a range of public and private primary and secondary schools in Victoria Point, is close to recreation activities in and near Redland Bay, and is within close driving distance of Victoria Point Retail centre. The area is also very well served by aged persons accommodation and retirement village housing.

The site, like much of southern Redland City, suffers from poor public transport service and a shortage of employment opportunities in relation to the residential workforce living in the area.

4 Planning objectives

4.1 SEQ Plan 2017

ShapingSEQ, the SEQ Regional Plan 2017 (SEQR), provides the State Government's planning objectives for SEQ.¹¹ The Double Jump Road Structure Plan area is a new expansion area and as such the housing for the area should be planned in accordance with the themes and strategies contained in the SEQR. In summary:

- Supporting better and more diverse housing, with a particular emphasis on promoting 'missing middle' forms of housing;

¹¹ *ShapingSEQ* Draft South East Queensland Regional Plan, October 2016.

- Change the focus to affordable living, rather than just the cost of housing, to support more balanced and sustainable communities;
- Plan for well-designed and increased residential densities in and around centres;
- Plan for well-designed and increased residential densities at other locations that have good access to high-frequency public transport and employment;
- Provide housing choice by delivering a mix of dwelling types and sizes in expansion locations;
- Plan for and support innovative solutions in housing to cater for a diverse range of community needs, including an ageing population, multi-generational families, group housing, people with special needs and those from different cultural backgrounds;
- Maximise the variety of available land in suitable locations to support a range of housing choices under a range of market and economic circumstances;
- Plan for a net residential density of 15-25 dwellings/ha in new communities or 30-60 dwellings/ha if these areas are within easy walking distance to an existing or proposed public transport station, and
- Meet the objectives of the Sustain theme of the SEQ Plan 2017 in particular to provide various affordable living options, which take into account the cost of housing, transport and associated infrastructure costs.

In relation to Affordable Living, the relevant parts of the SEQ Plan 2017 seek to:

- Plan for a greater number and broader range of dwellings closer to jobs and services to support affordable living options;
- Use the planning system to increase housing choice and diversity, and remove unnecessary regulatory costs;
- Provide greater mobility and employment choices that support affordable living;
- Promote an adequate and diverse supply of affordable housing in well-served locations, and
- Ensure that new development creates communities where residents can remain throughout their life and age in place.

The RCC in response to a Draft report advised that the most important issues from the SEQ Plan 2017 were those relating to density, the provision of housing choice, to cater for a diverse range of community needs, provide for a range of housing choices under a range of market and economic circumstances and to address the affordable living objectives.

4.2 Redland City Plan

The Draft Redland City Plan (Post Consultation Version March 2017) identifies the Strategic Framework as the highest level in the assessment hierarchy.¹² Of particular relevance to this assessment, the Strategic Framework states:

¹² Draft Redland City Plan 2017 p Part 1-13

Redlands will offer housing diversity and affordability for residents through a choice of housing product and location. This will particularly address the housing requirements of an ageing demographic profile and young first homeowners.

The suburbs of Alexandra Hills, Birkdale, Thorneside, Ormiston, Victoria Point, Redland Bay, Mount Cotton and Wellington Point will continue to accommodate mainly detached housing with a low density character.

For the Double Jump Road area, the Draft Plan states:

3.3.1.4 Newly developing communities

(1) New communities are established at Kinross Road, Thornlands, South-East Thornlands, Victoria Point and the area around Double Jump Road that are included in the emerging community zone.

(2) In these areas, land is used efficiently and development provides a mix of lot sizes and housing forms, including detached housing on a mix of lot sizes and attached housing within well-structured and walkable neighbourhoods.

Minimum lot sizes for standard residential land (low- density residential) are proposed at 400m², an increase from 350m² in the current RCC City Plan.

4.3 Addressing planning objectives

The SEQ Plan 2017 housing themes, strategies and guidelines, apply to a significant area of 22,900km² with 1.34 million dwellings across all southeast Queensland.¹³ Hence they have a degree of generality and need to be assessed at the local level.

The themes, strategies and guidelines are addressed in relation to the applicability to the local context and circumstances in Victoria Point and to the Draft Double Jump Road Structure Plan area that comprises about 175 ha in total of which some 111 is identified for housing including local parks and local roads.

The following section addresses housing needs and then the housing needs at the local level are assessed against the planning themes, strategies and guidelines to identify where the planning themes, strategies and guidelines are met and if not met, the reasons. In the following Housing Needs chapter, the SEQ Plan 2017 housing themes, strategies and guidelines are examined in relation to local facts and circumstances.

¹³ *Shaping SEQ* (SEQ Regional Plan) 2017

5 Housing needs

5.1 Contextual framework

5.1.1 The nature of demand

The Housing Needs Assessment depends fundamentally on identifying the demand for housing in Victoria Point, specifically in the Double Jump Road Structure Plan area and more broadly in the precinct contained within the Double Jump Road, Bunker Road and Cleveland-Redland Bay Road precinct.

The demand concept used in this report is that of effective demand, that is the willingness and ability of consumers to purchase goods and shows the amount of goods that consumers are actually buying. In the report it is reflected in data such as actual housing sales and housing price levels.

Most of the analysis of demand is based on the relationships between the potential demand such as by a particular demographic or socio-economic group and how that is likely to be reflected in effective demand. Most attention is paid to the demographic and socio economic housing demands from within the Victoria Point SA2.

In addition to potential future demand, there is clear and direct evidence of actual recent demand based on housing transactions. At the 2016 Census for Victoria Point:¹⁴

- 20.0% of the population lived at a different address one year ago;
- Only 14.3% of those that moved address, moved from somewhere else in Victoria Point SA2;
- 46.1% of the population lived at a different address five years ago, and
- Only 17.2% of those that moved did so from another address in Victoria Point SA2.

For Redland City, there are broadly comparable results with 21.1% of the population in 2016 having lived at another address one year previously and only 12.7% of those that moved address moved within the same SA2. Comparable results occurred for Redland City as for Victoria Point SA2 for moves over five years.

The large number of people that moved to Victoria Point in the five years to 2016 moved into the housing stock that existed at that time, which consisted of about 80% detached housing and 20% attached housing. That is clear and strong evidence of this source of effective demand. The people who moved to Victoria Point clearly liked its location, character, facilities and the housing stock available compared to other locations and forms of housing that exist in other places.

¹⁴ One year ago data excludes those under one year of age and five years ago data excludes those under five years.

5.1.2 SEQ Plan

The SEQRP 2017 is seeking outcomes that reflect a balance of economic, social and environmental objectives and uses the regional plan to achieve these objectives. Housing is one of the specific planning tools to achieve the outcomes sought.

The broader consideration of SEQRP and RCC's demographic, economic and social policies and objectives and performance against those objectives, provides a framework in which to consider options and appropriate choices for housing needs for the proposed Double Jump Road development. In addition, there are direct and close positive correlations between key demographic, economic, social and transportation characteristics and appropriate housing choices. These interrelationships are identified in the SEQRP and the housing choices need to be considered within the fabric of the community in which they are proposed. In addition there are themes, strategies and objectives in the SEQRP that need to be balanced against each other to achieve optimal outcomes when applied locally.

It is pertinent to note that the recent SEQRP included a number of new areas in southern Redland City within the Urban Footprint primarily for housing use. This was presumably done on the basis of assessed demand for housing for these areas.

5.1.3 Redland City

The RCC's Economic Development Framework (EDF) is designed to inform Planning policies in key areas. Specifically, the EDF seeks to achieve the following in the period 2014 to 2041:¹⁵

- Redland City will have a population of 206,000 by 2041 with annualised average growth of 1.2%;
- 30,000 jobs will be created in the City to 2041, with a workforce of 74,000, and
- The Redland City economy will be worth \$6.8b by 2041.

The EDF targets imply average annual rates of growth to 2041 of:

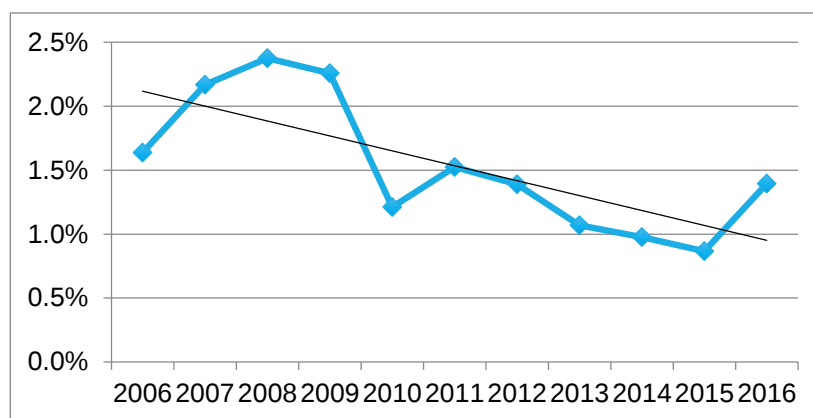
- Population 1.22%;
- Local employment 1.87%, and
- Economic output at 1.36%.

5.2 Demographic

5.2.1 Redland City

Population and the characteristics of that population are key drivers of housing demand. At the same time, Redland City is facing major social and economic challenges due to its current and projected future aged population.

¹⁵ Redland City Council Economic Development Framework 2014-2041.

Chart 2 Population Growth Rate Redland City 2006 to 2016-Actual and Trend (%)

ABS 3218.0, Regional Population Growth, Australia

In the past 5 years (2011 to 2016), population growth has averaged 1.1% per year, marginally below the RCC EDF target, and despite the upturn in 2016, has been trending lower over the past decade.

Redland City has a relatively old and rapidly ageing population with the median age in 2015 much higher (40.5 years) than the nearby Local Government (LGAs) areas of Ipswich (32.1), Logan (33.9), Moreton Bay (37.3) and Brisbane City (34.6 years).¹⁶

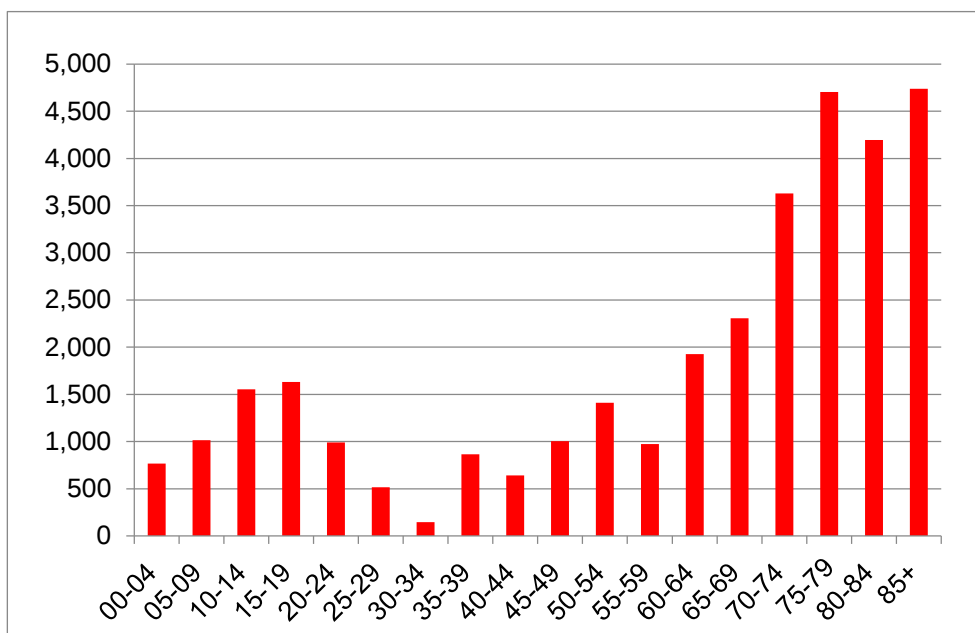
Queensland Government Population projections from 2016 to 2036 show:

- Relatively little growth in the younger age groups (under 24);
- Minimal growth in the main working age groups (25-59), and
- Very high increases in the over 60 age groups.

From 2016 to 2036, Redland City population is forecast to increase from 151,674 to 184,683 at an average annual growth of 1.0%. There has been a gradual slowing of the population growth rate in Redland City from 2006 to 2016.

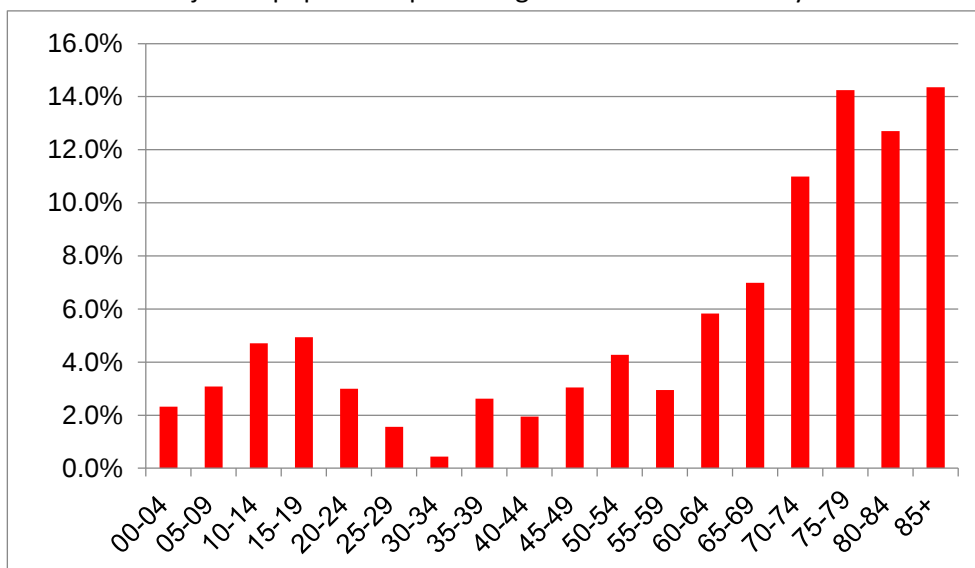
¹⁶ Queensland Government Statisticians Office. Age and sex indicators by LGA 2015.

Chart 3 Projected population increase Redland City LGA 2016 to 2036



Source: Queensland Treasury Population Projections 2015 Edition. Medium series.

Chart 4 Projected population percentage increase Redland City LGA 2016 to 2036



Source: Queensland Treasury Population Projections 2015 Edition. Medium series.

Table 4 Redland City Projected Population Growth 2016 to 2036

Capalaba SA3	2016	2036	Change 2016-2036	Percent Change
Alexandra Hills	17,416	18,385	969	5.6%
Birkdale	15,313	17,465	2,152	14.1%
Capalaba	17,702	21,260	3,558	20.1%
Thorneside	3,907	4,120	213	5.5%
Wellington Point	11,988	13,574	1,586	13.2%
Total Capalaba SA3 In Redland City	66,326	74,804	8,478	12.8%
Cleveland	15,777	20,104	4,327	27.4%
Ormiston	6,139	7,331	1,192	19.4%
Redland Bay	15,340	19,702	4,362	28.4%
Redland Islands	9,337	12,335	2,998	32.1%
Sheldon - Mount Cotton	7,843	8,872	1,029	13.1%
Thornlands	14,627	21,774	7,147	48.9%
Victoria Point	16,283	19,763	3,480	21.4%
Total Cleveland - Stradbroke	85,346	109,881	24,535	28.7%
Redland City	151,672	184,685	33,013	21.8%

Source: Projected population (medium series), by statistical area level 2 (SA2), SA3 and SA4, Queensland, 2011 to 2036. 2015 Edition.

5.2.2 Victoria Point

2016 population

The 2016 Census provides a benchmark for the Victoria Point population and the changes since the previous Census in 2011.

Table 5 Key Census measures Victoria Point SA2 2011 and 2016

	2011	2016	Change 2011-2016	Percentage change
Population (number)	14,816	15,020	204	1.4%
Median age of persons (years)	41	45	4	9.8%
Population 60 and over (number)	3,890	4,541	651	16.7%
Average number of persons per bedroom (number)	0.8	0.7	-0.1	-12.5%
Average household size (persons)	2.7	2.6	-0.1	-3.7%
Median monthly mortgage repayment (\$)	1,975	1,950	-25	-1.3%
Median weekly rent (\$)	385	420	35	9.1%
Median weekly family income (\$)	1,444	1,654	210	14.5%
Median weekly household income (\$)	1,230	1,384	154	12.5%
Primary school children (number)	1,382	1,216	-166	-12.0%
Secondary school children (number)	1,017	1,071	54	5.3%
Percent separate dwelling (%)	85.8%	80.7%	-5.1%	na
Percent attached dwelling (%)	14.1%	19.1%	5.0%	na

Source: 2016 Census. Time Series Profile. Note that ABS advises that to protect confidentiality in some cells, there may be minor inconsistencies in data sets.

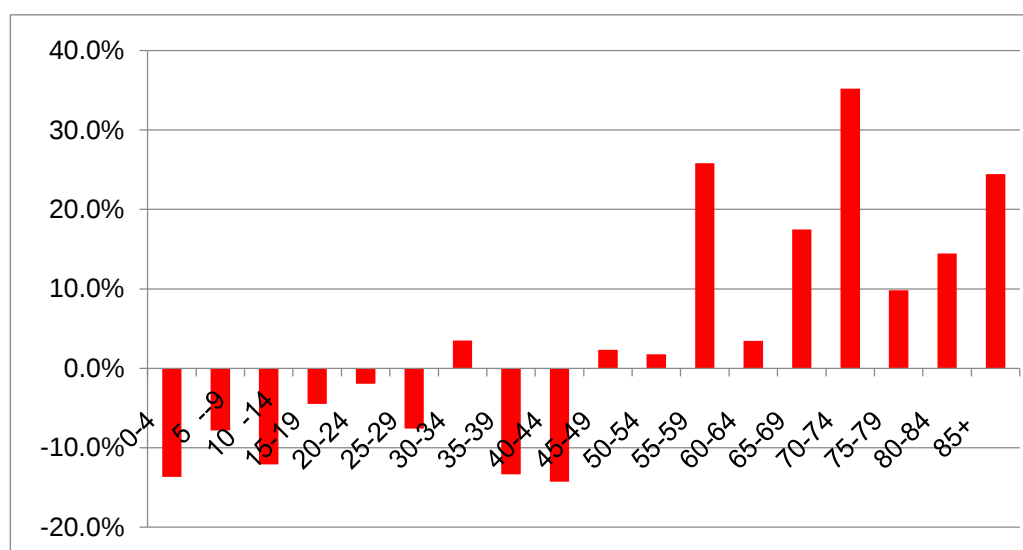
The key points from the Victoria Point changes from the 2011 to 2016 Censuses include:

- Small population increase in the five years;
- Substantial increase in median age and the proportion of the population aged 60 years and over;
- Small decrease of 0.1 in average number of persons per bedroom and also 0.1 in average household size;
- Strong increases in family and household income, both well in excess of the increase in average rents and the decline in average mortgage payments;
- A substantial decline in the number of primary school aged children and only a small increase in secondary school aged children, and
- A small decline in the proportion of detached houses (-5.1%) and a corresponding increase in the proportion of attached dwellings.

There is no evidence of housing price stress as the increase in median rents was marginally less than the overall CPI increase, and median monthly mortgage repayment declined in money terms and real terms.¹⁷

The most distinctive feature is the change in age profile from 2011 to 2016 with substantial increases in the oldest age groups and declines in virtually all other age groups.

Chart 5 Population change by age Victoria Point SA2 2011 to 2016



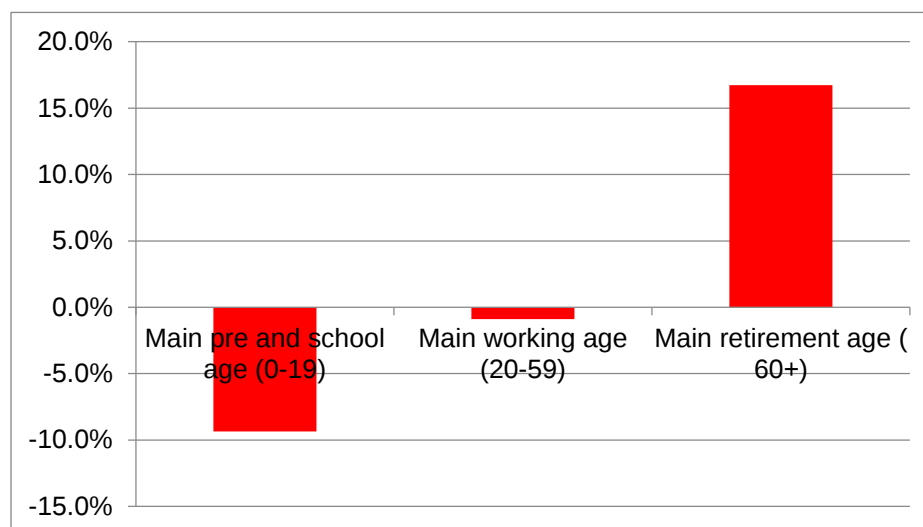
Source: 2016 Census. Time Series Profile.

When categorised into the main socio-economic groups, during the period 2011 to 2016, Victoria Point experienced:

- A decline of nearly 10% in pre and school age children 0-19 years;
- A small decline in those in the main working age population (20-59 years), with the increase in the 55-59 year age group balancing out declines in most other age groups in this category, and
- An increase of 16.7% in the main retirement age group aged over 60 years.

¹⁷ Reserve Bank/ABS CPI from September 2011 to September 2016 to align as closely as possible with the respective Census periods.

Chart 6 Population change by key demographic groups Victoria Point SA2 2011 to 2016



Source: 2016 Census. Time Series Profile.

These demographic results have profound implications for RCC high-level policy formulation, planning responses, economic performance and housing needs. The findings from 2011 to 2016 not only reflect longer-term trends, but also carry on to the projected population in Victoria Point.

This housing needs assessment focuses on both meeting the emerging need but also on the degree to which housing choices for Double Jump Road can help turn around the otherwise serious demographic, economic and social prospects for Victoria Point.

From 2006 to 2016 Victoria Point SA2 increased in population from 13,999 to 16,428. During this period it grew at about the same rate as Redland City and therefore maintained its share of Redland City population at between 10.6% and 10.8%.

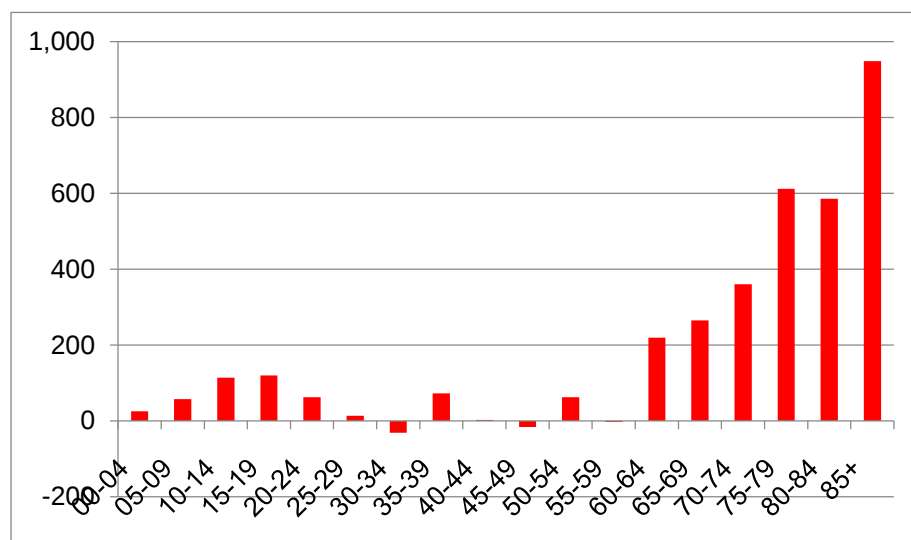
Projected population

Based on land use plans that existed in 2015 that excluded the proposed Double Jump Road development, from 2016 to 2036 the Victoria Point population is projected to increase from 16,428 to 19,763.

Victoria Point is facing the same ageing issues, as does Redland City with:

- Small increases in the school aged population broadly up to age 19;
- Virtually no increase in the prime working age population from 25 to 59, and
- Significant increases in the population aged over 60 years, with this age group accounting for 86.1% of the projected population increase in the period 2016 to 2036.

Chart 7 Projected population increase by age group Victoria Point SA2 2016 to 2036



Source: Queensland Treasury Population Projections 2015 Edition. Medium series.

5.2.3 The evidence for demographic renewal

Victoria Point has an old population that is ageing and with that comes a range of socio economic issues. The Double Jump Road Structure Plan provides an opportunity for demographic and consequent economic renewal. The issue is whether the potential is likely to be realised. The following analysis shows that the demographic and economic renewal is very likely if a substantial proportion of standard detached lots are available.

The pattern of the typical characteristics of new residents into newly developing areas is well established.

The majority of new estates attract a very similar market, dominated by first time homebuyers with young children (aged between 0-4 years), or couples intending to start a family. Given such areas have a very significant supply of housing, most age groups (except for the elderly) will have some increase in number but overwhelmingly the pattern is dominated by family groups, where parents are aged between 20-34 years. This is the case even when an estate is being marketed at the second and third homebuyer market. There are a number of reasons for this: 20-29 year olds are highly mobile owing to life event triggers such as marriage, moving out of home and starting a family and therefore figure significantly in the migration profiles for most areas; also these age groups are likely to be attracted to family type housing, looking to start a family. Finally, stamp duty savings and the comparatively lower costs involved in purchasing a new property (with no renovations) are also big incentives.¹⁸

To test the general finding, a number of suburbs in LGAs around Brisbane where recent housing development has taken place in the period 2011 to 2016 in addition to the existing housing stock have been examined to assess the evidence. The suburbs are in developing areas of the Gold Coast, Sunshine Coast and Ipswich and age structures at 5-

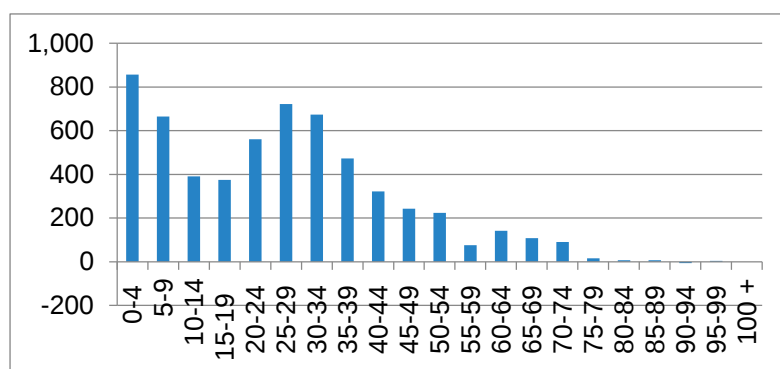
¹⁸ Id the population experts. <https://blog.id.com.au/2011/population/demographic-trends/newly-developed-suburbs/> 2011

year intervals were assessed to show the change in population age profile between 2011 and 2016.

The suburbs have different development characteristics and are in different areas but show the similar characteristic patterns of newly developing areas attracting those in the main working ages and their dependent children. Having higher employment participation and more children addresses two fundamental economic and social issues for Victoria Point.

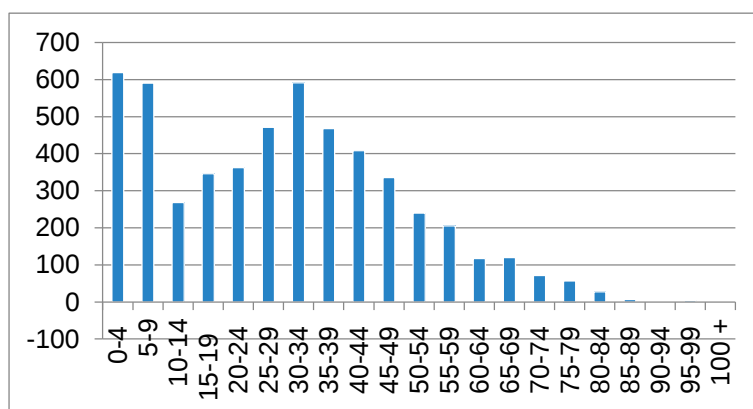
It is interesting to note that despite the divergent locations of these newly developing areas, in 2016 three of the SA2s has Detached/Attached housing mix of about 80/20 which was also about the mix in Victoria Point in 2016 and one was 89/11 with an average overall of 83/17.¹⁹

Chart 8 Population change by age 2011 to 2016, Pimpama SA2



Source: ABS Census 2011 and 2016

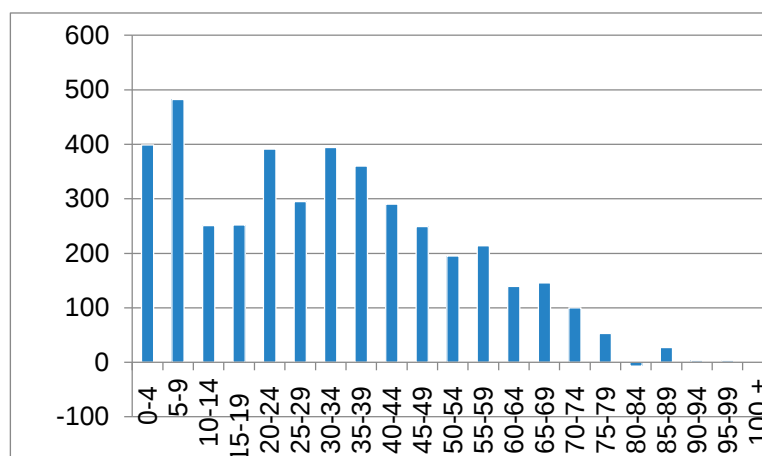
Chart 9 Population change by age 2011 to 2016, Bellbird Park- Brookvale SA2



Source: ABS Census 2011 and 2016

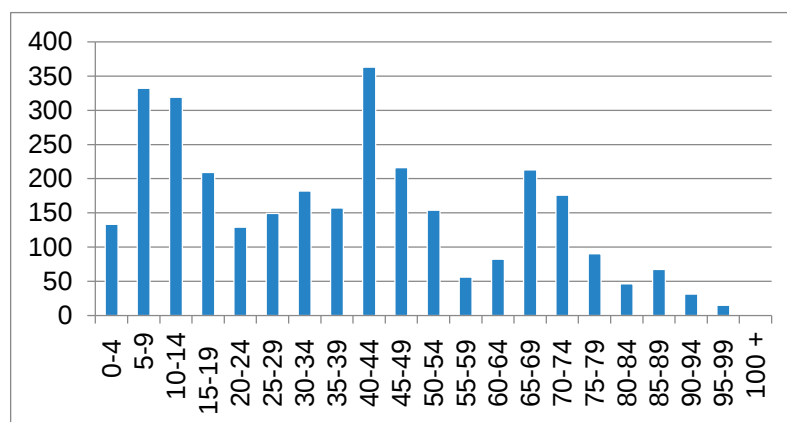
¹⁹ ABS Census Profiles. 2011 and 2016.

Chart 10 Population change by age 2011 to 2016, Mountain Creek SA2



Source: ABS Census 2011 and 2016

Chart 11 Population change by age 2011 to 2016, Peregrine Springs State Suburb



Source: ABS Census 2011 and 2016

While the suburbs are in different areas and have different development histories, and with different scales of development, where new standard residential development takes place it results in areas of new family formation and the population change comprises mainly those from 25 to 45 and children and young people from 0 to 19. The increase in older populations in Peregrine Springs results from the development of a retirement village and aged persons accommodation between 2011 and 2016.

5.2.4 Demographic implications

There is a relationship between demographic character such as age and family structure and size and housing demand, but certainly not a perfect correlation and hence perfect fit. Studies have pointed to older people in small family size who both do and do not want to downsize and behave in ways that some expect or hope.

Accordingly, the demographic analysis provides broad indications of need not a basis for precise mathematical formula. With this caution in mind, the general indications of demographic based need point to providing housing that would be attractive to:

- Those in the prime economically active age groups from 25-50 and their dependent children, and
- The aged population.

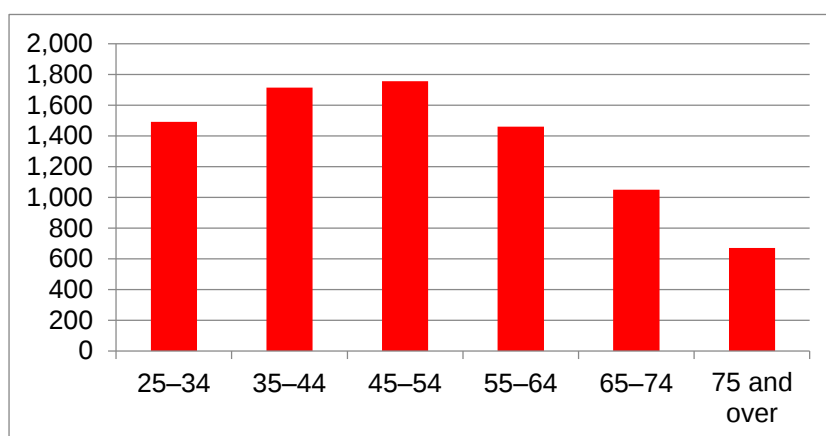
5.3 Economic

5.3.1 Need for economic renewal

The age profile in Victoria Point points to two needs. As considered previously there is a need to respond to the diverse housing needs of this sector, but the solutions are as diverse as the needs. At the same time, the existing and projected age profile for Victoria Point (without the Double Jump Road Structure Plan area) imposes a heavy economic burden on the local economy and hence calls for the need for demographic renewal.

Older people have employment participation that is significantly lower and hence both income and expenditure that is also significantly lower than economically active age groups. The comparison is shown below

Chart 12 Average weekly expenditure Australia 2015-16 (\$)



Source ABS Household Expenditure Survey, Australia. 2015-16

The same pattern exists for income where the gross and disposable income of couples and single person households over 65 were significantly lower than those in the family formation life cycle stage and younger one-person households.

Lower average employment, income and expenditure means lower economic activity in the production and consumptions sides of the local economy.

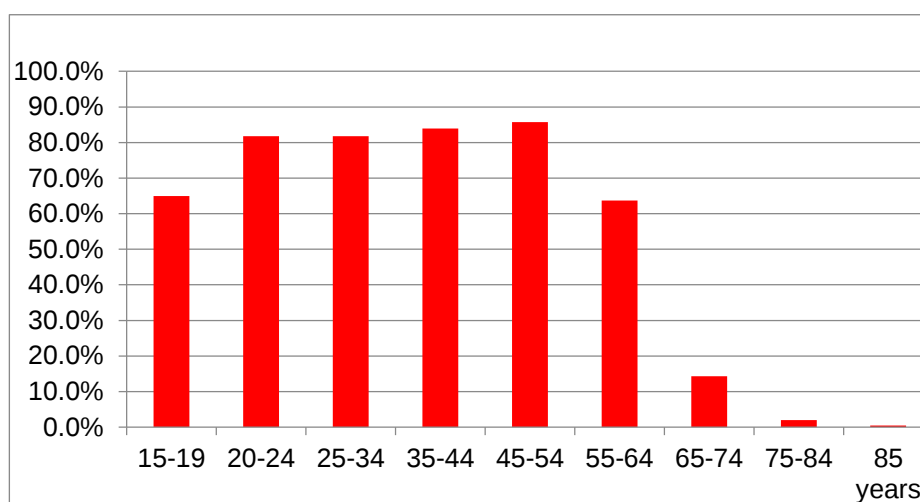
Hence there is the opportunity for the Double Jump Road Structure Plan area to both meet housing needs for the aged and contribute to the economic and demographic renewal of the area in a balanced way.

5.3.2 Labour force participation

The age structure, with relatively little projected increase in the prime working age population and the lower labour force and employment participation rates that come with age, raise questions about the achievement of the RCC Economic Development Framework's (EDF) employment and economic output objectives.

The impact of age profile on labour force participation is stark at the upper age groups with a significant and rapid decline from 64 years of age. This decline has direct and major impacts on the income generation, and consumption expenditure in the area and hence on the contribution to the EDF's economic growth objective for Redland City.

Chart 13 Labour force participation rate Victoria Point 2016



Source: ABS Census 2016.

5.4 Social

5.4.1 Schools

Schools are the focus of much community activity and provide the glue that binds communities together. The population age structure imbalance in Victoria Point means that all schools in the area are losing enrolments, with 10.5% fewer enrolments from 2011 to 2016, and nearly 15% for primary schools.

Table 6 Victoria Point School Enrolments 2008, 2011 and 2016

School	2008	2011	2016	Change 2011 to 2016	Percent change 2011- 2016
Victoria Point State School	862	683	531	-152	-17.6%
Saint Rita's Primary	615	591	533	-58	-9.4%
Total Primary	1477	1274	1064	-210	-14.2%
Victoria Point State High School	1313	1256	1177	-79	-6.0%
Faith Lutheran College	958	1066	962	-104	-10.9%
Total Secondary	2271	2322	2139	-183	-8.1%
All schools	3748	3596	3203	-393	-10.5%

Source: My School

The trends for declining school enrolments in the area and from age profile changes from 2001 to 2016 Censuses are consistent.

5.5 Socio-economic implications for housing

As well as being mindful of the SEQ Plan housing guidelines, there are particular features of the Victoria Point community that need to be considered. Overall, the Victoria Point community is characterised by:

- A predominance of detached housing, accounting for over 80% of dwellings;
- An old and ageing population;
- Declining labour force participation as the population ages;
- Very high car ownership rates;
- Declining school enrolments;
- Extremely high dependence on cars to travel to work, and
- An imbalance of the occupation and industry skills base of the resident population with the jobs available in the area, resulting in low rates of employment self-containment.

Vibrant and sustainable communities are those that contain a balance of age groups. Victoria Point is at risk of becoming an unbalanced community with a predominance of older people.

The demographic, economic and social characteristics point to the need for housing at Double Jump Road that will:

- Respond to the need to increase the proportion of the population in the main economically productive age groups from 25 to 59;
- Encourage an increase in families and their dependent children that will address the decline in school age children and the impact on school enrolments, and
- Provide opportunities for older people with a wide range of housing types that meet their diverse needs.

The report notes that an 18ha parcel on the corner of Double Jump Road and Cleveland Redland Bay Road is subject to further application by the owners. It is understood site will be sought for a retirement village, although this is not consistent with current Redland City Council (RCC) strategic planning intent. Due to the uncertainty about the future use of this site, the assessment proceeds on the basis of separately including and excluding the area for a retirement village in the total housing mix for the area.

5.6 Major Housing needs groups

5.6.1 Older residents

The growing longevity and ageing of Australia's population, and other structural and demographic changes, reinforce the need to understand the housing decisions of older people. The availability of suitable housing for older Australians is a key consideration in policies designed to address the needs of an ageing population.

There are frequently views expressed about what is good for the housing needs of older residents, but little research on which to base these assertions. The following provide the key findings of recent major research into these needs.

The report by the National Seniors Productive Ageing Centre makes the strong point that: *Terms such as 'ageing in place' and 'downsizing' have become ubiquitous in discourse about the accommodation choices of older people however research has clearly show that the ageing process and the resultant impact on housing need and provision is not clear cut, and ...much urban policy is premised on the assumption that an ageing population will require more diverse (implying smaller) housing stock into which older people will (or should) downsize. However, little is known about older people's downsizing behaviours* ²⁰:

In addition the report noted:

- Seniors are not a homogenous group in any way but with broad and diverse demographic characteristics such as age, income, health, housing necessities and preferences, family structure and individual taste;
- Many seniors who own their own home want to remain in their existing accommodation for as long as possible;
- Others may be tempted to 'downsize', but decide – for a variety of personal, family and/or financial reasons - to remain in situ;
- Those who do decide to downsize must consider whether to remain within or close to a familiar location or to enjoy a 'tree change' or 'sea change';
- Some downsizing decisions are determined by factors such as limited retirement income, ill-health and/or family considerations;
- Many older people do not enjoy the benefits of home-ownership and any downsizing decisions will be subject to the vagaries of the rental market;
- Despite the tacit encouragement of downsizing in Australia and elsewhere, most

²⁰ Seniors downsizing on their own terms. National Seniors Productive Ageing Centre. 2015

seniors resist moving in order to downsize;

- Many seniors who are tempted to downsize would still prefer to live in a detached dwelling, homes of choice would not necessarily be smaller, are low maintenance and able to 'lock and leave', and
- There is a preference for living close to transportation and amenities even if seniors can find an affordable alternative, the personal and financial ramifications of downsizing are a significant deterrent. Many older people have stated that they 'did not know where to begin', that the process was too confusing, and that it simply wasn't 'worth' the cost and upheaval of downsizing.

The report also drew attention to two reports on the preference of older Australians towards downsizing. The reports by the Australian Housing and Urban Research Institute AHURI (2014) and National Seniors Australia (2014) were based on surveys of over 2000 people over 50 years of age who had downsized or were considering downsizing.

In summary, the research found that many seniors are reluctant to downsize to smaller residences; indeed the preference was for a home with at least three bedrooms. The respondents preferred detached houses over apartments or units.

The report Ageing, Consumer Sovereignty and Housing Choices noted that²¹:

Decision-making about whether to stay or to move is complex. Home is not just a question of shelter, but also a matter of identity and place attachment. Home-related decisions involve matters of care and support, security, financial aspects, health and wellbeing, personal relationships and social connections.

The report Understanding housing and location choices of retiring Australians in the 'baby boom' generation found²²:

- A diversity of needs and sub groups;
- The age in place group although they are now likely to be 'empty nesters', they have adapted the spare bedrooms to other uses and are enjoying having the extra space at home, now that they have more leisure time to spend there;
- The concept of 'under occupancy' (as the relationship between the number of bedroom and occupants) was statistically exaggerated;
- There were various cases where 'spare bedrooms' were used for offices, exercise rooms, sewing rooms, and for other hobbies and leisure activities;
- 'Spare bedrooms' were also used for family visitors and other guests;
- Like those ageing in place, local adapters retain a number of connections to the community they are not as attached to the family home and will move, or have already moved, into something more suitable to their situation as empty nesters or retirees;
- While this is likely to be a 'down-sizing' move, it need not mean a cheaper home or even one much smaller than a family home. In many cases there will still be spare bedrooms, and the smaller size could be offset by the better amenity or

²¹ Ageing, Consumer Sovereignty and Housing Choices. Dr Bev James 2016

²² Understanding housing and location choices of retiring Australians in the 'baby boom' generation. City Futures Research Centre. 2012

features of their new place, and

- A lower maintenance garden was often a feature sought by those who relocated.

A further consideration is the change in national social and health policy that has seen substantial increases in home assistance programs to encourage older residents to stay in their homes for as long as possible. The report *The Future of Housing for Older Australians* by Aged and Community Services Australia noted the increase in Commonwealth health and welfare provisions to keep older Australian in their homes and out of age care and hospitals by focussing on a much wider range of in home assistance measures provided in the home.²³

Further insights were provided by the Productivity Commission that found in its review of housing needs for older Australians that there was a complex number of interacting factors that needed to be addressed to better provide for the housing needs, including²⁴:

- Older Australians strongly prefer to age in place with 83% living in their own homes;
- Most people are happy staying in their family home, despite a common perception that such homes are too big for them, with-
 - Nearly 90% wished to live in their own homes as long as possible,
 - Over 50% considered their current home their best housing solution for what they could afford, and
 - Less than 10% were well informed about the services available from Government to assist them continue living in their own home;
- Growth in retirement villages and manufactured home estates has been strong, despite planning restrictions;
- There is a general lack of affordable downsizing options for older Australians, due in large part to the red tape and inconsistencies within state and territory land planning regimes;
- Policy focus is increasingly and appropriately shifting from residential aged care, to supporting older people to live independently in the community;
- The goal of policy should be to ensure that older Australians can transition along the spectrum of aged care and accommodation needs as simply and cost effectively as possible;
- Retirement villages wishing to provide aged care services face significant and disparate regulatory red tape at all levels of government, including local government requirements;
- As with many other industries, state and local planning systems create barriers to expansion and innovation in both mainstream and age specific housing;
- There are only a limited number of statewide planning policies that deal with housing for older Australians as a systemic issue, and local government implementation can also be significantly improved;
- The desire of most older people to age in place strongly signals a need for revision

²³ The Future of Housing for Older Australians. Aged and Community Services Australia. 2015

²⁴ Productivity Commission. Housing decisions by older Australians. 2015

of state and local government planning regimes, to reduce the barriers to the supply of new housing options, and

- Reforms in this area could potentially deliver the greatest gains in affordability and diversity of housing options for older Australians.

The Productivity Commission report also found that:

A common presumption is that older people are living in houses that are too big for them. About three-quarters of those aged over 75 live in detached houses and a similar proportion have residences with three or more bedrooms. Measures of housing occupancy indicate substantial spare capacity.

However, surveys show that the majority of older people are satisfied with their dwellings and often find other uses for spare rooms, such as to accommodate guests or for hobbies. Moreover, detached houses are generally easier to modify to address the changing needs of older occupants. More broadly, measures of housing utilisation are a poor indicator of what people actually want. More sophisticated studies show that a large number of bedrooms in the house is less of a concern for older people than the design and layout of the house, or the size of the garden.

Most older Australians will not downsize during their retirement.

The Australian Housing and Urban Research Institute (AHURI) report found that of those that had 'downsized' or were considering it:

- The decision to downsize is multi-faceted;
- That single level dwellings increased in importance with age;
- Proximity to shops, services, public transport increased in importance with age, and
- The inability to maintain home or garden were of equal importance.

While the vast majority of the older population live in their own homes and ageing in place is strongly valued, the existing and projected age profile for Victoria Point underlies two related but different housing needs.

The first is the development of over 55s retirement villages. The Retirement Living Council, now part of the Property Council of Australia, defined retirement communities or villages in the following terms:²⁵

Retirement villages are residential, multi-unit complexes designed for people aged 55 years or older that usually also offer a range of health, leisure and support services.

Retirement villages represent the fastest growing segment of the housing market for older Australians. There are some 2,300 retirement villages that house more than 184,000 older Australians, and account for 5.7% of the housing stock for these people. In 2010, the market share was 5.3%.²⁶ The market share rate is projected to increase to 7.5 per cent in 2025.

²⁵ Retirement Living Council/Property Council of Australia

²⁶ Property Council of Australia. National overview of the retirement village sector. 2014

The need for this type of housing in the vicinity has been recognised with the development of the Renaissance Victoria Point, eventually to be a 300 unit development over 55s community off Bunker Road. The owners of a parcel on the corner of Double Jump Road and Cleveland-Redland Bay Road have indicated a desire to develop a retirement village on the site, but as this use is not consistent with the RCC Plan a submission will be made on this use for consideration by RCC.

The second major housing issue is for those older residents unable to still live at home. Aged care accommodation is important where those over 80 accounted for most of the residents.²⁷ The Adventist Retirement Village and Marebello provides residential aged care in close proximity to the Double Jump Road Structure Plan area.

Victoria Point had 10.8% of the total Redland City Population in 2016, but 18.9% of the population aged 75 years and over and 21.2% of those 80 years and over. Against that, Victoria Point had 22.8% of the residential care places and attracted 23.4% of funding, indicating that presently Victoria Point has about an average provision relative to the age of the population.

Table 7 Aged Persons Accommodation Redland City and Victoria Point 2015/16

7.1 Redland City

	2015/16
Aged care service providers	27
Australian funding (\$)	81,917,960
Total places	1,616
Total residential places	1,379

7.2 Victoria Point

	2015/16
Aged care service providers	3
Australian funding (\$)	19,185,880
Total places	324
Total residential places	314

7.3 Victoria Point Share

	2015/16
Aged care service providers	11.1%
Australian funding	23.4%
Total places	20.0%
Total residential places	22.8%

Source: Australian Government Department of Health and Ageing

From 2016 to 2036, the number of people in Victoria Point aged 80 years and over is forecast to increase from 1,286 to 2,821, so additional aged care accommodation is likely to be needed in Victoria Point. However, locationally a significant proportion of the existing Victoria Point aged persons accommodation is provided in the Double Jump Road, Bunker Road and Cleveland Redland Bay Road precinct adjacent to the Double Jump Road Structure Plan area. To avoid an over concentration of aged persons

²⁷ Australian Institute of Health and Welfare

accommodation in this precinct, other areas should be examined as better locations for meeting future needs in Victoria Point.

Based on the assessment of Victoria Point demographics, housing needs for the older population are an important consideration. The assessment indicates that:

- The needs of the older population are not homogeneous and simplistic concepts of 'downsizing' and surplus capacity in housing utilization rates are unhelpful;
- The vast majority of older residents wish to remain in their own homes;
- Those that consider moving may downsize in relation to the size of the yard space to reduce maintenance but not significantly in relation to the size of the dwelling, and
- Within the Double Jump Road, Bunker Road and Cleveland Redland Bay Road precinct, there are already several Aged Persons/Special care accommodation centres.

The Double Jump Road Structure Plan can best respond to the needs of older residents by providing detached housing on more manageable size lots that those residents who wish to move would find attractive, and medium density housing that avoids the issues of multiple level dwellings, and two and three bedroom units that meet the full range of needs of an increasingly engaged and active older population.

In response to the population ageing, the Commonwealth has recently expanded home care programs. The Commonwealth Home Support Programme (CHSP) is one of the changes made by the Australian Government to the aged care system to help older people stay independent and in their homes and communities for longer. The CHSP provides entry-level home support for frail older people who need assistance to keep living independently.

The CHSP brings together four programs:

- Commonwealth Home and Community Care (HACC) Program
- Planned respite from the National Respite for Carers Program (NRCP)
- Day Therapy Centres (DTC) Program, and
- Assistance and care and Housing for the Aged program

The 2017 Commonwealth budget provided \$5.5 billion over the forward estimates to extend funding arrangements for the Commonwealth Home Support Program. A wide range of these services is available for Victoria Point residents.

5.6.2 Economically active residents

Housing stock that is attractive to two economically active groups is important for the economic and demographic integrity of Victoria Point. The Double Jump Road Structure Plan area can make a contribution by providing:

- Detached housing that is attractive to an economically active population and their existing and potential children, and

- Medium density housing for young couples and economically active older people wanting to 'downsize'.

This housing mix would help address the significant and rapidly ageing Victoria Point population, the decline in enrolment in local schools, and reinvigorate the local economy as economically active family types both earn and spend significantly more and generate more employment than is the case with those who have retired.

5.6.3 Responding to the 'missing middle'

The SEQRP draws particular attention to the 'missing middle' as a solution to achieving higher housing densities. The 'missing middle' is a term used to describe dwelling densities between high-rise, high-density living and freestanding, suburban family homes. As a new development area, the applicability of the 'missing middle' to the Structure Plan area requires examination.

The original concept of the 'missing middle' started in the west coast of the USA and was seen as developing walkable communities often involving urban redevelopment. The housing was designed to achieve greater densities but retaining the character of detached housing, that is achieving medium densities but at lower perceived densities.²⁸

Locationally the 'missing middle', was seen as appropriate to 'walkable' communities where limited private transport was needed as the area was very well served by public transport and with good access to employment nodes and therefore limited on-site parking was needed. Missing Middle housing types are best located in a walkable context. Buyers and renters of these housing types are often trading square footage for proximity to services and amenities.²⁹

The Queensland Department of Infrastructure, Local Government and Planning undertook a design competition to explore 'the missing middle' and to propose new housing options for Queensland that met contemporary community, urban and environmental challenges.³⁰

In general, the winning entries were based on inner and middle area redevelopment locations and increased neighbourhood block housing densities from 20 to between 40 and 100. It appears that none of the winning entries proposed greenfields developments such as at Double Jump Road.

In considering the designs the jury noted that there was the opportunity to provide housing diversity, with smaller more compact building footprints but that the design solutions were best suited to high amenity areas undergoing rapid transformation. Inherent in the designs was the need:

- To re-examine our relationship with the car;
- For innovative titling configurations, and
- For creative financing solutions.

28 Missing Middle Housing. Responding to the need for walkable urban living. Daniel Parolek

29 What are the characteristics of Missing Middle Housing? Daniel Parolek, Optocos Design.

30 Department of Infrastructure, Local Government and Planning. Density and diversity done well. 2017

The Jury further considered that developers may consider the 'missing middle' to be unviable because of economy of scale issues and banks' and valuers' risk-averse approval processes can restrict adoption.

Despite the potential in some areas there are many unresolved issues, particularly the application to an area like the Double Jump Road Structure Plan area as a greenfields development with the imbedded issues of poor public transport, high rates of car ownership and the need to travel long distances by car to work.

The missing middle concept to housing potentially fits where the preconditions of high employment density, excellent public transport and limited need for on-site and on-street parking applies. These conditions do not pertain to the Double Jump Road Structure Plan area.

6 Housing market assessment

6.1 Housing stock

The housing stock reflects historical availability and relative supply of different housing forms. At the 2016 Census, the housing stock in Victoria Point comprised about 81% for standard detached houses and 19% for various types of medium density dwellings. From 2006 to 2011, standard detached houses accounted for about 85% of all occupied dwellings.

Table 8 Occupied Private Dwellings by House Type 2006, 2011, 2016

	2006	2011	2016
Separate house	4,168	4,592	4,525
Other	708	760	1,081
Total	4,876	5,352	5,606
Percent Separate house	85.5%	85.8%	80.7%

Source ABS Census. Time Series Profile Table 14. Other comprises Villas, Townhouses, Walk up, Multilevel and Other. Note the same information in ABS Census Table 15 provides slightly different results

The 2016 Census housing results should be viewed with some caution as:

- There is a reported reduction in the number of separate houses from 2011 to 2016 of between 67 and 121 depending on the Census table;
- The reduction in the number of separate houses in the Census does not match with the increase of 206 houses recorded in dwelling approvals in the period since 2011, and
- While other dwellings showed an overall increase of about 300, it comprised a substantial increase in Flats, Units or Apartments and a reduction of some 200 in the number of semi-detached row or terrace houses.

Table 9 Victoria Point housing building approvals September 2011 to March 2017

Approvals	Houses	Other dwellings	Total
2011-2017	206	113	319
Percent	64.6%	35.4%	100.0%

Source: ABS 8731.0, Building Approvals, Australia, various editions

Notwithstanding the caution about the data, both the Census results and the dwelling approval data showed a relative increase in the proportion of medium density dwellings compared with standard detached dwellings in the period 2011 to 2016.

However there has been no significant material change in the proportion of standard detached houses at above 80% from 2001 to 2016. This form of dwelling largely defines the character of Victoria Point.

6.2 Sales Activity

6.2.1 Listing

The sales offerings activity in Victoria Point reflects the existing stock and the price reflects the demand relative to supply.

A review of the 'for sale' listings in June 2017 of real estate agents located in Victoria Point and the Victoria Point listings of the major web based aggregators (Domain, RE.com and All Homes. com) shows that for a total of 311 surveyed listings, 87.5% were for standard detached housing, broadly reflecting the stock.

Table 10 Victoria Point 'for sale' dwelling listings June 2017

Total Stock with recent approvals	Houses	Other	Total
Listing	272	39	311
Percent	87.5%	12.5%	100.0

Source. Various real estate websites. There is some double counting of listings between sites, but this has no material impact on the overall proportion as the standard detached housing listings varied between 83.3% to 89.7% for the individual sites where there was no double counting.

By far the most common house type listed had four bedrooms (63.6%) and two bathrooms (73.9%).

6.2.2 Sales

Over the period 2012 to 2017, standard detached houses accounted for 89.7% of the total dwelling sales in Victoria Point, very close to the listing proportion of 87.5%.

Table 11 Victoria Point Dwelling Prices 2012 to 2017

	Houses	Units	Total	Houses Percent
2012	185	16	201	92.0%
2013	222	20	242	91.7%
2014	277	29	306	90.5%
2015	255	43	298	85.6%
2016	287	35	322	89.1%
2017	234	24	258	90.7%
2012-2017	1460	167	1627	89.7%

Source: Real estate.com.au Victoria Point Profile. Department of Natural Resources and Mines, Office of the Valuer-General, Property Sales

6.2.3 Price

The price reflects the relative demand against supply. Over the period 2012 to 2017 houses increased in price by 19.4% compared with 4.0% for units.

Table 12 Victoria Point Dwelling Prices 2012 to 2017 (\$000)

	Houses	Units
2012	438.0	333.7
2013	453.7	329.5
2014	480.0	352.5
2015	501.5	330.0
2016	520.0	369.0
2017	523.0	347.0
Increase \$ (000)	85.0	13.3
Increase %	19.4%	4.0%

Source: Real estate.com.au Victoria Point Profile. Department of Natural Resources and Mines, Office of the Valuer-General, Property Sales

Data from the Queensland Valuer General shows that from 2000 to 2016, the Victoria Point median price for detached dwellings increased by 191.0% and that for attached dwellings increased by 111.8%.³¹

While the market preference reflected in price movements favours standard detached housing over units, the picture for price movements for standard detached housing by lot size is less clear cut. For example, houses on smaller lots performed well over the long term, but they have performed worst and lost value in the past 5 years. Taken over both the longer 10-year term and the shorter period of the past 5 years houses on lots from 401 to 500m² performed well.

³¹ Department of Natural Resources and Mines, Office of the Valuer-General, Property Sales.

Table 13 Price of Detached Housing by Lot Size Victoria Point 2007 to 2016

Lot size m ²	301-400	401-500	501-600	601-800	801-1000
Percent Increase 2007-2016	28.0%	28.5%	20.9%	19.5%	19.1%
Percent Increase 2012-2016	-1.8%	13.4%	12.9%	19.5%	20.4%

Source: Price Finder

6.2.4 Implications of sales performance

The stock, listings and sales data confirm that about 85% of the stock and sales activity involves standard detached housing. The listing data and Census data confirms that four and more bedrooms constitute the most common size house.

Price is an objective measure of demand. It does not need to introduce concepts of what should be, but is a measure of what will best satisfy the market. By reference to relative price movements from 2012 to 2017 houses in Victoria Point are preferred to units in Victoria Point. The other data defines in more detail the character of those houses, that is four bedrooms and two bathrooms are the clear preference.

There is a distinct market for medium density units. It is relatively small but growing compared with the market for detached houses.

6.3 Occupancy rates

Occupancy rates have shown a long-term decline in Australia and those in Victoria Point reflect this trend. There are long-term declines in family and household size. Over the long term, average house size, number of bedrooms per dwelling and site coverage have increased.

From 2011 to 2016, the number of people per household in Victoria Point did not change materially going from 2.7 to 2.6. This slowing in the reduction in average household size is reflective of national trends that show for recent Censuses the national average household size has stabilised at 2.6.³²

Despite the slow and small changes in the size of households, the housing stock as reflected in the 2016 Census, data on sales achieved, dwelling prices and 'for sale' listings show limited consumer movement away from the very strong preference for detached houses.

There is however a need to provide housing choices for smaller one and two person families (both older and younger), most likely in the Victoria Point context in the form of Townhouses or Villas.

³² Saul Eslake. Housing policy: 50 years of policy failure. Submission to the Senate Economics References Committee. 2013, and update for 2016 Census

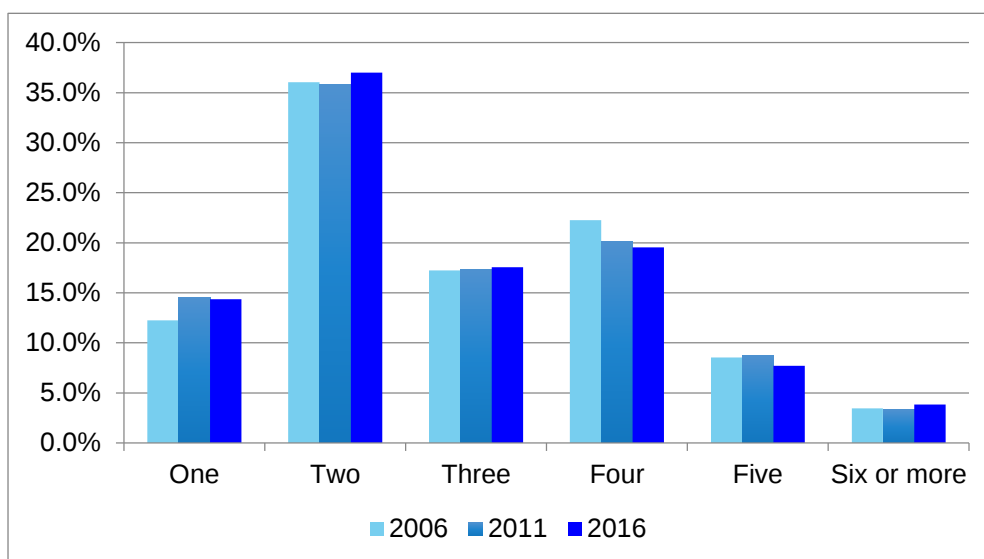
6.4 Relationship of household size and dwelling size

Because demographic and family/household change generally occurs much faster than changes in the relatively fixed dwelling stock, there will be imbalances. Presently in Victoria Point houses as measured by the number of bedrooms are 'larger' than the household size, assuming one bedroom per person, but this is also the case throughout Australia where nearly 80% of dwellings of all households had one or more bedrooms 'more' than the household required.³³ As noted previously in relation to housing for older people, the relationship between family size and the number of bedrooms is a poor indicator of need.

During the period 2006 to 2016, there have only been marginal and to some extent inconsistent trends in the number of persons per dwelling in Victoria Point:

- Overall one person dwellings increased overall, but fell marginally from 2011 to 2016;
- Dwellings with two people increased very slightly from 36.21% of all dwellings to 37.0% in the 10 year period;
- Dwellings with three people remained stable, and
- Dwellings with four and five people declined, but those with six or more people increased marginally.

Chart 14 Persons resident in dwellings Victoria Point 2006-2016



Source: Community Profile ABS Census

While there is an imbalance between number of bedrooms and number of occupants, the issue is much more complex than a simple arithmetic exercise. The nature and role of housing is changing, as is the composition of families. The RCC Draft Plan 2017 encourages more work from home that reduces the transport burden, and space is needed (often a bedroom) to facilitate this objective. Equally with high rates of divorce and split and blended families, more space is required to meet the obligations that parents have, also requiring more bedrooms in the dwelling than appears warranted.

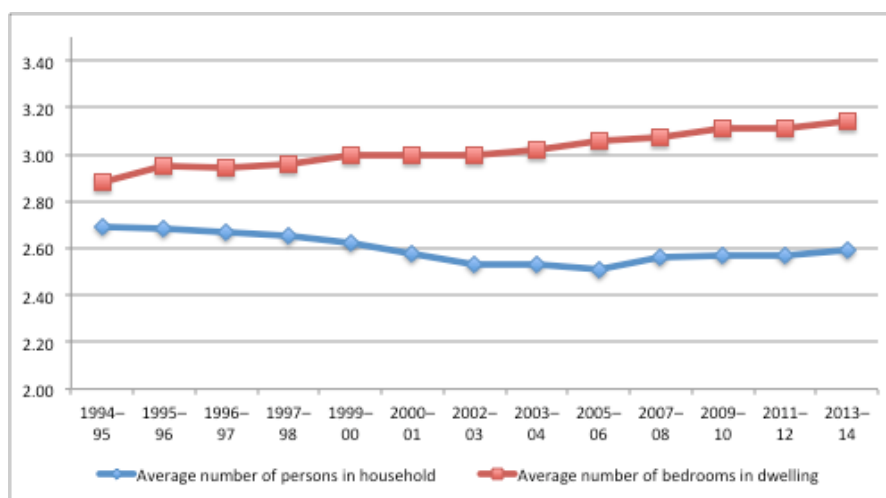
³³ ABS Housing Occupancy and Cost 2013-14 (4130.0)

Older residents often have spare bedrooms to facilitate and encourage visits by family members. Unless the changes in the role of dwellings and families are carefully assessed, drawing simple and simplistic conclusions between dwelling size and household size automatically leading to conclusions on the lot size mix could lead to errors in policy responses.

From 2006 to 2016 the patterns evident in Redland City and in Victoria Point are reflective of Australia wide trends. The clear trend occurred despite many different planning schemes throughout the country and in the light of generally reducing household size. The comparison for Australia is shown below and clearly reflects that despite changes in household size there is a clear preference for larger dwellings as measured by the number of bedrooms.

In the longer term from 1995 to 2014, the number of persons per household for Australia declined by 0.1 (from 2.7 to 2.6) and the average number of bedrooms per dwelling has increased by 0.2 (from 2.9 to 3.1). The latter increase has occurred despite medium density dwellings comprising an increasing share of total dwellings over the past decade.

Chart 15 Relationship between average number of bedrooms and people per dwelling 1995-2014



Source: ABS Housing Occupancy and Costs, 2013-14. Cat 4130.0

In addition, at the local level the vast majority of houses listed for sale in Victoria Point, and presumably will be sold, have four bedrooms, which reflect a market desire for this size of house, irrespective of the changes in household size.

The relationship between household size and by implication lot size distribution are matters for consideration in the assessment of housing need for the Double Jump Road Structure Plan but this issue should not alone drive the needs assessment. The issues need to be balanced against other important factors not least of which is the urgent need to facilitate demographic renewal by attracting young families to Victoria Point.

6.5 Housing needs summary

6.5.1 Key demand drivers

The housing needs assessment is informed by:

- The evidence of the large number of people (nearly 50% over 5 years from 2011 to 2016) who move to Victoria Point each year into the existing stock as a powerful statement of actual effective demand for the range of housing that exists in Victoria Point, that is people who have voted with their feet;
- Underlying demographic trends, and the need to offer the opportunity for demographic renewal in Victoria Point, that is to provide opportunities for housing that will be attractive to families and their dependent children;
- The core economic imperative to provide housing opportunities for people in the key economic active age groups (25-59 years, and particularly 30-40 years) to help ensure that the RCC economic development Gross Regional Project objectives are met;
- The planning intent of the RCC Planning Scheme 2016 and Draft 2017 Plan, that seek to have the majority of new housing in Victoria Point in the form of detached housing;
- The general intent in the SEQ Plan (Draft 2016) and in the RCC Planning Scheme 2016 and Draft 2017, to achieve greater land use efficiencies and the trend over time towards generally smaller size for standard detached housing;
- The direction of change from the RCC Planning Scheme 2016 to the Draft 2017 Plan that seems to provide a weighting towards larger minimum size for detached lots from 350m² to 400m² and that the RCC planning should place greater weighting on achieving economic and social objectives;
- The clear and sustained market preference in quantity and price for standard detached housing, where that housing most typically comprises four bedrooms and two bathrooms;
- Recognition of the trend evident from 2011 to 2016 for the share of medium density housing to increase;
- The need to respond to the objectives of older residents to age in place, and either move to smaller one level dwellings or to over 55s retirement villages;
- The demographic imperative to have more aged persons residential care, either as a stand alone service or integrated with a retirement village;
- The inherent high quality and slope of the site that leads to larger than normal standard detached lot sizes, and
- The evidence that a community with a mix of age groups is likely to be more socially cohesive.

Another important points is that as the development is likely to take place over a considerable period of time, developers should have some flexibility to respond to short term product positioning and longer term changes in underlying market demand.

6.5.2 Assessment of housing need

The assessment of housing needs is not a direct mathematical assessment but a consideration and weighting of a wide range of relevant variables. The following table summarises the proposed housing mix for the Double Jump Road Structure Plan.

Consideration and balancing of these matters point to the Double Jump Road Structure Plan having:

- A predominance of standard detached housing suitable for families considered essential to offer demographic and economic renewal;
- A proportion of smaller lot detached housing that may be available for lower entry price points or for downsizers;
- General purpose medium density housing that responds to the market comprising the older population and young couples and singles, and
- Special purpose housing for over 55s retirement housing and aged persons housing.

The lot size for standard detached housing should reflect the planning intent of the RCC Draft 2017 Plan, the objectives of the SEQ Plan and the inherent qualities of the site.

7 Proposed housing mix and densities

7.1 Spatial allocation of housing uses

The proposed development comprises 158ha of which housing including associated local parks and roads comprises 109.8ha with a net developable area of 76.9ha. The net developable area is further divided between land for standard detached housing (70.3ha) and attached medium density housing of 6.6ha. Further details of land use allocation are provided in planning and other reports. 2.1ha is allocated for commercial use as a Neighbourhood Centre and a Local Centre. The Plan shows the existing Large Residential Lots (LLR) areas that comprise 12.6ha and consist of 16 existing houses on large lots with a density of 1.3 lots/ha and should be considered separately when new development densities are assessed. The medium density housing is located abutting the Local Activity Centre. Figure 16 provides an overview of the planning land use proposal.

The Double Jump Road Structure Plan area abuts existing standard detached housing and is close to existing aged persons accommodation and to a retirement village. Outside the Double Jump Road Structure Plan there is a site of 17.5ha that is subject to further submission

Figure 16 Double Jump Road Structure Plan area



Source: Fiteni/Tract

7.2 Structure Plan Area housing lots and densities

With the exceptions noted below, standard residential densities are 15/ha. The exceptions are:

- Areas 2a and 2c have been allocated 14 and 13.5 lots/ha respectively as:
 - Applications have been lodged over both (2a by Fiteni) and the dwelling densities can therefore be accurately determined;
 - Both areas are located the farthest from existing and proposed centre and should therefore have a lower residential density; and
 - Area 2c in particular has been allocated a reduced residential density due to the higher road interface area required for the esplanade and bushfire buffers relative to the small area.
- Areas LLRi and LLRii have existing large lot residential and, it is assumed the existing housing will be preserved and not developed as standard residential, and
- Area LLRi has existing covenants restricting development.

The medium density housing is 30 lots/ha.

Excluding the LLR areas, the total standard detached housing has a density of 14.1 lot/ha and combined with the medium density the total excluding the LLR is 15.6 lots/ha.

Table 14 Summary of proposed lot mix for Double Jump Road Structure Plan

Type	Ha	Lots/ha	Lots	Percent
Standard excluding LLR lots	88.42	14.4	1275	82.0%
Medium density	9.36	30.0	281	18.0%
Total	97.78	15.9	1556	100.0%

Excluding 16 LLR lots on 12.7ha.

Excluding the existing LLR lots, the resulting distribution between standard detached housing and attached medium density housing is 82.0%/18.0%. This is very close to the overall housing mix for Victoria Point at the 2016 Census.

If the 17.5 ha parcel on the corner of Double Jump Road and Cleveland Redland Bay Road was developed as a retirement village of about 300 units, then the result would be about 65.0% standard detached and about 35.0% attached medium density. This combined area would then closely match with the character of the change in the Victoria Point housing stock between 2001 and 2016, a time when few new standard residential lots were developed.

Table 15 Summary of proposed lot mix for Double Jump Road Structure Plan and possible Retirement Village

Type	Ha	Lots/ha	Lots	Percent
Standard excluding LLR	88.4	14.4	1275	65.7%
Medium density	26.9	24.8	666	34.3%
Total	115.3	16.8	1941	100.0%

Excluding 16 LLR lots on 12.7ha. * precise percentage would depend on final lot yield for possible Retirement Village.

Table 16 Proposed density mix for Double Jump Road Structure Plan

Stage	Area	Lots/Ha	Lots
1a(i)	8.25	11.6	96
1a(ii)	12.22	14.7	180
2a(i)	13.14	13.9	183
2a(ii)	1.44	13.9	20
2c	2.97	13.5	40
3a(i)	3.50	15	52
3a(ii)	6.08	15	91
3a(iii)	3.02	15	45
4a	14.66	15	220
4b	4.54	15	68
6a	4.17	15	63
6b	3.34	15	50
6c	0.61	15	9
6d	2.70	15	41
6e	0.57	15	9
7a	2.90	15	43
7b	4.33	15	65
LLR(i)	6.46	1	6
LLR(ii)	6.21	1.6	10
Total Standard Residential	101.09	12.8	1292
Excluding LLR	88.42	14.4	1275
Medium Density	Area	Lots/Ha	Lots
3b(i)	0.91	30	27
3b(ii)	8.45	30	253
Total Medium Res	9.36	30	281
Total	110.5	14.2	1572
Total excluding existing LLR	97.78	15.9	1556

Source: Tract/Fiteni Homes.

Excluding the LLR lots, the proposal yields 15.9 lots/ha, which exceeds the minimum SEQRP guidelines. The proposed standard housing and medium density mix, meets needs in the area.

7.3 Indicative lots size

Within the broad parameter of 14.2 standard lots per ha, including local parks and roads but excluding the existing LLR lots and houses, there will be a range of lot sizes to meet the needs of particular market segments. The RCC standards and guidelines concerning minimum lot size is currently 350m², but in the Draft City Plan is proposed for 400m².

Allowing for a small proportion of lots within a broader spectrum from 350m² to 400m² would meet a market segment that risks being excluded under the proposed new Draft RCC Planning Scheme.

As large long-term project, the final lot distribution for the area has not yet been developed. A guide to Fiteni's intent can be gauged from the Development Application for Stage 1 of 8.5ha. This stage has lot sizes from 420m² to 600m² with nearly half the lots from 420m² to 450m².

Table 17 Indicative lot size distribution

Lot size (m2)	Percent
420	27%
450	21%
480	19%
570	7%
540	8%
600	18%
	100%

Source: Tract/Fiteni

There is a potential unmet need for lots below 400m², but this is not consistent with the proposed new RCC Planning Scheme.

7.4 Resulting residential precinct

The precinct between Double Jump Road, Bunker Road and Cleveland-Redland Bay Road will represent a completed component of the development of Victoria Point and should meet a range of housing needs. The Double Jump Road Structure Plan area needs to be assessed both on a stand-alone basis, but also how it meshes with the existing and possible future housing in the precinct so that the total area 'works' as a coherent housing solution to the needs of existing and future Victoria Point residents.

The existing housing in the precinct and that proposed in the Double Jump Road Structure Plan would provide 2,474 dwellings, of which 64.7% would be standard detached housing and 35.3% medium density which in turn comprises medium density housing, retirement village and aged persons housing for older residents with special housing needs.

Table 18 Precinct Housing with existing and proposed DJRSPA

Type	Standard detached	Medium Density	Total	Percent
Existing Precinct (including existing 16 LLR dwellings)	325	593	918	37.1%
Double Jump Road Structure Plan Area (excluding the 16 LLR lots)	1275	281	1556	62.9%
Total	1600	874	2474	100.0%
Percent	64.7%	35.3%	100.0%	

Note: Excludes 18ha site on corner of Double Jump Road and Cleveland-Redland Bay Road.

The resulting housing mix would provide a much broader range of housing types than is available generally in Victoria Point and addresses key housing needs groups as well as meeting broader socio demographic needs. It will allow in the future for different socio demographic groups to meet a diverse range of housing needs in the one area.

Table 19 Housing needs met in precinct

Housing Type	Main needs met
Standard detached housing	- Family formation including with existing and potential children - Increased school enrolments - Economic renewal - Demographic renewal - Older residents seeking smaller lots, but well sized houses and 'lock and leave' options - Older Victoria Point residents who wish to age in place
Medium density housing	- Couples in pre family formation stages - Young and older one person households - Economic renewal
Retirement village	- Older singles and couples seeking independent living in a community context - Responds to rapidly growing sector of the housing market
Aged persons housing	- Frail and infirm aged - Respite care

7.5 Assessment of proposal

The proposed mix and density achieves in a balanced way the following objectives:

- Provides for families with existing or future dependent children to be attracted to the area;
- Increases the provision of medium density housing that is likely to be attractive to that proportion of the older population in Victoria Point wanting to downsize;
- Meets the needs of those wanting to move to a retirement village reflecting a rapidly growing sector of the housing market;
- Provides for land use efficiency while at the same time respects the inherent very high quality of the site;
- Provides capacity for demographic renewal that is vital for Victoria Point and helps achieve broader RCC economic and employment objectives, and
- Provides the basis of a high quality development.

There will be a need for additional aged persons retirement accommodation in Victoria Point in the future. As there is already such a facility adjacent to this site, local needs are likely to be met. The RCC should investigate other suitable sites where aged persons retirement accommodation can be located.

8 Development timing

8.1 Assessment framework

In addition to the type of housing needed, the timing of the need for the Double Jump Road housing is a critical issue. The assessment of the timing takes into consideration the following:

- The underlying demographic drivers such as population growth and migration;
- Demand levels;
- The current and forecast supply of land for residential purposes;
- Comparisons between projected and actual housing demand and mix of housing types;
- SEQRP strategies and guidelines including-
 - Development efficiency, and
 - Housing affordability.
- The balance of economic and planning objectives including the timing effects on the building and construction industry, the achievement of the RCC Economic Development Framework objectives and broader economic conditions;
- The risk assessment of too early or too late provision, and
- A recommended timing to balance need, economic conditions and planning objectives to optimize the outcomes.

The assessment of timing is undertaken in the context of the timing determined in the RCC Draft Local Government Infrastructure Plan (LGIP) 2017 that:

- Identifies the type, scale, location and timing of development within the local government area for the period 2016-2031³⁴; and
- Defines the Priority Infrastructure Area (PIA) for the local government area and identifies those parts of the City prioritised for the provision of trunk infrastructure up to 2027. It includes existing urban areas serviced by trunk infrastructure and those growth areas intended to be serviced up to 2027 and supported by the City Plan development controls.

The LGIP notes that the Double Jump Road Emerging Community is excluded from the PIA. The Double Jump Road Emerging Community (EC) zoned area requires structure planning under both the current Redland City Planning Scheme and the Draft City Plan. Consequently, limited growth applicable to the underlying non-urban use of the land was included up to 2027.

On face value this implies that the timing of the planning process was the major determinant, however the draft Redland City LGIP (and extrinsic material) indicates the Double Jump Road Emerging Community Area is outside the PIA. This means that Redland City Council does not foresee that the area is needed to meet housing supply until 2027 at the earliest. Clarification has been sought by Fiteni from Council planning officers, who have confirmed that this is the Council's intended position.

The general approach to this assessment of the optimum timing is that if land supply is likely to be more constrained than that assumed in the RCC Draft LGIP and/or demand likely to be higher than that assumed in the LGIP, then the need for the earlier development of Double Jump Road is increased.

The focus in this chapter is on the data and other indicators that have become available since the reports that the RCC relied on for the preparation of the Draft LGIP. In general these reports were prepared in 2012-2016 and would in turn have relied on older data.

The RCC proposition is that land and housing supply in Redland City (and Victoria Point) are sufficient to meet needs until after 2027 without the Double Jump Road supply. The RCC Draft LGIP is based on assumptions and data in the *Background report on the planning assumptions for the Redland City Council LGIP March 2017*. In turn, in relation to residential land and housing supply and demand, the planning assumptions report is supported by the following documents:

- *Population, Dwelling and Employment Forecasts, Urbis, May 2016*, and
- *Redland City Land Supply Review, Urbis, November 2012*.

In addition the RCC commissioned the Urbis report *Redlands Land Supply Review 2014* to update the 2012 report, but chose not to rely on this report.

The most recent report on Broadhectare residential land supply is the Queensland Treasury 2013 Broadhectare study for Redland City.³⁵ Some updated but more limited data on Broadhectare land supply in Redland City for December 2017 is available from the Broadhectare website, but does not classify potential land by size of the parcels which has

³⁴ Background report on the planning assumptions for the Redland City Council Local Government Infrastructure Plan. March 2017

³⁵ Queensland Treasury 2013 Redland Broadhectare study profile

a significant impact on the ability and efficiency of converting potentially available land into developed lots.³⁶ The Queensland Treasury advises that there is no intention to update the Broadhectare study report for Redland City this year.

The timing of the preparation of the reports on which the RCC relied for its judgments concerning the timing for the Double Jump Road development means that more recent and relevant data is not captured. This is material as there has been a significant increase in housing demand in the past two years, a rapid run down in the Broadhectare land supply and strong preference for detached standard housing that means the demand/supply balance has changed markedly.

8.2 Relevant timeframe

The optimum timing for the start of the Double Jump Road development is assessed against the response of the RCC expressed in the Draft LGIP and the RCC *Submissions Report* (October 2017) that the Double Jump Road development is not needed until after 2026. As the Double Jump Road proposed development is outside the Draft LGIP PIA planning timeframe, its timing is not defined in the LGIP except that it would be after 2026.

The earliest development start date is significantly affected by the RCC planning approval process for the consideration of the Double Jump Road Structure Plan. This process could proceed along several paths and depending on which one is chosen:

- As previously determined by the RCC, the proponents to prepare the Draft Structure Plan for consideration by RCC, and with early approval Fiteni considers that development start in late 2018 with first sales by mid to late 2019;
- The RCC to take over responsibility for preparing the Draft Structure Plan and relying on the work done to date by the proponents and with an early approval Fiteni considers that development could start by 2019 and first lot sales by late 2020 to mid 2021;
- The RCC to take responsibility for preparing the Draft Structure Plan and in effect begin the planning process afresh, that could see a further delay so development is held up for several years the first lot sales not available until 2022 or later, and
- For each of the RCC led options, there is the risk that additional delays may occur as a result of local government elections currently scheduled for March 2020.

Under the assessments undertaken for the Draft LGIP, the development timing is indefinite, but is not envisaged to commence until 2027 with first lot sales probably not until mid to late 2028 or into 2029. In the interim, the RCC may further revise the LGIP and consider that the need is not justified until a much later date.

The timing of the Double Jump Road project is critical as it is by far the largest area identified as comprising future supply in the Broadhectare study for Redland City. Otherwise Redland City is very highly dependent on small and fragmented parcels with very few parcels over 10ha.

³⁶ <http://www.qgso.qld.gov.au/products/maps/broadhectare-study-interactive-map/index.php>

It is likely that once started, and in normal economic and market conditions, the Double Jump Road development would take about 10 years to complete.

In considering timing matters, it should be noted that the urban conversion planning and development process for both greenfield and brownfield infill redevelopment often takes much longer in practice than is assumed.

8.3 Balancing planning and economics

The planning decisions made concerning timing of the Double Jump Road development will have economic effects.

At the local level the RCC Economic Development Framework 2014-2041 (EDF) states that it -

is designed to provide clear direction for business growth and job generation and will guide sustainable growth throughout the City for many years to come. Rather than taking an ad hoc approach to economic development, the Framework identifies health, education, tourism, manufacturing and construction industries as key areas of focus.³⁷

The EDF's focus is on developing these key industry sectors so they can provide sustainable economic growth through:³⁸

- Increased employment opportunities;
- Workforce training and skills development;
- Infrastructure development;
- Investment attraction, and
- An overall increase in the region's economic capacity.

In relation to the construction industry the EDF states that this industry is the largest contributor to Gross Regional Product (nearly 21%) and one of the largest employers. Despite being one of the largest employers (11.4% of total employment) the EDF shows that it contributed only 2.5% of the total employment growth in Redland City from 2007/08 to 2012/13.³⁹ This was a period of low land development and housing construction in Redland City.

In relation to Victoria Point, the EDF states:

Victoria Point will also offer significant employment growth opportunities for the City, however it is currently not an export-oriented node and its primary role at present is to support the Redland City population through population-growth driven sectors such as Retail Trade and Construction. There is little to indicate that this will change into the future.

³⁷ Redland City Council Economic Development Framework 2014 to 2041. Mayor's Foreword.

³⁸ https://www.redland.qld.gov.au/info/20180/economic_development__framework_and_opportunities/252/economic_development_framework

³⁹ Redland City Council Economic Development Framework 2014 to 2041. P14

In summary the RCC EDF identifies the construction industry as one of the most important, and that its contribution to Victoria Point is significant through meeting population growth needs. Without Double Jump Road development proceeding in a timely manner, there are risks the construction industry could suffer in Redland City and would do so particularly in Victoria Point. This is particularly so as the Double Jump Road development represents the largest supply option area for residential land in Redland identified in the Broadhectare study for Redland City.

In addition, the report prepared by Urbis showed that:⁴⁰

- The development industry was the third largest employment sector in Redland City after Healthcare and Retail;
- Redland City (11.1%) is second only to Logan City (11.4%) in terms of the importance of development sector employment to total employment and it is much more important than in Brisbane (8.6%) and Ipswich (7.1%);
- The development sector directly contributed \$1,235m to Redland City Gross Regional Product and \$1.2b in direct and indirect economic effects, and
- The impact of a \$10m change in turnover in activity levels in Redland City is 25 direct jobs, 30 indirect jobs and \$1.9m in wages and salaries.

In addition, in 2015/16 the Construction industry had the highest level of full time equivalent (FTE) employment in Redland City accounting for 14.0% of all FTE employment. Redland was much more dependent on the Construction industry for FTE employment at 14.0% than was the case for Queensland at 10.5%.⁴¹

At the broader scale, the Queensland economy has proceeded through the Global Financial Crisis (GFC) with major adverse effects mitigated by the construction activity associated with the mining boom. With the peak of the mining boom passed, there was a significant upturn in high-rise residential construction in inner Brisbane and an overall increase in other residential construction. The peak in inner city high-rise construction has passed and significant oversupply is forecast that is likely to decrease future construction for some years. Broadly Queensland's economic performance (real economic growth, employment growth and labour force participation) has matched that for Australia, but unemployment has been higher than national levels.

The Queensland Treasury Mid Year Economic Review notes that dwelling approvals are now well below their peak in early 2016, driven by significant falls in approvals for medium-to-high density dwellings. With the value of work in the pipeline now easing, it is expected that dwelling investment will fall in 2017/18 and 2018/19. In relation to construction employment, the Review notes that this warrants some caution about near-term momentum, particularly as peak construction employment draws near as the current cycle of large apartment projects reach completion.⁴²

⁴⁰ Urbis The contribution of the development industry to Queensland. Prepared for UDIA. 2018

⁴¹ Redland City economic profile. <https://economy.id.com.au/redland/employment-by-industry-fte>

⁴² <https://www.treasury.qld.gov.au/resource/mid-year-fiscal-and-economic-review/2017-18myfer/>

8.4 Demand drivers

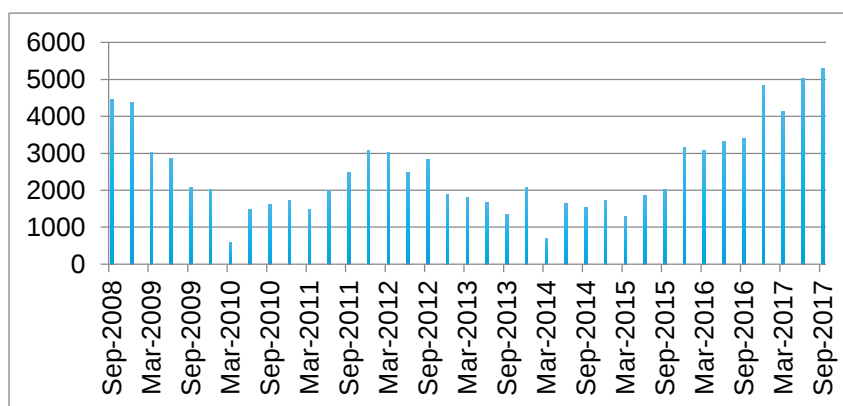
8.4.1 Queensland

As outlined previously, demand that is likely to be higher than that forecast in the RCC Draft LGIP will provide strong basis for bringing the Double Jump Road development forward before that indicated in the Draft LGIP.

Long-term housing demand is driven by underlying population growth and family formation. The natural increase component of population growth is relatively stable, but net internal migration and net overseas migration are affected by a range of policy, economic, social and demographic drivers.

Since 2014, Queensland has experienced strong upsurge in net interstate migration and it is now running at the highest levels for the past decade. This growth and the recovery from the GFC have seen a corresponding increase in demand and investment in housing.

Chart 16 Queensland net interstate migration (Quarterly)



Source: ABS Australian Demographic Statistics

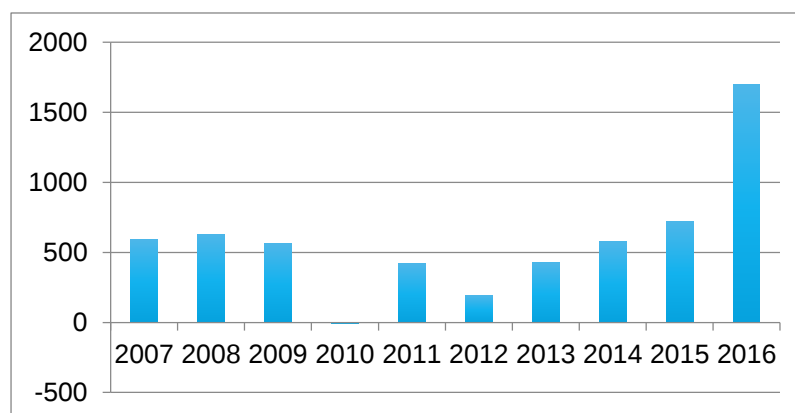
As SEQ accounts for the predominate share of Queensland actual and forecast population growth, the State wide housing impacts have also been concentrated in this region. Because of the close economic linkages between Redland and other LGAs in Greater Brisbane a general increase in activity in the wider area tends to flow on to Redland City.

8.4.2 Redland City population

Redland City has also shown the same pattern of substantial recent increases in net internal migration and population growth, both of which flow through to an increase in housing demand and housing activity.

From the period 2010 to 2012, when net internal migration was minimal, there was a gradual increase through to 2015 and then an upsurge in 2016. An increase in net internal migration has much more direct and immediate impacts on housing demand than the slower demand generating processes of natural increase in the existing population.

Chart 17 Net Internal Migration Redland City 2015/16



Source: ABS Regional internal migration estimates, Local Government Areas, Queensland. 2017

The significant inflows shown above in 2015/16 continued into 2016/17. Redland City received the fifth highest inflow of net migrants of all 77 LGAs in Queensland, more than Brisbane and Logan Cities, both of which have significantly larger populations. Only the major fast growing LGAs of Gold Coast, Sunshine Coast, Moreton Bay and Ipswich had a higher net internal migration flow in the year.

Table 20 Top 10 net internal migration flows to LGAs 2016/17

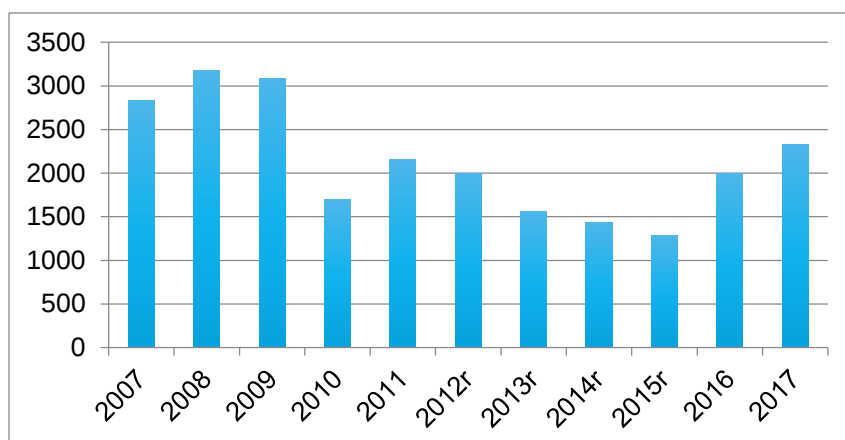
LGA	Net internal migration
Gold Coast	6,895
Sunshine Coast	5,709
Moreton Bay	5,110
Ipswich	3,223
Redland	1,237
Fraser Coast	983
Brisbane	846
Logan	717
Scenic Rim	568
Gympie	503

Source: ABS Regional Population Growth. 2018

Net migration flows have immediate and direct impacts on housing demand. To accommodate the 1,237 net internal migrants in 2016/17 would require about 500 residential lots based on the Draft LGIP occupancy rates and current standard detached/medium density housing mix.

The period 2016 and 2017 showed a substantial increase in the annual population growth experienced compared with the previous three-year period.

Chart 18 Population growth Redland City



Source: ABS Regional population growth.

In the RCC Draft LGIP, the average population increase in Redland City from 2016 to 2021 was 1,950 persons per year. In the first year of that period (2016/17) actual growth was 2,325. The population projection was 375 below actual growth representing an under estimate of 19.2%. As population growth projections flow directly to housing projections, the difference is significant. Just in this one year, this difference is, based on the Draft LGIP occupancy rates and current standard detached/medium density housing mix, equivalent to about 150 lots.

Because of the age structure of the Redland City population, natural increase made a relatively small contribution to total population growth in 2016/17 (23.4%) compared with other LGAs in Greater Brisbane (average 40.4%). Correspondingly net internal migration and net overseas migration was a greater contributor to annual population growth in Redland City than in other LGAs in Greater Brisbane.

Table 21 Components of population growth, Greater Brisbane LGAs 2016/17

	Natural increase	Net internal migration	Net overseas migration	Combined migration
Redland	23.4%	53.2%	23.4%	76.6%
Moreton Bay	28.9%	52.1%	19.0%	71.1%
Ipswich	36.3%	50.8%	12.9%	63.7%
Brisbane	38.8%	3.8%	57.4%	61.2%
Logan	57.5%	12.2%	30.3%	42.5%

Source: ABS Regional population growth.

Table 22 Population growth rate contribution, Greater Brisbane LGAs 2016/17

	Natural increase	Net internal migration	Net overseas migration	Total growth rate
Redland	0.4%	0.8%	0.4%	1.5%
Moreton Bay	0.6%	1.2%	0.4%	2.2%
Brisbane	0.7%	0.1%	1.1%	1.9%
Ipswich	1.1%	1.6%	0.4%	3.2%
Logan	1.1%	0.2%	0.6%	1.9%

Source: ABS Regional population growth.

Because natural increase is a small contributor to population growth (0.4% of the total growth rate of 1.5% in 2016/17), to achieve the population growth projected in the RCC LGIP between 2016 and 2026 of 1.3%, Redland City must rely on net internal and net overseas migration to contribute most of the annual growth. Accommodating population growth through natural increase is a gradual process with births generally moving into the existing housing stock, but net internal and net overseas migrants require immediate housing solutions. Thus the structural nature of the current Redland City population age structure is adding significantly to housing needs and Queensland projections for Redland show a continuing ageing of the population leading to low rates of natural increase and increased reliance on migration to achieve projected increases.

8.4.3 Victoria Point

More locally, the Cleveland-Stradbroke SA3 that includes the suburbs of Cleveland, Thornlands, Victoria Point, Redland Bay, Sheldon-Mount Cotton and the Redland Islands experienced very strong net internal migration flows in 2015/16 that were among the highest in Queensland. The population inflow for the Cleveland- Stradbroke SA3 was only exceeded by that in the high growth areas of the northern Gold Coast Corridor, Moreton Bay and the Sunshine Coast. In 2015/16 more people moved to the Cleveland- Stradbroke SA3 than to the Springfield- Redbank SA3 area in the western growth corridor.

Table 23 Top 10 net internal migration gain SA3s, 2015/16

Ormeau-Oxenford	5299
North Lakes	3398
Caloundra	2186
Cleveland - Stradbroke	1778
Springfield-Redbank	1706
Ipswich Inner	1005
Nambour-Pomona	970
Buderim	888
Sunshine Coast Hinterland	808
Ipswich Hinterland	761

Source: ABS Regional internal migration estimates, Local Government Areas, Queensland. 2017

The net internal migration flows into Victoria Point, as part of the southern Redland City clearly indicate that it is an attractive area for many people. This is reinforced by the

population movements from 2011 to 2016 shown in the 2016 Census. Data for Redland City on the location of those moving to Redland City also show a wide geographic spread of the movers, thus indicating a strong and widespread basis for potential housing demand.

Table 24 Migration flows Redland City SA2s 2015/16

SA 2	Arrivals	Departures	Net
Thornlands	2121	1554	567
Victoria Point	2024	1658	366
Redland Bay	1833	1596	237
Sheldon - Mount Cotton	1091	879	212
Cleveland	2119	1916	203
Redland Islands	1075	978	97
Ormiston	865	769	96
Birkdale	1729	1639	90
Thorneside	597	548	49
Wellington Point	1464	1462	2
Capalaba	1941	2057	-116
Alexandra Hills	1713	1943	-230

Source: ABS Regional internal migration estimates, Local Government Areas, Queensland. 2017

8.5 Housing Consumption

8.5.1 Dwelling approvals

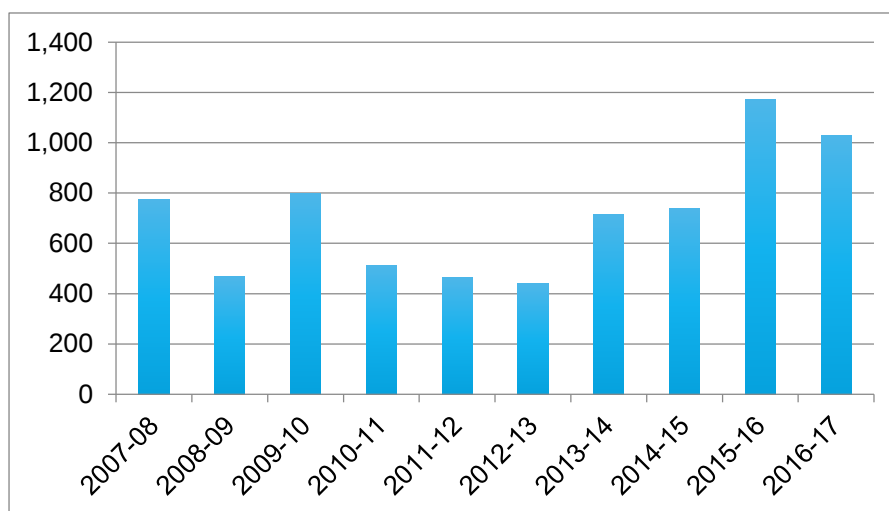
The comparison of actual and projected dwelling approvals is a vital aspect of the assessment of the appropriate timing for the development of Double Jump Road, compared with the assessment provided in the RCC Draft LGIP.

The RCC Draft LGIP shows existing and projected residential dwellings (detached and attached separately) for the periods 2016, 2021, 2026, 2031 and ultimate development. The period from 2016 to 2021 is particularly critical as this period largely established the base and the 'shape' of the projection. It is also a period for which some actual data is available and can be compared with the projections.

This assessment is mainly focussed on detached dwellings as these dwellings largely shape the timing for the development front and comprise the majority of dwellings proposed for Double Jump Road.

The trend in house (detached dwellings) approvals closely reflects the upsurge in net migration and population flows. In the period 2010/11 to 2012/13 there were on average 472 houses approved each year. In contrast, in 2015/16 and 2016/17 there were an average of 1,101 houses approved each year, an increase of 133% over the previous period. The period 2013/14 and 2014/15 showed an upward trend on the earlier period with about 700 houses approved each year.

Chart 19 House approvals Redland City



Source: id Economic Redland City Profile. Based on ABS Building Approvals.

Table 25 Redland City annual average annual dwelling approvals

Period	Houses	Other	Total
2010/11 to 2012/13	472	118	590
2015/16 to 2016/17	1101	404	1504
Percent Increase	133%	242%	155%

Source: id Economic Redland City Profile

In contrast to the upward trend from 2013/14 where on average about 700 houses were approved each year and the last two years when an average of over 1,100 houses were approved each year, the RCC Draft LGIP projects that in the period 2016 to 2021, an average of 531 houses will be approved each year declining to 517 per year between 2021 and 2026. In the first year of the projection period for which data exists, the LGIP projection is on average nearly 100% too low.

Based on the increasing trend in the broader underlying housing demand drivers of net migration and total population growth, there appears to be a very high risk that the actual demand will exceed that projected in the Draft LGIP by a significant margin.

8.5.2 Housing Mix

The housing mix projected in the RCC Draft LGIP has a profound effect on the most appropriate timing for Double Jump Road. In a closed system, to house a given projected population, more people living in attached medium density housing will mean fewer people living in standard detached houses. If the attached medium density housing projections are not met or are not likely to be met, then more detached housing would be needed to house the population.

The RCC Draft LGIP is based on achieving a share for attached dwellings of 39.0% from 2016 to 2021, 49.1% from 2021 to 2026 and then inexplicitly falling to only 22.9% from

2026 to 2031. Again the period 2016-2021 is most important as there is data to compare the early part of this period

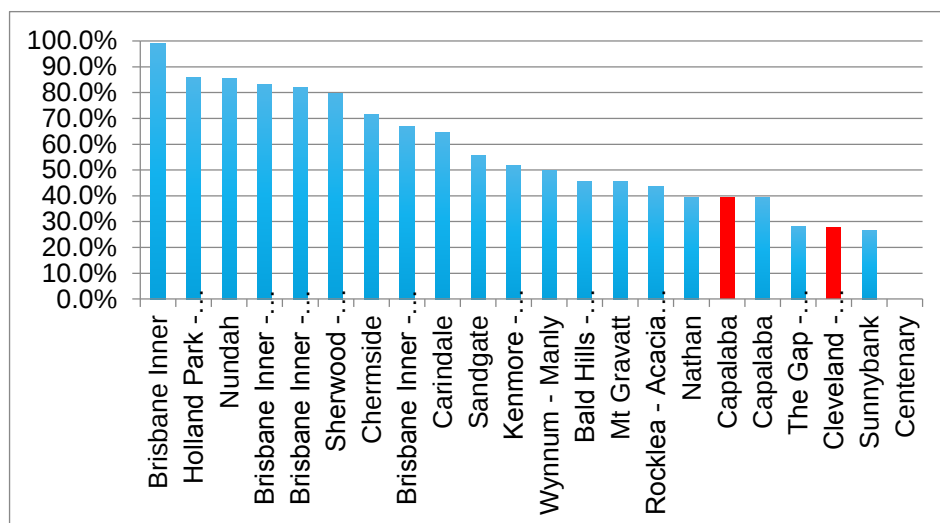
Table 26 Projected attached dwellings RCC Draft LGIP

	2016-21	2021/26	2026/31
Percent attached	39.0%	49.1%	22.9%

Source: RCC Draft LGIP 2017

The housing mix projections need to be seen in the context of the market share for attached other dwellings in the broader Brisbane market. Approvals for 2016/17 show the entirely expected pattern with the proportion of Other (Attached) dwellings declining as distance increases from the Brisbane CBD and major employment centres. The older areas of Redland City (Capalaba SA3) that are also closer to Brisbane CBD achieved about 40% but the newer further out areas (Cleveland Stradbroke SA3) are much lower and the total for Redland City in 2016/17 was 30.6%.

Chart 20 Building Approvals, Other dwellings Brisbane SA3s 2016/17 (percent)

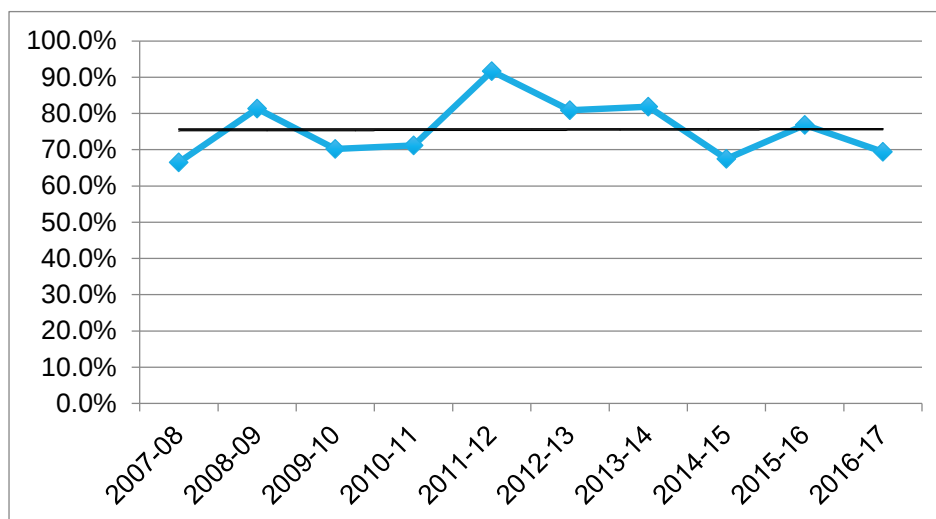


Source: ABS Building Approvals

In the 2016-2021 projection period, the medium density (Other) dwellings share was 39.0%. In year one of the projection period for which comparisons are available it was 30.6%. For every year below the target of 39.0% in the initial projection period and then 49.1% in the next projection period, the actual share will have to be above the projection range to achieve the overall dwelling mix and hence the proposed timing for Double Jump Road.

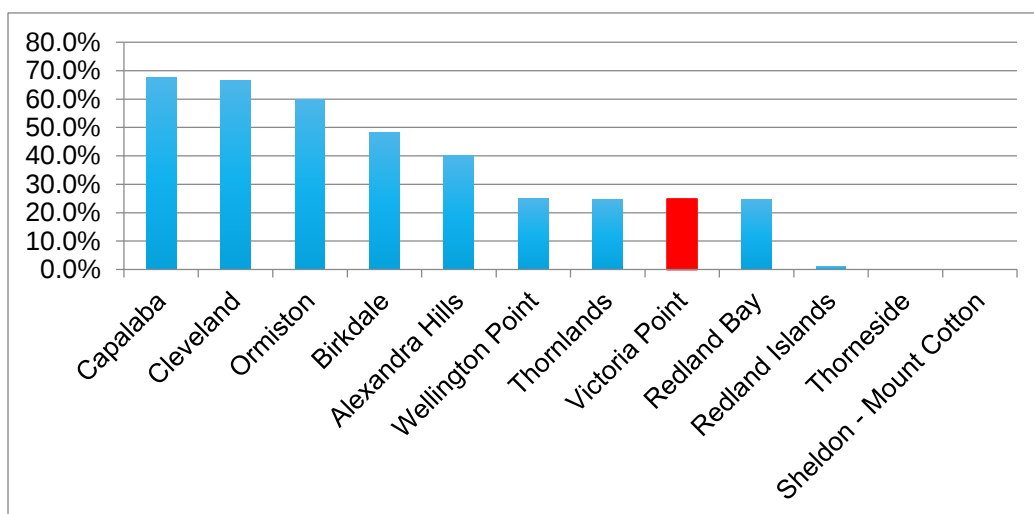
The challenge that this presents is illustrated in the following chart that shows in the past decade there has been, on trend, no overall change in the proportion of houses (and hence attached dwellings) in contributing to the total housing consumption.

Chart 21 Building Approvals Houses as percent of all total dwellings, Redland City



Source: id Economic Redland City Profile

Chart 22 Building Approvals, Percent Other dwellings SA2 areas in Redland City 2016/17



Source: ABS Building Approvals

8.6 Housing demand trends

The indicators of underlying demand show a substantial increase from about 2012 in the underlying population drivers for housing in Redland City. These include:

- Net interstate migration to Queensland;
- Annual population growth in Redland City;
- Net migration flows to Redland City and the southern part of Redland City, and
- The structural basis of the Redland City population means that it will be dependent on net internal and overseas migration flows to achieve its population projections and migrants have immediate housing demands compared to the

more diffused housing demand impacts of population growth arising from natural increase.

At the same time:

- Dwelling approvals in Redland City have increased substantially now running at about double the rate projected in the RCC Draft LGIP;
- In the past decade, there has been no overall change in the trend mix of houses and other (attached medium density dwellings) approved in Redland City, which places the housing mix projections in the RCC LGIP at severe risk, and
- The comparison of the housing mix between house and other dwelling approvals across all Brisbane shows an entirely expected pattern with the proportion of other dwellings declining as distance increases from the Brisbane CBD and major employment centres and the distance and employment structure of Redland City mitigates against achieving the Draft LGIP housing mix projections thus diverting more demand to detached houses.

The recent evidence points to a significant increase in dwelling approvals above those that provide the basis for the RCC LGIP and on which assessments were made concerning the appropriate timing for the development of Double Jump Road development.

8.7 Land supply

8.7.1 Broadhectare land study

The Queensland Government Statistical Office (QGSO) monitors residential land supply in the Broadhectare study that identifies the location and quantifies the area, timing of development and dwelling yield of larger land parcels to house a region's growing population.⁴³

The land identified in the Broadhectare study is the first stage in the land development pipeline. This work underpins other stages of the land supply development process as land is approved, registered, developed and sold. The Broadhectare study includes parcels of land identified as suitable and **potentially** available for future residential development. The study includes land parcels greater than 0.25 ha.

The identified residential land is categorised according to development potential as for either urban or rural residential use. The timing for land development is based on local government infrastructure extension programs, recent lot approvals and the development intentions of major developers.

There is close consultation with local governments in the preparation and updating of the Broadhectare study. Timing is divided into the following five categories:

- 0–2 years
- 2–5 years

⁴³ <http://www.qgso.qld.gov.au/about-us/our-services/urban-development-research/broadhectare-studies.php>

- 5–10 years
- 10+ years
- Not specified

The category ‘not specified’ also includes smaller parcels in existing developed areas where development occurs randomly (depending on the owners’ intentions). Each segment is then updated with data that impact on the suitability and availability for residential development. Using rule-based filtering, broadhectare land stocks are identified. The land stocks are classified by the size parcel of the land and the likely use of the land in terms of higher density, standard density and rural density. A theoretical dwelling yield is provided.

The most recent Broadhectare study for Redland City was produced in 2013 but the QGSO maintains an updated interactive map from which a pictorial image of available land is identified classified by likely development timing.⁴⁴ The updated mapping deletes Broadhectare stock as it is developed and lots are registered. Associated with this the QGSO also prepares the Residential Land Development Indicators that provide an updated Broadhectare stock. The most recent is December 2017.

At the time of the preparation of the current Broadhectare report for Redland City in 2013, Redland City had on average 472 houses approved each year from 2010/11 to 2012/13. For the period from 2015/16 to 2016/17 there was an average of 1,101 houses approved each year, an increase of 133%.

The QGSO advise that there is no intention to update the Redland City Broadhectare study for Redland City in 2018.

8.7.2 Broadhectare study for Redland City 2013

The Broadhectare study for Redland City underpins assessments of land supply amount, conversion efficiency and development timing. There are particular issues that apply in Redland City and some general issues of methodology that indicate that the supply will be more constrained than expected. These matters are addressed below.

High reliance on small parcels

- Redland City is highly dependent on small parcels as in 2013, 281 from the total of 411 parcels of land (68.4%) comprised less than 2.0ha, and these small parcels also contributed 153ha (26.1%) of a total of 587ha available for urban residential use;
- The reliance on small land parcels for urban residential use is significantly greater in Redland City than in Logan, Ipswich, Moreton Bay and Gold Coast LGAs;
- The urban conversion process is inherently significantly more difficult, slower, has lower conversion rates, is less efficient and usually much more expensive than the conversion process involved for larger parcels, and
- The larger the number and greater dependence on smaller parcels in the land

⁴⁴ <http://www.qgso.qld.gov.au/products/maps/broadhectare-study-interactive-map/index.php>

supply, the higher risk of the loss in yield.

Very few large parcels

- Conversely, Redland City in 2013 had a very low reliance on large parcels of over 10ha, which generally are more efficient to develop and provide for higher conversion to developed lots, with the comparison with other LGAs as follows-
 - Redland, 9.6%
 - Logan, 75.1%
 - Ipswich, 68.8%
 - Moreton Bay, 50.5%
 - Gold Coast, 50.9%

Underestimation of demand for standard lots and over estimation of demand for higher density housing

- The Redland dwelling yield provided in the Broadhectare Study for the period for which comparisons can be made with experience, that is since 2013-
 - Grossly underestimates the standard urban density (detached) houses by 1,635 houses in 2013/14 to 2016/17 period, that is by 80.9%;
 - Significantly overestimates the higher density housing by 673 dwellings in the same period, that is 34.7%, and
 - Significantly underestimates the proportion of standard urban density (detached) houses in the period at 50.3% whereas it was 73.4%.
- After 4 years since the preparation of the 2013 Broadhectare report, Redland City is already short of over 1,600 lots, and
- The misallocation between standard and higher density housing means that to house a given population with actually more in detached standard housing and fewer in high density housing is equivalent to 408 standard houses required to house the given population (at the occupancy rates in the Broadhectare study).

The statistical basis for the above findings is provided in the tables below.

Table 27 Dwelling approvals Redland City 2013-2017

	Houses	Other	Total	Percent houses
2013-14	715	158	873	81.9%
2014-15	739	357	1,096	67.4%
2015-16	1,172	353	1,525	76.9%
2016-17	1,029	454	1,483	69.4%
Total 2013-2017	3,655	1,322	4,977	73.4%

Source: Australian Bureau of Statistics, Building Approvals, Australia (8731.0). Compiled and presented in Redland profile.id

Table 28 Broadhectare dwelling yield Redland City 2013-2017

	Houses	Other	Total	Percent houses
2013-14	593	641	1233	48.1%
2014-15	593	641	1233	48.1%
2015-16	418	357	775	53.9%
2016-17	418	357	775	53.9%
Total 2013-2017	2,020	1,995	4,015	50.3%

Source: Broadhectare study 2013 Profile Redland City Table 2.

Table 29 Difference between approvals and expected yield

	Houses	Other	Total
2013-14	-123	483	360
2014-15	-147	284	137
2015-16	-754	4	-750
2016-17	-611	-97	-708
Total 2013-2017	-1635	673	-962

Based on tables 28 and 29 above

Over reliance on small parcels to deliver higher density housing

As seen, there is both an over reliance on higher density at the expense of standard density and a very high reliance on smaller parcels of land under 2ha.

The smaller parcels seem to be much more dependent on achieving higher density housing and the larger parcels of over 2ha for standard housing. The parcels of under 2ha are expected to yield 3,672 dwellings from 153ha at an average density of 23.5 dwellings per ha for parcels under 1.2ha and 25.1 for parcels from 1.3 to 2ha for an overall average of 24 dwellings per ha.⁴⁵ Because higher density dwellings have not been demanded to the extent projected, the demand must be picked up by standard housing where the supply of smaller lots is less suitable for conversion to standard detached housing. This is likely to mean smaller parcels that are slower to develop and hence implies a supply that may not be readily converted to housing, as demand is lower than expected for medium density housing and the smaller parcels are not suitable for standard density.

Almost 100% conversion rate assumed

In addition to the forecasting variations against years that could be checked and the very high likelihood of much slower and less efficient development there are other systematic issues that are likely to reduce the conversion yield from broad hectare land to lots accommodating a defined population. Each of these is also likely to mean that the actual supply is less assured than may be implied in the Broadhectare Study. These include:

- Almost 100% conversion efficiency between theoretical and expected yield for Redland, whereas it averages 85% for Ipswich, Gold Coast, Logan and Moreton Bay LGAs and 93% for Brisbane LGA;
- If the 99.1% conversion is not achieved for Redland City, then other development areas will need to be brought forward to meet demand, and

⁴⁵

Based on Broadhectare 2013 Profile for Redland City, Table 3.

- The application of the average 15% conversion loss found in the other LGAs to the Redland situation equates to 1,512 lots, which equates to a substantial proportion of the Double Jump Road expected yield.

No account for unoccupied dwellings

The Broadhectare study converts raw land potential into a population capacity by using occupancy rates, but assumes in this conversion that all the dwellings in the forecast period will be occupied. In Redland City at the 2016 Census, 9.2% of the private dwellings were vacant and there are long-term trends for this rate to increase. If dwellings are unoccupied then more dwellings are required to house a given population and the greater the supply will need to be to meet future population. The inclusion of a 9.2% vacancy to the expected dwelling yield arising from the stock of Broadhectare land study in 2013 is a loss of 930 occupied lots in the projection period.

Summary

The combination of high reliance on difficult small parcels and low reliance on easy large parcels raises the risks for future land supply in Redlands and further compounds the risks that planning decisions will be based on assumed land supply that will not eventuate within the time frame expected.

Each of the following makes it more likely that the assumed supply will not eventuate in scale or will be delayed:

- The assumed minimal conversion loss ratio;
- The high dependence on small parcels;
- The small number of large parcels, and
- Questions about the treatment of unoccupied dwellings.

At each stage of the conversion process there are risks, but taken together there is a systematic risk that supply of housing lots in Redland City will be much less than that calculated in the Broadhectare Study.

The result of reliance on the Broadhectare Study for Redland City raises serious concerns about the information base that supports the Council's decisions. As the Broadhectare Study underpins assessments of future land supply and is used as a basis for planning decisions such as the timing for the Double Jump Road development shows the extremely high risk facing Redland City in ensuring an adequate supply of residential land for standard detached housing.

8.7.3 Broadhectare land supply trend

The 2013 study is the most recent, but the indicative mapping provided by QGSO provides some graphical information and there is an update at December 2017 of total broadhectare land supply in Redland City. The same issues as were raised in the 2013 study apply to the update.

Notwithstanding the methodological issues raised above, the Broadhectare land supply and expected dwelling yield in Redland City have declined significantly and rapidly from 2013 to 2017. The Broadhectare stock has declined by 32.3% and the expected dwelling yield by 31.0%.

Table 30 Broadhectare land Redland City 2013 and 2017

	Stock (ha)	Expected yield (dwellings)
2013 Study	595	10,105
December 2017	403	6,973
Change	-192	-3,132
Percent	-32.3%	-31.0%

Source Queensland Treasury. Broadhectare Profile and Residential land Development Indicators

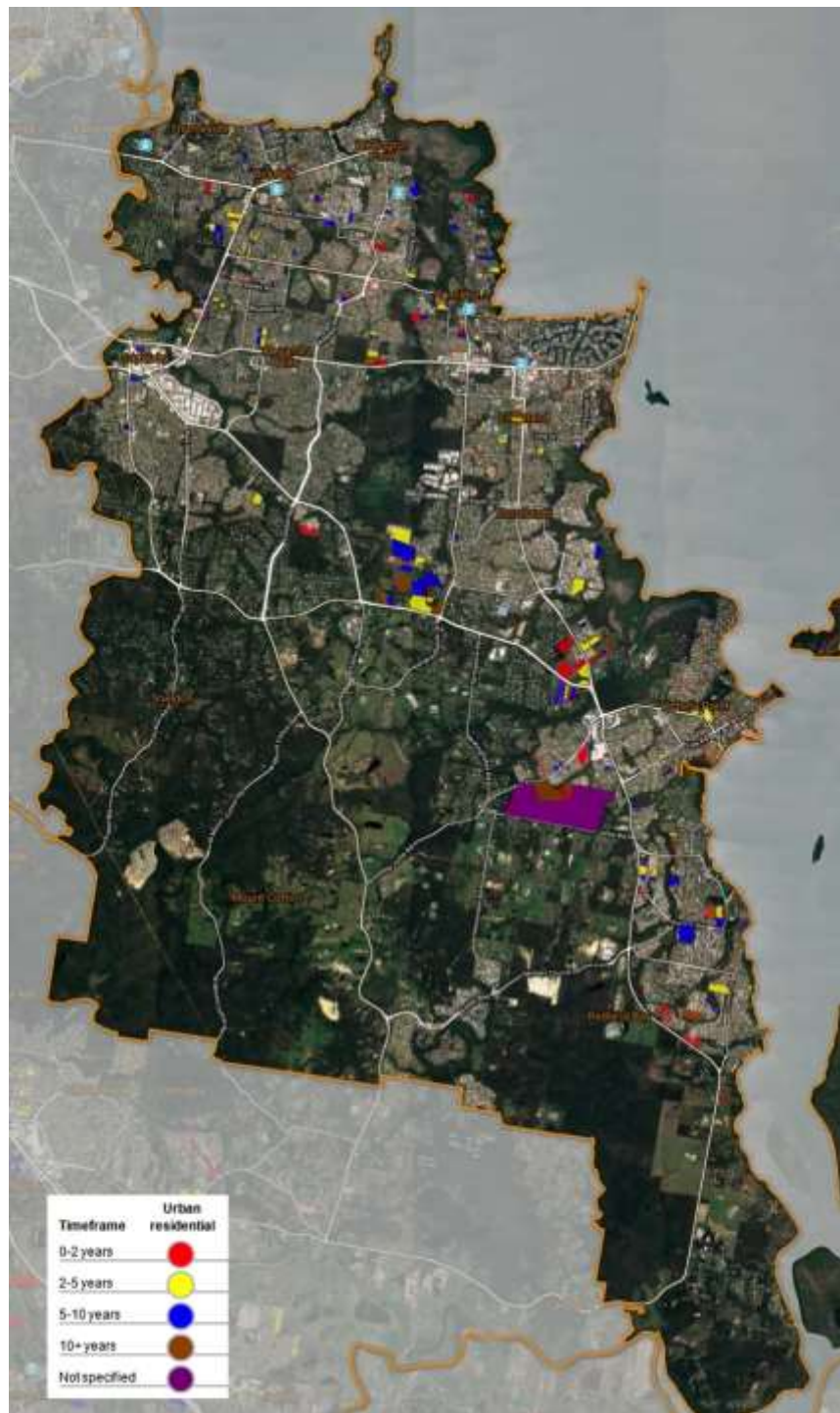
The expected yield in the 2013 Review and building approval rates then being experienced was equivalent to a supply of 17.1 years. In 2017, it is 4.6 years at current consumption rates.

The precise stock for standard and medium density cannot be determined due to the absence of this data from the 2017 Broadhectare update. However due to the higher than expected standard housing building approvals and the lower than expected medium density building approvals, the supply situation for standard lots will be much worse and reaching critical levels.

The Broadhectare interactive map updated to December 2017 shows the 2013 status less those parcels that have been subdivided since then and reflects the supply shown in the table above. The updated map at Figure 17 shows:

- A large number of very small parcels in the northern suburbs of Thornside, Birkdale and Alexandra Hills mostly identified for development from 0-2 years and 3-5 years;
- Some medium size parcels in Ormiston;
- Medium size parcels in Thornlands;
- Small and medium size parcels in central and northern Victoria Point identified for expected early development;
- The Double Jump Road development area as the largest parcel in Redland City, but with a development timing of parts either more than 10 years away or not specified;
- Small to medium parcels in Redland Bay, and
- Small scale development on Coochemudlo Island, but none on the other Redland Bay Islands.

Figure 17 Broadhectare Map Redland City 2018



Source: Broadhectare study update December 2017. Accessed May 2018

The overall impression of the 2017 update is as reported in 2013, with a very large number of small fragmented parcels, a few medium size parcels and the Double Jump Road site as the largest development opportunity, but its development being indefinite or more than 10 years into the future.

The 2016 Urbis report, noted that Toondah Harbour, Weinam Creek and Shoreline are not fully reflected in Queensland population projections and have the potential to increase future residential supply. However Toondah Harbour and Weinam Creek proposed

developments are infill in character and likely to overwhelmingly provide medium and higher density housing. In addition the development status of the Weinam Creek proposal is subject to some uncertainty.⁴⁶

The Shoreline project in Redland Bay, which is not shown on the Broadhectare Study, has the planned capacity of about 2,400 standard detached lots representing about 60% of Shoreline's residential yield. The project is facing some unresolved servicing issues and consultations are underway with RCC to resolve these issues. Even when resolved, it is likely to take several years for land servicing to be complete and lots released for sale.

When developed, Shoreline is likely to be about a 12-15 year project and, subject to market demand, is expected to seek to develop and sell about 200 lots per year. This compares with the expected development of the Double Jump Road project that is expected to develop and sell about 100-120 lots per year.

In relation to the recent annual average consumption of 1,101 house approvals for 2015/16 and 2016/17, the total potential annual supply from the Double Jump Road project is likely to account for about 10% of annual demand and the Shoreline project for about another 20%.

In addition the Double Jump Road and Shoreline projects are likely to be differentiated on a number of factors that are important to buyers including:

- Location;
- Proximity to water;
- Relative amenity including existing retail facilities;
- Potential neighbourhood layout;
- Potential timing/start dates;
- Distance from major employment centres;
- Marketing segmentation approaches, and
- Possibly housing design differences.

In addition the provision of a wider choice is generally regarded as a public good and the means to optimise consumer welfare.

In relation to the land supply situation and prospects, Fiteni's opinion is provided at Attachment 3. While Fiteni may be perceived to have a particular interest in the timing of the Double Jump Road development, it also has a wider perspective based on a long history of land and housing development in Redland City and a commitment to the future of Redland City. As a Redland City enterprise its business and capacity to generate employment is dependent on future land supply. The same considerations would also apply to many other businesses in the development and housing construction industry and the employees who depend on this continuity of work.

⁴⁶ *Weinam Creek redevelopment with Walker Corp at Redland Bay appears stalled.*
Redland City Bulletin 16/2/18

Fiteni considers that:

- There are approximately 54ha remaining at Kinross Road and it is developing rapidly with the removal of restrictions imposed by previous chicken farms;
- There are approximately 10 hectare at Pinklands (South East Thornlands);
- The Victoria Point Emerging Community area has about 137ha but difficulties in obtaining development approvals is delaying development;
- There are about 50-60ha in smaller parcels of less than 1.2ha many of which are constrained by large houses or servicing issues restricting development;
- Almost all large parcels are consumed excluding the commercial nursery at Redland Bay, and
- Any parcels larger than 2ha, Fiteni would have offered to buy, but vendors were not keen to sell.

8.7.4 Broadhectare study overstates future supply

As described above, there was a significant run down in Broadhectare residential land stock from 2013 to December 2017, in particular when judged against the consumption levels at those times.

However there is concern that even the run down Broadhectare residential stocks, particularly for detached housing, overstates the current land availability situation. To test this matter, a comparison has been made between a sample of larger parcels shown in the Broadhectare Interactive Map available in May 2018 with recent Nearmap sourced aerial photography of development on those sites. The aerial photos were taken as follows:

- Areas 1-13, May 2018;
- Areas 14 and 15, April 2018, and
- Area 16, February 2018

The Nearmap aerial photographs show the current state of development on areas that are classified on the Broadhectare Interactive map as likely to experience lot registration and hence urban development in the following timeframes:

- 0-2 years (red on the Broadhectare map);
- 2-5 years (yellow on the Broadhectare map);
- 5-10 years (blue on the Broadhectare map), and
- More that ten years (brown on the Broadhectare map).

The Broadhectare Interactive map website states that data are updated quarterly to account for development activity.

The comparison in Figure 19 below shows the parcel number according to the Broadhectare map at Figure 18, the street location, the parcel location and the expected lot registration period according to the current Broadhectare Interactive map. These

areas are matched against the recent Nearmap photography of on the ground land servicing and housing development.

Not all Broadhectare parcels, and particularly the smaller parcels, are included in the sample so the discrepancy represents a minimum situation. This is particularly important as previously noted Redland City has a very high reliance on the contribution of small land parcels in the future Broadhectare residential land supply. These small parcels are more difficult to develop, cost more and provide lower yield efficiencies than larger parcels, and hence would make a less efficient contribution to future residential land supply.

In addition, the impact of the future land stock discrepancy is emphasised as the majority of parcels examined are in southern Redland City and relatively close to the Double Jump Road site, which would accentuate land stock deficiencies in this market area.

Figure 18 Land parcel sample from Broadhectare interactive map current at May 2018



Figure 19 Comparison between Broadhectare status and Nearmap status

	Broadhectare status in December 2017 and May 2018 Interactive Map	Nearmap situation February to May 2018
1	Timberland Street, Valley Green Close and Glenhaven Close, Redland Bay Expected lot registration 0-2 years 	Nearly all lots built out 
2	Capella Drive and Unwin Road, Redland Bay Expected lot registration 0-2 years 	All lots built out 
3	Ellabay Crescent and Muller Street, Redland Bay Expected lot registration 10+ years 	All lots built out 

4	East of Collins Street, Redland Bay Expected lot registration 2-5 years 	Civil works complete, about half built out 
5	Weinman Street and Salisbury Street, Redland Bay Expected lot registration varies from 0-2 years to 10+ years 	Various projects some built out and others with civil works nearing completion 
6	Giles Road and Gordon Road, Redland Bay Expected lot registration 0-2 years 	Built out 

7	Gordon Road, Boundary Street and Falkirk Parade, Redland Bay Expected lot registration varies from 2-5 years to 10+ years 	Dwelling construction underway on some lots, civil works complete on all areas 
8	Main Street, Redland Bay Expected lot registration 0-2 years 	Lots registered 
9	Simon Street, Victoria Point Expected lot registration 2-5 years 	Civil works complete. 

10	Colburn Avenue and Daysland Street, Victoria Point Expected lot registration 2-5 years 	Final stages of unit construction 
11	Bunker Road, Victoria Point Expected lot registration 0-2 years and 5-10 years 	Small amount of land available on retirement village site. Bunker road parcel – built out 
12	Boundary Road, Thornlands Expected lot registration varies from 2-5 years to 10+ years 	Some areas entirely built out. Other areas partially built out (about 50%) 

13	King Street, Thornlands Expected lot registration 2-5 years 	Mostly built out, few remaining 
14	Kinross Road, Thornlands Expected lot registration 5-10 years and 10+ years 	Some projects built out, some projects partially built out, some well advanced through civil construction 
15	Springbrook Drive, Ravenbourne Circuit, Capalaba Expected lot registration 0-2 years 	Built out 

16	Babiana Street, Alexandra Hills Expected lot registration 2-5 years and 5-10 years. 	Mostly built out 
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The main points to note in the comparison between the expected date of lot registration (as an indicator of time of development) as shown in the Broadhectare Interactive map for December 2017 and still recorded as such in the May 2018 Interactive map, and the 'on the ground' situation in February to May 2018 are:

- There are significant areas identified as future stock with expected lot registration times extending from 0-2 years to 10+ years into the future that are either fully built out, mostly built out, have civil works completed or where civil works are well underway;
- The sample above does not cover all parcels identified in the Broadhectare December 2017 map update for Redland City, and excludes most smaller parcels that will inherently have a longer development period with less efficient yields, and thus represents the minimum 'missing stock' situation;
- Parcels with an expected lot registration time frame from 0-2 years may be considered to be in the margin of error when comparing expected timing with actual development, but most of the parcels identified as being fully built out, mostly built out or where civil works are complete or underway are expected for lot registration from 2-5 years, 5-10 years and more than 10 years into the future, and
- Most of the parcels (11 of 16) are in Victoria Point and Redland Bay, in southern Redland City close to the Double Jump Road proposed development and hence the overstatement of the available residential land supply in this area is even more extreme.

Matching the areas that are identified for expected future lot registration in the Broadhectare December 2017 update map with the 'on the ground' aerial photos shows the following apparent overstatement of the residential land stock supply.

Table 31 Apparent overestimation of land stock in examined sample

Broadhectare timeframe	Estimated lots	Percent
0-2 years (red area)	309	24.8%
2-5 years (yellow areas)	315	25.3%
5-10 years (blue areas)	264	21.2%
10+ years (brown areas)	359	28.8%
Not specified (purple areas)	0	0.0%
Total	1,246	100.0%

Nearly one quarter of the lots (24.8%) are classified in the 0-2 year period for expected lot registration. This may be within the margin of error. However, 938 lots are expected to be registered more than 2 years into the future, but are already built out, have civil works complete or well underway and in the normal course of business would be occupied within 2 years.

At Fiteni's expected rate of development of Double Jump Road of about 120 lots per year, the Broadhectare stock that is reported to be available more than 2 years into the future of over 900 lots has already been consumed or soon will be consumed. This represents the equivalent of about 8 years production.

In an already increasingly tight supply market, the 'loss' of over an additional 1,200 lots that authorities thought were available, and hence could provide a supply buffer that would justify the deferred development of the Double Jump Road development on a needs based argument, do not exist. The vast majority of the 'lost' stock is in the southern Redland City likely to be in the Double Jump Road market area.

The analysis demonstrates that the assumed residential land stock that was considered to exist in the future, but has already been consumed, is a further pressing reason not to delay the development of the Double Jump Road project and to include it in the current RCC Local Government infrastructure Plan and Priority Infrastructure Area.

8.7.5 Land development pipeline

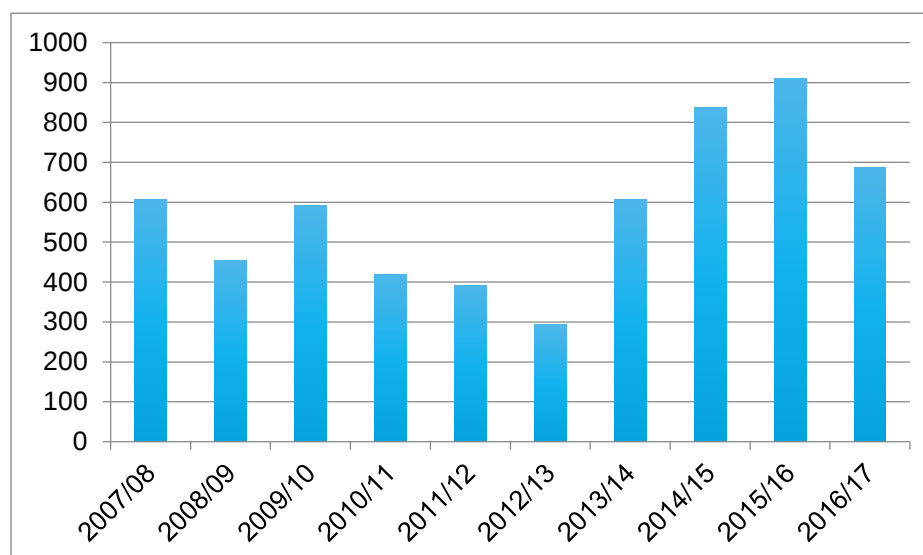
The conversion of land is monitored by QGSO in the Residential Land Development Indicators report. The most recent report is March 2018, reporting to December 2017. Among the many indicators, Lot Registration for standard urban lots (60m² to 2500m²) and attached lots for units or townhouses represents the most useful measure, particularly when relating to dwelling approvals for houses and other dwellings.

The focus in this assessment is on Lot Registrations for standard lots as they largely define the development front and the timing to open new areas and are strongly associated with greenfields development.

There is a close relationship between standard lots registered and new houses approved. In the past decade standard lot approvals have averaged 580 per year and new house approvals 710 per year. In the past two years both standard lot registrations and house approvals have increased, but more so for house approvals, which averaged 1,100 per year, compared with 798 for standard lot registrations.

In the past two years house approvals have exceeded standard lot registrations by 604, indicating that the buffer of vacant registered lots but not yet with a building approval has run down. This in turn places additional pressure on the need for supply further upstream in the land supply process.

Chart 23 Standard lot registration Redland City



Source: Queensland Treasury QRSIS Lot registration. Redland City.

Table 32 Comparison of new standard lots registered and houses approved, Redland City, 2007/08 to 2016/17

	Standard lots registered	Houses approved	Difference
2007/08	607	776	-169
2008/09	454	467	-13
2009/10	593	799	-206
2010/11	420	513	-93
2011/12	392	464	-72
2012/13	293	440	-147
2013/14	607	715	-108
2014/15	838	739	99
2015/16	910	1,172	-262
2016/17	686	1,029	-343
Total	5,800	7,114	-1,314

Source: Queensland Treasury for lots registered and ABS Building Approvals for houses approved.

8.7.6 Infill potential in Victoria Point

One potential way to meet future housing demand in Victoria Point is infill and intensification in the existing housing stock. That is where permitted by zoning; one lot over 800m² is split into two smaller lots of minimum size of 400m² where both new lots

have a road frontage (or in the case of internal lots, and minimum internal lot size of 800m² and 400m² for the front lot).

This potential supply has been identified by RCC in the draft LGIP (and extrinsic material) and discussions with Fiteni, as being sufficient to warrant the deferral of the Double Jump Road development until at least after 2027. It is understood that RCC identified this potential on the basis of a high theoretical conversion rate unconstrained by market feasibility.

Rather, the conversion potential is likely to be significantly constrained by development economics including cost of servicing (water, sewer, power and other costs), physical limitations such as achieving a legal point of discharge for stormwater, appropriate zoning, and the possible community reaction to high levels of infill.

To test the likely effective conversion rate and the potential for infill to meet a substantial part of demand, a preliminary assessment of the likely level of conversion in short to medium term was conducted on the following basis:

- Tract identified all lots in Victoria Point over 800m² (about 1200 lots);
- Tract identified all lots over 800m² in Victoria Point where development took place prior to 1985, that is likely to have older houses economically more suitable for demolition, (about 375 lots), and
- Tract identified all lots over 800m² and developed prior to 1985 within the current Urban Residential zone, that is where planning zoning permitted the infill.

The above process is illustrated in the following figures.

Figure 20 Period of urban development, Victoria Point



Source: Tract Planning

Figure 21 Large lots by period of development, Victoria Point



Source: Tract Planning

Figure 22 Lots potentially viable for infill development



Source: Tract Planning

The application of these constraints identified about 300 lots in Victoria Point.

A visual inspection of a sample of streets with concentrations of confirming lots and houses was conducted to identify additional likely physical constraints such as water,

stormwater flows, power and other factors that would add costs such as to make infill conversion not economically viable or incapable of planning scheme compliance in the short to medium term.

In addition, a more detailed case study was conducted on one street that was considered to have a very high potential for conversion. This case study identified the likely infill conversion potential of about 20% of the potential candidate lots under current market and planning conditions. That is 20% of the 300 qualifying lots.

The potential would be further constrained by a current property owner's willingness and/or ability to subdivide the property themselves, or being willing to sell the property at a price that enables the property to be viably developed by another party.

On this basis and on current and likely short to medium term market conditions and with existing zoning, it is reasonable to conclude that only a small annual contribution to meeting demand in Victoria Point is likely to be achieved by infill. This assessment is consistent with the conclusion reached by Urbis in its 2012 land supply review undertaken for RCC. The report was one of those RCCC relied on in the preparation of the Draft LGIP and hence conclusions about the appropriate timing for the development of the Double Jump Road project.

8.7.7 LGIP planning assumptions

The RCC Draft LGIP is based on assumptions and data in the *Background report on the planning assumptions for the Redland City Council LGIP March 2017*. The report states:

This extrinsic material report has been prepared to assist the interpretation of Redland City Council's LGIP. The report provides the background information and summarises the methodology used to prepare the planning assumptions that support the development of the LGIP.

The draft LGIP further notes:

The background studies referred to in the extrinsic material that relates to the planning assumptions for the LGIP.

In relation to residential land and housing supply and demand, the planning assumptions report relied on the following documents.

- *Population, Dwelling and Employment Forecasts, Urbis, May 2016, and*
- *Redland City Land Supply Review, Urbis, November 2012.*

In addition the RCC commissioned the Urbis report *Redlands Land Supply Review 2014* to update the 2012 report, but chose not to rely on this report.

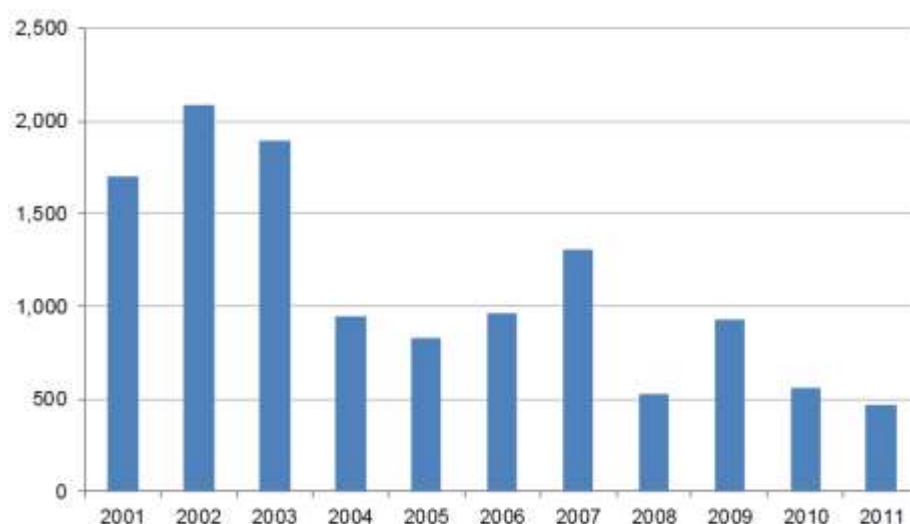
These reports are considered briefly below.

8.7.8 Redland land supply review, 2012

The report is now dated

The *Redland City Land Supply Review, Urbis, November 2012* has been overtaken by events with the most recent data from 2011. In addition the years preceding the report were significantly affected by the impact of the GFC.⁴⁷ This is shown in the chart 5.1 from the report but it should also be noted that the data tracks house and land sales as well as vacant land sales, so will overstate the quantum when compared with new house approvals and standard lots registered provided earlier in this section.

Chart 24 Redland New house and land sales (extract from Urbis report 2012)



Source: Chart 5.1 *Redland City Land Supply Review, Urbis, November 2012*

Confirms concern over development efficiency of small parcels

In relation to the concern raised previously in this chapter about the assumed conversion efficiency of 99% for Redland City, the Urbis report allows for 15% of parcels below 5,000m² to not be developed as a proportion of owners will choose not to develop land further and would prefer it to remain as larger house sites.⁴⁸ This view is expressed in the letter from Fiteni homes.

Confirms concern over yield from infill

The potential yield from infill in Victoria Point was considered previously. The Urbis report notes that 'one into two' reconfigurations resulted in only 37 additional dwellings per year in all of Redland City, and that Urbis believes that this will remain largely unchanged over the forecast period.⁴⁹

Even if the rate increased considerably, this source of additional supply as sufficient to delay the development of Double Jump Road is not sustained by the assessment in this report and this is reinforced by the conclusion made by Urbis.

⁴⁷

Redland City Land Supply Review, Urbis, November 2012, p25

⁴⁸ *Redland City Land Supply Review, Urbis, November 2012, p26*

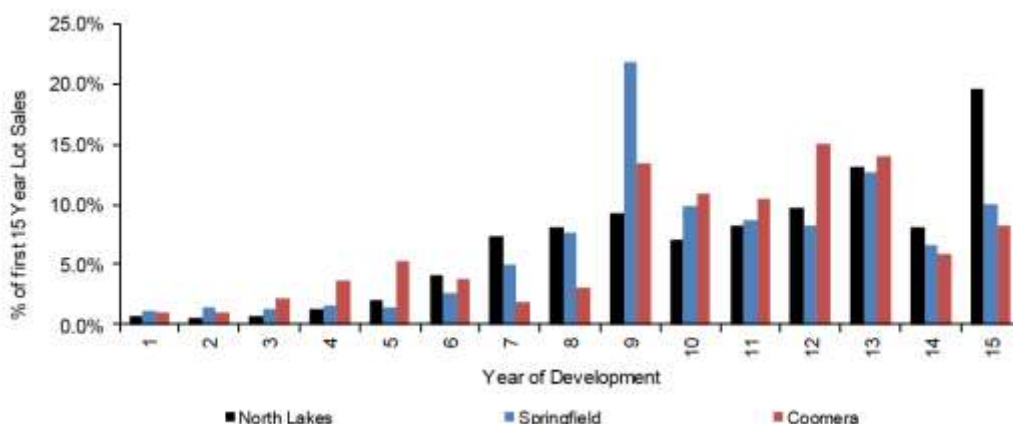
⁴⁹ *Redland City Land Supply Review, Urbis, November 2012, p29*

Confirms that large developments take time to affect supply

The Urbis report examines the Kinross Road and South East Thornlands projects and finds that:⁵⁰

- The take up of residential land will be limited in the initial stages of 2-5 years and gradually increase over time;
- The slow take up seems to reflect the lack of community infrastructure and transport, and
- Sales rates for major urban developments of North Lakes, Springfield and Coomera show very similar long-term sales rates.

Chart 25 Lot sales from first 15 years of development (extract from Urbis report 2012)



Source: Chart 5.2 from *Redland City Land Supply Review, Urbis, November 2012*

The report noted that residential development is cyclical with major cycles in SEQ tending to range from 5-8 years, so the current significant upturn in demand in Redland City experienced in the past 2 years may be sustained.

Confirms the market challenges for medium density housing

The report (Chart 5.3 and Table 5.7) shows the significant decline in new unit sales from 1991 to 2011 with the 20 year average at 182, the 10 year average at 126, and in the most recent 5 year period to 2011 the average was 109, and notes:⁵¹

- Recently multi level unit development within outer suburban markets has become increasingly difficult to build, and
- Achieving the necessary price points to become profitable is currently difficult to achieve.

⁵⁰ *Redland City Land Supply Review, Urbis, November 2012, p30*

⁵¹ *Redland City Land Supply Review, Urbis, November 2012, p32*

Forecasts a housing mix in line with Double Jump Road proposed development

The forecast housing mix for Redland City by 2031 comprises 79% detached and 21% attached or semi detached.⁵² This mix is substantially in line with the proposed housing mix for the proposed Double Jump Road development.

Confirms need for population renewal

The Report notes that Redland City will have strong growth in persons aged over 65 years and to attract younger generations of residents it will be necessary to provide a range of dwelling types.⁵³

Confirms need to closely monitor land supply and consider need for additional residential land supply

The Urbis report recommends that there be ongoing monitoring of the residential land supply to ensure that land supply continually reflects market demand, which will alert Council as to whether there is a need to investigate additional residential supply.

Summary

The RCC Draft LGIP relied on the Urbis 2012 report for residential land matters. There are significant and material differences between the *Redland City Land Supply Review, Urbis, November 2012* and the findings of the RCC Draft LGIP. Although dated, many of the issues addressed in the Urbis 2012 report confirm residential land supply concerns raised in this Housing Needs assessment. These issues go the core issue concerning the timing of the Double Jump Road development.

8.7.9 Redland land supply analysis, Urbis 2014

The RCC commissioned, had available, officers considered and received correspondence concerning the report, but chose not to rely on the report as a basis for the RCC Draft LGIP.

Notwithstanding its status in relation to the RCC Draft LGIP, the Urbis 2014 report found:

- There is a theoretical capacity to balance the supply against the demand;
- In reality, the region is unlikely to accommodate the population in the form of dwellings they require and in the locations they require;
- There is a likely undersupply of detached dwellings over the period 2014-2041;
- The scale of this shortfall of detached dwellings is assessed at between 1,200 and 5,060 dwellings, and
- Conversely, there is likely to be an oversupply of attached dwellings of between 8,700 and 12,900.

The result is a significant mismatch in the planning for the type and location of dwellings in Redland City against the assessed demand.

⁵² *Redland City Land Supply Review, Urbis, November 2012, p38*

⁵³ *Redland City Land Supply Review, Urbis, November 2012, p43*

The report recommends that Council investigate options to increase the supply of residential land for detached dwellings, including:

- Extend the Urban Footprint to bring in new land suitable for residential development;
- Incentivise the reconfiguration of urban residential lots where capacity exists to increase yield, and
- Convert appropriate areas of Low Density Residential Land.

While the Urbis 2014 review points in the right direction, there are still concerns about the underpinning analysis, including:

- The attached/detached dwelling mix proposed is not supported by the analysis of data in the Urbis report, so that the attached dwelling share forecast is too high and the detached share too low and subsequent data confirms this concern;
- To the extent that demand is based on an analysis of the current development trends (Current Development Trends, Table 9), the period used coincides closely with the period of the Global Financial Crisis which seriously adversely affected housing demand, as housing finance is a key determinant of effective demand, and subsequent data confirms this concern;
- The supply envelope seems to be 'pushed' further in the Urbis report by the inclusion of even smaller lots than those included in the Broadhectare Study;
- The supply figure for Detached Dwellings of 8,879 dwellings is derived from Table 5 that assumes 100% of the land available for detached residential housing will be developed during the planning horizon. Whilst the period is considerable, a 100% uptake is not possible, thus the supply of 8,879 dwellings is optimistic, and
- Given the forecast period is 27years, the optimistic supply assumption by itself would not be an issue, however the significant shortfall in supply (unless addressed) runs the risk of practical depletion of detached dwelling stock within the [then] first Town Planning period of 8 years which is not a desirable planning result.

8.7.10 Population, dwelling and employment forecasts, Urbis 2016

The report notes that:

The RCC is currently reviewing its infrastructure planning and commissioned Urbis to undertake an independent review of the population, employment, and dwelling assumptions and projections that feed into the Infrastructure Demand Model (IDM). This will inform its Local Government Infrastructure Plan. This study utilised the most [? missing word] draft 2015 population forecasts released by the Queensland Treasury and Trade.

The report refers to the Urbis reports considered above and does not withdraw from its previous findings. The 2016 Urbis report:

- Is structurally different from the other Urbis reports considered in that it was prepared for mapping purposes whereas the previous reports undertook detailed demand and supply assessments of Redland;

- Notes that the Redland City 2016 Population, Dwelling, Employment Forecasts and Development Sequence Mapping project is based on a combination of the 2011 edition and 2015 edition population and dwelling projections;
- Has a broad scale long term focus based on the Queensland Treasury population and household formation as the basis for demand;
- Does not consider population and household formation demand generators before 2026;
- Uses the housing mix from the Queensland Treasury and household formation projections that expect to see detached dwellings account for 46.7% of dwellings in Redland City between 2026 and 2031, the first reference period;
- Uses a top down population and household formation driven demand basis, but the actual population growth and housing demand in Redland depends on the land supply availability as well as the demographic factors;
- The report notes that the population would increase if more land were available;
- Could not consider the 2016 Census results, and
- Briefly considered the population and housing issues in 4 pages including the issue of Redland City dwelling capacity considered in half a page.

The 2016 Urbis report, noted that Toondah Harbour, Weinam Creek and Shoreline are not fully reflected in Queensland population projections and have the potential to increase future residential supply. These matters were considered in section 8.7.3.

8.7.11 Reliance on reports to support the Draft LGIP

The RCC states that the extrinsic material (Urbis reports for land and housing) has been prepared to assist the interpretation of the Councils Draft LGIP. The report provides the background information and summarises the methodology used to prepare the planning assumptions that support the development of the LGIP.

On significant points, the material available to the RCC does not support the Draft LGIP particularly in respect of the timing of the development of the Double Jump Road project.

8.8 Risk assessment

In considering land supply, Councils need to balance a wide range of factors including public finance, economic impacts, employment effects, demographic, environmental and social matters. Above all, there is hope that Councils will do so based on the best available information.

There are severe risks that in adopting the Draft LGIP and by implication the recommended timing for the development of Double Jump Road, the costs will far outweigh the benefits.

The evidence clearly points to:

- Recent increases in demand for standard detached houses about double that projected in the Draft LGIP;
- A rapid run down in stocks in Broadhectare land, from a supply potential of over 17 years to four years in just 4 years at current consumption rates, and less for standard housing, even allowing for the likelihood that the Broadhectare study overestimates future supply;

Table 33 Broadhectare land supply Redland City 2013 and 2017⁵⁴

	Expected yield (total dwellings)	Annual current consumption (total dwellings)	Years supply (total dwellings)
2013 Study	10,105	590	17.1
December 2017	6,973	1,504	4.6
Change	3,132	-914	-12.5
Percent	-31.0%	154.9%	-72.9%

- The demographic structural necessity to rely on internal and overseas migrants to achieve the population growth projections in the Draft LGIP and the immediate demand this creates for housing compared with the more diffused impact of natural increase on housing demand;
- The rapid run down in the land capacity of Redland City means that there is significant risk of effectively running out of standard lots for detached housing, and if this occurs severe impacts on investment and employment in the building and construction sector;
- The findings in the 2014 Urbis report that there is a likely undersupply of detached dwellings over the period 2014-2041 of between 1,200 and 5,060 dwellings, and this report could not have considered the recent surge in demand, and
- The highly probable increase in land housing prices that would be expected to arise from limits on supply.⁵⁵

The judgments in the Draft LGIP regarding the timing of the need for Double Jump Road must be revised and the development brought forward. The consequences of running short of land would have dire economic and employment effects for Redland City in general and in particular for the building and construction sector as one of the major economic contributors and employers in the City.

⁵⁴ Source Queensland Treasury. Broadhectare Profile, Residential land Development Indicators and average annual ABS Building approvals for 2010/11 to 2012/13 for 2013 Study and 2015/16 to 2016/16 for 2017 update

⁵⁵ Reserve Bank of Australia. The effect of zoning on house prices. Research discussion paper 2018-03

8.9 Recommended timing for Double Jump Road development

The RCC is responsible for managing the planning process. Once that process is finished, there is no residential demand and supply-based reason to:

1. Exclude the Double Jump Road development from the PIA and coverage of the Draft LGIP, and
2. Delay the normal residential development processes.

9 Meeting the SEQRP objectives

9.1 Assessment matrix

The Double Jump Road Structure Plan area is a new expansion area and as such the housing for the area should be planned in accordance with the strategies of *Shaping SEQ Regional Plan 2017* (SEQRP). The following matrix summarises the main housing strategies and guidelines and shows how the proposed Structure Plan responds to these and if there are variations, the reasons for the variations based on local conditions that would better meet the needs of the area. The sections of the Report that deal with the particular issue are provided.

A number of the housing goals, elements and strategies are of a general nature and are addressed in other planning reports that, together, provide a comprehensive and integrated response.

Table 34 Planning Assessment Matrix

SEQRP housing goals, elements and strategies	Response in Housing Needs Assessment
Plan for a net residential density of 15-25 dwellings/ha in new communities or 30-60 dwellings/ha if these areas are within easy walking distance to an existing or proposed public transport station.	Net density range for detached housing is 12 to 15 and 30 for medium density housing. The net residential density goal is achieved at over 15 dwellings/ha for the newly developed area. (Section 7.2) The net residential density goal is met at a level appropriate to an area on the edge of the Urban Footprint and one that is poorly served by public transport. (Section 7.4)

	Densities are higher through provision of medium density housing adjacent to retail centre. (Section 7.1) Taking the precinct between Double Jump Road, Bunker Road and Cleveland-Redland Bay Road, there is a general density gradient from the Victoria Point Centre with retail, services transport and employment nodes outwards that reflects the planning intent of the SEQRP. When completed, this housing precinct would have 64.7% standard detached houses and 35.3% medium density providing for a wide range of housing needs. (Section 7.4)
Supporting better and more diverse housing, with a particular emphasis on promoting the 'missing middle' forms of housing.	Range of densities provided which will allow response to needs profile and established demand. (Section 7.3). Concept of the 'missing middle' is much more appropriate for areas with excellent public transport and close to major employment nodes. (Section 5.5.3).
Changing the focus to affordable living, rather than just the cost of housing, to support more balanced and sustainable communities.	There are two components of affordability: cost and income. Affordability reflects the balance between the two. Housing becomes more affordable if income is higher, with higher employment participation and a broader range of local jobs. The thrust of the report is towards having housing types that contribute to socio economic renewal of Victoria Point, and provide for a more demographically balanced community with more young children. (Sections 5.2.3, 5.3 and

	5.6.2). Unless the age profile changes, the very old existing population, will directly result in lower employment participation, much lower incomes and lower expenditure with widespread negative consequences. (Section 5.2.3).
Plan for well-designed and increased residential densities in and around centres.	Provided for in the context of the density gradient in the Double Jump Road, Bunker Road and Cleveland-Redland Bay Road precinct. In addition there is specific recognition of the goal, by locating the medium density housing adjacent to the local retail and services facility. (Sections 3.4,3.6 and 3.7)
Plan for well-designed and increased residential densities at other locations that have good access to high-frequency public transport and employment.	Public transport in southern Redland City is poor and there is inadequate local employment requiring the vast bulk of residents to travel long distances by private car to work. The densities are appropriate to this environment and are reflective of established demand. (Sections 3.3 and 7.4)
Plan for and support innovative solutions in housing to cater for a diverse range of community needs, including an ageing population, multi-generational families, group housing, people with special needs and those from different cultural backgrounds.	Apart from the need for socio economic renewal in Victoria Point, the main issue is responding to the housing needs of the older population. These needs are addressed in detail in the Report and the proposed housing mix responds to the diversity of needs in the form of: • Standard housing on smaller lots that are more easily maintained; • Medium density housing close to the retail and service centre In the adjacent parts of the Double Jump Road, Bunker Road and Cleveland-Redland Bay

	Road precinct there are significant numbers of aged persons accommodation units and retirement village opportunities. (Sections 3.3 and 3.7)
Provide housing choice by delivering a mix of dwelling types and sizes in expansion locations consistent with the Grow strategies of the SEQRP, such as: • Efficient land use; • Focusing residential density • Housing diversity • Supports our changing lifestyles, demographics and housing preferences • Accommodating people closer to services, existing infrastructure and employment	The housing related goals, elements and strategies of the Grow Strategy of the SEQRP largely repeat the matters summarised above.
Maximise the variety of available land in suitable locations to support a range of housing choices under a range of market and economic circumstances.	The proposed density and mix in the Structure Plan, taken within the context of the Double Jump Road, Bunker Road and Cleveland Redland Bay Road precinct provides housing choice under a range of market and economic conditions in that it addresses key needs groups and also the clear market preference for the housing mix. (Sections 5.2,5.3, 5.4, 5.5 and 5.6)
Meet the objectives of the 'Sustain' theme of the SEQRP in particular to provide various Affordable Living options, which take into account the cost of housing, transport and associated infrastructure costs. The Affordable Living theme identified the following: • Plan for a greater number and broader range of dwellings closer to jobs and services to support affordable living options; • Use the planning system to increase housing choice and diversity, and remove unnecessary regulatory costs; • Provide greater mobility and employment choices that support affordable living;	The range and type of dwellings are appropriate to the number and location of jobs in Victoria Point in relation to the needs for employment in the area and the poor public transport serving the area (even with the proposed upgrade to the Victoria Point bus station). Removal of unnecessary regulatory costs would be welcome as these ultimately flow through to consumers. Increased number and range of employment opportunities in

• Promote an adequate and diverse supply of affordable housing in well-serviced locations. Ensure that new development creates communities where residents can remain throughout their life and age in place; • Investigate opportunities to use state- and council-owned land in underutilised or inner-urban areas to provide affordable or social housing and • Explore innovative approaches to minimise resource use in new development.	Victoria Point would increase the likelihood of increased local employment self-containment. With the adoption of the proposed Structure Plan and housing, the Double Jump Road, Bunker Road and Cleveland-Redland Bay Road precinct would provide a community where residents can remain throughout their life and age in place through the various life cycle stages.
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Appendix

1 Statistical geography

The ABS statistical geography defines these areas as:

- Redland City LGA;
- Cleveland-Stradbroke SA3, and
- Victoria Point SA2.

These areas are shown on the following maps.

Figure A1 Redland City LGA



Figure A2 Cleveland-Redland Bay SA3



Figure A3 Victoria Point SA2



2 Fiteni Homes estates

Completed Estates

South Cleveland Waters, Cleveland
Cleveland Heights, Cleveland
Plaza Chase, Wynnum west
Wellington Reserve, Wellington Point
The Haven, Birkdale
Viewpoint, Aroona
Thornlands Waters, Thornlands
Pine Terrace, Redland Bay
Seven Oaks, Alexandra Hills
Moreton Outlook, Wynnum
Cleveland Waters, Cleveland
Birkdale Retreat, Birkdale
Manly Rise, Manly West
Pine Terrace, Redland Bay
Crawford Chase, Wynnum West
The Reserve, Wellington Point
Redland Bay Grove, Redland Bay
Marlborough Chase, Wellington Point
The Sanctuary, Thornlands
Seabreeze, Wellington Point
Brendan Way, Victoria Point
Inspire, Victoria Point
Thorneside Grove, Thorneside
Haig Road, Birkdale

Current Estates

Egret Point
Parkedge
Parklands
Seabreeze,
Thornlands Waters,
Watermark

Joint Venture with Fox+Bell

Shoreline

3 Fiteni letter on land supply



• Sutgold Pty Ltd
• ABN 47 083 212 0069 • BSA 728 754

27/04/2018

Dear Mr Giles,

Availability of Development Sites within Redlands City Local Government Area

We write the following letter to inform the analysis that you are undertaking on our behalf on the availability of land for residential development within the Redland City Local Government area.

We have operated in the Redlands since 1976 and have developed land and constructed approximately 7,000 dwellings over this period. Identifying and negotiating on the purchase of land is a fundamental part of the daily operation of our business, consequently we have an in depth awareness of the availability of land that is suitable for development within the local area.

Based on a review of the most recent Broad Hectare Study prepared by the State Government, along with our knowledge of local land holdings, we estimate that the following land availability:

- Approximately 54 hectares remains at Kinross Rd, based on aerial mapping which is now moving forward rapidly with the recent removal of restrictions imposed by previous chicken farms.
- Approximately 10 hectares at Pinklands (South East Thornlands).
- Victoria Point Emerging Community area, which totals approximately 137ha, though difficulties in obtaining development approvals is delaying the development of this land.
- Around 50 - 60 hectares in smaller parcels (<1.2 hectares), many of them constrained by large houses or servicing issues restricting development.

These figures are gross land area and do not take into account constraints and land required for infrastructure such as roads, parks, stormwater treatment, etc.

Almost all large parcels are consumed, excluding the commercial nursery at Redland Bay.

Anything greater than 2 hectares we would have offered to buy on numerous occasions, however, the vendors are not motivated.

With regards,

A handwritten signature in black ink, appearing to read 'Vaughn Bowden', is written over the typed name and title.

Vaughn Bowden
Land Development Manager
Sutgold PTY LTD

Appendix 19: Economic Benefit Analysis

**WOODBURY PRECINCT 3
DEVELOPMENT**
ECONOMIC IMPACT
ASSESSMENT



Client: Error! Reference source not found.

Title: Woodbury Precinct 3 Development - EIA

Version: FINAL

Date: Wednesday, 17 June 2026



Introduction

Econisis has been engaged to undertake an economic impact assessment of Precinct 3 of the Woodbury Development located on Double Jump Road, Victoria Point.

This report assesses the economic contribution associated with the proposed mixed-use residential and activity centre development. It considers both temporary economic activity generated during construction and longer-term operational economic value generated through employment, business productivity and additional household expenditure.

The assessment is structured around the following components:

- Construction phase economic impacts, including direct expenditure, employment generation and supply chain activity associated with project delivery.
- Operational economic value add, including employment generation and annual economic contribution associated with the completed non-residential components of the development.
- Household expenditure related economic contribution, reflecting additional population growth and associated expenditure generated by the residential component of the project.
- Discounted benefit assessment, estimating the long-term present value of economic benefits generated over a 20-year assessment period.
- Wider economic and community benefits, identifying broader economic development and service accessibility outcomes associated with the project.

Woodbury Precinct 3 Development Concept

The Woodbury development is a master planned mixed-use residential development located between Bunker Road and Double Jump Road, Victoria Point, incorporating staged residential dwelling releases alongside a planned neighbourhood-scale local centre and supporting community infrastructure.

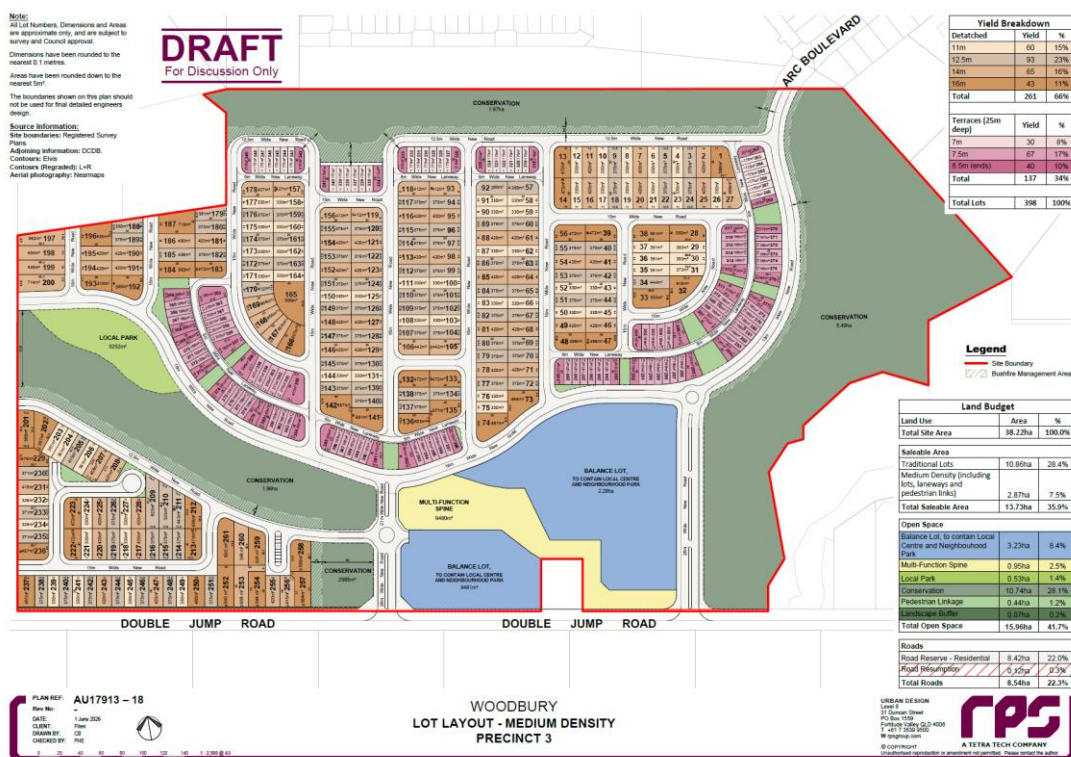


Figure 1 Woodbury Development Precinct 3

The proposed local centre forms the primary non-residential component of the development and is designed to provide a range of convenience retail, commercial and community service uses to support both future residents and the surrounding catchment.

The centre comprises a;

- Supermarket Tenancy
- Specialty Retail Shops
- Commercial Office Space
- Medical Consulting Services
- Childcare facilities, and
- Gym/Recreation uses.

Construction Phase Economic Impact

The proposed development will generate short-term economic activity during the construction period through direct expenditure on building construction, civil works, professional services and associated supply chain activity. Construction phase impacts have been estimated using regional economic multipliers developed by Econisis for the Redland City and Queensland economy, capturing both direct project expenditure and indirect supply chain effects associated with construction activity.

Methodology and Approach

At the core of an Economic Impact Assessment (EIA) are Input-Output (IO) tables, which form part of the Australian Bureau of Statistics national accounts framework and describe the relationships between industries within the economy.

IO tables are converted through statistical analysis into a series of economic multipliers, which estimate the relationship between direct project expenditure and the broader economic activity generated across supply chains and supporting industries.

Economic impacts are typically measured across four key indicators:

- Output – total economic activity generated through project expenditure
- Income – wages and salaries generated through economic activity
- Employment – full-time equivalent (FTE) jobs supported
- Gross Value Added (GVA) – the additional economic value generated after accounting for intermediate inputs

Economic impacts are generally presented as both direct impacts, reflecting immediate project expenditure, and indirect impacts, representing additional economic activity generated through supply chain and supporting industries.

For this assessment, Econisis has applied regional economic multipliers developed for the Redland City and Queensland economy, focused on simple multipliers only, including:

- Initial direct project expenditure
- First round supply chain impacts
- Industry support impacts generated through linked industries

Construction costs have been estimated using benchmark development cost assumptions in the absence of a project-specific cost plan provided by the proponent.

Table 1 Construction Cost Assumptions

Cost Category	Assumption
Residential Construction Cost	\$450,806 per dwelling ¹
Civil and Infrastructure Development Cost	\$180,230 per dwelling ²
Retail / Commercial Construction Cost	\$3,000 per sqm
Construction GVA Multiplier	21.8%

Results

The assessment assumes a five-year staged construction period, reflecting the progressive delivery of residential development over the initial development period, with non-residential components assumed to commence construction toward the later stages of delivery.

Table 2 Construction Phase Economic and Employment Impacts, Total Impact

Total Project Impact	Initial Impact	First Round	Industry Support	Simple Multipliers
Output (\$m)	\$267.80	\$155.55	\$104.61	\$527.96
Income (\$m)	\$24.85	\$33.75	\$25.60	\$84.20
Employment (FTEs)	86.45	75.38	217.58	379.42
Gross Value Added (\$m)	\$57.05	\$58.10	\$44.40	\$159.55

Based on the estimated construction expenditure profile, the project is expected to generate approximately \$527.96 million in total economic output over the construction period, including direct construction activity and indirect supply chain impacts generated across supporting industries. Across the five-year construction phase, total economic activity associated with the project is estimated to sustain approximately 379 full-time equivalent jobs, generate approximately \$84.20 million in labour income, and contribute approximately \$159.55 million in gross value added to the broader regional economy.

Table 3 Construction Phase Economic and Employment Impacts, Annual Impact

Annual Average Impact	Initial Impact	First Round	Industry Support	Simple Multipliers
Output (\$m)	\$53.56	\$31.11	\$20.92	\$105.59
Income (\$m)	\$4.97	\$6.75	\$5.11	\$16.84
Employment (FTEs)	86.45	75.38	217.58	379.42
Gross Value Added (\$m)	\$11.41	\$11.62	\$8.88	\$31.91

On an annualised basis, construction activity is estimated to generate approximately \$105.59 million in economic output per annum and contributing approximately \$31.91 million in annual gross value added during the construction period.

Non-Residential Operational Economic Value Add

Employment Estimates

The proposed activity centre will generate ongoing economic activity through a diverse mix of retail, commercial and community service uses. To estimate the scale of employment supported by the development, standard industry workspace ratios have been applied across each proposed land use category.

¹ ABS (2026) Building Activity, accessed at <https://www.abs.gov.au/statistics/industry/building-and-construction/building-activity-australia/dec-2025>

² Colliers (2025) Engineering & Design Cost per Lot, accessed at <https://www.colliers.com.au/en-au/news/cost-per-lot-2025>

Workspace ratios provide an estimate of the amount of floorspace typically required to support one full-time equivalent employee and represent a standard industry approach for estimating employment generation associated with mixed-use development projects.

In total, the proposed development comprises approximately 5,550 square metres of gross floor area distributed across six complementary land use categories, creating a diversified activity centre offering that combines retail, health, recreation, childcare and commercial services.

The largest component of the development is the proposed supermarket tenancy, accounting for approximately 1,800 square metres, followed by specialty retail uses at 1,250 square metres and childcare facilities at 1,000 square metres. Smaller supporting uses include medical consulting, gym and recreation facilities, and limited commercial tenancy space, reflecting the mixed-use nature of the centre.

Table 4 Development Size and Workspace Ratios by Activity Centre Use, Woodbury Precinct 3³

Land Use	Size of Development (sqm)	Worker to SQM Ratio
Supermarket	1,800	1 per 30sqm
Retail Specialty	1,250	1 per 30sqm
Non-Retail shop fronts / Commercial Office	200	1 per 35sqm
Medical Consulting	750	1 per 50sqm
Childcare	1,000	1 per 40sqm
Gym / Recreation	550	1 per 100sqm

The projected employment profile demonstrates that employment generation is concentrated primarily within retail uses, reflecting the labour-intensive nature of supermarket and specialty retail operations.

Supermarket and specialty retail uses account for approximately 102 jobs, representing around two-thirds of total direct employment generated by the development. Other service-based uses including childcare, medical consulting and recreation facilities contribute a further 52 jobs, supporting a more diverse employment base and reinforcing the role of the activity centre as a mixed-use service and employment destination.

The development is estimated to support approximately 153 direct ongoing jobs, which forms the basis for estimating annual operational economic contribution through the application of worker productivity benchmarks.

³ Derived from national benchmarks in WA, Sydney and Melbourne and in line with best practice workspace ratios linked to Redland and other SEQ Council LGIP/Planning Scheme Extrinsic Material.

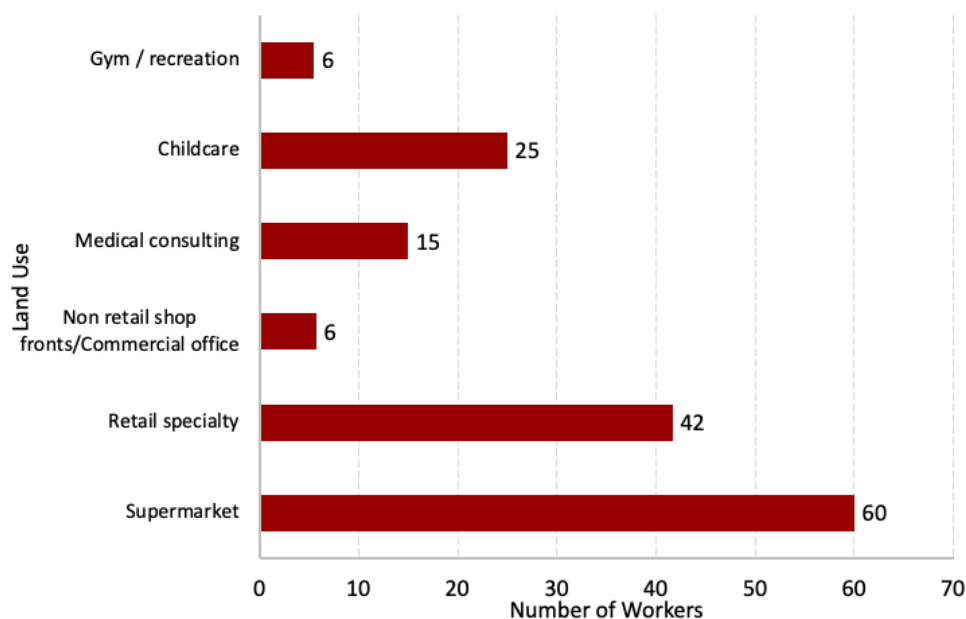


Figure 2 Additional Workers by Activity Centre Use, Woodbury Precinct 3 Activity Centre

Worker Productivity

The employment generated by the proposed activity centre will create ongoing economic value through the productivity associated with businesses operating across each land use category. To estimate annual economic contribution, each land use has been aligned to the most relevant ANZSIC industry classification, allowing the application of industry-specific worker productivity benchmarks.

Worker productivity reflects the average annual gross value added generated per worker within each industry and provides a standard measure of economic output attributable to employment activity.

Table 5 Worker Productivity by Land Use by Associated ANZSIC Level 2 Industry, Redland LGA

Development Land Use	Anszic Industry Level 2	Worker Productivity ⁴
Supermarket	Food Retailing	\$94,862
Retail specialty	Other Store-Based Retailing	\$82,363
Non-Retail Shop fronts / Commercial office	Retail Trade	\$88,542
Medical Consulting	Medical and Other Health Care Services	\$67,114
Childcare	Preschool and School Education	\$79,336
Gym / Recreation	Sports and Recreation Activities	\$61,663

Applying worker productivity assumptions to the estimated employment generated across each land use provides an estimate of the annual gross value added generated by the completed development.

In total, the proposed development is estimated to generate approximately \$13.0 million in annual economic contribution once fully operational, reflecting the direct economic output associated with businesses operating within the activity centre. Supermarket uses represent the largest source of annual economic value generation at approximately \$5.7 million per annum, followed by specialty retail uses at approximately \$3.4 million annually.

⁴ Economy ID (2026) Worker Productivity, accessed at <https://economy.id.com.au/redland/worker-productivity-by-industry>

Other complementary uses collectively contribute to a diversified economic base, reinforcing the role of the development as a significant local economic activity centre within the Redland City economy.

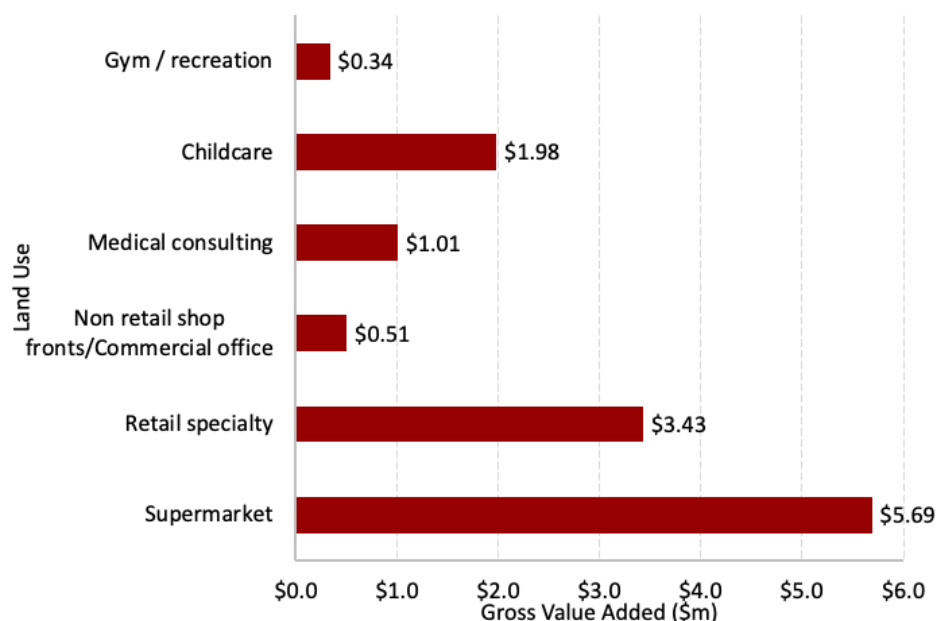


Figure 3 Annual Gross Value Added by Use, Woodbury Precinct 3 Activity Centre

Household Expenditure GVA

In addition to direct economic activity generated by the non-residential components of the development, the residential component of the project will introduce additional households into the local catchment, generating broader expenditure across the regional economy.

Additional population growth associated with new dwelling delivery will support increased household consumption across a range of sectors including retail trade, hospitality, transport, health services, education, recreation and household services. This expenditure represents an additional economic benefit associated with increased population growth and local demand generated by the development.

To estimate this benefit, household expenditure has been calculated based on projected dwelling delivery, average household size assumptions and annual per capita expenditure benchmarks.

A conservative adjustment factor has been applied to account for expenditure already captured within the direct operational economic contribution generated by businesses located within the activity centre, reducing the risk of double counting between benefit categories.

Table 6 Household Expenditure Inputs and Results

Input Assumption	Value
Total Additional Population	1,035 persons
Annual Per Capita Retail Expenditure	\$16,084 ⁵
Adjustment Factor ⁶	65%
Adjusted Economic Contribution	\$10.82 million
Annual Phased Benefit During Construction (Cumulative per Year over 5 Years)	\$2.16 million

As residential development is delivered progressively over the five-year construction period, household expenditure benefits are assumed to increase incrementally as additional dwellings are completed and

⁵ ABS (2026) Retail Trade, accessed at <https://www.abs.gov.au/statistics/industry/retail-and-wholesale-trade/retail-trade-australia/latest-release#data-downloads>

⁶ This adjustment factor is designed to account for the share of expenditure from households that are likely to be captured locally by the proposed centre, the value of which is already accounted for in the Non-Residential floor space GVA.

occupied. This results in household expenditure benefits increasing from approximately \$2.16 million in the first year of delivery, progressively growing each year as new residents enter the catchment, before reaching the full annual economic contribution of \$10.8 million once the residential development is fully completed and occupied.

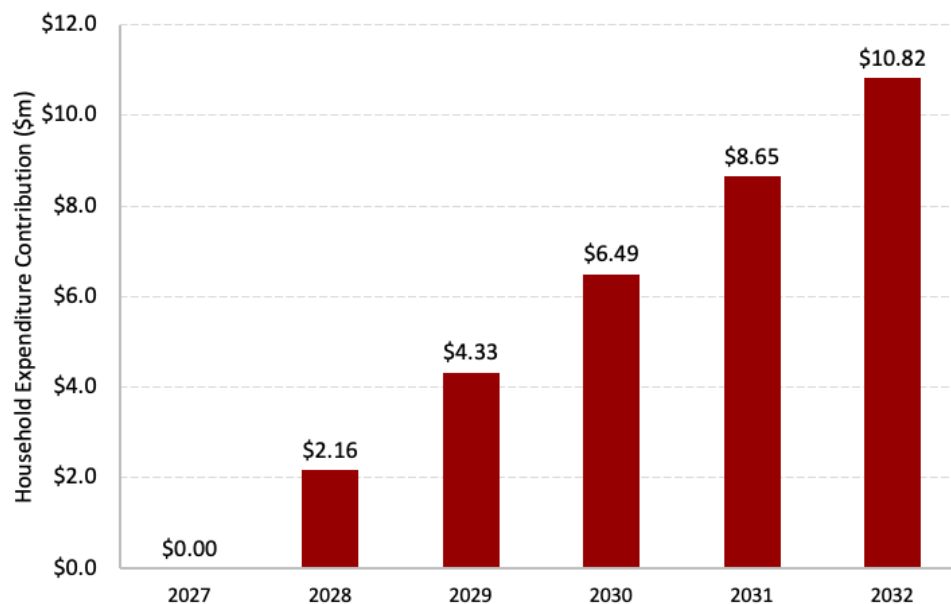


Figure 4 Household Expenditure Contribution over Construction Phase, Woodbury Precinct 3 Residential

Benefits Assessment

Methodology and Approach

To assess the longer-term economic value generated by the proposed development, Econisis has applied a discounted economic benefit assessment framework.

While a traditional Cost Benefit Analysis (CBA) compares both project costs and benefits to assess overall net economic value, this assessment focuses specifically on quantifying the economic benefits generated by the development over time, providing an indication of the broader long-term economic contribution associated with the project.

The assessment considers three primary benefit streams; Construction Phase, Non-Residential Operational GVA and Household Expenditure Contribution.

Future economic benefits have been converted into present value terms through the application of discount rates, which adjust future benefits to reflect the time value of money and the principle that benefits received in the future are generally valued less than benefits received today.

Consistent with economic appraisal guidance outlined in the Queensland Government Business Case Development Framework (BCDF) and the Australian Government Office of Impact Analysis, discount rates of 4%, 7% and 10% have been applied over a 20-year assessment period to assess the long-term economic value generated by the development.

Econisis considers this approach appropriate for assessing the long-term economic contribution generated by the proposed development and its broader value to the Redland City economy.

Assessed Benefits

The following benefit streams have been incorporated into the assessment.

Table 7 Benefits Statement

Benefit Category	Assessment Approach
Construction Phase GVA	Gross value added generated through construction activity over the five-year development period, based on regional construction multipliers and first-round supply chain impacts.
Non-Residential Operational GVA	Annual gross value added generated by employment supported across completed retail, commercial and service-based land uses, based on worker productivity benchmarks. Operational activity assumed to commence from 2031/32.
Household Expenditure Contribution	Economic contribution generated through additional household expenditure associated with new residential dwellings. Benefits phased progressively as dwellings are delivered, with conservative adjustments applied for expenditure leakage and overlap with operational economic activity.

Results

The assessment indicates that the proposed development will generate substantial long-term economic value, with total present value economic benefits estimated to range from approximately \$191.8 million at the 10% discount rate to \$309.9 million at the 4% discount rate over the 20-year assessment period.

The largest benefit category is the long-term economic contribution generated by operational non-residential uses, with an estimated present value of \$93.4 million (at 7%), reflecting the permanent business activity and employment generated by the completed activity centre.

Household expenditure generated by additional residential development represents a similarly significant benefit stream, contributing approximately \$95.7 million (at 7%) in present value terms, highlighting the broader economic contribution associated with population growth and increased local consumption activity.

Construction phase benefits contribute approximately \$51.0 million in present value terms at the 7% discount rate, reflecting the substantial short-term economic activity generated during project delivery.

Nominal values represent the undiscounted total economic benefits generated over the full 20-year assessment period, reflecting the aggregate value of benefits without adjusting future benefits to present value terms. On a nominal basis, the proposed development is estimated to generate approximately \$460.2 million in total economic benefits, comprising \$58.1 million in construction phase, \$207.3 million in non-residential operational economic contribution, and \$194.7 million in household expenditure related economic activity over the assessment period.

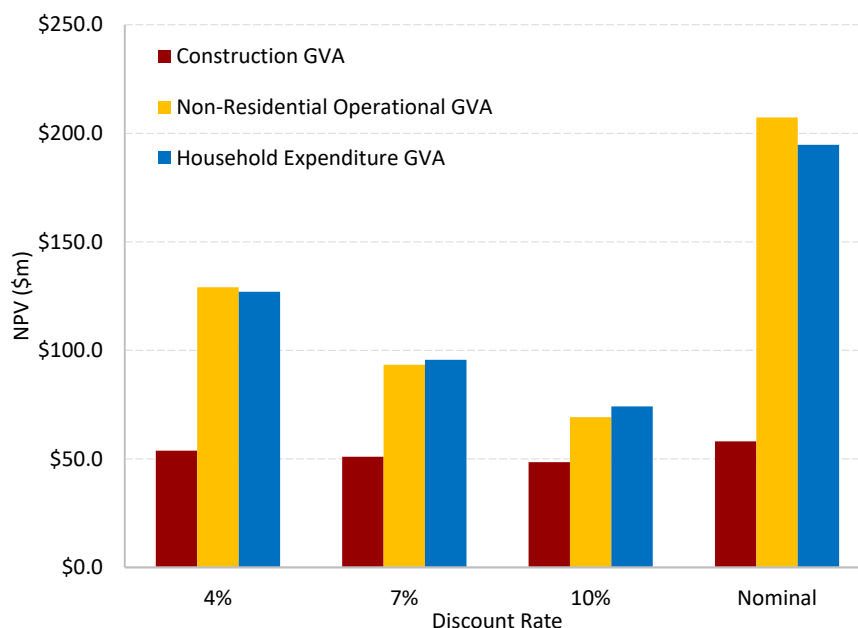


Figure 5 NPV of Benefits Across Discount Rates & Nominal Value

The following table summarises the present value of economic benefits generated by the development over the 20-year assessment period.

Table 8 Present Value and Nominal Value of Economic Benefits

Summary (\$m)	Nominal	4%	7%	10%
Construction GVA	\$58.1	\$53.8	\$51.0	\$48.5
Non-Residential Operational GVA	\$207.3	\$129.1	\$93.4	\$69.2
Household Expenditure GVA	\$194.7	\$127.0	\$95.7	\$74.1
Total Present Value of Benefits	\$460.2	\$309.9	\$240.0	\$191.8

Overall, the results demonstrate that the proposed development will generate significant short and long-term economic value for the Redland City economy, with benefits distributed across construction activity, permanent employment generation and broader household-driven economic activity over time.

Wider Economic and Community Benefits

In addition to the direct economic benefits quantified throughout this assessment, the proposed development is expected to generate a range of broader economic and community benefits for the Victoria Point and wider Redland City catchment.

Wider Economic Benefits

The development is expected to support a range of broader economic benefits, including:

- Increased employment self-sufficiency within the southern Redlands catchment through the creation of local employment opportunities.
- Reduced expenditure leakage to competing activity centres outside the local trade catchment.
- Increased business formation opportunities associated with new commercial and service-based tenancy space.
- Improved economic diversification through expansion of retail, health, childcare and recreation service industries.

- Additional economic activity generated through population growth associated with the residential component of the development.

Wider Community Benefits

The project is also expected to deliver several broader community benefits, including:

- Improved access to local retail and service-based amenities for future and existing residents.
- Increased housing supply supporting future population growth within the Victoria Point catchment.
- Reduced travel requirements for households accessing goods and services currently located outside the immediate area.
- Improved accessibility to childcare, health and recreation services within a growing residential corridor.
- Strengthening of the role of Victoria Point as an emerging mixed-use activity centre within the broader Redland City urban structure.

Conclusion

This assessment demonstrates that the proposed mixed-use development at Double Jump Road will generate significant economic benefits for the Redland City economy during both the construction and operational phases of the project.

Key economic findings of the assessment include:

- **Construction Phase Economic Impact** – The five-year construction program is estimated to support approximately 1,897 direct and indirect full-time equivalent jobs, generating approximately \$159.6 million in gross value added across the broader regional economy.
- **Non-Residential Operational Economic Contribution** – Upon commencement of operations, the completed non-residential components of the development are estimated to support approximately 153 ongoing direct jobs, generating approximately \$13.0 million in annual gross value added through retail, commercial and service-based business activity.
- **Residential Household Expenditure Contribution** – Once the residential component is fully occupied, additional population growth associated with the development is estimated to generate approximately \$10.8 million in annual household expenditure related economic activity, representing additional local economic demand above and beyond economic activity already captured through the activity centre floor space.

Overall, the discounted benefit assessment indicates that the proposed development will generate approximately \$240.0 million in total present value economic benefits over a 20-year assessment period at a 7% discount rate, reinforcing the substantial long-term economic contribution associated with the project.

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